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

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| **IN RE:** THE PERFORMANCE OF THE PUERTO RICO ELECTRIC POWER AUTHORITY | **CASE NO.:** NEPR-MI-2019-0007<br><br>**SUBJECT:** Performance Baseline and Compliance Benchmarks. |

# COMMENTS OF THE PUERTO RICO ELECTRIC POWER AUTHORITY ON THE ESTABLISHMENT OF PERFORMANCE BASELINE AND COMPLIANCE BENCHMARKS FOR ELECTRIC SERVICE COMPANIES

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## I. INTRODUCTION

The Puerto Rico Energy Public Policy Act, also referred to as Act 17-2019, established the deadline of December 31, 2019 for the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") to develop regulations for the establishment of incentives and penalties based on performance that considered electric power companies' performance and compliance with the performance metrics set forth in the energy public policy.[1] Act 17-2019 further provides the Energy Bureau with the authority to use alternative mechanisms to cost-based regulation for compliance and implementation of the objectives established in the law, including mechanisms for incentives and penalties based on performance metrics for electric service companies and strict compliance with the Energy Bureau orders.[2]

In furtherance of this mandate, on May 14, 2019 the Energy Bureau entered *Resolution and Order* in the captioned case (the "Baseline Proceeding") informing that it was in the process of 1) drafting regulations to establish performance incentive mechanisms and targets; 2) that it would open a separate docket and timely issue such draft regulations for comment before final adoption of the regulations and that; 3) the Energy Bureau would initiate proceedings based on the adopted regulations to adopt the performance incentive mechanisms and targets that would be put in place.

At the time, and in anticipation to the upcoming performance metric regulations, the Energy Bureau stated that "it would be in the public interest to commence as soon as possible the data gathering process that would not only help the Energy Bureau and the stakeholders in developing appropriate measures, metrics and targets, but also incentive and penalty

[1] *Puerto Rico Energy Public Policy Act,* Act No. 17 of April 11, 2019 ("Act 17-2019"), amending Article 6.25B of the Puerto Rico Electric Power Authority Ac, Act No. 83 of May 12, 1941, as amended ("Act 83-1941").
[2] Act 17-2019, Sec. 1.5(3)(c).

mechanisms."[3] The effort would help the Energy Bureau in: 1) establishing a baseline and a uniform understanding of the current level of PREPA's performance on every aspect of PREPA's decision-making and operations; 2) the data gathered would be critical for measuring PREPA's reliability and stability and 3) it would also help identify those areas of lower performance within the PREPA system that may need more attention.[4] Consequently, the May 14, 2019 Order required PREPA to track, on a monthly basis, and submit to the Energy Bureau a report with the indicators/metrics that had been included in Attachment 1 of the Order starting on September 15, 2019.[5]

On June 22, 2020, LUMA Energy, LLC as Management Co, LUMA Energy Serv Co, LLC as Serv Co (collectively, "LUMA"), PREPA and the Puerto Rico Public-Private Partnerships Authority, entered into an Operation and Maintenance Agreement ("O&M") under which LUMA will manage PREPA's transmission and distribution system ("T&D System"). Section 4.2(f) and Annex IX of the O&M establishes the process to be followed for the implementation of Performance Metrics as applicable to LUMA. As a certified electric service company and the operator of the T&D System, LUMA is subject to compliance with Performance-Based Incentives Mechanisms regulated by the Energy Bureau.

After gathering and analyzing a full year of PREPA reports, on December 2, 2019, the Energy Bureau adopted Regulation 9137, *Regulation for Performance Incentive Mechanisms*, to establish performance incentive mechanisms and targets for eligible electric service companies.[6] As per the provisions of Regulation 9137, the Energy Bureau commenced an adjudicative

[3] *Id.* at pag. 4.
[4] *Id.*
[5] *Id.*
[6] Energy Bureau, *Regulation for Performance Incentive Mechanisms*, No. 9137 (December 2, 2019) ("Regulation 9137").

proceeding under case Baseline Proceeding to establish the standard (*i.e.*, PREPA's current performance) and the targets or compliance benchmarks with which the Puerto Rico electric system should comply.[7]

On December 23, 2020 the Energy Bureau entered *Resolution and Order* ("December 23, 2020 Order") commenced the case captioned *In Re: Performance Targets for LUMA Energy ServCo, LLC*[8], 1) initiating an adjudicative proceeding to evaluate and establish the performance targets and Performance Incentive Mechanisms ("PIMs") to be applicable to LUMA; 2) publishing the principles that will guide LUMA in preparing its request for the establishment of PIMs and 3) determining the course of action including scheduling of pre-filing technical conference, publishing procedural calendar and timeline to submit requests for intervention and the manner in which the general public may participate.[9] In the December 23, 2020 Order, the Energy Bureau explicitly stated that it was not bound or limited by the dispositions of the O&M as had been previously stated in the Energy Bureau's Resolution and Order of June 17, 2020 when the Energy Bureau render its opinion about the Puerto Rico Public Private Partnerships Authority request for a certificate of energy compliance for LUMA.[10]

In the Baseline Proceeding the Energy Bureau ordered both PREPA and LUMA to "provide their comments and inputs regarding the baseline, the compliance benchmarks and which

[7] *Resolution and Order* entered on December 23, 2020.
[8] *In Re: Performance Targets for LUMA Energy ServCo, LLC*, case no.: NEPR-AP-2020-0025 ("LUMA Performance Targets Proceeding").
[9] *Resolution and Order* entered in the LUMA Performance Targets Proceeding on December 23, 2020.
[10] *In Re: Certificate of Energy Compliance*, case no. NEPR-AP-2020-0002 ("Certificate of Energy Docket").

specific key performance metrics, in their opinion, should be used for the PIMs."[11] The Energy Bureau also invited the general public and stakeholders to provide their input in the proceeding.[12]

Likewise, in the LUMA Performance Targets Proceeding, the Energy Bureau ordered PREPA and LUMA to make certain any filing to be presented before the Energy Bureau pursuant to Section 4.2 of the O&M: (i) takes into consideration the outcomes of the proceeding under the captioned case; and (ii) at a minimum, align its proposal to the principles enumerated in Part IV of the December 23, 2020 Order (*see*, Section III. 4 below).

