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

IN RE:	**CASE NO. NEPR-AP-2023-0004**
Review of the Puerto Rico Electric Power Authority Integrated Resource Plan	**SUBJECT: Request for Flexibilization of Requirement to Use a Quantitative Weighted Scorecard Methodology to Select Preferred Portfolio as Included in the 2020 IRP Order**

REQUEST FOR FLEXIBILIZATION OF REQUIREMENT TO USE A QUANTITATIVE WEIGHTED SCORECARD METHODOLOGY TO SELECT PREFERRED PORTFOLIO AS INCLUDED IN THE 2020 IRP ORDER

TO THE PUERTO RICO ENERGY BUREAU:

COMES NOW LUMA Energy ServCo, LLC ("LUMA"), through the undersigned legal counsel, and respectfully states and requests the following:

1. On August 24, 2020, the Puerto Rico Energy Bureau (the "Energy Bureau") issued its Final Resolution and Order on the Puerto Rico Electric Power Authority's Integrated Resource Plan (the "2020 IRP Order") in the case captioned *In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, Case No. CEPR-AP-2018-0001, approving a Modified Integrated Resource Plan. In what is pertinent to this motion, the 2020 IRP Order included the Energy Bureau's findings and orders with respect to the Puerto Rico Electric Power Authority's ("PREPA") Proposed Preferred Integrated Resource Plan (the "Preferred Plan").

2. As part of the 2020 IRP Order, this Energy Bureau found that PREPA's "scorecard as presented in the Proposed IRP is not useful to compare the scenarios…" considered in the then Proposed IRP. Consequently, the Energy Bureau ordered the adoption of "specific quantitative weightings for any attribute, with accompanying explanation and rationale for any assigned

weights, if PREPA chooses to use a scorecard in the next IRP". *See*, 2020 IRP Order at ¶77. *See also*, 2020 IRP Order at ¶665 (ordering PREPA "to explicitly include specific quantitative weightings for any attribute, with accompanying explanation and rationale for any assigned weights, if PREPA chooses to use a scorecard in the next IRP"); and at ¶917 (stating "[w]ith respect to Caveats and Limitations, if PREPA chooses to use a scorecard, it shall include specific quantitative weightings for any attribute, with accompanying explanation and rationale for any assigned weights.").

3. On September 27, 2023, the Energy Bureau issued a Resolution and Order in this proceeding, whereby it ordered LUMA's personnel to attend the second IRP prefiling period technical conference scheduled for October 31, 2023 (the "second pre-filing Technical Conference"), together with its technical consultant ("September 27th Order"). The Energy Bureau issued, as Attachment A to its September 27th Order, an Agenda for the October 31st technical conference and ordered LUMA to prepare a presentation in accordance with the agenda and to submit it by October 25, 2023. The Energy Bureau also ordered LUMA to respond to a series of Requests for Information (RFI's) included as Attachment B of its September 27th Order.

4. On October 24, 2023, LUMA submitted its responses to the RFIs included as Attachment B of the September 27th Order. *See*, *Motion Submitting Responses to Requests for Information Issued Through Resolution and Order Dated September 27, 2023*.

5. In further compliance with the September 27th Order, on October 25, 2023, LUMA submitted a copy of the Presentation materials prepared in accordance with the Agenda for the second pre-filing technical conference. *See*, *Motion Submitting Presentation for Second Pre-filing Technical Conference in Compliance with Resolution and Order dated September 27, 2023*.

6. The second pre-filing technical conference was held on October 31, 2023. During the same, LUMA discussed the Presentation and answered the questions posed by the members of the Energy Bureau.[1]

7. In what is pertinent to this motion, as part of the Presentation, LUMA discussed the topic of Modeling Scenarios/Analysis Structure/Approach as set forth in item 4 of the Energy Bureau's Agenda. Specifically, LUMA discussed the methodologies to be used in the development and modeling of the portfolio of resources for each scenario to be contemplated as part of the 2024 IRP over the period comprised between the years 2025 to 2044. *See*, slide number 40 of the Presentation.

8. As proposed by LUMA, "[d]epending on the performance of the portfolios across the objectives, either all or a short-list of the best performing portfolios will then be assessed against the characteristics of each of the other scenarios." Slide 41 of the Presentation. LUMA further explained that by "using the objectives, the performance of the portfolios across different scenarios, will enable LUMA and [Black & Veatch] to select a preliminary, preferred portfolio which will then undergo additional sensitivity analysis and a more extensive transmission analysis." *Id*.

9. LUMA's proposed methodology, therefore, does not apply a numerical relative priority between the objectives as required by the 2020 IRP Order but does involve quantitative indicators to the extent possible. LUMA proposes to use a color-coded result matrix, to facilitate the focus of all stakeholders on a relatively few number of plans that achieve good results across the full range of objectives and across multiple scenarios.

