

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



IN RE: REVIEW OF THE PUERTO RICO
ELECTRIC POWER AUTHORITY
INTEGRATED RESOURCE PLAN

CASE NO.: CEPR-AP-2018-0001

SUBJECT: PREPA's Informative Motion,
Proposal Regarding Compliance Schedule and
Update Question.

RESOLUTION AND ORDER

I. Introduction and Procedural Background

On February 13, 2019, the Puerto Rico Electric Power Authority ("PREPA") filed its proposed Integrated Resource Plan ("IRP") before the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") as part of a motion titled *PREPA's Petition and Informative Motion Regarding its Accompanying Integrated Resource Plan Filing* ("IRP Filing").¹

On February 15, 2019, the Energy Bureau issued a Resolution and Order taking notice of PREPA's February 13, 2019 filing of its proposed IRP, and the motion for limited waivers of filing requirements.² The Energy Bureau also ordered all non-confidential and redacted documents related to PREPA's IRP filing to be published on the Energy Bureau's website.³

On March 14, 2019, the Energy Bureau issued a Resolution and Order ("March 14 Resolution and Order") pursuant to the provisions of Section 3.02(A) of Regulation 9021⁴, regarding the completeness of PREPA's IRP, PREPA's request for confidential treatment of portions of the IRP, and the multiple waivers PREPA requested.⁵ As part of the March 14 Resolution and Order, the Energy Bureau ordered PREPA to, within thirty (30) days from the issuance of the March 14 Resolution and Order, file a revised IRP to correct the deficiencies

¹ See *PREPA's Petition and Informative Motion Regarding its Accompanying Integrated Resource Plan Filing* ("IRP Filing"), February 13, 2019, Case No. CEPR-AP-2018-0001.

² See Resolution and Order, *PREPA's Petition and Informative Motion Regarding Its Accompanying Integrated Resource Plan Filing*, February 15, 2019, Case No. CEPR-AP-2018-0001.

³ *Id.* at 2.

⁴ *Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority*, Regulation No. 9021, April 24, 2018.

⁵ See Resolution and Order, Resolution and Order on the Completeness of the Puerto Rico Electric Power Authority's Integrated Resource Plan Filing, Confidential Treatment of Portions of the Integrated Resource Plan, and Requested Waivers, March 14, 2019, Case No. CEPR-AP-2018-0001.

identified by the Energy Bureau. Furthermore, the Energy Bureau ordered PREPA to, on or before March 25, 2019, file any clarification questions regarding the March 14 Resolution and Order, and to attend a Technical Conference Call on April 1, 2019.⁶

On March 26, 2019, PREPA filed a document titled *PREPA's Clarification Questions and Motions Regarding Schedule*.⁷ PREPA's filing included: "(1) PREPA's clarification questions regarding the Energy Bureau's Resolution and Order issued on March 14, 2019; (2) PREPA's motion that the Energy Bureau and its consultants expedite the process for answering PREPA's clarification questions, if reasonably possible; and, (3) that the Energy Bureau revise the schedule for PREPA's compliance filing under the March 14th order, to allow PREPA to propose a new deadline after it has received answers to all of the clarification questions, and, as an interim measure, to set the due date as no earlier than 35 calendar days from the date on which it has received answers to all of the questions."⁸

On April 1, 2019, the Energy Bureau held a Technical Conference Call ("April 1 Technical Conference Call") with the purpose of clarifying any questions from PREPA regarding the March 14 Resolution and Order. On April 5, 2019, the Energy Bureau issued a Resolution and Order ("April 5 Resolution and Order") through which it established several requirements for modeling renewable resources and defining scenarios in a manner consistent with the March 14 Resolution and Order. Through the April 5 Resolution and Order, the Energy Bureau also addressed PREPA's clarification questions as filed on March 26, 2019, and as discussed during the April 1 Technical Conference Call.

On April 17, 2019, PREPA filed before the Energy Bureau a document titled *PREPA's Informative Motion, Proposal Regarding Compliance Schedule and Update Question* ("April 17 Motion"). In the April 17 Motion, PREPA informed the Energy Bureau its IRP revision timeline and proposed several measures that would facilitate the Energy Bureau's subsequent IRP completeness review process. PREPA also informed the Energy Bureau about certain assumptions that PREPA and Siemens intend to use for the required modeling and sought the Energy Bureau's guidance regarding compliance with certain provisions of Act 17-2019.⁹ Finally, PREPA requested that the Energy Bureau accept the April 17 Motion, approve its proposed compliance Schedule and clarify the Act 17-2019 update inquiry.¹⁰

⁶ *Id.* at p. 19.

⁷ See *PREPA's Clarification Questions and Motions Regarding Schedule*, March 25, 2019, Case No. CEPR-AP-2018-0001.

⁸ *Id.*

⁹ *Puerto Rico Energy Public Policy Act*.

¹⁰ April 17 Motion, p. 4.

