



LUMA's Reply Comments

NEPR-MI-2019-0007

NEPR-MI-2019-0007

Contents

1.	Introduction.....	1
2.	Principles of Performance Metrics.....	1
2.1	Process	1
2.2	Defining Performance Metrics.....	2
2.3	Performance Metrics Characteristics	3
3.	Iterative and Interactive Process.....	5
4.	Discussion of Proposed Performance Metrics	5
4.1	Alignment with LUMA's Proposed Performance Metrics.....	6
4.2	Potential New Metrics	6
4.3	Metrics Proposed for Future Consideration	7
4.4	Data Measurements.....	9
5.	Scope of NEPR-MI-2019-0007 Docket.....	9
5.1	PREPA's Claims about the OMA.....	9
5.2	PREPA's Characterization of its Duties.....	11
	Appendix A: Alignment of Goals and Performance Metrics	13
	Appendix B: Detailed Discussion Regarding Specific Reliability Metrics	15
	Appendix C: Major Outage Events Performance Metrics	17

1. Introduction

As part of the Puerto Rico Energy Bureau's (Energy Bureau, Bureau or PREB) proceeding NEPR-MI-2019-0007 initiated to set performance metrics and baselines for Puerto Rico's electric system, and its Resolution and Order dated December 23, 2020, LUMA presents its reply after reviewing the comments provided by PREPA and stakeholders – Independent Consumer Protection Office (OIPC, for its Spanish acronym), Rocky Mountain Institute (RMI), Solar and Energy Storage Association of Puerto Rico (SESA). LUMA appreciates the comments and recommendations from multiple parties as part of a collaborative stakeholder process to produce a robust outcome for customers and the people of Puerto Rico.

2. Principles of Performance Metrics

2.1 Process

The use of Performance Metrics for performance-based regulation has been undertaken by several jurisdictions as mentioned by RMI and SESA. LUMA agrees with both stakeholders and the Energy Bureau that this is a toolset to align incentives and move the regulated utility towards public policy compliance. Further, in Puerto Rico, this process supports requirements in Act 17-2019, Regulation 9137 as well as under the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement (OMA) and is embraced by LUMA.

NEPR-MI-2019-0007

A deliberate, measured, and inclusive approach to Performance Metrics will enable alignment and support advancement towards public policy goals. As seen in other jurisdictions, such as Minnesota and Hawaii, a systematic approach has proven effective: building a foundation, making incremental progress, encouraging robust stakeholder engagement, and creating a repeatable process. LUMA as well as the stakeholders recognize that it can be a tricky process and unintended consequences, and misalignment can result if not done systematically. Through Regulation 9137, Regulation for Performance Incentive Mechanisms (PIMs), the Energy Bureau outlines the process to establish Performance Incentive Mechanisms and set forth Metrics, Targets and Financial Incentives. The process follows a systematic approach, with the foundational step of establishing which metrics should be utilized and what the baselines are for those metrics currently underway.

As mentioned by RMI and SESA, understanding a clear vision or mission is imperative to ensure that the Performance Metrics measure what is valued, rather than value what can be measured. As part of our planning work and based on Puerto Rico energy public policy, LUMA established a mission and goals, summarized in Figure 1-1 below, to help guide improvement programs and prioritize activities. LUMA used the mission and goals as part of its strategic planning framework to ensure alignment with Puerto Rico's broader public policy objectives and customer needs.

Figure 1-1 Mission and Goals derived from public policy



As part of this alignment, LUMA recognizes that Performance Metrics associated with the mission and goals will further earlier compliance with public policy and drive benefits for the people of Puerto Rico. Using Annex IX of the OMA, which was developed during an 18-month negotiation period led by the Puerto Rico Private Public Partnership Authority (P3 Authority) and its Partnership Committee, as the starting point, LUMA has proposed Performance Metrics that align with our stated mission and goals.

2.2 Defining Performance Metrics

For clarity, LUMA is outlining key terms LUMA is using related to Performance Metrics to ensure a transparent understanding of our discussion.

NEPR-MI-2019-0007

Regulation 9137 provides a list of definitions; selected terms are repeated here:

- Metric: refers to a quantifiable indicator which can be used and tracked over time to evaluate an entity's performance
- Performance Incentive Mechanism: refers to any Metric, Target or Financial Incentive to induce Companies to improve their performance
- Target: refers to the goal that may be associated with a Metric and against which, if it is so associated, the Company's performance shall be evaluated

The OMA refers to Performance Metrics to specify a metric by which performance is measured *and* incentives granted if certain Targets are achieved. During the Front-End Transition Period, LUMA reviewed the proposed Performance Metrics in Annex IX. LUMA uses the terms Performance Metric and metric (not capitalized) interchangeably to refer to a metric with an associated Target and incentive.

LUMA's activities during the Front-End Transition Period have focused on the Performance Metrics (metrics associated with incentive mechanisms) specifically outlined in the OMA and have only proposed Performance Metrics related to the T&D System for consideration. LUMA has not opined on Performance Metrics for Generation as it is outside of the scope of our O&M Services. Consequently, LUMA has not evaluated data, processes or analyses for generation-related items for use as Performance Metrics.

2.3 Performance Metrics Characteristics

Identifying the desirable characteristics of appropriate Performance Metrics will assist in the selection process and serve the ultimate goal of incentivizing the beneficial results for customers. LUMA recognizes the importance of collecting, analyzing and acting on data. One of LUMA's key principles for interaction with the Energy Bureau and with stakeholders is to pursue data-driven decision making. Use of accurate data is essential to assessing risk and reporting results. However, there is much data measured and/or reported that are not Performance Metrics. In order for data measurements to be useful as Performance Metrics they should:

- i. utilize recorded information that indicates performance,
- ii. be subject to improvement through actions under the control of the utility, and
- iii. align with public policy objectives.

