

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

**IN RE: REVIEW OF THE PUERTO RICO  
ELECTRIC POWER AUTHORITY'S 10-YEAR  
INFRASTRUCTURE PLAN – DECEMBER 2020**

**CASE NO.: NEPR-MI-2021-0002**

**SUBJECT: PREPA's Revised 10-Year Plan  
Evaluation.**

**RESOLUTION AND ORDER**

**I. Introduction**

On August 24, 2020, after a prolonged<sup>1</sup> adjudicative process, the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") issued a Final Resolution and Order ("August 24 Resolution") on the Puerto Rico Electric Power Authority's ("PREPA") Integrated Resource Plan ("IRP").<sup>2</sup> The referenced adjudicative process included an extensive discovery process and ample participation by the general public and stakeholders.<sup>3</sup>

In the August 24 Resolution, the Energy Bureau (i) approved in part and rejected in part PREPA's IRP; (ii) modified the Action Plan proposed by PREPA as part of the IRP submitted by PREPA; and (iii) ordered PREPA to adopt and implement the Modified Action Plan, as described therein.<sup>4</sup> As specifically ordered by the Energy Bureau in the August 24 Resolution, all capital investments, regardless of the source of funding (*e.g.*, federal funding,

<sup>1</sup> This IRP review process was commenced by the Energy Bureau on March 15, 2018, with the issuance of a Resolution and Order under Case No. CEPR-AP-2018-0001 in which the Energy Bureau authorized PREPA to file an updated Integrated Resource Plan before the mandatory review established in Act 57-2014, as amended, known as the *Puerto Rico Energy Transformation and RELIEF Act*, due to impacts that the devastation caused by Hurricanes Irma and María in Puerto Rico had in Puerto Rico's energy resource needs. This proceeding follows the IRP approved in 2015, which included significant findings and directives regarding the acquisition, retirement, and development of additional resources by PREPA.

<sup>2</sup> See *In Re: Review of the Integrated Resources Plan of the Puerto Rico Electric Power Authority*, Case No. CEPR-AP-2018-0001, Final Resolution and Order, August 24, 2020 ("August 24 Resolution").

<sup>3</sup> The Energy Bureau's Staff, PREPA and the eighteen approved intervenors were given the opportunity to conduct discovery related to a diverse range of subjects on PREPA's proposed IRP. PREPA, as well as intervenors, provided witness testimony. Furthermore, the Energy Bureau held multiple Technical Conferences, a week-long Evidentiary Hearing and public hearings in San Juan, Arecibo, Humacao, Mayagüez and Ponce, to gather feedback from the general public.

<sup>4</sup> August 24 Resolution, p. 1, ¶1.



ratepayer, etc.) need to be previously approved by the Energy Bureau before they can proceed.<sup>5</sup>

Among other things, through the August 24 Resolution, the Energy Bureau rejected PREPA's inclusion of approximately 400 MW of new fossil fuel peaking resources as part of the Preferred Resource Plan because it failed to demonstrate that they are needed. However, the Energy Bureau found that replacement of a small portion of the older gas turbine (GT) resources with peaking resources, using competitive procurement processes open to all technologies, is reasonable to provide local resource coverage to supplement the existing operating older GT units.<sup>6</sup>

As part of its determination, the Energy Bureau accepted the MiniGrid concept as a mechanism to provide resiliency during the loss of transmission or distribution system operations due to severe weather events. Nevertheless, the Energy Bureau did not approve the MiniGrid design/construct, as proposed by PREPA, due to its lack of optimization of MiniGrid transmission system expenditures and distributed resiliency approaches. The Energy Bureau did not approve PREPA's assertion that the overall MiniGrid construct is a "least cost" approach to achieving resiliency against major hurricanes, because PREPA did not show how its MiniGrid construct may be a less expensive approach than reasonable alternative approaches that include localized, distributed solutions along with an optimized level of MiniGrid-like T&D system expenditures.<sup>7</sup>

Finally, the Energy Bureau determined that PREPA did not fully support the inclusion of a new gas-fired combined cycle ("CC") unit at Palo Seco by 2025 as part of a least-cost plan. However, the Energy Bureau determined that to protect against the uncertainty of near-future solar PV and battery energy storage price outcomes, or other potential reliability concerns, out of an abundance of caution and coupled with strict oversight as detailed in the August 24 Resolution, PREPA may begin preliminary work on a new fossil fuel-powered unit and/or energy storage at Palo Seco.<sup>8</sup> The Energy Bureau determined that the approved preliminary work shall include a scoping and feasibility analysis to develop a revised and tailored proposal to the Energy Bureau for options regarding the Palo Seco site.<sup>9</sup> As determined by the Energy Bureau, PREPA may expend up to \$5 million for preliminary economic, siting, permitting, and planning analysis regarding a new fossil fuel-powered unit at Palo Seco, and these activities shall not interfere with or delay the procurement of solar PV (or other renewable energy) and battery energy storage resources as directed in the

<sup>5</sup> *Id.*, p. 13, ¶ 87 and p. 19, ¶ 119.

<sup>6</sup> *Id.*, p. 3, ¶ 13.

<sup>7</sup> *Id.*, p. 13, ¶ 86.

<sup>8</sup> *Id.*, p. 17, ¶ 110.

<sup>9</sup> *Id.*, p. 272, ¶ 880.



Modified Action Plan.<sup>10</sup> It is important to note that PREPA did not seek reconsideration of the August 24 Resolution.<sup>11</sup> Therefore, the August 24 Resolution and the Modified Action Plan is fully enforceable.

After becoming aware of PREPA's submittal of the *PREPA 10-Year Infrastructure Plan December 2020* ("10-Year Plan") to the Federal Emergency Management Administration ("FEMA") through the media, on December 30, 2020, the Energy Bureau issued a Resolution and Order, under Case No. NEPR-MI-2020-0016<sup>12</sup>, requiring PREPA to file a true and exact copy of the 10-Year Plan that PREPA submitted to FEMA and any related attachments, forms or communications included in filing the mentioned document. Also, the Energy Bureau ordered PREPA to attend a Technical Conference on January 11, 2021, and to demonstrate the alignment of the 10-Year Plan with the Approved IRP.

