

**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:** Resolution on the Petition for  
Leave to Conduct Works in PREPA's Steam  
Units to Achieve Environmental Regulatory  
Compliance.

**RESOLUTION**

**I. Relevant Factual Background**

*A. National Ambient Air Quality Standard (NAAQS) for SO<sub>2</sub>*

On 2010 the United States Environmental Protection Agency ("EPA") established a new 1-hour National Ambient Air Quality Standard (NAAQS) for SO<sub>2</sub>, set at 75 parts per billion (ppb) or 196 ug/m ("SO<sub>2</sub> NAAQS"). On 2018, EPA notified the designation of two (2) areas, comprised of several sectors in the Municipalities of San Juan, Cataño, Bayamón, Guaynabo, and Salinas, as nonattainment for the new SO<sub>2</sub> NAAQS. The Puerto Rico Electric Power Authority's ("PREPA") Palo Seco and San Juan Power Plants were the major contributors of the SO<sub>2</sub> NAAQS exceedances in the designated *Metro* nonattainment area. Likewise, PREPA's Aguirre Power Plant was the major contributor of the SO<sub>2</sub> NAAQS exceedances in the designated *Guayama-Salinas* nonattainment area. The Government of Puerto Rico had until June 3, 2022, to submit to the EPA a complete State Implementation Plan (SIP) for the SO<sub>2</sub> NAAQS ("SO<sub>2</sub>-NAAQS SIP"), and, until April 9, 2023, to be in attainment with the SO<sub>2</sub> NAAQS.

If the EPA finds that the Government of Puerto Rico has failed to make the required SO<sub>2</sub>-NAAQS SIP submittal or that a submitted SO<sub>2</sub>-NAAQS SIP is incomplete, then the EPA will have the obligation, under Section 110(c) of the Clean Air Act ("CAA"), to promulgate a Federal Implementation Plan ("FIP") no later than two (2) years after failure was found to submit, if the Government of Puerto Rico has not submitted and the EPA has not approved, the required SO<sub>2</sub>-NAAQS SIP submittal.<sup>1</sup> Failure to submit complete attainment SO<sub>2</sub>-NAAQS SIP for the affected areas carries deadlines for implementing certain mandatory sanctions. Sanctions consist of: (i) 2-to-1 offset ratio under the nonattainment New Source Review (NSR) permitting program, such that for one (1) unit of SO<sub>2</sub> emissions that a new or modified source will contribute to the nonattainment area, two (2) units must be reduced, and (ii) withholding of federal highway funding for projects at the nonattainment area.

As we will discuss in this Resolution, as part of the process for the evaluation and approval of PREPA's most recent Integrated Resources Plan, the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") considered the implications of PREPA's compliance with the SO<sub>2</sub> NAAQS. PREPA proposed, and the Energy Bureau approved, a strategy to achieve compliance based on integrating renewables and battery storage resources along with the orderly retirement of old fossil-fuel generation units.

*B. PREPA's Request for authorization to convert certain steam units for dual-fuel use (gas/oil)*

On February 11, 2022, PREPA filed a *Petition for Leave to Conduct Works in PREPA's Steam Units to Achieve Environmental Regulatory Compliance* ("February 11 Petition"). Through the February 11 Petition, PREPA requests the Energy Bureau to grant permission to begin works aimed at converting the existing steam units of the San Juan Power Plant to dual-fuel units,

<sup>1</sup> 42 USC § 7410.





so they can also use natural gas as fuel.<sup>2</sup> This, allegedly, to comply with the SO<sub>2</sub> NAAQS.<sup>3</sup> Specifically, PREPA argues that its request has the ultimate goal of submitting to the EPA a plan to: (i) reach the emissions official standards on or before June 3, 2022; (ii) avoid the imposition of sanctions and fines; (iii) avoid the risk of disallowance of federal funds; and (iv) avoid generation restrictions.<sup>4</sup>

Attached to the February 11 Petition are various documents identified as Exhibits A through E. With regards to such documents: (i) Exhibit A is a letter from the Regional Administrator for the EPA Region 2 dated December 29, 2021, directed to Mr. Josué Colón Ortiz, PREPA's Executive Director ("December 29 EPA Letter"); (ii) Exhibit B comprises a document titled *Memorandum of Understanding*, dated February 2, 2022, signed by Mr. Josué Colón Ortiz on behalf of PREPA and Mr. Rafael Machargo Maldonado, on behalf of the Puerto Rico Department of Natural and Environmental Resources ("DNER"), along with a document identified as Attachment 1, titled *Preliminary Air Monitoring Stations Implementation Schedule*, and a document identified as Attachment 2, titled *Base Preliminary Budget for Air Monitoring Stations*; (iii) Exhibit C is a document titled *Natural Gas Advantage- Estimated SO<sub>2</sub> Emission Reductions*; (iv) Exhibit D contains a document titled *Summary Report – Units 7-8*, dated January 5, 2011, issued by Sirois Engineering & Consulting, Inc.; and (v) Exhibit E contains a document titled *Summary Report – Units 9-10*, dated January 5, 2011, issued by Sirois Engineering & Consulting, Inc.