Furthermore, in the matter of *In Re: Review of the Puerto Rico Electric Power Authority's 10-Year Infrastructure Plan – December 2020*[13], PREPA is explicitly taking into account the desired future state of the energy system, as defined by Energy Bureau in the Final IRP Order[14], in defining performance metrics that will be needed to manage the increased deployment of utility scale renewable resources and distributed energy resources that reflect the parameters with Scenario S3S2. As explained below, this will require a new set of performance metrics to address these emerging priorities that go beyond the traditional metrics the Energy Bureau request PREPA provide in this docket.

PREPA has also included a discussion of the issues related to performance metrics regarding legacy fossil units that are planned to be retired over the next several years under Scenario S3S2 and the 2020 Certified Fiscal Plan or performance metrics that would be needed for newer existing fossil units or any new fuel based generation units (irrespective of whether the

[11] Baseline Proceeding, Sec. III., pag. 4.
[12] *Id.*
[13] Case no. NEPR-2021-0002.
[14] *In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, case no. CEPR-AP-2018-0001, *Final Resolution and Order on the Puerto Rico Electric Power Authority's Integrated Resource Plan* (the "Final IRP Order").

fuel they burn is hydrogen, decarbonized natural gas, conventional natural gas, or biofuels) that may be built in the future. Neither the Energy Bureau nor any other stakeholder should draw the inference that this in any way is meant to undermine the Energy Bureau's orders entered in case noNEPR-2021-0002 nor is it a collateral attack on the Approved IRP and Modified Action Plan.

PREPA recognizes the importance of accelerating renewable power to achieve greenhouse gas reductions and increase affordability. PREPA has taken the actions necessary to meet the 2021 targets defined in the Final IRP Order (Scenario S3S2). Regrettably, the institutions of Puerto Rico do not currently enjoy full sovereignty to enact their desired decisions, as, in the case of PREPA, all of its plans, contracts, capital and operating expenses must be approved not only by the Energy Bureau, but also by the Fiscal Oversight and Management Board for Puerto Rico (FOMB). The prior Federal administration did not appear to share the same policy enthusiasm for acceleration of renewable energy as the Energy Bureau, as the actions taken by the FOMB under their authority under Section 204(b)(2) of the Puerto Rico Oversight and Management Board, which PREPA must comply with, clearly demonstrate. For example, PREPA sought to accelerate the adoption of renewable solar power purchase operating agreements, requesting that all 593 MW of the remaining solar PPOAs be approved in 2020 and be built in 2021 to accelerate renewable energy in compliance with direction of Energy Bureau in the Final IRP Order requiring PREPA to align to the S3S2 plan. This request was denied by the FOMB in their letter dated September 17, 2020, despite PREPA negotiating costs below the FOMB guidance on cost ceilings for these PPOAs.[15] In its response, PREPA clearly stated its intention of using the 593 MW along with the existing renewable power to reach the 780 MW in 2021 that is aligned to the Final IRP Order and PREPA's

[15] Letter from Natalie Jaresko of FOMB dated August 17, 2020.
https://drive.google.com/file/d/1d1a8fSQcCCvDaUiebMQrPw0JB_ukABlY/view

ability to perform accordance to the requirements of Act 17-2019 and Act 57-2014[16].[17] Given the FOMB denial, neither the interconnection costs for renewable energy projects (which PREPA must pay) or the grid side battery storage systems to needed to integrate this scale of renewable projects reliably could be included in the near term capital request to the Federal Emergency Management Agency (FEMA) in the current draft of 10-Year Plan, which is highly unfortunate. Since the FOMB only approved 150 MW[18], PREPA is currently procuring the renewable energy purchase in accordance with the procurement process mandated by the Energy Bureau in the Final IRP Order.

Similarly, PREPA is fully supportive regarding the policy direction to privatize the administration of the T&D System and various generation assets. The discussion regarding the issues the Energy Bureau and PREPA both face in terms of management and governance of the ongoing T&D System privatization given the peculiarities and nuances of the LUMA O&M is to inform the Energy Bureau of the unmanaged risks to the public interest that would not be present in other privatizations that performance measures can help address. 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.

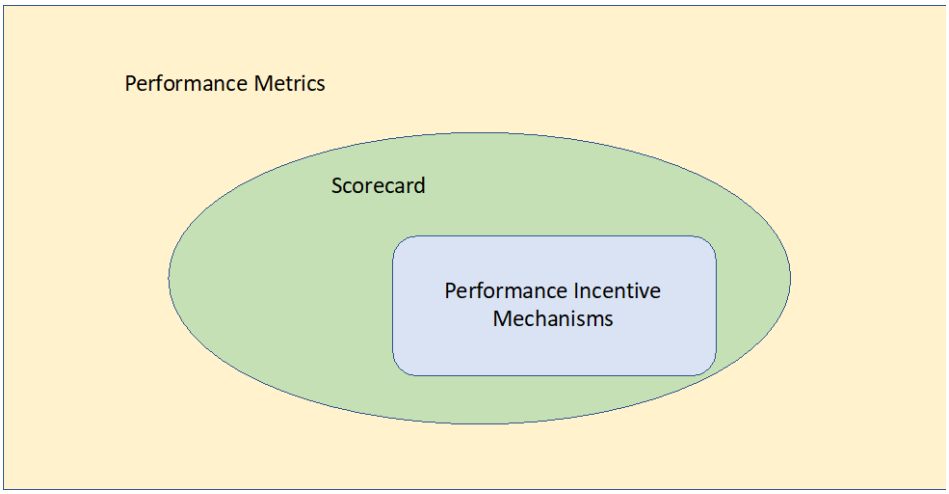
In summary, PREPA respectfully submits these comments and hopes that the tone and tenor of this proceeding will be respectful collaboration and dialog that gives all parties the

[16] *Transformation and Energy Relief Act*, Act No. 57 of May 27, 2014, as amended.
[17] Letter from PREPA's Governing Board Chairman Eng. Ralph Kreil-Rivera to Natalie Jaresko of FOMB dated August 21, 2020 requesting reconsideration.
[18] FN 15.

assumption that their intentions are aligned in support of the enunciated public policies developed by the institutions of Puerto Rico.

PREPA understands that the purpose of the Baseline Proceeding is to undertake a transparent data gathering process to help the Energy Bureau and relevant stakeholders set the baseline of PREPA's T&D System and generation performance in order to subsequently support the development of PIMs for other certified electric service companies, including the LUMA Performance Targets Proceedings.