Data that does not meet these criteria should not be considered for Performance Metrics.

To date, it has been challenging to understand how PREPA collects and manages its data. As will be presented in our Front-End Transition Deliverables, there has been a notable lack of data collection and quality control practices across the T&D System and the organization. LUMA has spent several months of the Front-End Transition Period reviewing data, assessing collection practices and evaluating the calculation of metrics at PREPA and continues to refine its assessment. LUMA has developed programs to systematically collect and record data, specifically for the Performance Metrics presented in Exhibit 2 to LUMA's comments dated February 5, 2020 (Exhibit 2).

Given the general lack of accurate data at PREPA, LUMA recommends focusing Performance Metrics on areas with adequate historical data to develop an accurate baseline against which performance

NEPR-MI-2019-0007

improvement can be measured. Accordingly, LUMA has proposed that certain Performance Metrics be deferred until adequate data is gathered. It will take time and resources post-commencement to implement many systems. As better data is collected and recorded, other additional or alternate Performance Metrics than those applicable at commencement may be utilized.

A strong Performance Metric is a quantification that provides objective evidence of the degree to which a performance result is occurring over time. LUMA recommends that the following characteristics be considered when establishing Performance Metrics.

- **Clear, unambiguous, objective quantification.** This means that the measurement, collection methods and calculation of the Performance Metric is clear and detailed so that all parties and stakeholders understand what and how the Performance Metric is being measured and calculated. Regulation 9137 states that 'Performance Incentive Mechanisms shall be clearly defined, easily interpreted, and easily verified.'
- **Has an accurate baseline.** In order to establish performance targets to which a Company will be measured, it is important that the baseline is accurate and is sufficiently precise so that performance progress can be observed. If the baseline is inaccurate by more than the improvement, then the improvement will not be seen. As LUMA has noted in its filing, PREPA's data, data collection methods and processes have resulted in baseline data that is inaccurate and lacks confidence.
- **Indicates the degree to which progress is being made.** It is imperative that progress can be measured, and that outcomes are tied to inputs. Metrics that vary significantly by exogenous factors outside those under the control of the of the Electric Service Company will not be responsive to the actions of the Electric Service Company and not represent the progress being made. This is consistent with Regulation 9137 which states 'Performance Incentive Mechanisms shall focus on performance areas within reasonable control of affected Companies'. For example, LUMA has proposed a Performance Metric related to its budgets, but does not recommend that metrics related to rates, for which fuel, purchased power, CILT and subsidies and generation represent approximately 60%, should not be applied to LUMA.
- **Relative to the current state of the system.** Similar to the characteristic above, advanced metrics that do not reflect the current state of the T&D System and the near-term improvement activities required will not show progress, even if progress is being made. The current T&D System is fragile and unreliable. Metrics should be reflective of the activities that support foundational activities that will support sustainable improvements in reliability, resiliency and customer service, among others. As the utility matures, the metrics will evolve to reflect the advancements made.
- **Aligned with public policy and the customer's needs.** As stated above, it is important to establish Performance Metrics, not just because the data can be collected, but because improvement in this metric will directly result in advancement to public policy or provide value to the customer.
- **Provide focus to efficiently effect change.** Lastly, when looking at Performance Metrics as a whole, they must balance comprehensiveness and rigor against the effort and cost required for data collection and reporting. As noted in LUMA's filing, it has taken a significant amount of effort and time to review PREPA's data and establish baselines and significant improvement programs are required to improve the data collection process for the metrics proposed. Effective Performance Metrics should be achievable for the time period considered with the resources that are available and approved. Performance Metrics then should part of an interactive and iterative process that takes into account these changing factors.

3. Iterative and Interactive Process

As outlined in Regulation 9137 and in Section 7.1(d) of the OMA, the process for the establishment of Performance Metrics allows for an annual review of the Performance Metrics and revisions to the metrics if required. Regulation 9137 and the OMA are quite consistent:

“The Company’s Annual Performance Report shall include, to the extent applicable, a section proposing new metrics for the Energy Bureau’s consideration for the next reporting period” Reg. 9137 Section 4.2.A(2)

“The Parties acknowledge and agree that the Energy Bureau and Operator shall have the right to propose amendments to the Performance Metrics from time to time and that the Parties shall consider any proposed amendments in good faith.” OMA, Section 7.1(d)

This allows for Performance Metrics to evolve as public policy evolves, as data collection capabilities improve across the T&D System and as the condition of the T&D System improves. LUMA has taken the evolving nature of Performance Metrics into account. As stated in Exhibit 2, LUMA will not be in a position to report on some Performance Metrics until the proper systems are established and tested. Once that step is taken, then a baseline may be established. For these reasons LUMA, in Exhibit 2, proposes that several Performance Metrics be deferred. Additionally, LUMA has proposed some short-term metrics such as inspections. The inspection programs are anticipated to take five years. Once the initial inspection programs are completed, LUMA anticipates replacing the inspection metrics with other appropriate metrics. LUMA will pursue improvement programs with urgency to provide customer benefits and achieve targets. The initial Performance Metrics should be appropriate for the initial stage of these programs. As the organization evolves, some Performance Metrics should change accordingly.

As part of LUMA’s Front-End Transition Services, LUMA reviewed, studied and evaluated PREPA’s baseline performance metrics with respect to the selected Performance Metrics presented in Exhibit 2. LUMA dedicated teams focused on this specific effort which included the active participation of experts from each functional department of the organization. The process included discussion with PREPA and P3 Authority, who provided feedback on process, regulations and other context that informed our Exhibit 2 submission.

As LUMA takes over operations and makes improvements to the T&D System and organization, deferred Performance Metrics and additional Performance Metrics should be implemented and considered over time.