In the February 11 Petition, PREPA states that the most important challenge it faces with its aging units is to improve the air quality for the residents of Puerto Rico by reducing harmful emissions.<sup>5</sup> Further, it asserts that, in 2018, the EPA designated the Guayama-Salinas and the San Juan air districts as nonattainment areas, since they do not meet, or contribute to ambient air quality in nearby areas that do not meet the SO<sub>2</sub> NAAQS.<sup>6</sup> Consequently, PREPA asserts, the EPA must determine that the DNER's SO<sub>2</sub>-NAAQS SIP required to meet the SO<sub>2</sub> NAAQS is completed by June 3, 2022. PREPA argues that failing to comply with environmental mandates shall entail costly fines and disallow the use of certain federal funds for Puerto Rico.<sup>7</sup>

PREPA avers that compliance with SO<sub>2</sub> NAAQS would require the use of natural gas at existing steam units. Specifically, it states that, with the DNER, it has determined that the use of natural gas in the existing steam units of Aguirre, San Juan, and Palo Seco power plants would achieve attainment in the Guayama-Salinas and San Juan air districts as required by EPA. PREPA alleges that it has analyzed the options for environmental attainment and determined that the correct path is to convert to natural gas the San Juan Steam Units. It states that, since there is no natural gas infrastructure on the premises of the Aguirre and Palo Seco Power Plants, and considering the absence of a final integration schedule for the renewable resources, it cannot establish a compliance strategy based on natural gas fuel regarding the steam units of such plants at this moment.<sup>8</sup> PREPA argues, however, that there is an existing natural gas infrastructure near the San Juan Power Plant supplying the San Juan Combined Cycle units 5 and 6, which can be used to supply gas to the San Juan Steam Units, to achieve attainment with the SO<sub>2</sub> NAAQS in the San Juan air district.<sup>9</sup>

<sup>2</sup> February 11 Petition, pp. 20, 24. Notably, PREPA requests authorization to execute works conducive to the conversion for dual fuel use in the following steam units: San Juan 7, San Juan 8, San Juan 9, and San Juan 10 (collectively, the "San Juan Steam Units").

<sup>3</sup> *Id.*, p. 24.

<sup>4</sup> *Id.*, p. 3.

<sup>5</sup> *Id.*, p. 1.

<sup>6</sup> *Id.*, p. 2.

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*, p. 17.

<sup>9</sup> *Id.*, p. 18.



According to PREPA the conversion of the San Juan Steam Units to combust natural gas will be beneficial to the people of Puerto Rico because, in sum: (i) it is a step towards the compliance of the SO<sub>2</sub> NAAQS, which helps the Government of Puerto Rico to avoid sanctions; (ii) it will reduce emissions of SO<sub>2</sub> and other pollutants; (iii) it will achieve compliance with the Mercury and Air Toxics Standards ("MATS") required by the EPA; (iv) natural gas is cleaner than Bunker C; and (v) the fuel market prices of natural gas do not have as much fluctuation as those of petroleum derivatives.<sup>10</sup>

PREPA argues that the conversion of San Juan Steam Units is feasible, and that assessments for such conversion were performed in 2011.<sup>11</sup> Moreover, PREPA asserts that such conversion, along with certain repairs, will add 237 MW to the San Juan Power Plant.<sup>12</sup> PREPA further states it anticipates that the engineering, procurement, and construction of the San Juan Steam Units conversion and the completion of the environmental permits of all such units would take from five (5) to ten (10) years.<sup>13</sup> PREPA included a schedule for completing the conversion to natural gas for the San Juan Power Plant which would finalize all units at year 2030.<sup>14</sup> It also states<sup>15</sup> that its request does not warrant an amendment to the Approved IRP.<sup>16</sup>

PREPA, however, recognizes that it does not have an estimate of cost regarding the San Juan Steam Units conversion to combust natural gas.<sup>17</sup> PREPA states that the first stages of the project will be included in the Necessary Maintenance Expenses ("NME") budget. It further indicates that it requires approval to the Fiscal Oversight and Management Board ("FOMB") to include the funds in FY2022 and later request federal funding as a reimbursement process.