The relationship between performance metrics, scorecards, and PIMs is shown in the following figure:




Performance metrics include all the financial, risk, environmental, customer and operational metrics that a utility should prudently capture and measure in order to manage the system effectively and efficiently. Since there are tradeoffs between these variables, the performance metrics themselves are not the optimization of the T&D System or the generation fleet, but rather are indicators and inputs that are used for optimization and management. A subset of these metrics is used as a "Scorecard" which is publicly reported to the regulatory commission

(Energy Bureau in this case) and regulatory bodies to provide a "dashboard" of key trends in system performance, as well as to provide transparency for all stakeholders. A smaller subset of the scorecard is used for PIMS, which are the rewards or penalties the Energy Bureau will ultimately determine are appropriate to balance and align the incentives of the regulated entity, PREPA now, or soon LUMA, and also the future legacy generation system operators.

Since PREPA is in transition from a regulated public utility to a regulated asset owner with private third-party operators who are responsible for planning, managing, and operating the transmission and distribution system, and ultimately the generation assets, PREPA's interests and needs for performance metrics, scorecards and PIMs are entirely aligned with those of the Energy Bureau. This is so because, as asset owner and financial backstop, PREPA retains the fiduciary responsibility (legal and ethical) under law and applicable financial agreements to ensure that the electrical system assets are adequately maintained, reconstructed and stewarded in the best interest of the utility's customers and, given the nature of the system being critical infrastructure, the general public. Furthermore, since PREPA maintains financial liability for the entire system, it also retains fiduciary, financial and practical responsibility to ensure that the system is run efficiently and that its operator(s) remain solvent, keeping the best interest of customers and the general public always ahead of any other competing interest.

To discharge these fiduciary obligations effectively, PREPA must have the ability to see and oversee the performance of the operator(s) of the system and of its administration agent(s). The transparency, cadence and visibility that the Energy Bureau begins to establish under the Baseline Proceeding and the LUMA Performance Targets Proceedings, supports PREPA's ability, as asset owner and the financially responsible party, to more effectively discharge this fiduciary obligation into the future on behalf of electric customers and the general public.

PREPA believes that, given the relationship between performance metrics, scorecards and PIMs, the development of performance metrics in this docket should take into account and consider the emerging challenges that need to be managed related to the future desired state of Puerto Rico's energy system. These include the advancement of renewables, distributed energy resources, microgrids within a structure of privatization of the operations of the transmission and distribution system and generation assets to distinct private parties under long-term contracts.

Therefore, PREPA contends that the performance metrics needed to address these new challenges and contractual relationships represent a new class of "emergent" metrics that go beyond the traditional utility metrics that PREPA has heretofore relied on, and dutifully reported to the Energy Bureau. PREPA has come to these conclusions based on the initial six months of working with LUMA under the O&M, wherein unanticipated gaps and concerns have been brought to light, some of which can be addressed by performance metrics used in both the Scorecard and PIMs.

The Energy Bureau and the Government of Puerto Rico's regulatory and public policy goals link to specific priority outcomes, each of which should directly provide added value to customers and the best interests of the public. Each of these outcomes has associated performance metrics and related scorecards. The Energy Bureau will determine which outcomes should be subject to PIMs given the structure of the O&M contracts between PREPA and third parties. PREPA's view of the relationship is shown in Figure 1:

| Goal | Type | Priority Outcome |
|---|---|---|
| Improve Value to Customer | Traditional | Affordability |
| | | Reliability |
| | | Customer Experience |
| | Emergent | Interconnection Experience |
| | | Customer Program Engagement (EE, DER, LMI) |
| | | Restoration of Service (major outage event response) |
| Improve Utility Performance | Traditional | Cost Control |
| | Emergent | DER integration |
| | | Digitalization |
| Advance Policy Outcomes | Traditional | Capital Formation and solvency |
| | | Customer Equity |
| | Emergent | GHG Reduction/RPS |
| | | Resilience |
| Manage Privatization | Emergent | Asset Stewardship |
| | | Resource Adequacy |
| | | Transparency |

To establish these objectives, outcomes, and emergent metrics for the PIMs for LUMA, PREPA believes it is necessary and important to first include those in the baseline metrics, so that the PIMs can be compared against that baseline. Data must then be gathered to help develop the baseline for the emergent as well as the existing metrics. Thus, PREPA contends that there is direct linkage between the captioned proceeding and LUMA Performance Targets Proceeding. While PREPA is not requesting that these dockets are consolidated, it is providing recommendations on

some of the baseline metrics that could be addressed in the case of captioned that the Energy Bureau may determine will be useful in setting the relevant PIMs in the LUMA Performance Targets Proceeding. Thus, for reasons of regulatory efficiency, PREPA is making its best efforts to address this future need in these comments and by providing reference data to help the Energy Bureau establish new and existing metrics going forward.

PREPA also strongly believes that the metrics must be dynamic, rather than static in nature. While as stated above, the metrics should be established today to account for future operational and policy requirements, there are certain to be requirements that emerge in the future that no one can anticipate today, given the 15-year term of the contract.[19] PREPA has had recent discussions with Long Island Power Authority (LIPA) about the performance failures by its contractor, PSEG Long Island (PSEG), in which LIPA management emphasized the need to build into the contract the ability to revisit and add new performance measures on a regular, periodic basis in order to incorporate goals that can not be anticipated today. We urge the PREB to make clear in its order(s) that it intends to do such a regular revision. Such dynamic metrics must also take into account the prospect that once PIMs are successfully achieved, the certified electric service company or operator must have an incentive for continuing improvement beyond those initial targets, so PIMs must be reviewed and revised upward at that time.

Another lesson learned by LIPA involves the alignment of economic incentives with performance. Under the O&M, nearly 84% of its compensation if fixed and only about 16% is related to performance incentives. Based on the very recent LIPA experience, this misalignment is not advisable and will yield, over time, sub-optimal results, to the detriment of Puerto Rico

[19] *Findings from LIPA's Tropical Storm Isaias Investigation* https://www.flipsnack.com/LIPower/findings-from-lipa-s-tropical-storm-isaias-investigation/full-view.html; *see also Reforming Long Island's Electric Service* https://www.flipsnack.com/LIPower/fact-sheet-reforming-long-island-s-electric-service/full-view.html

electric customers and the asset owner, PREPA. As such, and based on the real-time, real-life experience of LIPA (the model upon which the Puerto Rico Public-Private Partnerships Authority (P3A) built the O&M), PREPA strongly encourage the Energy Bureau to use its statutory authority to impose penalties, beyond any otherwise established in the O&M (which are limited), to ensure that LUMA is incentivized to avoid, and otherwise accountable for, any failures on its part to achieve either the baseline metrics or the PIMs, whether they are metrics established now or in the future. Also, since the O&M does not contain a requirement for Luma to engage with the Energy Bureau, P3A or PREPA in long-range planning on a regular basis, we urge the Energy Bureau to build that requirement into its order(s) to ensure timely visibility, accountability and compliance.