II. PREPA's IRP Revision Efforts.

PREPA informed the Energy Bureau about the multiplicity of model runs that they are undertaking and that, together with Siemens, it has developed an aggressive timeline to comply with the filing of a revised IRP on or before May 10, 2019.¹¹ The Energy Bureau is aware of the work required for PREPA's compliance with the applicable provisions of Regulation 9021, the March 14 Resolution and Order and the April 5 Resolution and Order. Furthermore, the Energy Bureau **TAKES** notice of PREPA's efforts.

III. PREPA's Proposed Compliance Schedule.

With the intent of optimizing and accelerating the Energy Bureau's subsequent IRP completeness review process, PREPA proposed the following compliance schedule:

- sharing with the Energy Bureau and its staff and consultant, the results of the Long Term Capacity Expansion ("LTCE") runs as they are produced and analyzed, as well as key results;¹²
- make its best efforts to prepare and submit by May 10th a revised IRP, including the required work papers, the certification of compliance, and the two lists required by the April 5 Resolution and Order¹³; and
- review its Petition and Informative Motion, Testimony, Motion for Confidential Treatment, and Motion for Limited Waivers filed in February 2019, and, if needed, will prepare and file updated versions of those items¹⁴.

The Energy Bureau welcomes the opportunity to receive PREPA's modeling results as early as possible, since it will expedite our review for completeness process. Therefore, the Energy Bureau **ORDERS** PREPA to share with the Energy Bureau the results of the LTCE runs as they are produced and analyzed, as well as key results.

Notwithstanding the above, the Energy Bureau **WARNS** PREPA that the May 10, 2019 deadline for the submittal of the full revised IRP proposal remains unaltered and **ORDERS** PREPA to submit, **on or before May 10, 2019**, revised and/or updated versions of any and all IRP documents including, but not limited to, the required work papers, the certification of compliance, the two (2) lists required by the April 5 Resolution and Order, the Petition and Informative Motion, the Testimonies, and any Motion for Confidential Treatment.

¹¹ *Id.* at ¶2.

¹² *Id.* at page 2, ¶ 3(a).

¹³ *Id.* at page 2, ¶ 3(b).

¹⁴ *Id.* at page 2, ¶ 3(c).

IV. PREPA's Modeling Assumptions Proposals.

PREPA informed the Bureau about the following assumptions they are using for the required modeling:

1. High Efficiency Fossil Generation

For the demonstration of compliance with the new high efficiency fossil generation definition, PREPA will use the reference of 2018 \$100/MWh and compare it with the Levelized Cost of Energy ("LCOE") for various capacity factors and using 2018 fuel cost. PREPA also expressed that it is currently anticipating that the large combined cycles gas turbines ("CCGTs") will comply with this requirement with capacity factors over 60%, which is expected for these units, and that for the peaking units they currently anticipate that their LCOE's will be higher than the reference above as these units are designed to provide a different service than the base load.¹⁵

Upon review of PREPA's arguments, the Energy Bureau **AGREES** that PREPA should look at the actual fossil fuel fleet in its modeled results and make sure that the energy production from the fleet as a whole meets the "sixty percent (60%) high efficiency" requirement. For example, if the only generators that are considered "highly efficient" are the CCGTs that operate with capacity factors of over sixty percent (60%), then PREPA should show that at least sixty percent (60%) of the energy produced by fossil fuels comes from such generators.

2. Energy Efficiency ("EE")

As stated in the April 17 Motion, PREPA intend to model EE with gains of two percent (2%) per year as necessary to reach thirty percent (30%) gains as required under Act 17-2019 and that it expects to reach compliance by 2031/2032.¹⁶

Upon review of PREPA's arguments, the Energy Bureau **ORDERS** PREPA to model EE with gains of two percent (2%) each year, based on the energy sales of that year (or the previous year), for 18 years. That is, there should be no EE implementation in 2019 (reflecting the reality of no programs on the ground today), then model a decrease of two percent (2%) in energy sales each year from 2020 through 2037 (inclusive).

¹⁵ *Id.* at page 3, ¶ 4(a).

¹⁶ *Id.* at page 3, ¶ 4(b).

3. Renewable Energy Certificates (REC's)

As expressed in the April 17 Motion, PREPA intend to run the LTCE's considering only utility-scale renewable generation contributions to the Renewable Energy Portfolio ("RPS") requirements and will provide an indication of the maximum price for these DG RECs as the shadow price of the RPS constraint (whenever binding).¹⁷

Upon review of PREPA's arguments, the Energy Bureau **FINDS** PREPA's proposed conservative approach acceptable and **REMINDS** PREPA that its modeling must ensure timely compliance with the RPS established in Act 17-2019.¹⁸

V. Modeling for the Retirement of Coal Generation and/or AES Retirement.

In the April 17 Motion, PREPA is seeking direction from the Energy Bureau on whether PREPA still needs to model the retirement of coal in light of the coal generation retirement mandate established in Act 17-2019.

Based on available public information¹⁹, it has come to the Energy Bureau attention that the coal generation retirement mandated by Act 17-2019 could take place on or before 2020. Moreover, such public information suggests that PREPA and the owner of the AES plant are already in conversations toward the conversion of said plant to other fuels prior to the Act 17-2019 mandate.