On December 31, 2020, PREPA filed a document titled *Motion in Compliance with Order Entered on December 30, 2020* ("Compliance Motion"), under Case No. NEPR-MI-2020-0016, which enclosed a copy of the 10-Year Plan ("Attachment A"), a document titled *PREPA Supplemental 90-Day Plan* (Attachment B)<sup>13</sup> and a document titled *Renewable Energy Integration Study*<sup>14</sup> ("Attachment C").

On January 8, 2021, PREPA filed a document titled *Presentation: 10-Year Infrastructure Plan*<sup>15</sup>, which included a presentation summarizing the 10-Year Plan.<sup>16</sup> On January 11, 2021, the Energy Bureau held the Technical Conference during which PREPA

---

<sup>10</sup> *Id.*, p.3, ¶14.

<sup>11</sup> Moreover, on December 2, 2020, the Energy Bureau issued a Final Resolution on Reconsiderations ("December 2 Resolution"), under Case No. CEPR-AP-2018-0001, through which it addressed the motions for reconsideration presented by Windmar, VF, Empire Gas, the Local Environmental Organizations and SESA-PR. To this date, the Energy Bureau has not received notification that an appeal has been filed before the Court of Appeals. Therefore, the December 2 Resolution and the August 24 Resolution are final.

<sup>12</sup> See *In re: Optimization Proceeding of MiniGrid Transmission and Distribution Investments*, Case No: NEPR-MI-2020-0016, Resolution and Order, December 30, 2020.

<sup>13</sup> See Attachment B to Compliance Motion. According to PREPA, is a supplement to the 10-Year Plan that provides a summary overview of key next steps PREPA plans to take over the next 90 days to execute on the 10-Year Plan. See Compliance Motion, page 2.

<sup>14</sup> This study, dated December 22, 2020, was prepared by Sargent & Lundy, PREPA's consultant. This document has been filed under seal and confidential treatment has been requested.

<sup>15</sup> See *Presentation: 10 Year Infrastructure Plan, In re: Optimization Proceeding of MiniGrid Transmission and Distribution Investments*, Case No: NEPR-MI-2020-0016, January 8, 2021.

<sup>16</sup> See PREPA's *Presentation: 10-Year Infrastructure Plan*, January 8, 2021 ("Presentation").



representatives discussed the Presentation and answered questions from the Energy Bureau.<sup>17</sup>

On January 25, 2021, upon review of the 10-Year Plan submitted by PREPA, the Energy Bureau issued a Resolution and Order ("January 25 Order") in the instant case through which it ordered PREPA to immediately abstain from:

- (i) exceeding the scope and the budget allocated in the Approved IRP and Modified Action Plan for the preliminary studies for a combined cycle generation plant in Palo Seco;
- (ii) making any capital investments in its generation fleet or the T&D system without the prior approval of the Energy Bureau;
- (iii) using studies and plans as collateral attacks to the Approved IRP and Modified Action Plan.

Finally, the Energy Bureau also ordered PREPA to revise the 10-Year Plan to correct its noncompliance with the Approved IRP and Modified Action Plan, which revision should be filed on or before February 15, 2021.

On February 16, 2021, PREPA filed a document titled *Response to Resolution and Order Entered on January 25, 2021 and Request for Approval of Revised 10-Year Infrastructure Plan* ("February 16 Motion"), which included a Revised 10-Year Plan ("Revised 10-Year Plan") as Exhibit A. Through the February 16 Motion, PREPA states it agrees with the Energy Bureau that certain aspects of the 10-Year Plan may seem incompatible with the Approved IRP and Modified Action Plan. However, PREPA argues that the Revised 10-Year Plan is aligned with the Approved IRP and Modified Action Plan. Therefore, PREPA requests (i) for the Energy Bureau to determine the compliance of the Revised 10-Year Plan with the Approved IRP and Modified Action Plan and (ii) for it to move forward with the plans in the Revised 10-Year Plan and to make capital investments to complete the projects, including requesting federal funds.

On March 2, 2021, the Local Environmental Organizations ("LEO")<sup>18</sup> filed before the Energy Bureau a document titled *Opposition to PREPA's Motion Seeking PREB Approval of 10-Year Infrastructure Plan* ("LEO's Opposition"). LEO states that PREPA chose not to seek reconsideration or appeal of any provisions of the approved IRP and instead create a secret

<sup>17</sup> The Technical Conference was streamed live via the Energy Bureau's You Tube Channel and can be accessed at: <https://youtu.be/DyUwVTR7CxU>.

<sup>18</sup> Comité Diálogo Ambiental, Inc., El Puente de Williamsburg, Inc.-Enlace Latino de Acción Climática, Comité Yabucoño Pro-Calidad de Vida, Inc., Alianza Comunitaria Ambientalista del Sureste, Inc., Sierra Club and its Puerto Rico chapter, Mayagüezanos por la Salud y el Ambiente, Inc., Coalición de Organizaciones Anti-Incineración, Inc., Amigos del Río Guaynabo, Inc., Campamento Contra las Cenizas en Peñuelas, Inc., and CAMBIO Puerto Rico, Inc.





new plan to submit to FEMA, with many points at odds with the approved IRP and with Puerto Rico law. Also, LEO states that, when PREPA submitted before the Energy Bureau the 10-Year Infrastructure Plan in December 2020, it was a collateral attack on the portions of the approved IRP that PREPA's fossil fuel-biased consultants did not like, and that the cosmetic changes in the "Revised 10-Year Plan" do not change the fundamental nature of the plan. Therefore, LEO sustains that the Energy Bureau should reject PREPA's 10-Year Plan, reiterate the requirements of the approved IRP and request that a FEMA representative attend the Energy Bureau IRP implantation conferences to provide first-hand explanation on FEMA's funding requirements.<sup>19</sup>

On March 3, 2021, the Energy Bureau issued a Resolution through which it provided PREPA until March 8, 2021 to submit its response to LEO's Opposition to PREPA's "Revised 10-Year Plan".