4. Discussion of Proposed Performance Metrics

Multiple stakeholders provided valuable comments proposing potential Performance Metrics. LUMA has provided reply commentary to many of those proposed Performance Metrics. LUMA has grouped the proposed metrics into four categories: those that are in alignment with LUMA’s proposed Performance Metrics, potential new metrics, metrics proposed for future consideration, and data measurements.

NEPR-MI-2019-0007

4.1 Alignment with LUMA's Proposed Performance Metrics

We are encouraged to see alignment between LUMA's proposed Performance Metrics presented in Exhibit 2 and a number of the metrics suggested by PREPA and stakeholders. We believe many of the suggested metrics are complimentary to the Performance Metrics we proposed. Namely, those related to reliability, customer complaints, customer service and commitment, financial management and performance during an emergency. Please refer to Appendix B for a more detailed discussion of certain proposed reliability metrics.

Performance during emergencies is tracked by a specific group of Performance Metrics in the OMA. In particular, Major Outage Event (MOE) Performance Metrics are included as a category in Annex IX in order to provide clear goals for management of emergencies and to provide greater transparency. LUMA presents the proposed MOE Performance Metrics in Appendix C for the Energy Bureau's consideration and stakeholders review. LUMA will also include the MOE Performance Metrics in the filing of Performance Metrics Targets as part of NEPR-AP-2020-0025.

4.2 Potential New Metrics

Consistent in the comments provided by all stakeholders and PREPA were proposed Performance Metrics related to the Sustainable Energy Transition. These included Performance Metrics related to Energy Efficiency (EE), Distributed Energy Resources (DER), interconnection processes, non-wires alternatives, net metering, compliance with Renewable Portfolio Standards (RPS), and integration of renewable energy sources, among others. LUMA recognizes the importance of these measures and they are included as part of LUMA's strategy under the goal of Sustainable Energy Transformation. LUMA's improvement programs and overall investment plan directly target tangible progress on the Sustainable Energy Transformation, including delivery of renewable energy programs, streamlining interconnection application processes, accelerated installation of LED streetlights, geospatial information system upgrades and IRP related technical research and planning (such as a Distribution Hosting Capacity Study).. These programs are included in our upcoming Initial Budgets filing.

LUMA recognizes that tracking progress on the Sustainable Energy Transformation is consistent with the importance that these processes have as part of public policy. LUMA is open to further discussion on strong Performance Metrics connected with the Sustainable Energy Transformation that have the characteristics enunciated in Section 2.3 above.

Until a consistent funding source or cost-recovery mechanism is established for EE and DER customer incentive and/or financing programs, LUMA has very limited ability to directly affect and measure progress towards energy reduction targets. However, there are ongoing proceedings and activities regarding these programs, and there are potential alternative funding sources to customer rates. The Energy Bureau's proposed EE/DR Baseline and Potential Study will be a crucial first step in establishing achievable energy reduction targets that reflect market conditions in Puerto Rico. Given the technical nature of establishing these programs and associated performance metrics, and the wealth of readily available information from other jurisdictions with well-established programs, LUMA suggests that Performance Metrics be determined based on the results of those ongoing dockets.

The integration of large-scale renewables is currently a multi-party process, with LUMA playing one part of the overall process. In order to establish a Performance Metric that focuses on 'performance areas within reasonable control of affected Companies' (*Reg. 9317*), the process for identification, procurement

NEPR-MI-2019-0007

and approval of renewable contracts must be determined. Once this process is determined, a Performance Metric related to LUMA's role in the process can be developed.

The net metering interconnection process offers one of the most promising opportunities to establish a Performance Metric related to the Sustainable Energy Transformation. PREPA's interconnection process is currently being examined by LUMA. The most feasible metric would relate to interconnection application processing efficiency, such as the average duration (days) from application receipt to completion. However, the application tracking system does not currently collect information to the level of granularity required to track this and there is currently a backlog of applications in the queue, which make it difficult to establish a baseline for this metric. LUMA is performing a root cause analysis to understand the causes of the backlog and LUMA's ability to reduce it. LUMA will continue to investigate the baseline and data tracking system configuration required to enable the development and monitoring of a Performance Metric related to this activity and would recommend that a Performance Metric be established once LUMA has provided the data for review by the Energy Bureau and stakeholders.

A Performance Metric related to the frequency and/or duration of curtailment of renewables was also suggested. LUMA is committed to supporting the growth of renewables and to managing the system to accommodate greater renewable penetration. Tracking of curtailments is currently conducted manually by PREPA. Consequently, LUMA is not aware of a reliable set of historical data on curtailments in Puerto Rico. Significantly, adherence to the System Operation Principles (SOP) of security constrained economic dispatch and non-discriminatory treatment of generators will support the maximum dispatch of zero or very low marginal cost renewables.¹ As renewables become a larger component of overall supply, it is likely that there will be times when curtailment is the most economic decision for utility customers. Furthermore, based on operating history in existing electric systems with high renewable generation penetration, it is likely that there will be periods of time when curtailment of specific generation sources (which could include renewable resources) will be necessary to maintain steady state power system stability.

4.3 Metrics Proposed for Future Consideration

LUMA has recommended deferring some metrics until the data associated with the metric can be collected and reported in accordance with industry standards. LUMA recommends that these deferred metrics be considered candidates for Performance Metrics in the future, including:

- First Call Resolution,
- Customers Experiencing Multiple Interruptions (CEMIN),
- Momentary Average Interruption Frequency Index (MAIFI),
- Reduction in Network Line Losses, and
- those mentioned above related to the Sustainable Energy Transformation.

The current state of PREPA's systems and processes do not support accurate calculation or a method to achieve Targets for these Performance Metrics. Please find further discussion of certain metrics for future consideration below.

¹ Both of these broad principles for real-time dispatch are highlighted in LUMA's presentation for the January 29 Technical Conference in NEPR-MI-2021-0001. LUMA expects to soon file the proposed SOP.