With these factors in mind, PREPA has structured these comments as follows:

- Section II: Understanding PREPA Performance Under Existing Metrics
- Section III: Additional Metrics Are Needed to Address Potential Performance Incentives Mechanisms for Luma PIM or Future Generation O&M Contractors
- Section IV Proposed Additional Metrics
- Section V: Conclusion

## II. UNDERSTANDING PREPA'S PERFORMANCE UNDER EXISTING METRICS

### A. Perspectives on Comparable Benchmark for the PREPA System

The fundamental challenges in the regulatory benchmarking that compares the efficiency of one utilities system against a reference performance of another are the interrelated issues of methodology, metric selection, comparability and management control.

## 1. Considerations on Methodology

The methods of measuring efficiency can be classified into two categories: non-parametric or linear programming methods, and parametric or econometric methods. Since companies operate in different regions with widely varying network characteristics, it is important to distinguish between inefficiency and exogenous heterogeneity that influences cost. Thus, as a matter of framing, it is important to recognize that the estimated score of inefficiency is sensitive to the choice of methodology in benchmarking methods. Several studies from benchmarking efficiency of distribution utilities in Europe and South America found that there is weak consistency between the scores and ranking using parametric and non-parametric methods.[20]

A fundamental feature of distribution utilities that they are networks, and thus, dense networks tend to appear more efficient the rural networks and the environmental factors of vegetation and terrain naturally play a role. Further, the goals of reliability and cost are typically an optimization. Thus, non-parametric approaches are useful for understanding the optimization frontier. However, this requires and shared understanding of sophisticated models and transparent agreement on inputs. Thus, it is not surprising that European regulators of distribution utilities use non-parametric models in pooled studies with the desire results of obtaining valid benchmark measures for evaluation of efficiency in distribution utilities.

However, the reality of regulatory burden and the current state of data in the Puerto Rico system guides us to more conventional parametric approaches. The underlying econometric technique requires specific assumption between the relationship of inputs and outputs used in the

[20] Jasmsb and Pollit (2003),"Benchmarking for Distribution Utilities: A problematic approach to defining efficiency, The Electricity Journal 16 (10): 30-38; Estache et al, "The case for international coordination of electricity regulation: evidence from the measurement of efficiency in South America, Journal of Regulator Economics, 25 (3): 271-295.

benchmark. The deterministic approach assumes that all deviation from the efficiency frontier is due to inefficiency, with no role due to random factors. The stochastic production frontier approach incorporates both random "noise" and inefficiency into the model specifications. The even simpler approach of total factor productivity, while easy to apply and interpret is unable to distinguish between scale effects and efficiency differences. PREPA raises these distinctions between parametric approaches because the simple interpretation of benchmarking statistics will overstate the inefficiency relative to the benchmarked firm.[21]

Nonetheless, PREPA concurs that conventional parametric approaches are the appropriate first step.

### 2. Performance Metric Selection

For distribution utilities, the traditional parametric metrics have attempted to balance the competing requirements of cost (*e.g*. O&M cost per customer, Mwh, KVa, line mile.), and reliability (*e.g*. SAIDI, SAIFI, CAIDI), and these must be continued. Over time, the metrics on customer service and administrative efficiency have become established throughout the industry based on the technology adopted.

Even these conventional metrics become modified as new technologies in the information centric digital world begin to transform the customer experience. Thus, PREPA would expect that the Energy Bureau would want to measure the degree of digital efficiency from billing to customer care, that will ultimately be part of the customer experience over the next decade.

[21] Khetrapal and Thakur, A review of Benchmarking Approaches for Productivity and Efficiency Measurement in the Electrical Distribution Sector, International Journal of Electronics and Electrical Engineering, Vol. 2, No. 3 September 2014.

As Puerto Rico joins the rest of the electrical utility industry in advancing renewable energy at the utility and distributed scale, two entirely new families of metrics that relate to T&D System efficiency arise: renewable integration metrics related to the speed and efficiency of integrating new renewables into the system, and asset effectiveness metrics, that both help define whether customer side assets are being leveraged to lower total utility costs and the utility grid side assets needed to integrate increasing levels of reliability effectively.

For generation, the situation in Puerto Rico requires contextual use of benchmarks appropriately. First, generation units should be compared by type and vintage, and while the current breakout of steam plants (oil and gas), simple and combined cycle turbines and diesel engines is appropriate, comparing the vintages matter for two fundamental reasons. First, each of these classes of units tends to have engineering design similarities in their operational challenges and cost as they age. Thus, comparing the forced outage rate, heat rate, and maintenance cost of a 15-year old combined cycle *vs* one that is a few years old would not demonstrate the differences in efficiency of management of these units, it would be swamped by the differences in efficiency of these units. Second, the duty cycle (how the units are operated) matters to the maintenance cost. Thus, units forced to cycle frequently and start/stop have higher maintenance requirements than units that run on continuous operations. These fundamental engineering realities are understood by the OEMs who can often provide relevant data from their units to enable better comparability of the generation fleet of the type and vintage.

Third, as a matter of policy and in compliance with the Final IRP Order, PREPA and the Energy Bureau have the intention to retire the least efficient oil burning generation units on the system. Therefore, irrespective of whether PREPA or a third party is the operator, there is a limited amount of capital improvement to address the systemic plant failures of the aging units that would

be prudent to incur, but for the reliability risks that would arise before they are replaced. It will be very difficult to find any meaningful comparability to this situation, nor can the outage or maintenance performance of these plants be combined with the remaining generation fleet for purposes of portfolio comparisons. PREPA respectful submits that these issues should be considered in defining whether and how to benchmark units facing near term retirement.

### 3. Comparability: Finding Utility Peers

PREPA is currently a state-owned enterprise public utility. Globally, state owned enterprises share many benefits and burdens of government ownership and operation. As public agencies, they are often called on as instruments of public policy to address rural/universal electrification, low-income support and other programs that the private sector will not do, making their overall costs higher than than private sector counterparts. Thus, they are often benchmarked against each other and great care is taken before facile comparisons are made to the private sector.[22]

Going forward, PREPA's T&D System, inclusive of customer service, will be privatized, to the world class LUMA consortium, led by Quanta. Since both PREPA, P3A, and the Energy Bureau should have an expectation of performance equivalent to the private sector, it makes sense for these peers to be considered. Since environment factors matter greatly to distribution networks, utilities with similar challenges of terrain and vegetation, as well as urban rural mix would help address the aforementioned inefficiencies attributable to non-management factors.