[1] LUMA submitted an updated version of the Presentation to the Energy Bureau on November 1, 2023 in compliance with a bench order issued during the second prefiling Technical Conference. *See*, *Motion Submitting Amended Presentation in Compliance with Bench Order Issued during Second Pre-filing Technical Conference*.

10. As anticipated by LUMA during the second prefiling conference and as more fully explained in *Exhibit 1* of the instant motion, "both Black & Veatch and the LUMA IRP team have found through experience that reaching agreement on quantitative weightings of scorecard attributes can be nearly impossible with diverse stakeholders." *See* Slide 42 of the Presentation. Consequently, during the second prefiling conference, LUMA requested relief from the requirement for quantitatively weighted scorecards and stated that "present value of revenue requirements remains the most important, but unweighted attribute" pursuant to Section 2.03(H)(2)(d)(i) of *Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority*, Regulation number 9021 of April 24, 2018 ("Regulation 9021"). *See*, Presentation at slide 42.

11. The Energy Bureau directed LUMA to submit its request in writing for the Energy Bureau's consideration. In compliance with such order, LUMA submits herein as *Exhibit 1* its explanations in support of the flexibilization of the requirement to use quantitative weightings of scorecard attributes established in the 2020 IRP Order.

12. As discussed during the second prefiling conference and explained in more detail in *Exhibit 1* herein, the challenges involved in reaching an agreement on quantitative weightings merit the flexibilization of this requirement in favor of a more practical methodology. LUMA respectfully sets forth that the 2020 IRP Order requirement of an agreement as to the numerical relative priority between objectives would be nearly impossible to fulfill because the selection of a preferred resource plan is a complex endeavor that is inherently subjective and does not allow to scientifically determine a "correct" weighting scheme. An attempt to quantify the inherently subjective deliberative process of selecting a Preferred Resource Plan also often gives rise to

controversy as the multiple stakeholders, the regulator and the interested parties will inevitably have different views regarding the "correct" values for the weighting scheme.

13. LUMA's proposed methodology contemplating the use of present value of revenue requirements in combination with the color coded matrix as the primary selection criterion without the use of quantitative weighted scorecards is compliant with the Energy Bureau's Regulation 9021 and would represent a more practical and efficient approach to the preferred portfolio selection process.

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the information included in this motion and *Exhibit 1* herein, **grant** LUMA's request for flexibilization of the requirement to use a quantitative weighted scorecard methodology in the development of the 2024 IRP and **deem** the Energy Bureau's bench order issued during the second prefiling Technical Conference complied with as it relates to the written submission of the instant request.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico on November 14, 2023.

I HEREBY CERTIFY that we filed this notice and request using the electronic filing system of this Puerto Rico Energy Bureau and that courtesy copy of this notice and request was notified to counsel for PREPA Lionel.santa@prepa.pr.gov; and to Genera PR LLC through brannen@genera-services.com; kbolanos@genera-pr.com; regulatory@genera-pr.com.

[*signature in the page that follows*]

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Exhibit 1

IRP Scorecard Requirements

NEPR-AP-2023-0004
November 14, 2023

IRP Scorecard Requirements

1. INTRODUCTION

LUMA has prepared this exhibit to provide the reasons for its request for relief from an Energy Bureau Order in the August 24, 2020 Resolution and Order for case CEPR-AP-2018-0001 (August 24, 2020 Order). LUMA's proposed alternative is described below.

In the August 24, 2020 Order, the Energy Bureau stated:

"77. The Energy Bureau FINDS that PREPA's score card as presented in this Proposed IRP is not useful to compare the scenarios, and ORDERS PREPA to explicitly include specific quantitative weightings for any attribute, with accompanying explanation and rationale for any assigned weights, if PREPA chooses to use a score card in the next IRP."

"665 […]and ORDERS PREPA to explicitly include specific quantitative weightings for any attribute, with accompanying explanation and rationale for any assigned weights, if PREPA chooses to use a scorecard in the next IRP." and

"917. With respect to Caveats and Limitations, if PREPA chooses to use a scorecard, it shall include specific quantitative weightings for any attribute, with accompanying explanation and rationale for any assigned weights."

LUMA believes that applying specific quantitative weightings to the IRP scorecard attributes will be detrimental to the process since the weightings may provide a false sense of objectivity to a process that is largely subjective and is highly likely to increase the potential for disagreement among the diverse group of stakeholders who may not share the same view of the relative priorities of the attributes. This approach is consistent with current utility practice and is conducive to productive and clear discussion of portfolios. LUMA proposes using the evaluation method described below.