NEPR-MI-2019-0007

MOMENTARY CUSTOMER INTERRUPTIONS (MCI), MAIFI AND CEMI_N

Regarding PREPA's suggestion of "Momentary Customer Interruptions (MCI)," LUMA takes this to mean the Total Number of Customer Momentary Interruptions as presented in the IEEE Guide for Electric Power Distribution Reliability Indices Std. 1366™-2012. Total Number of Customer Momentary Interruptions is used in the calculation of MAIFI. Providing CMI separately would be redundant. In addition, to be useful as an indicator for comparison against other parts of the utility system or other utilities, the Total Number of Customer Momentary Interruptions should be normalized by the Total Number of Customers Served.

MAIFI is calculated by summing the number of Customer Momentary Interruptions and dividing by total number of customers served. Mathematically,

$$MAIFI = \frac{\sum \text{Number of Customer Momentary Interruptions}}{\text{Total Number of Customers Served}} = \frac{\sum IM_i N_{mi}}{N_T}$$

In Exhibit 2, LUMA proposed deferral of MAIFI and CEMI_N until the IT systems are in place and the quality of Outage Management System (OMS) model data is improved to enable calculation of accurate MAIFI and CEMI_N metrics. A detailed understanding of the data collection process and OMS model data quality is necessary to determine if meaningful metrics can be calculated and reported as opposed to reporting numbers that may or may not provide an indication of anything meaningful. As explained in Exhibit 2, LUMA performed a detailed analysis with PREPA to reach that understanding and concluded that MAIFI and CEMI_N cannot be accurately calculated and reported at this time. Any attempt to reconstruct these metrics from historical PREPA data would not be accurate or close to accurate due to data availability and quality issues.

Furthermore, a recent survey by EPRI on common reliability metrics shows that CMI and MCI are not commonly reported by utilities.²

CELID

While CELID may be a Performance Metric to aspire to in the future, as explained in LUMA's Baselines filing, the current state of the PREPA IT systems, processes, and the quality of Outage Management System (OMS) model data does not support the calculation of accurate Performance Metrics that require accurate knowledge of specific customer experiences (e.g., CEMI_N) as does CELID. A detailed understanding of the data collection process and OMS model data quality is necessary to determine if meaningful metrics can be calculated and reported as opposed to reporting numbers that may or may not provide an indication of anything meaningful. As explained in LUMA's filing, LUMA performed a detailed analysis with PREPA to reach that understanding. Any attempt to reconstruct these metrics from historical PREPA data would not be accurate or close to accurate due to data availability and quality issues.

Furthermore, Performance Metrics related to Resilience is an emerging area in the industry and no specific performance metrics have been endorsed. LUMA needs to compile an appropriate amount of operating history under improved IT systems, processes, and data quality and perform analyzes and

²2017 EPRI General Reliability Survey Preliminary Results, July 18, 2017, Slide 7. <https://cmte.ieee.org/pes-drwg/wp-content/uploads/sites/61/2017-07-18-EPRI-IEEE-Survey-Results-Sal-Martino.pdf>

NEPR-MI-2019-0007

industry research to determine the most appropriate Performance Metrics related to Resiliency of the Puerto Rican T&D system.

4.4 Data Measurements

Some Performance Metrics proposed by stakeholders and PREPA don't have the characteristics of a Performance Metric as they do not appear to measure information that indicates performance, can be improved through actions under the control of the utility, and align with public policy objectives. As such, these data should not be considered for Performance Metrics, as explained in Section 2.3 above. LUMA would recommend these be viewed as data measurements, and as discussed in Section 2, data measurements are not synonymous with Performance Metrics. For instance, it is unclear if an increase in complaints due to suspension of electrical service demonstrates poor performance by the utility. The increase in complaints could correspond to a program targeting losses, illegal or unsafe service connections.

Notwithstanding, we recognize and support the need for the utility to disclose data to encourage transparency and accountability. To that end, data measures can be useful to provide greater transparency to the Energy Bureau, stakeholders and the public, and may aid in defining future Performance Metrics.

Efforts are underway to provide data to the public within the NEPR-MI-2019-0011 docket, Process for the Adoption of Regulation for Distribution Resource Planning. LUMA has proposed Performance Metrics related to Inspections that will incentivize the acceleration of data collection to support, among others, data disclosure requirements of this docket.

5. Scope of NEPR-MI-2019-0007 Docket

The purpose of this docket as stated by the Energy Bureau is to set Performance Metrics and baselines. The process of selecting Performance Metrics and baselines requires significant attention and effort. Unfortunately, PREPA uses a substantial portion of its comments to provide observations (often tangential) about broader energy policy and unrelated dockets, or interpretations (often erroneous and misleading) of clauses in the OMA. In a docket on Performance Metrics, PREPA attempts to cast doubts about an agreement that PREPA executed with LUMA and P3 Authority several months ago.

5.1 PREPA's Claims about the OMA

In commenting on a clause in the OMA about the terms of service to electric customers—a subject that PREPA knows will be part of LUMA's upcoming filing of Initial Budgets—PREPA takes the time to note that "Neither the Energy Bureau, nor any other stakeholder, should construe or infer that the transparent presentation of the contract terms or the support of the Energy Bureau's authority to set performance incentive measures, undermines the agreement." After admonishing the Energy Bureau on what not to "infer or construe" PREPA then goes on to obfuscate the meaning and intent of the OMA as attempting to eliminate LUMA's responsibility to serve customers. LUMA will remain responsible for serving customers and will remain fully subject to the Energy Bureau's jurisdiction under law, including proceedings that may determine if LUMA falls short of a regulatory or legal requirement as the Operator of the T&D System and an Electric Service Company.