PREPA concurs that Hawaiian Electric (HECO) is an excellent candidate, since it is very similar island systems and though PREPA is larger, equivalent scales. Yet within the US utility

[22] World Bank, Report 70849, Benchmarking Analysis of the Electrical Distribution Sector in the Latin American and Carribbean Region.

industry HECO is a fourth quartile performer. Perhaps the Energy Bureau may wish to set its sights higher. The failed Next Era-HECO merger can be instructive regarding this.

Next-Era is also an equivalent utility in terms of climate, storms, and while more urban, a clear urban rural mix with tropical vegetation issues. By all accounts, including HECO testimony, Next Era is a first quartile utility that would bring substantive benefits in O&M costs. PREPA would recommend that Next Era (FP&L) be considered, with the adjustments made for scale as discussed above. These two companies represent the bookends of the peer group.

## III. ADDITIONAL METRICS ARE NEEDED TO ADDRESS POTENTIAL PERFORMANCE INCENTIVE MECHANISMS FOR LUMA PIM OR FUTURE GENERATION O&M CONTRACTORS

### A. Rational for Performance Based Measures

#### 1. This case calls for anticipated metrics to support future PMIs

The Energy Bureau's Resolution and Order dated May 14, 2019, specifically calls for the commencement of data gathering process to help develop appropriate measures, metrics and targets, including metrics that will be subject to financial incentives. The LUMA Performance Targets Proceedings will subsequently establish those specific targets and performance incentives mechanism (PIM). Thus, in anticipation of what those PIMs may be, it is prudent to add data regarding non-traditional metrics in this docket that would support the baseline for those future PIMs. Capturing the required data now would help establish "a baseline and a uniform understanding of the current level of PREPA's performance."[23]

[23] May 14, 2019 Order at pag. 4.

Indeed, the Energy Bureau has identified 15 anticipated metrics that could be valuable in future PIMS. These include metrics related to the emergent priority outcomes included in Figure 2. For example, the requested metrics on energy and efficiency and electric vehicles all relate to the emergent priority outcome of Greenhouse Gas Reduction.

It is this same spirit of anticipated metrics that PREPA offers the following insights into the kinds of PIMs that the Energy Bureau may consider adopting, and the metrics that PREPA believes will be needed for to achieve and maintain the emergent outcomes in Figure 2. If the Energy Bureau and parties agree on the value of gathering these metrics, PREPA will undertake an effort to capture this data for the next regulatory filing.

### 2. PREPA Fully Concurs that Nothing in the O&M limits the Energy Bureau's Authority to Establish PIMs

PREPA is a signatory to the O&M and per this contract, nothing in it limits the Energy Bureau's regulatory authority under applicable law. The O&M, under Section 20.17 provides that "[n]otwithstanding anything to the contrary herein, 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." Furthermore, Section 4.2(f) confirms that with respect to PMIs, "…PREB shall review, and approve, deny or propose modifications to, such proposed revised Annex IX (*Performance Metrics*) in accordance with Applicable Law"[24].

[24] O&M at Sec. 4.2(f): Performance Metrics. Promptly (and in any event within sixty (60) days) following the Effective Date, the Parties shall establish a planning team composed of representatives of each of the Parties, and ManagementCo, with input from such team, shall prepare a revised Annex IX (*Performance Metrics*), including (i) proposed baseline, target and minimum performance levels for certain Performance Metrics, (ii) Key Performance Metrics and (iii) Major Outage Event Performance Metrics, together with an explanation of the basis for each of the foregoing. ManagementCo shall submit to Administrator the proposed revised Performance Metrics and, within thirty

More specifically, the draft performance metrics and PIMs in Annex IX of the O&M are specifically noted as illustrative PIMs which are to modified by the parties and submitted to the Energy Bureau for review and approval.[25] As the Energy Bureau correctly observes in its the LUMA Performance Targets Proceedings, Act 17-2019 expressly provides the Energy Bureau with the authority to use alternative mechanisms to cost based regulation and compliance, including mechanisms for incentives and penalties based on performance metrics for electric service companies. Act 17-2019 specifically empowers the Energy Bureau to develop incentives and penalties based on the electric power companies performance and compliances with the metrics the Energy Bureau approves, pursuant to energy public policy. The Energy Bureau adopted Regulation 9137, Regulation for Performance Incentive Mechanism on Dec 2, 2019.

It is PREPA's contention that LUMA is a certified electric service company and operator of the T&D System. Similarly, any future generation operations and maintenance contractors will also need to be certified electric service companies under the meaning and definition of Act 17-

(30) days following its receipt of such proposed revised Annex IX (*Performance Metrics*), Administrator, acting reasonably, shall provide ManagementCo comments on the appropriateness of the proposed Annex IX (*Performance Metrics*) and recommend any changes or modifications it believes are necessary or appropriate. If Administrator does not respond within such thirty (30) day period, Administrator shall be deemed to have no objection to such proposed revised Annex IX (*Performance Metrics*) being submitted by ManagementCo to PREB. The Parties agree that, within thirty (30) days following receipt of Administrator's comments, if any, or the end of Administrator's review period described in the immediately preceding sentence, if Administrator has no comments, Operator shall submit for PREB's review the proposed revised Annex IX (*Performance Metrics*), incorporating or rejecting any of the modifications or changes suggested by Administrator, together with an explanation of any of Administrator's comments, as ManagementCo shall reasonably deem appropriate in its sole discretion. *PREB shall review, and approve, deny or propose modifications to, such proposed revised Annex IX (Performance Metrics) in accordance with Applicable Law.* ManagementCo shall be required to respond promptly to any changes or modifications from PREB to the proposed revised Annex IX (*Performance Metrics*) and submit any updates to the proposed revised Annex IX (*Performance Metrics*)to PREB for its approval. If PREB does not respond within ninety (90) days after receipt of the proposed revised Annex IX (*Performance Metrics*) or any update thereto, ManagementCo may proceed for purposes of this Agreement as if PREB had approved such proposed revised Annex IX (*Performance Metrics*). The illustrative Performance Metrics, as identified in Annex IX (*Performance Metrics*) shall be revised and replaced accordingly on, or prior to, the Service Commencement Date. (Emphasis Added.)