2. SCORECARDS

LUMA intends to assess potential portfolios of energy resources across multiple objectives that represent financial, technical, and socio-economic goals for the 2024 IRP. Using requirements from the Energy Bureau, input from LUMA's stakeholder collaboration initiative (Solutions for the Energy Transformation for Puerto Rico – "SETPR"), and input from B&V and LUMA technical experts, LUMA intends to create a recommended list of scenarios, objectives, and their associated indicators (i.e., metrics). LUMA intends to select impartial and practical objectives and associated indicators. The list of scenarios, objectives, and associated indicators for the 2024 IRP will not be determined until after LUMA has collected input from its SETPR stakeholder collaboration sessions which is planned to be completed in November 2023.

As an example of an objective without an assigned numerical value, consider the requirement of Regulation 9021, §2.03 (H)(2)(D)(i): "In selecting the Preferred Resource Plan, PREPA shall use the minimization of the present value of revenue requirements as the primary selection criterion." This Regulation 9021 requirement mandates one objective that LUMA must incorporate in the 2024 IRP, "minimization of the present value of revenue requirements" (PVRR), but does not assign any numerical,

relative weighting to PVRR, nor does it further explain the concept of "primary selection criterion" in numerical terms.

The selection of a preferred resource plan is a multifaceted and complex endeavor that is inherently subjective. The Energy Bureau, LUMA, and each stakeholder will view both the selection of the objectives and their relative priority, whether accompanied by numerical weights or not, through a subjective lens influenced by their personal and/or organizational priorities. Since both the selection of objectives and determination of their relative importance are subjective, it is not possible to scientifically or objectively determine a "correct" weighting scheme. LUMA believes that it is not feasible for LUMA or the Energy Bureau to define relative weightings that would be acceptable to the parties involved in the review of the IRP recommendations.

Experience in using scorecards for a variety of utility projects in other jurisdictions (including IRPs, and selection of sites for generation, substations and microgrids) supports the view that defining a relative weighting scheme for the multiple 2024 IRP objectives may not aid in the Energy Bureau's or stakeholder's assessment of LUMA's recommended resource plan. LUMA believes that any relative weighting scheme created by LUMA, the Energy Bureau, or Puerto Rico's stakeholders will create a point of contention in the assessment of the 2024 IRP recommendations, rather than simplifying the process or making it more objective.

To assess the relative performance of multiple alternative resource portfolios, and to document the basis of the assessment in the 2024 IRP filing, LUMA proposes that it use a matrix to display the indicator values for each of the objectives for each of the portfolios. LUMA intends to add to this matrix display of the results a simple color-coding that reflects the relative performance of each portfolio for an individual objective. Neither the proposed matrix of indicator results, nor the color-coding are designed to reflect a relative weighting across the objectives. The color-coding is intended to visually summarize the numerical results of individual objectives. The use of color coding in charts or matrices is often referred to as a "heat map."

The color-coded results matrix may still result in disagreements between stakeholders, but it will bypass debate over subjective quantitative weighting assigned to indicators. The use of a color-coded results matrix should facilitate the focus of all stakeholders on a relatively few number of plans that achieve favorable results for different objectives and scenarios.

Figure 1 is a sample Color-Coded Results Matrix used by B&V in one of its evaluations.

B&V used a color-coded results matrix in evaluating the Virgin Islands Water and Power Authority (VIWAPA), 2020 IRP[1]. B&V has used a color-coded results matrix approach to rank different expansion plans in a number of IRPs. The color-coded results matrix approach puts forward a concise visualization of portfolio performance, but overall final rankings are not usually quantitatively based. In the table below, plan 0 for STT (St. Thomas/St. John) was selected as the preferred plan due to the favorable economic results and Renewable Energy percentage, despite having higher Loss of Load (LOL) hours than other plans. In this type of ranking, differing opinions can still be expressed as to what the best plan may

[1] See: https://www.doi.gov/sites/doi.gov/files/final-viwapa-irp-7-21-2020-bv.pdf

without using a quantitative ranking method. Under the STX (St. Croix) results, Plan 1 was ranked first due to significantly better LOL performance than Plan 0, with a slightly higher portfolio cost, as under Plan 0 the cost to cover the LOL events would be passed down to customers.