On March 9, 2021, PREPA filed a document titled *Response to the Local Environmental Organizations Opposition to PREPA's Motion Seeking PREB Approval of 10-Year Infrastructure Plan* ("PREPA's Response"). PREPA states that the Energy Bureau should reject LEO's "red herring and misguided intent to amend the Final IRP Order with requests that were already rejected during the IRP approval process". PREPA argues that it has complied with the Energy Bureau's Order and has filed a Revised 10-Year Plan that harmonizes any inconsistency with the Final IRP Order and points to an appropriate way forward that guarantees compliance with applicable federal and state statutes as well as the economic recovery of Puerto Rico. PREPA sustains that any incompatibility identified by the Energy Bureau between the 10-Year Plan and the Final IRP Order are unequivocally addressed by PREPA's filing of the Revised 10-Year Plan filed on February 16, 2021. Therefore, PREPA's states that February 16 Motion and the Revised 10-Year Plan should appease any concerns the Energy Bureau may have regarding incompatibility with the Final IRP Order and the Energy Bureau should allow PREPA to move forward with the projects intended to revitalize PREPA's embattled infrastructure and Puerto Rico's faltered economy and request that the Energy Bureau's rejects LEO's Opposition.<sup>20</sup>

On March 18, 2021, LEO filed a document titled *Reply to PREPA's Response to LEO's Opposition Re: Approval of the 10-year Infrastructure Plan* ("LEO's Reply"). As part of the LEO's Reply, LEO states that PREPA's response does not answer why does the 10-Year Infrastructure Plan exist, that PREPA has not provided any law or rule requiring a 10-Year Infrastructure Plan or any correspondence from FEMA requesting a 10-Year Infrastructure Plan or explained why PREPA never provided FEMA with the approved IRP. LEO argues that it appears, that PREPA's consultants did not create the 10-Year Plan to meet any FEMA requirement, but rather as a collateral attack on the portions of the approved IRP that PREPA's consultants did not like. LEO states that FEMA funds are a once-in-a-lifetime

<sup>19</sup> See *Opposition to PREPA's Motion Seeking PREB Approval of 10-Year Infrastructure Plan*, submitted by LEO's on March 3, 2021, pp. 1-23.

<sup>20</sup> See *Response to the Local Environmental Organizations Opposition to PREPA's Motion Seeking PREB Approval of 10-Year Infrastructure Plan*, submitted by PREPA on March 9, 2021, pp. 1-16.



Ln  
Shn  
TH  
4  
opportunity to transform the Puerto Rico's electric system but PREPA's plans for these funds do not embrace renewables and storage, but rather overspend on unnecessary transmission projects, and would continue to fuel an addiction to imported fuels that only benefits PREPA's biased and conflicted consultants. Therefore, LEO's request the Energy Bureau to reject the 10-Year Infrastructure Plan.<sup>21</sup>

On March 19, 2021, PREPA filed a document titled *Motion Submitting March 2021 Revised 10-Year Infrastructure Plan* ("March 19 Motion"). In the March 19 Motion, PREPA states that "in furtherance of the January 25 Order and for the purpose of submitting additional amendments of the 10-Year Plan for the Energy Bureau's approval" PREPA is presenting a new updated version of the plan ("March 2021 Revised 10-Year Plan"). PREPA included with the March 19 Motion, as Exhibits A and B, a red-line version and a clean version of the March 2021 Revised 10-Year Plan.

## II. PREPA's Revised 10-Year Plan

It is important to note that the Revised 10-Year Plan is a document put together by PREPA to delineate/coordinate its infrastructure investment strategy for the next ten (10) years regardless of its funding source.<sup>22</sup> According to PREPA, the Revised 10-Year Plan provides "a holistic view of the work to be performed on PREPA's system and a view for how the 428 funds will support PREPA's overall infrastructure investment strategy and approach".<sup>23</sup> Most of the projects to be undertaken with FEMA funds included in the Revised 10-Year Plan will be funded under the provisions of Section 428 ("428 Funds") of the Robert T. Stafford Disaster Relief and Emergency Assistance Act ("Stafford Act"). The other projects will be funded under Sections 404 (Hazard Mitigation Grant Program) and 406 (Public Assistance Program) of the Stafford Act. The structure under which FEMA works with states regarding 428 Funds allows significant flexibility in the definition and revision of projects.

The Energy Bureau is the independent regulator charged with the implementation and enforcement of energy public policy pursuant to Act 57-2014 and Act 17-2019<sup>24</sup>. As PREPA's instrument to coordinate/delineate its capital investments, the Energy Bureau had the unequivocal duty to ensure that the Revised 10-Year Plan is fully aligned with the Approved IRP and Modified Action Plan in order to discharge its mandates under Act 57-2014 and Act 17-2019.

<sup>21</sup> See *Reply to PREPA's Response to LEO's Opposition Re: Approval of the 10-year Infrastructure Plan*, submitted by LEO's March 18, 2021, pp. 1-11.

<sup>22</sup> See Revised 10-Year Plan, p. 7. According to PREPA, the Revised 10-Year Plan was required by FEMA and COR3. *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> Known as the *Puerto Rico Energy Public Policy Act*.



### III. Evaluation of the Revised 10-Year Plan

#### A. Generation Projects

In the January 25 Order,<sup>25</sup> the Energy Bureau described a list of near-term generation projects that PREPA included as part of the 10-Year Plan, which were not consistent with the Approved IRP and Modified Action Plan:

- the construction of a dual fuel “state-of-the-art” 400 MW Combined Cycle Generation Plant near San Juan, instead of the execution of studies and permitting ordered in the IRP;
- the installation of 330 MW of thermal Peaking Units (Jobos, Dagua, Yabucoa, Vega Baja and a location in the San Juan area) instead of the limited 81 MW replacement, agnostic of technology;
- improvements and upgrades to Cambalache, Aguirre, San Juan, Palo Seco, Costa Sur, and the Aguirre Combined Cycle;
- installation of thermal black start units to be located in Costa Sur (27 MW) and Aguirre (27 MW);
- repairing Unit 1 of Cambalache Generation Plant; and
- \$0.00 for renewable energy projects or battery for energy storage.

In the February 16 Motion, PREPA states that it has incorporated in the *Revised 10-Year Plan* several revisions to the generation projects mentioned in the January 25 Order.<sup>26</sup>

##### 1. New Thermal Generation Feasibility Study

In the August 24 Resolution, the Energy Bureau expressly determined that PREPA may begin preliminary work on new generation and/or energy storage at Palo Seco, subject to a specific process and constraints set forth in the Modified Action Plan.<sup>27</sup> The Energy Bureau determined that:

<sup>25</sup> January 25 Order, pp. 9-10. The Energy Bureau also pointed out that the 10-Year Plan does not include a timeline for when infrastructure associated to renewable energy and/or batteries would be requested or any alternate project in case the procurement does not progress as planned, albeit statutory changes allow for alternate projects (i.e., non-thermal generation).