[25] O&M at Sec. 4.2(f).

2019, and therefore be subject to the regulatory power of the Energy Bureau extends not only the PREPA, but also to any and all of its contractors falling under this definition.

PREPA completely concurs with the Energy Bureau's Resolution and Order of June 17, 2020 under Case No. NEPR-AP-2020-0002, that neither the time limitation in Section 4.2(f) of the O&M are regarding the Energy Bureau's review and approval of the Performance Metrics nor the content of Annex IX are binding on the Energy Bureau.[26]

### 3. PREPA Fully Concurs on the Energy Bureau Principles for PIMs and Recommends the Additional Principle of Proportionality Reward or Penalty Customer Value Created or Destroyed

PREPA concurs with the principles to established PIMS stated by the Energy Bureau in the LUMA Performance Targets Proceeding. These principles are:

> **Go Above and Beyond:** Targets or Levels for which an incentive may be proposed, shall be subject to and dependent on performance above and beyond the minimum required compliance levels.
>
> **Further the Earlier Compliance with Public Policy:** Targets or Levels for which an incentive may be proposed, shall encompass the accelerated implementation of public policy such as the renewable energy portfolio demand response, energy efficiency and other similar mandates.
>
> **Further Efficiency and Savings:** As applicable, Targets or Levels for which an incentive may be proposed, shall pursue the highest level of efficiencies and savings.
>
> **Impact areas with significant performance issues:** Targets or Levels for which an incentive may be proposed, shall positively impact or address areas of unsatisfactory performance with a direct impact to the electric service user.

[26] O&M at Sec. 4.2(f): If the PREB does not respond within ninety days after receipt of proposed revised Annex IX, ManagementCo. may proceed for purposes of this Agreement as if the PREB had approved such proposed revised Annex IX.

> **Benefits for the Public Interest:** Targets or Levels for which an incentive may be proposed, shall result in a clear benefit for the public interest and the ratepayers.
>
> **Incentives Reward Difficult Tasks:** Targets or Levels for which an incentive may be proposed, shall be tied to difficult tasks, and not to easy to fix areas.

In addition to the Energy Bureau Principles, PREPA recommends the additional principles **that any rewards or penalties should be proportionate the value that accrues customers or the costs that customers incur due the electric service companies' acts or omissions.** As it applies to LUMA and other future T&D System operators, PIMs based on this principle will lead operators to be aligned with the customer interest because they have direct financial accountability for their acts and omissions, irrespective of waivers of liability that have been introduced into the LUMA O&M and may appear in future Genco O&M.

### 4. PREPA Continuing Fiduciary Responsibilities Must Be Considered

The fundamental structure of the T&D and generation privatization is that the assets are not sold, but they are planned, managed and operated by third parties to enhance efficiency and effectiveness. PREPA, as a public corporate set forth in Act 83-1941, remains the owner of the underlying assets and on behalf of the people of Puerto Rico must ensure the stewardship of the assets. Since the O&M is for a 15-year term, and the system's assets are designed to have a life of up to 30 years, PREPA must, as the system owner, ensure in fact that the system and the operations are transferred and maintained properly. Until the bankruptcy and RSA are resolved, PREPA, not LUMA or P3A, is accountable to the existing bond holders to ensure that funds required to repay them are being prudently managed.

In addition, PREPA maintains the responsibility for raising external capital and FEMA funds. PREPA and the Government of Puerto Rico were successful in negotiating the release of

$10.7 MM in FEMA funds to reconstruct the PREPA electrical system. Central Office for Recovery, Reconstruction and Resiliency (COR3) is the recipient of those funds and PREPA is the named Subrecipient. Under applicable law and federal funds agreements, PREPA as the sub-recipient is responsible for actions and omissions in using such funds and for ensuring compliance with Federal fund guidelines. If FEMA funds are misused and/or federal funds compliance processes are not adhered, FEMA has the right to deny reimbursement of costs. If this event occurs, the Government of Puerto Rico bears responsibility for these losses. There is no recourse to LUMA or P3A under such circumstances. Under the O&M Section 6.3, PREPA has authority to audit LUMA's FEMA transaction. P3A is PREPA's agent for administering the O&M and has oversight of LUMA to address compliance issues.

Under Section 6.1b of the O&M, PREPA, not LUMA or P3A, bears the full liability of any acts or omissions by its Administrator P3A, and PREPA has the liabilities for many of LUMA actions, as discussed further below. The relationship among PREPA, P3A, and LUMA as defined by the O&M is a classic case of a "moral hazard" problem. Moral hazard is when one or more parties that are responsible for managing a risk are insulated from the consequences of that risk. Whenever that exists, the potential for inadequate risk management can occur. Under the O&M, PREPA is liable for actions taken by the Contractor (LUMA) and by its agent (P3A) charged with overseeing the Contractor. P3A has authority over LUMA, but PREPA has no authority over P3A. While PREPA does not expect the Energy Bureau to solve this issue, it can use performance metrics to create transparency.

Therefore, PREPA seeks to ensure that adequate metrics are gathered by the Energy Bureau, which has authority of LUMA, to address the accountability, alignment and transparency gaps that are delineated in the following section. Both PREPA and Energy Bureau need the same

metrics to govern LUMA and ensure electrical system assets are well stewarded by third parties, creditors can be assured of the prudent disposition of funds, and FEMA compliance can be transparently monitored.

### 5. Novel Regulatory challenges in Luma O&M

The peculiarities of the O&M present novel regulatory challenges for the Energy Bureau, which PREPA believes that these challenges can be addressed in performance metrics to improve transparency, and therefore accountability, and ultimately in PIMs to create financial incentives alignment – which is essential to protect the best and long-term interest of customers and the general public, but is otherwise missing from the O&M. While management of a private operator on the T&D System would generally present new, but manageable challenges, there are five issues within the terms of the O&M that present unique challenges to Puerto Rico's privatization, and which are described below:

1) **Elimination of Liability for Failure to Serve:** Under O&M Section 4.1(g), Luma, P3A and PREPA[27] are required to seek PREB approval in Rate Order for a "Liability Waiver" that will eliminate all liability for failure to serve customers whether from failures in normal operations or major outage events, including expanding the standard to include "gross negligence and willful misconduct".[28] Business losses due to failure to serve are explicitly included in 4.1(g)(ii), again raising the standard to "gross negligence and willful misconduct".[29] If successful, Luma has no

[27] PREPA submits that this paragraph is simply reporting the black letter of the agreement, and should not in any way construe or imply that PREPA is not or will not meet its contractual responsibilities to join Luma and P3A in the inclusion of the Liability Waiver in the Rate Agreement. PREPA further states that nothing in the agreement prevents PREPA from recommending to the PREB performance metrics and PIMs that can address the public policy issues related to the O&M.
[28] O&M at Sec. 4.1(g)(i).
[29] *Id.* at Sec. 4.1(g)(ii).

incentives to address customer losses faced by Puerto Rico ratepayers due to Luma's operation and management of the T&D System, even if it involves gross negligence or willful misconduct. Since the most fundamental responsibility of the T&D system is service reliability, additional metrics beyond the traditional metrics will be needed to understand the costs to customers related to service interruptions and allow the PREB to ensure transparency and accountability.

