



**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 Compliance Filing of
May 17, 2019.

RESOLUTION AND ORDER

I. Introduction.

On April 26, 2019, the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") issued a Resolution and Order ("April 26 Resolution and Order") through which it clarified the requirements for the refiling of the Puerto Rico Electric Power Authority's ("PREPA") Integrated Resource Plan ("IRP"). The Energy Bureau addressed PREPA's modeling assumptions proposals regarding issues such as high efficiency fossil generation, energy efficiency and renewable energy certificates ("RECs"). The Energy Bureau also ordered PREPA to evaluate the announced FY20 fuel conversion of the AES plant. The Energy Bureau ordered PREPA to file the planned approach to assess a potential switch from coal to an alternative fuel and the results of the modeling runs, as required and detailed therein.

On May 17, 2019, PREPA filed a document titled *PREPA's Compliance Filing* ("Compliance Filing") regarding the April 26 Resolution and Order. Attached to the Compliance Filing, PREPA included a memorandum prepared by its expert consultant, Siemens, regarding the proposed approach to assess a possible fuel conversion in the AES plant.

II. PREPA's Compliance Filing.

As part of the Compliance Filing, PREPA recommends considering the conversion of the AES plant to natural gas "as the most viable fuel to be available with the required volumes and reliability to supply a base load plant".¹ PREPA's assertion is not supported with any analysis regarding other possible fuel conversion options for the AES plant, such as oil or biomass.

PREPA describes the following three (3) main approaches for a coal-to-gas conversion that could be considered for the AES Plant:

1. Convert existing coal boilers to burn natural gas.

¹ Compliance Filing, Memorandum Re: Options for AES gas conversion, p. 1.

2. Heavily Fired Combined Cycle (HFCC) using a new gas turbine (GT) exhaust as preheated combustion air to the existing boiler.
3. Combined Cycle Repowering using a large new GT and Heat Recovery Steam Generator (HRSG).²

PREPA recommends approach 1, modeling a direct conversion from coal to burn natural gas and performing a “high-level financial screening study,” based on a set of assumptions for the cost and performance of a converted plant. PREPA notes that one possible variation to this approach would be to model gas displacing only a portion of the coal firing and maintaining the capability to switch between coal and natural gas, or using natural gas as primary fuel and diesel fuel as backup.

III. Conclusion and Modeling Requirements.

Upon reviewing PREPA’s Compliance Filing, the Energy Bureau **DETERMINES**:

1. PREPA’s recommendation to use natural gas to assess the economic viability or economic effect of a conversion of the AES plant is **ACCEPTED**. Notwithstanding the foregoing, the Energy Bureau **ORDERS** PREPA to, as part of the June 14, 2019 compliance filing,³ specify the underlying economic rationale for excluding biomass or oil (including liquid biofuel) conversion options.
2. PREPA’s recommendation to use approach 1 for the modeling of the AES plant fuel conversion is **CONDITIONALLY ACCEPTED**. If PREPA considers that the other approaches in its Compliance Filing might reasonably result in a lower cost outcome than approach 1, it may offer all three (3) conversion options to the LTCE model, and report the parameterization associated with all options, as part of its June 14, 2019 compliance filing. If PREPA considers that assessing the conversion of only one of the two units in the AES plant is a valuable approach, said option may be a further resource offering to the LTCE model.
3. Act 17-2019⁴ requires for all “existing and future units that generate power from fossil fuels to be capable of operating with at least two (2) types of fossil fuels, one of which shall be natural gas”.⁵ Because of this statutory requirement, the Energy Bureau **ORDERS** PREPA to model the converted AES plant as compliant with Act 17-2019, by including the ability to run on more than one fuel.

² *Id.* at 2.

³ April 26 Resolution and Order, at 5.

⁴ Known as the *Puerto Rico Energy Public Policy Act*.

⁵ *Id.* Section 1.5 (5)(b).

In order to assess the costs to ratepayers associated with a possible conversion of the AES plant, and to assess if such a conversion is a reasonable approach relative to the other resources available to PREPA's IRP modeling process, the Energy Bureau **ORDERS** PREPA to conduct the following two (2) modeling steps to comply with the April 26 Resolution and Order:

1. Conduct the four LTCE sensitivity model runs for each of Scenarios 1, 2, 3 and 5, as noted in the April 26 Resolution and Order,⁶ where in each run the model parameters reflect both:
 - a. retirement of the AES plant on December 31, 2020, and
 - b. an additional resource offering to the model available after a suitable time for the conversion of the facility, representing approach 1 as PREPA has described: a dual-fuel-capable gas-converted AES plant with capital cost parameters as best estimated by PREPA (e.g., including coal-to-gas per kW of plant capacity costs and onsite gas receiving costs), and ongoing maintenance and fuel costs also estimated by PREPA. This set of sensitivity runs will allow interaction of the conversion option with all other resource possibilities already being assessed by PREPA in the IRP process.

Note these sensitivity runs need not have a forced closure of the fuel converted AES plant at the end of 2027, since it will no longer be subject to the Act 17-2019's mandate to eliminate coal use after that date. PREPA should model the economic retirement of the facility, rather than forcing retirement at the conclusion of the existing contract as done in the original Scenario runs.

2. If none of the four LTCE sensitivity runs "chooses" the converted plant as part of a least-cost alternative, PREPA should conduct a single additional sensitivity (on Scenario 2, for the lowest cost strategy, for base load) that "forces in" the converted plant and allows at least one direct cost comparison between scenarios.

The Energy Bureau **REQUIRES** PREPA to support its parameterization of the Aurora LTCE runs with projections of natural gas costs and the source of such costs. All supporting material on the conversion and operational costs and performance used for the new resource offering must be included as part of PREPA's documentation.

The Energy Bureau **CLARIFIES** that the specification of a scenario for modeling the conversion of the AES plant shall not be presumed as the Energy Bureau being in favor or against any approach. The sole purpose for such specification is to ensure that model results are available to PREPA, the Energy Bureau and the general public, that reflect the potential conversion of the AES plant.

⁶ April 26 Resolution and Order, at 6.



For the benefit 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 English version shall prevail.

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 May 23, 2019. I also certify that on this date a copy of this Resolution and Order was notified by electronic mail to the following: n-vazquez@aepr.com, astrid.rodriguez@prepa.com and jorge.ruiz@prepa.com. I also certify that today, May 23, 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

Lcda. Nitza D. Vázquez Rodríguez

Lcda. Astrid I. Rodríguez Cruz

Lcdo. Jorge R. Ruíz Pabón

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For the record, I sign this in San Juan, Puerto Rico, today May 23, 2019.

Wanda I. Cordero Morales
Clerk