<sup>26</sup> See PREPA’s *Response to Resolution and Order Entered on January 25, 2021 and Request for Approval of Revised 10 Year Infrastructure Plan*, filed on February 16, 2021.

<sup>27</sup> See August 24 Resolution, p.11, ¶73.



The approved preliminary work shall include a scoping and feasibility analysis, which shall:

- consider the response (in volume and pricing) to PREPA's solar and battery RFP(s), including evaluation of whether the results indicate that generation at Palo Seco may not be required;
- include a process to gather information from vendors regarding indicative pricing for combined-cycle, reciprocating engine, and combustion turbine generators;
- include a siting and permitting feasibility analysis for fueling infrastructure, including any necessary pipelines and terminals, for natural gas, LPG/propane, and diesel and other low-sulfur oil fuels;
- account for any opportunity cost related to the siting of BESS<sup>28</sup> resources or renewable energy resources at or near Palo Seco incurred as a result of fossil fuel generation development at Palo Seco; and
- include recommendations regarding the specific resources that may be needed at the Palo Seco site to complement the resources most cost-effectively being developed and deployed elsewhere in Puerto Rico.<sup>29</sup>

As part of the Revised 10-Year Plan, PREPA amended the description of this project as follows:

This feasibility study will be conducted in alignment with the PREB's IRP Resolution and Order and will be focused on preliminary economic, siting, permitting, and planning analysis regarding a new fossil-fuel powered unit near the San Juan area (Palo Seco). The feasibility study will take into account responses to PREPA's renewable energy and energy storage RFPs; indicative pricing for combined-cycle, reciprocating engine, and combustion engine generators; siting and feasibility analysis for fueling infrastructure; opportunity cost to siting energy storage systems or renewable resources near the San Juan area (Palo Seco) as a result of fossil-fuel generation development near the San Juan area (Palo Seco); and recommendations regarding specific resources that may be needed near the San Juan area (Palo Seco) in order to

---

<sup>28</sup> Battery Energy Storage Systems.

<sup>29</sup> August 24 Resolution, pp. 272-273, ¶880.





most cost-effectively compliment the resources being developed and deployed elsewhere in Puerto Rico.<sup>30</sup>

Furthermore, PREPA modified the budget for the mentioned study to the \$5 million authorized by the Energy Bureau in the August 24 Resolution.<sup>31</sup> PREPA also indicated that the \$5 million would be funded through the FEMA 404 program.<sup>32</sup> Upon review of the foregoing, the Energy Bureau **DETERMINES** that, with the modification to the project definition included in the Revised 10-Year Plan, **this project is aligned** with the Approved IRP and the Modified Action Plan. Notwithstanding, for the reasons discussed in Part III.A.2 of this Resolution and Order, the Energy Bureau **ORDERS** PREPA to include in the foregoing study renewable energy and BESS resources at Palo Seco.

## 2. *New Thermal Generation Near the San Juan Area*

The Revised 10-Year Plan also includes a project in the mid-term (2024-2027) for New Generation Near San Juan Area<sup>33</sup> briefly described as follows:

*New Generation Near the San Juan Area (Palo Seco)*- New generation to be near the San Juan area (Palo Seco) based on results of the “New Thermal Generation Feasibility Study” project performed in the near-term. Type and size of generation to be determined based on results of the feasibility study, review, and discussion with the PREB, and subsequent PREB Order on the matter. New generation must address a power generation crisis created by the weakening of Puerto Rico’s electric grid in the wake of Hurricane María. New generation should be capable of withstanding major catastrophic events, such as hurricanes, high wind events, and major seismic events.<sup>34</sup>

PREPA established an estimated cost for the aforementioned mid-term project at \$572.50 million and that the project would be funded pursuant to the FEMA 404 program.<sup>35</sup> Due to the fact that the final determination on the construction of new thermal generation at Palo Seco is dependent on several variables currently uncertain, the Energy Bureau **DETERMINES** that to be fully aligned with the Approved IRP and the Modified Action Plan,

---

<sup>30</sup> Revised 10-Year Plan, p. 42.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> Revised 10-Year Plan, p. 97.





<sup>34</sup> *Id.*

<sup>35</sup> See PREPA 10-Year Plan, December 2020, p. 40.



any project defined by PREPA in the mid-term related to generation in the San Juan area shall include BESS and renewable energy sources.

### 3. *New Mobile Emergency Generation*

  
  
  
In the August 24 Resolution, the Energy Bureau determined that PREPA shall replace no more than 147 MW of gas turbine capacity with fossil-fuel generators providing peaker services, if after a competitive bidding process open to all single or aggregated sources of demand and supply-side options, these services can be procured competitively at cost lower than other options.<sup>36</sup> Further, the Energy Bureau established that when determining the total required capacity of new peaking generation to replace the retired Frame 5 units, PREPA shall include in its analysis the peaking capacity provided by the MegaGen mobile units totaling 66 MW installed at Palo Seco. This leaves up to 81 MW of new capacity to procure.<sup>37</sup> As expressed in the August 24 Resolution, upon completion of the Optimization Proceeding, the Energy Bureau would be able to determine the mix of generation resources (*i.e.*, consideration of all generation technologies) to support the MiniGrid construct.<sup>38</sup>

According to PREPA, this project includes the procurement of multiple mobile fossil fuel generation units that could replace the existing Frame 5 units in their current locations.<sup>39</sup> As justification, PREPA stated that this will offer the flexibility of a temporary or permanent relocation if an energy emergency occurs or for the support of transmission line repairs.<sup>40</sup> Finally, PREPA argued that once the Optimization Process is completed, these units may be relocated to their most efficient locations for emergency and grid support duties.<sup>41</sup>

As presented in the Revised 10-Year Plan, and notwithstanding the Energy Bureau's directives in the January 25 Resolution, this project still includes the procurement of 11 mobile emergency generation units, each with an output of approximately 30 MW for a total of 330 MW, to replace the existing gas turbines.<sup>42</sup> PREPA also noted that the estimated cost

---

<sup>36</sup> August 24 Resolution, p. 275, ¶ 885.