NEPR-MI-2019-0007

PREPA makes another clearly erroneous statement about LUMA's obligations when PREPA writes that “the [OMA] does not contain a requirement for LUMA to engage with the Energy Bureau, P3 Authority or PREPA in long-range planning on a regular basis” (p. 14) In addition to preparation and filing the Integrated Resource Plan as required under law (a minimum of every three years) or as ordered by the Energy Bureau (OMA Section 5.6 (f)), under the OMA LUMA must also:

- (i) prepare risk assessments and analyses in support of Resource Adequacy and Generation Project or Generation Supply Contract procurement prioritization and planning, which shall take into account the Integrated Resource Plan and Applicable Law (and which assessments and analyses the Energy Bureau may request from time to time);
- (ii) prepare long and short-range transmission and distribution planning analyses and forecasts to determine the need for Generation Project or Generation Supply Contract procurement which shall take into account the Integrated Resource Plan to the extent applicable (and which analyses and forecasts the Energy Bureau may request from time to time);
- (iii) meet with the Energy Bureau on an annual basis to review and assess the prepared analyses, demand projections (prepared in accordance with the Integrated Resource Plan), existing System Power Supply, Legacy Generation Assets and generation assets owned by IPPs related to the supply of Power and Electricity, and determine whether additional power supply sources are needed... (OMA, Section 5.13 (d))

Clearly the OMA *does* require LUMA 1) to carry out long term planning (the IRP), 2) on a regular basis (at least annually), and 3) with the Energy Bureau. There are multiple additional clauses that require LUMA to carry out planning activities—short, medium, and long term with the Energy Bureau and stakeholders on a regular basis.

With regards to federally funded activities, PREPA again makes incorrect assertions, without basis in law or the OMA. PREPA states that “If FEMA funds are misused and/or federal funds compliance processes are not adhered to,” FEMA could deny reimbursement of funds (a situation that PREPA has experienced already). In such a case PREPA asserts that “[t]here is no recourse to LUMA...” (p. 24). Under the OMA, Disallowed Costs—defined as costs that are *not* T&D Pass-Through Expenditures and “are the sole responsibility of Operator”—include “...any and all Losses resulting from a denial by FEMA, HUD or a similar Governmental Body (such as COR3 or PRDH) of reimbursement of all or a portion of Capital Costs – Federally Funded on the grounds that actions taken by Operator were in violation of any Federal Funding Requirements.” (OMA, Section 7.6 (a) (iii)).

Furthermore, the OMA acknowledges and integrates mechanisms and standards that not only recognize that the Puerto Rico COR3 is the Recipient of the funds, but that federal funds must be managed in accordance with Federal Funding Requirements. Therefore, the OMA requires LUMA to ensure that any work related to the T&D System that will be payable with Federal funding be performed in compliance with Applicable Law, including rules set forth in 2 C.F.R. Part 200 (Sec. 5.9 OMA). Furthermore, the ongoing process to manage these funds requires cooperation in good faith between PREPA and LUMA and that LUMA and PREPA jointly take all steps reasonably required to ensure that Federal Funding requirements are met. (Sec. 5.9 OMA)

As a condition to commencement of operations by LUMA, the OMA also requires LUMA to prepare a Federal Funding Procurement Manual that must be approved by the COR3. This Manual will establish the

NEPR-MI-2019-0007

guidelines and procedures for content, administration and oversight of contracts executed for projects payable with Federal Funding. (Sec 4.5(j) OMA)

The Parties to the OMA (PREPA, LUMA and P3 Authority) recognize that a successful management and use of Federal Funding requires participation and cooperation of all of relevant parties (LUMA, PREPA, COR3 and P3 Authority). Furthermore, not only is PREPA is expected to take part in the design of the appropriate processes to ensure proper management of Federal Funding, but COR3 (as Recipient, supervisor and ultimately the Puerto Rican government entity responsible for the use of the funds), P3 Authority (as Administrator of the OMA), and U.S. federal agencies like FEMA will also oversee compliance on federal rules and procedures pertaining to the deployment and administration of federal funds.

COR3 and P3 Authority will then supervise the use of the Federal Funding while the PREB continues to have its role of oversight of LUMA, including with respect to how the T&D System conditions improve and public policy is advanced in the Performance Metrics of System Rebuild & Resiliency (See Table E-1 below), which ultimately will also reflect the proper use of Federal Funding.

5.2 PREPA's Characterization of its Duties

In its brief, PREPA seems to imply that the OMA limits PREB's authority. That is not correct. On the contrary, the OMA in its Section 20.17 expressly states that "no provision of this Agreement shall be interpreted, construed or deemed to limit, restrict, supersede, supplant or otherwise affect, in each case in any way, the rights, responsibilities or authority granted to PREB under Applicable Law with respect to the T&D System, Owner or Operator."

However, the Parties recognition of the Energy Bureau's broad jurisdictional power over the energy sector cannot be used by PREPA as an excuse to ignore or try to undermine contractual provisions that PREPA agreed to as signatory to the OMA, especially when such provisions are contrary to PREPA's vague reference to its "fiduciary duty" to bond holders and the assets. PREPA is a legal creature created as a public corporation of the Government of Puerto Rico with powers, duties and mandates that emanate from the law. Therefore, while in the private sector "fiduciary duties" entail a different meaning, in the context of a government entity and assets developed to provide a public service, the duty of its "owner" is to its customers, the People of Puerto Rico, who in the end pay for those assets and services, and repay debt, through rates and, indirectly, taxes.

These public duties have to be performed in accordance with and following the public policy mandates and provisions of the law. Therefore, as discussed in the cover Motion to which this document is Exhibit 1, the evolution of the powers granted to, and removed from, PREPA from the times when it was a self-regulated vertically integrated entity to the present time, reflect the reason why the PREB exists and LUMA was contracted to operate the T&D System. See Act 57-2014, Act 120-2018, and Act 17-2019.