Therefore, the Energy Bureau **ORDERS** PREPA to evaluate the foregoing fuel switch through the following: (i) PREPA shall file, **on or before May 17, 2019**, a compliance filing containing a description of a planned approach to analytically assess the potential to switch from coal fuel to an alternative fuel (such as, but not limited to, biomass, natural gas or oil) at the AES plant in 2020; and (ii) file the results of the modeling runs, as detailed below, **on or before June 14, 2019**.

¹⁷ *Id.* at page 3, ¶ 4(c).

¹⁸ See Article 4.2 of Act 17-2019. As previously indicated in the April 5 Resolution and Order, PREPA shall (i) model compliance with these standards in expected generation, assuming typical weather, such that resources are operational at the start of the year in which each target is established; (ii) ensure that the renewable percentage rises smoothly during the periods between target years and avoids spikes immediately preceding each target. (Strict linear transitions between the set dates are not required, if other smooth trajectories would be lower cost.) Furthermore, in light of the one hundred percent (100%) renewable standard for 2050, PREPA shall model any non-renewable generator as being fully depreciated and ready for retirement without stranded costs by or before 2050.

¹⁹ See Governor Roselló's 2019 State Address, April 24, 2019; AES confirma diálogo con el gobierno, pero no da detalles, March 9, 2018, <https://www.elnuevodia.com/noticias/locales/nota/aesconfirmadiálogoconelgobiernoperonodadetalles-2487099/>; AES Ready for a More Renewable Future, Caribbean Business, April 18, 2019, <https://caribbeanbusiness.com/aes-ready-for-a-more-renewable-future/>.

PREPA shall develop a set of sensitivities in which the fuel used at the AES plant is changed to another fuel in 2020. PREPA shall design these sensitivities to assess an alternate fuel (or fuels) that reflects its best assessment regarding the most likely or plausible alternate fuel (or fuels) to cost-effectively use in the AES plant. PREPA must plan to use the existing Aurora LTCE modeling construct to examine these costs and benefits. The compliance filing shall address how the input parameters for each of these sensitivities would be developed and specified. The filing shall also include discussion of how any additional infrastructure costs associated with potential fuel switching would be included in the model's parameterization for those runs. Lastly, the Energy Bureau welcomes any further insight PREPA may have on effectively testing the cost and benefits associated with such possible fuel switching.

In its compliance filing, PREPA shall describe how the following specific sensitivities using the Aurora LTCE module could be executed by PREPA, including a source for all required input parameters associated with making available to Aurora a resource or set of resources with alternative fuel options. Such resources should be representative of a possible alternatively-fueled resource likely utilizing the generator(s) and possibly the boiler(s) currently in existence at the AES coal-fired steam plant in Guayama.

The Energy Bureau will require the inclusion of an AES plant fuel switching sensitivity for each of four model runs, representing the lowest cost strategy (between strategy 2 or strategy 3) seen for S1S_B, S2S_B, and S4S_B, where "_B" represents the base load forecast for either strategy 2 or strategy 3 for that scenario, as well as S5S1B.²⁰ These sensitivities will require LTCE runs because the sensitivity is explicitly allowing for a resource change. This sensitivity will be labeled as Sensitivity 9, so the required cases will be labeled, for example, S1S3S9B or S4S3S9B. This sensitivity will allow a direct comparison with its base case result to determine the standalone impact of a fuel switching alternative.

VI. Conclusion.

This Resolution and Order shall serve to clarify the March 14 Resolution and Order and the April 5 Resolution and Order for the preparation of PREPA's IRP refiling. The Energy Bureau **REMINDS** PREPA that the May 10, 2019 deadline for the refiling of its proposed IRP remains unaltered.

For the benefit of all parties involved, the Energy Bureau publishes this Resolution and Order in both Spanish and English. Should any discrepancy arise between these two (2) versions, the provisions of the English version shall prevail.

²⁰ This Order uses the nomenclature set out in the Energy Bureau's Resolution and Order of March 14, 2019.

Be it notified and published.




Edison Avilés Deliz
Chairman


Ángel Rivera de la Cruz
Associate Commissioner


Lillian Mateo Santos
Associate Commissioner


Ferdinand A. Ramos Soegaard
Associate Commissioner

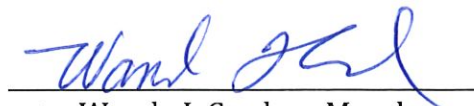
CERTIFICATION

I hereby certify that the majority of the members of the Puerto Rico Energy Bureau has so agreed on April 26, 2019. I also certify that on this date a copy of this Resolution and Order was notified by electronic mail to the following: astrid.rodriguez@prepa.com, jorge.ruiz@prepa.com, n-vazquez@aepr.com and c-aquino@aepr.com. I also certify that today, April 26, 2019, I have proceeded with the filing of the Resolution and Order issued by the Puerto Rico Energy Bureau and I have sent a true and exact copy to the following:

Puerto Rico Electric Power Authority

Attn.: Nitza D. Vazquez Rodriguez; Astrid I. Rodríguez Cruz
Jorge R. Ruíz Pabón
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For the record, I sign this in San Juan, Puerto Rico, today, April 26, 2019.


Wanda I. Cordero Morales
Interim Clerk