<sup>37</sup> *Id.*

<sup>38</sup> August 24 Resolution, p. 275, ¶ 885.

<sup>39</sup> February 16 Motion, p. 28.

<sup>40</sup> *Id.*

<sup>41</sup> *Id.*

<sup>42</sup> Revised 10-Year Plan, p. 42-43.



for the project is \$280.80 million, to be funded through the FEMA 404 program.<sup>43</sup>

Im  
SBR  
JAC  
A

Upon evaluating of the foregoing, the Energy Bureau **DETERMINES** that, under the Approved IRP and Modified Action Plan,<sup>44</sup> PREPA can replace up to 81 MW of existing peaking capacity with **new gas fired peakers**. At this moment, the information necessary to determine the type and amount of generation needed to support the Minigrid construct in a manner consistent with a least cost analysis is not available. Consequently, the Energy Bureau **CANNOT CONCLUDE** that this project is aligned with the Approved IRP and the Modified Action Plan.<sup>45</sup> In the alternative, to the extent feasible under the Approved IRP and the Modified Action Plan, PREPA can explore the acquisition of the foregoing 330 MW of capacity in a combination of Renewable Generation and BESS technology. Consistent with the foregoing, the Energy Bureau **ORDERS** PREPA to modify the Revised 10-Year Plan accordingly.

#### 4. *New Black Start Units for Costa Sur and Aguirre*

In the February 16 Motion, PREPA states that part of an adequate response in an emergency, such as a total blackout as a result of natural and non-natural events, it shall guarantee the availability of reliable units to startup its largest units on the Costa Sur and Aguirre power plants, which would be used to energize ancillary equipment in order to fire the boilers and start the units.<sup>46</sup> PREPA states the two black start units identified as GT#21 and GT#22 (21 MW each) currently located at the Aguirre Power Plant Complex failed to function after Hurricane María.<sup>47</sup> Additionally, the two black start units (21 MW each) currently located in the Costa Sur Power Plant Complex are inoperable due to damages suffered during Hurricane María.<sup>48</sup> Also, PREPA argues that 21 MW of capacity is not enough to start a steam unit on any of the mentioned power plants.

---

<sup>43</sup> *Id.*

<sup>44</sup> August 24 Resolution, ¶¶ 653-655, ¶ 873, ¶ 885.

<sup>45</sup> *Id.*, at ¶ 957. "PREPA has not demonstrated that all critical load must be served solely with thermal resources and PREPA has not provided evidence that solar PV and batteries are not able to supply a substantial portion of the actual critical load or that such resources could not provide contributions to the provision of a sufficient level of resiliency." Therefore, once the Energy Bureau completes the ongoing Optimization Process, it will, based on the findings established, through a series of Resolutions and Orders, determine which technology is the least cost one and in full compliance with Act 17-2019 requirements.

<sup>46</sup> February 16 Motion, p. 32.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*, p. 33.



Im  
According to PREPA, the unavailability of these units would prevent PREPA from energizing four of its larger units in the shortest time possible and would negatively affect the essential services and the economy for an indeterminate time.<sup>49</sup> PREPA noted that the estimated cost for both projects is \$90.40 million, to be funded through the FEMA 428 program.<sup>50</sup>

SMU  
7/11  
A  
The installation of new fossil fuel mobile units as Black Start units at Aguirre and Costa Sur was not included in the IRP submitted by PREPA. Actually, as part of the IRP submitted by PREPA, the retirements of the thermal units of Aguirre and Costa Sur was projected to take place within the short term (*i.e.*, 2019-2022). However, since the IRP was approved in 2020 and the initial renewable energy projects that could be awarded in Tranche 1 and Tranche 2 of the Renewable/BESS RFPs may enter commercial operation within the next 30 to 36 months, the retirement of the units from the foregoing power plants may begin after the next three years (*i.e.*, 2024). Therefore, the need for the Black Start units in the foregoing power plants may be considered reasonable in order to secure adequate response for any emergency that may arise during the next three (3) years.

Upon review of the foregoing, the Energy Bureau **DETERMINES** that these two projects could be aligned with the Approved IRP and Modified Action Plan **only to the extent that PREPA acquires the Black Start units for Aguirre and Costa Sur power plants as part of the approved 81 MW of gas fired peakers that form part of the Approved IRP and Modified Action Plan.**<sup>51</sup> To the extent feasible, under operational and FEMA requirements, PREPA should explore the acquisition of a fraction of the foregoing 108MW of capacity in BESS technology to be used as compliment to the gas fired Black Start systems for these two power plants (*i.e.*, in addition to the above mentioned 81MW). If PREPA pursues this option, the generation capacity will be discounted from the 81 MW described in Part III.A.3 of this Resolution and Order.

##### *5. Renewable Generation Projects and Battery Energy Storage*

Regarding new renewable generation and battery energy storage resources, the Energy Bureau noted on the January 25 Order that PREPA had included an estimated cost of \$0.00 for the projects. PREPA states that neither the 10-Year Plan, nor the Revised 10-Year Plan provide for investment to acquire new renewable resources and battery energy storage

---

<sup>49</sup> *Id.*, pp. 32 and 33.

<sup>50</sup> *Id.*, pp. 33-34, and Revised 10-Year Plan, p. 41.

<sup>51</sup> Specifically, for this case, besides requiring turbines with Black Start capacity, the units shall have to be mobile. This would provide for the relocation of the units to other strategic locations in the electrical system as part of the Optimization Process once the thermal units are retired from Aguirre and Costa Sur.



resources.<sup>52</sup> PREPA further states that in compliance with the Approved IRP and Modified Action Plan, generation from new renewable energy resources and battery energy storage resources will be obtained through PPOAs.<sup>53</sup> PREPA argues that it cannot include specific projects to support the integration of renewable generation at this moment since it is not feasible due to not knowing the specific sites where the projects will be constructed and interconnected.<sup>54</sup> PREPA states that once more information is available, it will revisit the capital investments plans and include any projects to support the integration of renewable energy projects.<sup>55</sup>

As presented in the Revised 10-Year Plan, **the projects related to Renewable Generation and Battery Energy Storage Systems are aligned with the Approved IRP and the Modified Action Plan.** It is important to note that according to the administrative record in the instant case, FEMA programs 404, 406 and 428 do not prevent or avert PREPA from requesting funds for renewable energy or battery energy storage projects. Consistent with the foregoing, PREPA shall submit to the Energy Bureau **on or before December 31, 2021** a list of the projects that it will submit to FEMA in order to support the integration of renewable energy projects.