It is clearly within the Energy Bureau's authority to decide whether matters relating to electric service are in the public interest or whether specific actions on the part of a regulated party like LUMA comply with Puerto Rico energy public policy. This authority, however, does not extend to PREPA and making loose references to its alleged "fiduciary duty" does not give PREPA license to assume duties and take on powers that it is not granted (or were removed from it) under current law, contradict energy public policy, or are contrary to its contractual obligations. PREPA's qualms are political in nature and any challenge or

NEPR-MI-2019-0007

objection it may have to current public policy should not be disguised in a Performance Metrics proceeding.

Appendix A: Alignment of Goals and Performance Metrics

Table A-1 breaks down each of the Recovery & Transformation Goals into its component Objectives and associated Performance Metrics relevant to each Goal.

Table A-1: Goals and Objectives

Goal	Objective	Performance Metrics
Prioritize Safety	<ul style="list-style-type: none"> ▪ Promote a safe workplace. Implement procedures, controls, training programs, increase PPE, and awareness. ▪ Implement effective public safety practices. Reduce public exposure to safety risks. 	<ul style="list-style-type: none"> ▪ OSHA Recordable Incident Rate ▪ OSHA Fatalities ▪ OSHA Severity Rate ▪ OSHA DART Rate
Improve Customer Satisfaction	<ul style="list-style-type: none"> ▪ Deliver a positive customer experience. Improve customer service quality, accessibility and reliability. ▪ Increase Service Reliability. Reduce the frequency and duration of interruptions to customers' electricity service. ▪ Deliver electricity at reasonable prices. Reduce operating costs, technical and non-technical line losses, and reduce days sales outstanding and write-offs. 	<ul style="list-style-type: none"> ▪ J.D. Power Customer Satisfaction Survey - Residential Customers ▪ J.D. Power Customer Satisfaction Survey - Business Customers ▪ Average Speed of Answer ▪ Customer Complaint Rate ▪ Abandonment Rate ▪ SAIFI ▪ SAIDI
System Rebuild and Resiliency	<ul style="list-style-type: none"> ▪ Effectively deploy federal funding. Ensure efficient management of funding, in compliance with FEMA guidelines for reimbursement. ▪ Restore damaged grid infrastructure. Focus first on critical loads, severely damaged infrastructure, and vulnerable community lifelines. ▪ Improve resiliency of vulnerable infrastructure. Identify and assess infrastructure and systems for vulnerability and health, to focus near-term investment. 	<ul style="list-style-type: none"> ▪ Capital Budget – Federally Funded ▪ Distribution Line Inspections & Targeted Corrections ▪ Transmission Line Inspections & Targeted Corrections ▪ T&D Substation Inspections & Targeted Corrections

NEPR-MI-2019-0007

Goal	Objective	Performance Metrics
Operational Excellence	<ul style="list-style-type: none"> ▪ Enable systematic management of the business. Improve information systems and processes to enable systematic, data-driven, and efficient management. ▪ Pursue project delivery excellence. Improve execution of capital projects (on time, budget, scope), carefully manage risk. ▪ Enable employees to execute business operations systematically. Increase employee effectiveness (engagement, productivity) and learning (quickness to adjust, performance improvement). 	<ul style="list-style-type: none"> ▪ Operating Budget ▪ Capital Budget – Non-Federally Funded ▪ Overtime ▪ Days Sales Outstanding - General Customers ▪ Days Sales Outstanding - Government Customers
Sustainable Energy Transformation	<ul style="list-style-type: none"> ▪ Modernize the grid. Incorporate smart grid technologies into rebuilding efforts, increase hosting capacity, reduce load-shedding events, increase deployment of AMI and new DER interconnections. ▪ Enable the digital transformation Upgrade IT OT capabilities, enhance cybersecurity capabilities, replace all end of use devices, upgrade software to manage the T&D system as well as economic dispatch. ▪ Enable the sustainable energy transformation. Ensure system infrastructure is rebuilt to accommodate higher penetration of intermittent distributed resources, increase penetration of renewable resources and battery storage, reduce consumption through energy efficiency and demand response programs. 	<ul style="list-style-type: none"> ▪ [Interconnection application processing efficiency]

Appendix B: Detailed Discussion Regarding Specific Reliability Metrics

Certain additional metrics were proposed in addition to SAIDI and SAIFI for reliability. LUMA views these proposed metrics as redundant and not reflective of the load characteristics.

CUSTOMER MINUTES INTERRUPTED (CMI)

Customer Minutes Interrupted (CMI) is in the formula used to calculate the Sustained Average Interruption Duration Index (SAIDI) which is included in the metrics proposed by the Energy Bureau and LUMA. Providing CMI separately would be redundant and without normalizing to the Total number of Customers Served does not provide a measure for comparison against other parts of the utility system or other utilities.

SAIDI is calculated by summing the product of the length of each interruption and the number of customers affected by that interruption for all sustained interruptions during the measurement period (CMI) then dividing by the total number of customers served (N_T). Mathematically,

$$SAIDI = \frac{\sum \text{Customer Minutes of Interruption}}{\text{Total Number of Customers Served}} = \frac{CMI}{N_T}$$

AVERAGE SYSTEM INTERRUPTION FREQUENCY INDEX (ASIFI) AND AVERAGE SYSTEM INTERRUPTION DURATION INDEX (ASIDI)

ASIFI is defined as Total Connected kVA of load interrupted divided by Total Connected kVA served, and ASIDI is defined as Connected kVA duration of load interrupted divided by Total Connected kVA served (e.g., (kVA) x (Minutes))/(kVA).