Figure 1: Sample Color-Coded Results Matrix

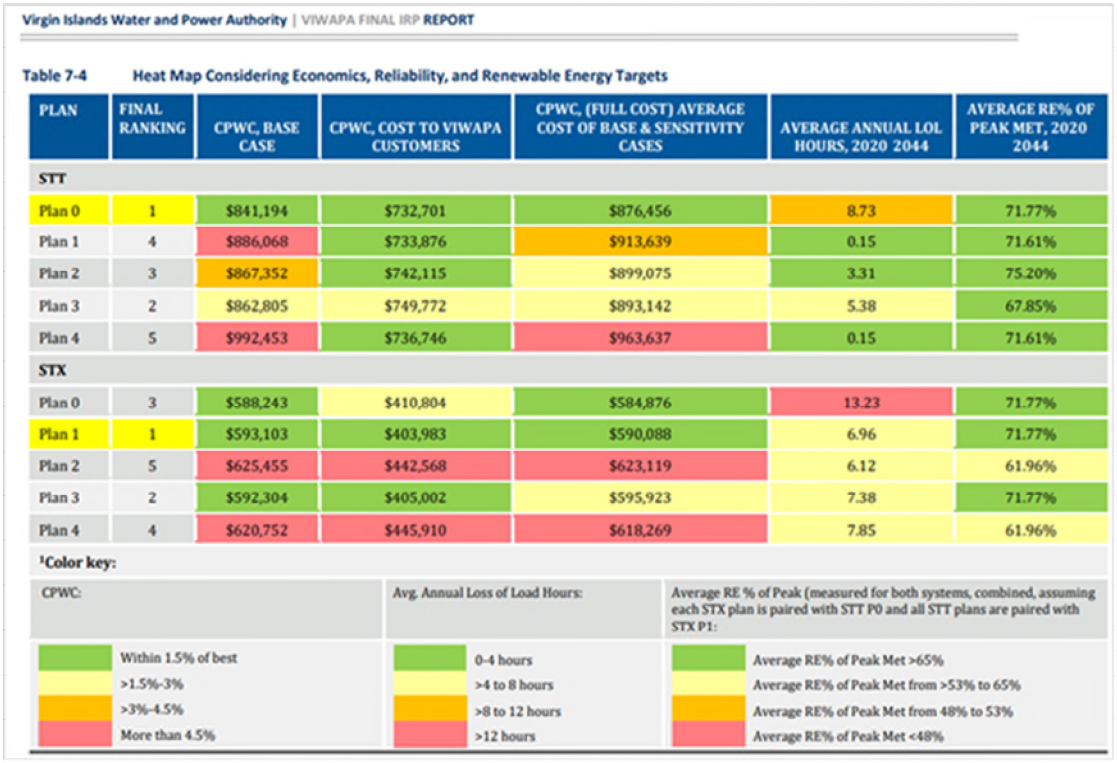

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Table 7-4 Heat Map Considering Economics, Reliability, and Renewable Energy Targets

PLAN	FINAL RANKING	CPWC, BASE CASE	CPWC, COST TO VIWAPA CUSTOMERS	CPWC, (FULL COST) AVERAGE COST OF BASE & SENSITIVITY CASES	AVERAGE ANNUAL LOL HOURS, 2020 2044	AVERAGE RE% OF PEAK MET, 2020 2044
STT						
Plan 0	1	$841,194	$732,701	$876,456	8.73	71.77%
Plan 1	4	$886,068	$733,876	$913,639	0.15	71.61%
Plan 2	3	$867,352	$742,115	$899,075	3.31	75.20%
Plan 3	2	$862,805	$749,772	$893,142	5.38	67.85%
Plan 4	5	$992,453	$736,746	$963,637	0.15	71.61%
STX						
Plan 0	3	$588,243	$410,804	$584,876	13.23	71.77%
Plan 1	1	$593,103	$403,983	$590,088	6.96	71.77%
Plan 2	5	$625,455	$442,568	$623,119	6.12	61.96%
Plan 3	2	$592,304	$405,002	$595,923	7.38	71.77%
Plan 4	4	$620,752	$445,910	$618,269	7.85	61.96%

[1]Color key:

CPWC:	Avg. Annual Loss of Load Hours:	Average RE % of Peak (measured for both systems, combined, assuming each STX plan is paired with STT P0 and all STT plans are paired with STX P1:
Within 1.5% of best	0-4 hours	Average RE% of Peak Met >65%
>1.5%-3%	>4 to 8 hours	Average RE% of Peak Met from >53% to 65%
>3%-4.5%	>8 to 12 hours	Average RE% of Peak Met from 48% to 53%
More than 4.5%	>12 hours	Average RE% of Peak Met <48%

3. CONCLUSION

For the reasons explained above, LUMA recommends using numeric indicators of objective performance combined with a color-coded results matrix for the 2024 Proposed IRP resource portfolio assessment. LUMA also requests that the Energy Bureau eliminate the requirement for LUMA to define a relative weighting of the objectives defined for the 2024 IRP.