#### B. Transmission Line Projects

As part of the Revised 10-Year Plan, PREPA states that all the existing 115kV and 230kV Transmission Lines experienced hurricane-related disaster damage due to Hurricanes Irma and María. According to PREPA, it performed temporary emergency repairs on the hurricane-related disaster damaged structures for system restoration purposes. The near-term objective of the Revised 10-Year Plan provides hardening/resiliency and/or rebuild twelve (12) 115kV and 230kV transmission lines (237 circuit miles) and thirteen (13) 38kV sub-transmission lines (285 circuit miles) in the near term. In addition, PREPA is pursuing a project to repair and bring back into service a damaged section of the San Juan 115kV Underground Transmission Loop, which provides a highly reliable power path around San Juan protected from severe weather.<sup>56</sup>

PREPA states that the rebuild and reconstruction of the transmission assets will be based in updated, consensus-based codes and standards. Based on the Revised 10-Year Plan, PREPA intends to pursue a high proportion of its projects in the near-term for several reasons: (i) it is PREPA's objective to deliver results as quickly as possible, (ii) some projects

---

<sup>52</sup> *Id.*, at p. 22.

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*, at p. 23.

<sup>56</sup> *Id.*, pp. 35-36.





already have preliminary engineering and are ready to proceed into the 30% A/E design phase, and (iii) some projects are very large in scope and must be initiated in the near-term to be completed within the later years of the 10-year term.

Upon review of the information available, the Energy Bureau **DETERMINES** that the transmission line projects included in the Revised 10-Years Plan are aligned with the Approved IRP and the Modified Action Plan. Notwithstanding the foregoing, and in compliance with the August 24 Resolution, PREPA shall submit to the Energy Bureau each specific capital investment project. In order to avoid potential noncompliance with the Approved IRP and Modified Action Plan, and to streamline the process, PREPA shall submit the specific projects to the Energy Bureau at least thirty (30) calendar days prior to its submittal to COR3 and FEMA.<sup>57</sup> Furthermore, the Energy Bureau **ORDERS** PREPA to submit, **within five (5) days from the notification of this Resolution and Order**, for its evaluation and approval any specific transmission line projects that it has already submitted to FEMA.<sup>58</sup>

### C. Substation Projects

PREPA categorized substations projects into four groups: (i) generation and switchyard modernization, (ii) flooded substation relocation, (iii) grid concerns, and (iv) modernization and hardening. PREPA's main objective on the projects related to substations is to meet new codes and standards to improve the resilience and reliability of the electric grid system throughout the island. The scope of work includes mitigation measures for previously flooded substations, upgrade of existing protective relays to modern digital relays, replacement of existing oil circuit breakers with SF6 gas breakers; strengthening and/or replacement of existing control buildings, enclosures, structures, and components; and relocation of ten (10) flooded substations.<sup>59</sup>

#### 1. Transmission Substations Projects

The 10-Year Revised Plan includes thirty (30) transmission substation projects.<sup>60</sup> According to PREPA, the projects are necessary for their safe operation and to guarantee a reliable service to customers.<sup>61</sup> Upon review of the Revised 10-Year Plan, the Energy Bureau **DETERMINES that the transmission substations projects included in the Revised 10-Year Plan are aligned with the Approved IRP and the Modified Action Plan.**

<sup>57</sup> It is important to note that there are some additional transmission projects that are currently under evaluation in the Optimization Process.

<sup>58</sup> The submittal shall be accompanied by a detailed description of the capital investment project, its alignment with the IRP and all information available regarding its construction timeline and total costs (*e.g.*, design, development, construction, etc.).

<sup>59</sup> Revised 10 Year Plan, p. 37 and p. 70.

<sup>60</sup> *Id.*, p. 15, p. 39, p.100 and p.146.

<sup>61</sup> *Id.*



Im  
SBR  
JAH  
A

Notwithstanding the foregoing, and in compliance with the August 24 Resolution, PREPA shall submit to the Energy Bureau each capital investment project for approval. In order to avoid potential noncompliance with the Approved IRP and Modified Action Plan, and to streamline the process, PREPA shall submit the specific projects to the Energy Bureau at least thirty (30) calendar days prior to its submittal to COR3 and FEMA.<sup>62</sup> Furthermore, the Energy Bureau **ORDERS** PREPA to submit, **within five (5) days from the notification of this Resolution and Order**, for its evaluation and approval any specific transmission substations projects that it has already submitted to FEMA.<sup>63</sup>

## 2. Distribution Substations Projects

The 10-Year Revised Plan includes thirty five (35) distribution substation projects.<sup>64</sup> The August 24 Resolution ordered PREPA to coordinate all distribution system spending with the ongoing efforts of the integrated distribution system planning to maximize the capacity of the distribution grid to integrate DG, especially the solar PV and batteries required throughout Puerto Rico as part of the modified Preferred Resource Plan set out in the Modified Action Plan.<sup>65</sup> Therefore, all projects related to the distribution system shall comply with the August 24 Resolution. Once the Energy Bureau completes the ongoing distribution system planning, it will, based on the findings established, through Resolutions and Orders, determine which distribution substations projects fully comply with the Modified Preferred Resource Plan set out in the Modified Action Plan. The Energy Bureau **DETERMINES** that, at this moment, the Energy Bureau cannot conclude whether they are aligned or not with the IRP and the Modified Action Plan. Notwithstanding the foregoing, and in compliance with the August 24 Resolution, PREPA shall submit to the Energy Bureau each capital investment project. In order to avoid potential noncompliance with the Approved IRP and Modified Action Plan, and to streamline the process, PREPA shall submit the specific projects to the Energy Bureau at least thirty (30) calendar days prior to its submittal to COR3 and FEMA.<sup>66</sup> Furthermore, the Energy Bureau **ORDERS** PREPA to submit, **within five (5) days from the notification of this Resolution and Order**, for its evaluation and approval any specific distribution substations projects that it has already submitted to FEMA.<sup>67</sup>

<sup>62</sup> It is important to note that there are some additional transmission projects that are currently under evaluation in the Optimization Process.