ASIFI and ASIDI are holdovers from the days prior to modern IT systems when customer information did not include connectivity information and it was not possible to determine accurate customer counts within any parts of the distribution system. Historically, hand drawn electric maps were available that showed the size and connectivity of service transformers. The size of the service transformers could be summed according to connectivity to determine the “connected kVA of load” that was interrupted during an event as well as the total “connected kVA of load” of the related feeder, substation, etc. These values were then used to calculate an index. The most significant problem with this approach is that it assumes that every service transformer of a particular size supplies the same amount of load, but this is never the case in practice. Service transformers are purchased in several discrete sizes and placed in a utility’s inventory. When designers are designing new services to customers or old service transformers are replaced, one of the discrete sizes in inventory that is large enough to supply the calculated maximum peak load of the customer or customers connected to it is often used. These calculations are estimates at best and the conventional wisdom is to choose a service transformer size that will never be exceeded by the customer or customers load connected to it. The calculated estimates used to determine this are typically higher than will ever be experienced to ensure that the service transformer is never overloaded. The actual load supplied by service transformers varies widely depending on the customers connected. Therefore, any index based on connected kVA does not accurately represent the customer experience.

NEPR-MI-2019-0007

As stated in the following subsections of the IEEE Guide for Electric Power Distribution Reliability Indices Std. 1366™-2012:

3.3.1 ASIFI: Average System Interruption Frequency Index

The calculation of the Average System Interruption Frequency Index (ASIFI) is based on load rather than customers affected. ASIFI is sometimes used to measure distribution performance in areas that serve relatively few customers that have relatively large concentrations of load, predominantly industrial/commercial customers. Theoretically, in a system with homogeneous load distribution, ASIFI would be the same as SAIFI.

3.3.2 ASIDI: Average System Interruption Duration Index

The calculation of the Average System Interruption Duration Index (ASIDI) is based on load rather than customers affected. Its use, limitations, and philosophy are stated in the ASIFI definition in 3.3.1.

Note that the discussion states ASIFI and ASIDI are “sometimes used” in the special case stated, “to measure distribution performance in areas that serve relatively few customers that have relatively large concentrations of load, predominantly industrial/commercial customers”. The value of these indices is minimal at best and not worth the trade-off in effort to calculate and report in today’s world of modern IT systems having detailed customer information and the fact that these types of customers have a special representative from the utility providing ongoing support and analysis of the service provided.

Also note that PREPA currently does not measure these metrics and a recent survey by EPRI on common reliability metrics shows that ASIFI and ASIDI are not commonly reported by utilities.

<https://cmte.ieee.org/pes-drwg/wp-content/uploads/sites/61/2017-07-18-EPRI-IEEE-Survey-Results-Sal-Martino.pdf> (slide 7)

Appendix C: Major Outage Events Performance Metrics

In the event of a Major Outage, the OMA provides for Performance Metrics associated with LUMA's response to the Major Outage Event (MOE). It is generally recognized that a utility will sooner or later face an MOE that is beyond the utility's control. It is also understood that a utility must operate significantly different during an MOE than during normal operations to affect reasonable customer restoration. This dictates a separate set of Performance Metrics that relate to that different state of operations. Since there are numerous and varying degrees of a major event, it is not practical to create performance Targets for all potential variants. LUMA is proposing a revision to the OMA Annex IX that includes a clear definition of MOE and a set of sixteen performance metrics designed to measure LUMA's performance during MOEs. The incentive construct recognizes and accounts for this. Below are descriptions of the sixteen proposed MOE Performance Metrics which will also be presented in LUMA's Performance Metrics Targets filing (to be filled within NEPR-AP-2020-0025). The proposed revised Annex IX includes these proposed MOE Performance Metrics that follow the same basic structure as the Utility Emergency Performance Metrics adopted by the State of New York Public Service Commission.

Table B-1. Summary of Major Outage Event Performance Metrics

Description	Metrics
<p>1. Preparation Phase</p> <p>Completion of steps to provide timely and accurate emergency event preparation following an alert from U.S. National Weather Service or the company's private weather service, or the government of Puerto Rico has declared a state of emergency, or when an event is known to be imminent or has occurred, in accordance with the Emergency Response Plan, for an event expected to affect the company's service territory.</p>	Completion of each step counts separately:
	1.1 Event Level Categorization based on weather forecasts, system resiliency assessment and available resources.
	1.2 Press releases issued / text messages / emails sent.
	1.3 Municipal conference calls held.
	1.4 Critical & essential customers alerted - Based on established list with current information. ³
	1.5 Point of contact for critical facilities alerted – Based on established list with current information.
	1.6 Company compliance with training program as specified in the Emergency Response Plan.
	1.7 Participation in all pre-event mutual assistance group calls.
	1.8 Verify materials / stockpiles level based on forecast. If materials are not on hand, corrective steps taken in shortest reasonable time to correct the situation.

³ This includes critical care customers.

NEPR-MI-2019-0007

Description	Metrics
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2. Downed Wires

<p>Response to downed wires reported by municipal public officials.</p>	<p>Once the joint reporting and response process is established, LUMA will respond to all reported downed wires and take appropriate action within a reasonable time (as per the event categorization) working in conjunction with local authorities after a Major Outage Event.</p> <ul style="list-style-type: none"> Reported means that the situation is tracked in the Customer Information System (CIS) by the official contacting LUMA call centers or reported through the Municipal Emergency Operations Center (EOC) through LUMA's Municipal Emergency Operations Center (MEOC) Liaison. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;"><u>Reasonable Time</u> Event Categorization</th> <th style="text-align: left;">Response Time</th> </tr> </thead> <tbody> <tr> <td>3 to 5 days</td> <td>18 hours</td> </tr> <tr> <td>5 to 10 days</td> <td>36 hours</td> </tr> <tr> <td>> 10 days</td> <td>60 hours</td> </tr> </tbody> </table>	<u>Reasonable Time</u> Event Categorization	Response Time	3 to 5 days	18 hours	5 to 10 days	36 hours	> 10 days	60 hours
<u>Reasonable Time</u> Event Categorization	Response Time								
3 to 5 days	18 hours								
5 to 10 days	36 hours								
> 10 days	60 hours								