2). **Emergency Response to Major Outages.** The O&M Section 7.1(c)(vi) (Service Fee /Incentive Fee) *entitles Luma to incentive fees if a major outage event prevents Luma from achieving its performance metrics*, as long as it achieves major outage event metrics.[30] This is an astoundingly generous provision, for two reasons. First, there is no objective way to determine that Luma would have achieved its performance targets *but for* the outage event. Second, instead of subjecting Luma to a standard for restoring power after the outage (the desired result), Annex IX substitutes metrics that are process-based and related to basic emergency response activities, which PREPA strongly holds are already contemplated, and thus paid for in the fixed management fees.

3). **Management of Assets.** There should be metrics to ensure the stewardship of the system assets in terms of their condition and/or value. This includes metrics for loss prevention and environmental contamination, and for maintaining the system in good condition (asset management metrics, such as asset failure rates). PREPA understands that the current condition of the system is generally poor and is still in the process of being assessed in detail. However, there should be metrics that incorporate all parties' expectations regarding improvements to system condition, even if they are marginal at first. While LUMA bears liability for environmental damage that they may cause after Service Commencement Date, such liability is limited, and does not

[30] *Id.* at Sec. 7.1(c)(vi).

directly affect their performance metrics or their service fee, as it should. In O&M Section 18.3, the Operator's (LUMA's) indemnity to PREPA is limited and capped at $35 MM in aggregate for Losses that occur in once contract year, and $105 MM in aggregate for all Losses during the term.[31] Losses due to gross negligence and willful misconduct have identical caps.[32]

4) **Lack of alignment of contractual incentives towards with applicable Puerto Rico energy public policy**. Under the structure of the O&M, LUMA is incentivized to increase energy use in order to increase the system size and asset base, and seek returns on both the operating costs of management and under Section 5.5(d) of the O&M, LUMA may seek Energy Bureau approval to build its own T&D assets and seek return of and on capital.[33] Both of these introduce a bias against energy efficiency and DERs that is analogous to a private sector investor owned utility bias. Further, the ownership of assets by a third party that can not be readily disconnected from the PREPA system at the end of the contract, has the potential to create undue lock in with the existing contractor.

5). **Resource Adequacy and Energy Transition.** In PREPA's view, LUMA must be given the incentive to transition to the future clean energy system mandated by the legislature and the Energy Bureau IRP process while maintaining or increasing reliability. Unlike in the LIPA-PSEG contract, where LIPA retained responsibility for system planning and resource adequacy, LUMA as the contractor has responsibility for ensuring resource adequacy, and for defining any and all new contracts for generation resources necessary both for reliability (which P3A will then contractually administer as PREPA's agent) and for transitioning to renewable energy per state policy. Therefore, there should be performance metrics associated with that role, covering adequacy and

[31] *Id.* at Sec. 18.3(a).
[32] *Id.* at Sec. 18.3(b).
[33] *Id.* at Sec. 5.5(d).

cost efficiency, as well as milestones for transition to the targets laid out in the IRP as approved by the Energy Bureau. Any future carbon reduction targets could be included as metrics in the same manner as the RPS metrics.

PREPA has provided the Administrator, P3A, with input and guidance on these concerns and why traditional performance metrics are inadequate, but these have not been incorporated into the proposed PIMs and metrics in the ongoing revision of Annex IX. Therefore, PREPA, as one of the parties to the O&M, now brings these O&M shortcomings to the attention of the Energy Bureau, so that the issues that can be addressed with through performance metrics under this docket and extended to the docket on performance incentives.

## IV. PROPOSED ADDITIONAL METRICS

### A. Additional Proposed Metrics Tie to Emergent Goals

PREPA submits to the Energy Bureau for its consideration that there are additional metrics that should be gathered in the baseline that go beyond traditional metrics that have been gathered so far. Some of these proposed metrics related to alignment with the energy transition in terms of advancement of renewable energy, distributed energy resources, demand response, energy efficiency and the establishment of microgrids. Other metrics are intended to address the specific gaps in accountability presented by the O&M. PREPA's proposed additional metrics are presented in the below, with a brief description that follows.

| Goal | Priority Outcome | Proposed Additional Baseline Metrics |
|---|---|---|
| Improve Value to Customer | Affordability | • Average monthly electric bill as % of median disposable income |
| | Reliability | •Customer Minutes Interrupted (CMI)<br>•Momentary Customer Interruptions (MCI)<br>•Customers Experiencing Multiple Interruptions ($CEMI_n$)<br>•Average System Interruption Duration Index load based (ASIDI)<br>•Average System Interruption Frequency Index (ASIFI) |
| | Customer Experience | no additional recommendations |
| | Interconnection Experience | •Interconnection queue period (DER PV)<br>•Interconnection queue period (Microgrids) |
| | Customer Program Engagement (EE, DER, LMI) | •EE, DR, and DER program participation: # of participants vs total funded program capacity or milestones |
| | Restoration of Service (major outage event response) | •Repair/restoration of downed wires (time)<br>•Restoration of service to 90% of the load (time)<br>•Restoration of services to 90% of customers. (time) |

### B. Additional Metrics for Reliability, Resilience and Major Outage Events

PREPA proposes additional metrics for reliability and resilience based on the need to address the O&M gaps in LUMA liability for customer service interruptions and emergency response. CMI and MCI are standard benchmarks widely used in regulation of the electrical industry under IEEE-1366. With all of these metrics, PREPA recommends that they be reported including all events and excluding major events. Major events can be defined by IEEE-1366 2.5 Beta Method. The definitions are provided below:

a) Customer Minutes Interrupted (CMI) is defined as the total minutes of lost power to customers during a particular time period due to interruptions, which is the total loss of electric power one or more normally energized conductors on the distribution portion of the system.

b) Momentary Customer Interruptions. (MCI) is defined as the total number of brief of power delivery to one or more customers by opening and closing operation of an interrupting device in a given time period.

c) Customers Experiencing Multiple Interruptions ($CEMI_n$), is defined as the total number of customers that experienced n or more sustained interruptions divided by the number of customers (CS).