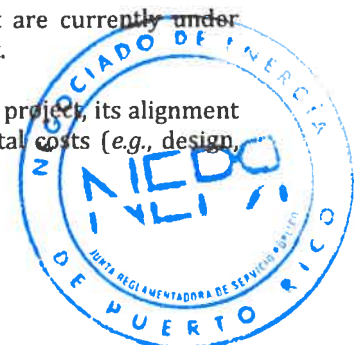
<sup>63</sup> The submittal shall be accompanied by a detail description of the capital investment project, its alignment with the IRP and all information available regarding its construction timeline and total costs (e.g., design, development, construction, etc).

<sup>64</sup> Revised 10 Year Plan, p. 15, p. 39, p.100 and p.146.

<sup>65</sup> August 24 Resolution, p. 281, ¶ 907.

<sup>66</sup> It is important to note that there are some additional transmission projects that are currently under evaluation in the Optimization Process because the same support the Minigrig construct.

<sup>67</sup> The submittal shall be accompanied by a detail description of the capital investment project, its alignment with the IRP and all information available regarding its construction timeline and total costs (e.g., design, development, construction, etc).



#### D. Distribution System Projects

As part of the Revised 10-Year Plan, PREPA states that, after Hurricanes Irma and María, 338 distribution feeders were subject to damage assessments.<sup>68</sup> The mentioned assessments included information for the number of damaged poles, transformers, and conductors. PREPA identified that 103 feeders were on critical conditions and needed immediate repairs. Also, PREPA included a project for distribution automation which contemplates the installation of different intelligent equipment such as reclosers and switches. According to PREPA, this automation project will improve the distribution system reliability.<sup>69</sup> Another project included as part of the Revised 10-Year Plan is identified as public lighting. This project includes two phases: (i) repairing the existing public lighting; and (ii) building a permanent intelligent lighting system that would include the installation of 481,000 lighting units.<sup>70</sup> According to PREPA, the mentioned projects are necessary for a safe and reliable operation of the system, and to comply with the current standards and codes for distribution systems.<sup>71</sup>

The August 24 Resolution ordered PREPA to coordinate all distribution system spending with the ongoing efforts of the integrated distribution system planning to maximize the capacity of the distribution grid to integrate DG, especially the solar PV and batteries required throughout Puerto Rico as part of the modified Preferred Resource Plan set out in the Modified Action Plan.<sup>72</sup> Therefore, all projects related to the distribution system shall comply with the August 24 Resolution. Once the Energy Bureau completes the ongoing distribution system planning, it will, based on the findings established, through Resolutions and Orders, determine which distribution projects fully comply with the Modified Preferred Resource Plan set out in the Modified Action Plan. The Energy Bureau **DETERMINES** that, at this moment, the Energy Bureau cannot conclude whether they are aligned or not with the IRP and the Modified Action Plan. However, as discussed, all distribution system spending shall be coordinated with the ongoing efforts in the integrated distribution system planning.<sup>73</sup>

#### IV. Conclusion

Pursuant to the provisions of Act 17-2019 and Act 57-2014, the Energy Bureau, as regulator, has the mandate to determine which capital investments PREPA may move

---

<sup>68</sup> Revised 10 Year Plan, p. 37.

<sup>69</sup> February 16 Motion, p. 36 and Revised 10-Year Plan, p. 37.

<sup>70</sup> Revised 10 Year-Plan, p. 67.

<sup>71</sup> *Id.*, p. 39 and p.100.

<sup>72</sup> August 24 Resolution, p. 281, ¶ 907.

<sup>73</sup> *Id.*, p. 281, ¶ 907.



*Im*  
*SMN*  
*HA*  
*g*  
forward with. Aware of this responsibility, and to achieve a sound capital investment plan, the Energy Bureau, with the public and stakeholder's participation issued the August 24 Resolution. Today, and until it is modified according to applicable statutory and regulatory provisions, the Approved IRP is the only existing guide legally adopted to protect the best interests of the People of Puerto Rico. Therefore, any other plan, including PREPA's 10-year plan or any of its revised versions, must fully comply with the Approved IRP and the Modified Action Plan.

After carefully considering and evaluating the submitted Revised 10-Year Plan and the information in the record, and mindful of the crucial role of federal funding to achieve the goals established on both, Act 17-2019 and Act 57-2014, with the less or no economic short-term and long-term burdens to the PREPA rate payers, as discussed in the preceding Parts of this Resolution and Order, the Energy Bureau **DETERMINES** the following:

1. That, with the modification required to the project definition of the New Thermal Generation Feasibility Study included in the Revised 10-Year Plan, this **project is aligned** with the Approved IRP and the Modified Action Plan. The Energy Bureau **ORDERS** PREPA to modify the Revised 10-Year Plan accordingly.
2. That, due to the fact that the final determination on the construction of new thermal generation at Palo Seco is dependent on several variables currently uncertain, the Energy Bureau **DETERMINES that to be fully aligned with the Approved IRP and the Modified Action Plan, any project defined by PREPA in the mid-term related to generation in the San Juan area shall include BESS and renewable energy sources.**
3. That, under the Approved IRP and Modified Action Plan<sup>74</sup>, PREPA can replace up to 81 MW of capacity with **new gas fired peakers**. At this moment, the information necessary to determine which technology represents the least-cost option and the amount of generation needed is not available. Consequently, the Energy Bureau **CANNOT CONCLUDE** that this project is aligned with the Approved IRP and the Modified Action Plan.<sup>75</sup> In the alternative, to the extent feasible under the Approved IRP and the Modified Action Plan, PREPA can explore the acquisition of the foregoing 330 MW of capacity (or fraction thereof) in a combination of Renewable Generation and BESS technology, as part of the

<sup>74</sup> August 24 Resolution, ¶¶ 653-655, ¶ 873, ¶ 885.