3. Damage Assessment

	<p>After the beginning of the Major Outage Event and when it is safe to do so LUMA will begin a preliminary damage assessment of the impacted area(s) or T&D facilities.</p> <p>The preliminary damage assessment will be completed within a "reasonable time" at the beginning of the Operation Response phase. The preliminary damage assessment will be done primarily with helicopter patrol and very limited specific land patrol to address helicopter assessment questions.</p> <p>At the same time that the preliminary helicopter assessment is started, LUMA will begin a more thorough damage assessment.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;"><u>Reasonable Time</u> Event Categorization</th> <th style="text-align: left;">Response Time</th> </tr> </thead> <tbody> <tr> <td>3 to 5 days</td> <td>36 hours</td> </tr> <tr> <td>5 to 10 days</td> <td>72 hours</td> </tr> <tr> <td>> 10 days</td> <td>120 hours</td> </tr> </tbody> </table>	<u>Reasonable Time</u> Event Categorization	Response Time	3 to 5 days	36 hours	5 to 10 days	72 hours	> 10 days	120 hours
<u>Reasonable Time</u> Event Categorization	Response Time								
3 to 5 days	36 hours								
5 to 10 days	72 hours								
> 10 days	120 hours								

4. Crewing

<p>50% of the forecast crewing [from mutual assistance] committed to the utility.</p>	<p>50% of the forecast crewing [from mutual assistance] committed to the utility.</p> <p>50% of the forecast crewing [from mutual assistance] committed to the utility.</p> <p>Three (3) days prior to a forecasted event occurring (when the event allows that much warning time), LUMA will complete a "damage prediction" to determine crew requirements. Based on this damage prediction, the number of mutual assistance crews will be determined.</p> <p>LUMA will stage materials, equipment and personal at the required location prior to the weather event striking the area.</p> <ul style="list-style-type: none"> Within 24 hours of the damage prediction, 50% of indicated internal crews and qualified contract crews will be deployed Within 48 hours of the damage prediction, 80% of the indicated internal crews and qualified contract crews will be mobilized on island.
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5. Estimated Time of Restoration (ETR) for 90% of Service Outages (made available by utility on web, Interactive Voice Response (IVR), to Customer Service Representatives CSR's, etc.)

	<p>Publication of regional ETRs in accordance with guidelines.</p>
	<p>Publication of municipal ETRs in accordance with guidelines.</p>

NEPR-MI-2019-0007

Description	Metrics
Estimated Time of Restoration for 90% of service outages (made available by utility on web, IVR, to CSR's, etc.)	A preliminary ETR for 90% service restoration will be made available on the Internet 24 hours after the preliminary damage assessment in pdf format.
	ETRs on 90% service restoration to be made available on IVR and to CSRs by municipality or region.
	All ETRs to be updated every 24 hours.

6. ETR Accuracy for 90% Service Restoration

Regional ETR accuracy	Accuracy for 90% of service outage restoration and published in accordance with ETR requirement time.
Municipal ETR accuracy	The ETRs used for this metric will be the ETRs posted after the thorough damage assessment is completed and not based on the preliminary damage assessment.

7. Municipality Coordination

Coordination with municipalities regarding road clearing, down wires, critical customers, etc.	Through the Municipal EOC the LUMA local Incident Command Center (ICC) Municipal Liaison will attend all scheduled Situation Report (SITREP) meetings. The Liaison will be the conduit for ICC information and requests. To track, the Municipal EOC must be activated so that all requests flow through it. LUMA ICC Municipal Liaison will attend all scheduled SITREP meetings.
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8. Municipal EOC Coordination Puerto Rico Commonwealth / Federal EOC Coordination

Coordination with municipal Puerto Rico Commonwealth and Federal EOCs.	Through the Commonwealth and Federal EOCs the LUMA Liaisons will attend all scheduled meetings. The Liaison will be the conduit for ICC information and requests. To track activity, the State and Federal EOCs must be activated and not a request from elected officials.
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9. Utility Coordination

Coordination with other utilities (communications, water, etc.)	Establish contact points between utilities.
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10. Safety

Measure of any employee or contractor injured doing hazard work during storm/outage and restoration.	Record safety incidents and include in safety report per LUMA HSE standard.
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NEPR-MI-2019-0007

Description	Metrics
11. Mutual Assistance	
<p>Crew requests made through all sources of mutual assistance or other pre negotiated contracts with utility service providers.</p>	<p>Three (3) days prior to a forecasted event occurring (when the event allows that much warning time), LUMA will complete a damage prediction to determine the requirements for on and off island mutual aid/pre-negotiated contracts with other utility service providers. LUMA will activate the required resources and place them on standby until the damage assessment is completed.</p> <p>After the “initial damage assessment” is completed the requests for mutual assistance or other utility service provider crews will be made as follows:</p> <ul style="list-style-type: none"> ▪ Within 70 hours, 40% of crews ▪ After 120 hours, 80% of committed mutual aid/MOU and other utility service provider crews will be requested.
12. Call Answer Rates	
<p>Customer calls answered by properly staffed call centers (use of IVR and other technology is an acceptable solution).</p>	
13. Web Availability	
<p>Company’s web site, specifically the section pertaining to outage impact and restoration, must be available around the clock during a major storm event and information must be updated hourly until final restoration. In the event no new information is available, the web site must display the last time and date that information was updated. The web site and/or section pertaining to outage impact and restoration may be taken offline for a short period during off peak hours to perform system maintenance.</p>	
14. PREB and Administrator (P3A) Reporting	
<p>Provide storm event information to PREB and Administrator in accordance with LUMA’s Electric Outage Management System (OMS) guideline requirements to be established in the ERP for LUMA.</p>	<p>Information to be updated every 24 hrs.</p>
15. Customer Communications	
<p>Availability of Press releases, text messaging, email and social media.</p>	
16. Outgoing message on telephone line	
<p>Recorded message providing callers with outage information is updated within two hours of communication of press releases.</p>	