The intention of this metric is the recognition that averages mask the reality that certain circuits are particularly problematic and cause some customers to experience worse reliability. PREPA's recently submitted 10 year plan to FEMA is designed to address these areas, and PREPA recommends that by capturing $CEMI_n$ it will create focus on reducing the worst customer

reliability problems. If the Energy Bureau concurs, PREPA will provide its perspective on "n" for us in this metric.

In addition to SAIDI and SAIFI, which are customer based, reliability indices that are load based would help complement the performance metrics and allow for calculations of unserved load if the Energy Bureau determines this to be valuable for scorecards or PIMs. These are analogous to SAIDI and SAIFI but use kVA rather than customers.

d) Average System Interruption Frequency Index (ASFI) is defined as Total connected kVA of load interrupted divided by Total Connected kVA served.

e) Average System Interruption Duration Index (ASIDI) ASIDI is defined as Connected kVA duration of load interrupted divided by Total Connected kVA served (e.g., (kVA)x (Minutes)/(kVA).

PREPA acknowledges that its data systems do not perfectly capture these metrics. PREPA believes a reasonable baseline can be developed in this docket, in collaboration with LUMA and Energy Bureau staff.

Since reliability and resilience metrics are interrelated, PREPA submits that two additional metrics would be valuable to baseline in this docket that relate to both.

f) Customers Experiencing Long Interruption Durations (CELID) is defined as total number of customers that experienced S or more hours duration of outage divided by total number of customer, expressed as percent. Experience of PREPA and other US utilities in understanding customer damages due to loss of electrical service due to extreme weather or climate events, clearly suggests that longer duration outages create far higher damages per Mwh not served. This the "S"

term in this metric, if used for the outcomes of resilience and major outage events could be set to a high number, *e.g.* 48 hours. If used for on-going reliability, the "S" terms could be set to a far shorter number of hours.

g) The Mwh of load not served for events exceed threshold "S" is important to link to CELID. This would provide the Energy Bureau with an understanding not just of the number of customers impacted by long duration events but also the magnitude of these long duration events.

Finally, for major outage event response, three metrics would complement the metrics above. These metrics are used in the industry with standard definitions.

1. Repair/restoration of downed wires (time)
2. Restoration of service to 90% of the load (time)
3. Restoration of services to 90% of customers. (time)

PREPA acknowledges that the PREPA response to Hurricane Maria was inadequate and therefore not a reasonable baseline for to rate the future performance of LUMA. Nonetheless, agreement on the key metrics for this area, the definitions, and appropriate utilities to benchmark would be valuable in this docket.

### C. Additional Metrics to Support the Policies of Energy Transition, Benefit the Public Interest, and Improve Alignment of LUMA to Those Policies

The increased use of renewables and distributed energy resources calls for additional metrics to align energy service providers to these societal objectives. PREPA recommends that four additional metrics be considered. PREPA acknowledges that the baselines for these metrics in Puerto Rico may be relatively modest. However, this docket affords the parties the ability to

perfect the definition of these metrics and agree of benchmark utilities that can set the bar for expected performance by LUMA.

PREPA recommends the following additional metrics:

1) Interconnection queue for Distributed Energy Resources, particularly distributed photovoltaic interconnection. This is defined as the number of days from submission to approval, as well as the number of applicants in the queue. This metric was recently adopted by the Hawaii PUC as a PIM.

2) Interconnection queue for microgrid energy resources. While microgrids are very new to the industry, agreement on the definition of this metric, which normatively would be analogous to the DER metric above, would be beneficial to establish in this docket.

3) Non-wires alternatives adopted in MW. This is also new to industry and a key component of NY PUC REV process. PREPA believes that agreement on definition of this metric would benefit the provision of non-wires alternatives in the future development of Puerto Rico's grid. There would be no available Puerto Rican data for this metric, since it is new to industry.

4. Percent curtailment of grid connected renewable power in total and by type of asset is important to establish transparency regarding renewable integration and greater alignment on resource adequacy. This metric is widely used by the utility industry, and data would be available for Puerto Rico.

### D. Additional Metrics to Ensure a Successful T&D O&M and the Accountability of LUMA for its Impact to Customers and to Value PREPA's Electrical System Assets

As described above, PREPA has grave concerns over the accountability of Luma regarding the costs to PREPA's customers for service interruptions and the stewardship of PREPA's electrical system assets. These concerns are not based on the competency of the LUMA consortium, but rather the exclusions of liability that are set forth throughout the O&M, and the combined effect that these have in creating a moral hazard – which is potentially conflictive with the best interest of customers and the general public. The issues are complex and can only partially be addressed by performance metrics.

Therefore, PREPA recommends two additional metrics, and a process related to asset stewardship. The two additional metrics relate to FEMA compliance:

1. FEMA Compliance Failures (#)
2. FEMA reimbursements denied ($)

PREPA believes a third-party survey of system condition should be done at the end of development of the System Remediation Plan to establish a standard of state of good repair and is in alignment with the 10-Year infrastructure plan. Based on the Trust Agreement between PREPA and creditors, PREPA desires (and is obligated to ensure) that the assets it owns are maintained, operated and returned in good condition at the end of the agreement. Thus, annual or periodic system reviews must be conducted against this metric.

## V. CONCLUSION

PREPA has identified concerns within the O&M that represents novel regulatory challenges for the Energy Bureau. PREPA suggestions on additional metrics are designed to begin to address these regulatory, operational and transparency gaps. PREPA has also suggested metrics that would support the Energy Bureau's policy directives. If the Energy Bureau concurs, PREPA suggests that a collaborative process between the interested parties based on mutual respect and input from all parties be put in place within this docket to enable the parties to address these and other additional metrics from other parties. This process would be separate and distinct from the closed process related to the development of the Annex IX revisions to the O&M, in which only two parties - LUMA and the P3A - have had a role in defining future performance metrics, without the necessary system experience and knowledge, expertise and the clarity of purpose of protecting the best and long-term interest of customers and the general public.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 29th day of January 2021.

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