<sup>75</sup> *Id.*, at ¶ 957. "PREPA has not demonstrated that all critical load must be served solely with thermal resources and PREPA has not provided evidence that solar PV and batteries are not able to supply a substantial portion of the actual critical load or that such resources could not provide contributions to the provision of a sufficient level of resiliency." Therefore, once the Energy Bureau completes the ongoing Optimization Process, it will, based on the findings established, through a series of Resolutions and Orders, determine which technology is the least cost one and in full compliance with Act 17-2019 requirements.





Renewable Generation and BESS already established in the Approved IRP.<sup>76</sup> Consistent with the foregoing, the Energy Bureau **ORDERS** PREPA to modify the Revised 10-Year Plan accordingly.

4. That, only to the extent that PREPA acquires the Black Start units for Aguirre and Costa Sur power plants as part of the approved 81 MW of gas fired peakers that form part of the Approved IRP and Modified Action Plan, these two projects included in the Revised 10-Year Plan, **ARE ALIGNED** with the Approved IRP and the Modified Action Plan. To the extent feasible, under operational and FEMA requirements, PREPA should explore the acquisition of a fraction of the foregoing 108MW of capacity in BESS technology to be used as compliment to the gas fired Black Start systems of these two power plants (*i.e.*, in addition to the above mentioned 81MW). Consistent with the foregoing, the Energy Bureau **ORDERS** PREPA to modify the Revised 10-Year Plan accordingly.
5. That, as presented in the Revised 10-Year Plan, at this moment, the projects related to Renewable Generation and Battery Energy Storage Resources, are aligned with the Approved IRP and the Modified Action Plan. It is important to note that according to the administrative record in the instant case, FEMA programs 404, 406 and 428 do not prevent or avert PREPA from requesting funds for renewable energy or battery energy storage projects. Consistent with the foregoing, PREPA shall submit to the Energy Bureau on or before December 31, 2021 a list of the projects that it will submit to FEMA in order to support the integration of renewable energy projects. the Energy Bureau **ORDERS** PREPA to modify the Revised 10-Year Plan accordingly.
6. That the transmission projects included in the Revised 10-Years Plan **ARE ALIGNED** with the Approved IRP and the Modified Action Plan.
7. That the transmission substations projects included in the Revised 10-Year Plan **ARE ALIGNED** with the Approved IRP and the Modified Action Plan.
8. That, at this moment, the Energy Bureau **CANNOT CONCLUDE** whether the distribution substation projects included in the Revised 10-Year Plan are aligned or not with the IRP and the Modified Action Plan.
9. That, at this moment, the Energy Bureau **CANNOT CONCLUDE** whether the distribution system projects included in the Revised 10-Year Plan are aligned or not with the IRP and the Modified Action Plan.
10. In compliance with the August 24 Resolution, the Energy Bureau **ORDERS** PREPA to submit to the Energy Bureau each new capital investment project. For projects to be funded with FEMA funds and/or any other federal funds, PREPA shall submit

<sup>76</sup> August 24 Resolution, p. 283.



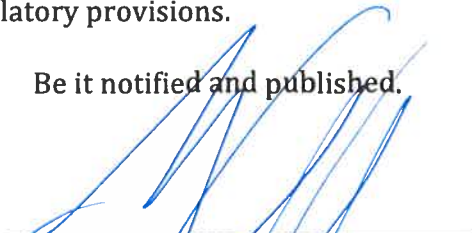


the specific projects to the Energy Bureau at least thirty (30) calendar days prior to its submittal to COR3, FEMA and/or any other federal agency.

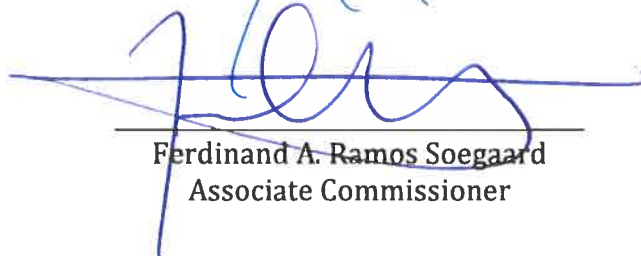
11. Regarding any capital investment projects that PREPA has already submitted to FEMA and/or any other federal or local agency, the Energy Bureau **ORDERS** PREPA to submit the specific projects, **within five (5) days from the notification of this Resolution and Order**, for their evaluation and approval.
12. For all the above, and to the extent that it results in benefits to the ratepayers the Energy Bureau encourages and supports PREPA in the pursue of any local or federal funds, including but not limited to FEMA, available to fulfill all capital investments hereby concluded to be aligned with the Approved IRP and the Modified Action Plan. Related to FEMA 428 funds, and given its ongoing and long term nature, the Energy Bureau **ORDERS** PREPA to continue reporting to the Energy Bureau and FEMA, within the next five (5) years, the progress of all ongoing efforts related to the final approval of the submitted projects not yet approved by the Energy Bureau.

The Energy Bureau **WARNS** PREPA that non-compliance with Energy Bureau's orders and regulations may carry the imposition of fines of up to twenty-five thousand dollars (\$25,000.00) and other administrative sanctions under applicable statutory and regulatory provisions.

Be it notified and published.

  
Edison Avilés Deliz  
Chairman

  
Lillian Mateo Santos  
Associate Commissioner

  
Ferdinand A. Ramos Soegaard  
Associate Commissioner

  
Sylvia B. Ugarte Araujo  
Associate Commissioner



## CERTIFICATION

I hereby certify that the majority of the members of the Puerto Rico Energy Bureau has so agreed on March 26, 2021. Associate Commissioner Ángel R. Rivera de la Cruz concurred in part and dissented in part with a written opinion that will be published at a later date. I also certify that on March 26, 2021 a copy of this Resolution and Order was notified by electronic mail to the following: kbolanos@diazvaz.law, mvazquez@diazvaz.law, Legal@lumamc.com, wayne.stensby@lumamc.com, mario.hurtado@lumamc.com, rstgo2@gmail.com, larroyo@earthjustice.org, jluebkmann@earthjustice.org, rmurthy@earthjustice.org, pedrosaade5@gmail.com. I also certify that today, March 26, 2021, I have proceeded with the filing of the Resolution and Order issued by the Puerto Rico Energy Bureau.

I sign this in San Juan, Puerto Rico, today March 26, 2021.

  
\_\_\_\_\_  
Sonia Seda Gaztambide  
Clerk