On March 9, 2022, LECO<sup>18</sup> filed a document titled *Response to PREPA's Petition for Leave to Conduct Works in PREPA's Steam Units to Achieve Environmental Regulatory Compliance* ("March 9 Motion"). Through the March 9 Motion, LECO asserts that the Energy Bureau should reject the February 11 Petition and prohibit PREPA from converting to gas the San Juan Steam Units.<sup>19</sup>

LECO argues that the conversion of the San Juan Steam Units to combust natural gas would constitute a modification of the Approved IRP given that the Energy Bureau rejected PREPA's proposal for more gas-fired generation in the San Juan area.<sup>20</sup> LECO further states that PREPA's intent to allow a private entity to engage in the conversion of the San Juan Steam Units without a public procurement process violates the Approved IRP and the laws and

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<sup>10</sup> *Id.*, pp. 19-20.

<sup>11</sup> *Id.*, p. 21.

<sup>12</sup> *Id.*, pp. 21-22.

<sup>13</sup> *Id.*, pp. 22-23.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*, p. 20.

<sup>16</sup> *Final Resolution and Order on the Puerto Rico Electric Power Authority's Integrated Resource Plan, In re. Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, Case No. CEPR-AP-2018-0001, August 24, 2020 ("Approved IRP"). Minor modifications and/or clarifications to the Approved IRP were introduced through a *Resolution and Order on Reconsiderations* issued by the Energy Bureau on December 2, 2020, in case: *In re. Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, Case No. CEPR-AP-2018-0001. The Approved IRP is final and firm.

<sup>17</sup> February 11 Petition, pp. 22-23.

<sup>18</sup> Comité Diálogo Ambiental, Inc., El Puente de Williamsburg, Inc. - Enlace Latino de Acción Climática, Inc., Alianza Comunitaria Ambientalista del Sureste, Inc., Coalición de Organizaciones Anti-Incineración, Inc., Amigos del Río Guaynabo, Inc., CAMBIO, and Sierra Club and its Puerto Rico Chapter, and Unión de Trabajadores de la Industria Eléctrica y Riego (collectively, "LECO").

<sup>19</sup> March 9 Motion, p. 8.

<sup>20</sup> *Id.*, p. 2.





regulations regarding public procurement.<sup>21</sup> LECO also argues that it appears from the December 29 EPA Letter that PREPA attempts to mislead the EPA by communicating that, while retirement of the San Juan Steam Units would require modification of the Approved IRP, conversion of such units would not.<sup>22</sup>

Further, LECO argues that it has not been demonstrated through the documents submitted by PREPA that EPA emission limits require the conversion of the San Juan Steam Units.<sup>23</sup> LECO also avers that PREPA's obligation to comply with such standards do not supersede or negate the Energy Bureau's jurisdiction.<sup>24</sup> Moreover, LECO alleges that the Energy Bureau has rejected PREPA's unsupported claims regarding the need for conversion to integrate renewables and to make PREPA's grid more reliable.<sup>25</sup>

LECO also asserts that PREPA has not demonstrated that the proposed conversions are feasible. LECO states that Exhibit D and E to the February 11 Petition are not feasibility studies, but preliminary 10-year-old assessments.<sup>26</sup> It states that PREPA has failed to provide gas plant analyses that identify a reliable fuel source, since there is no such source in San Juan.<sup>27</sup>

On June 24, 2022, PREPA filed a document titled *Second Motion to Reiterate Petition for Leave to Conduct Works to Achieve Environmental Regulatory Compliance and Request for Technical Conference* ("June 24 Motion"). Through the June 24 Motion, PREPA argues that it has requested the Energy Bureau on three (3) occasions<sup>28</sup> leave to conduct works for the conversion of steam units to burn natural gas, through which PREPA will allegedly achieve environmental regulatory compliance and will also add reliability to the electric system during the development and interconnection of the renewable projects.<sup>29</sup>

PREPA reiterates the arguments in the February 11 Petition and requests the Energy Bureau to address such motion.<sup>30</sup> It also requests the Energy Bureau to schedule a technical conference to receive testimony from PREPA's officers to resolve all the main outstanding matters.<sup>31</sup>

PREPA states that, since the EPA did not determine that the DNER's final SIP submission was complete by June 3, 2022, each new ton of SO<sub>2</sub> emitted from any new or modified source in the nonattainment areas must now be offset by a two-ton reduction.<sup>32</sup> PREPA stresses that if the EPA determines that the SO<sub>2</sub>-NAAQS SIP is not complete by December 3, 2022,

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<sup>21</sup> *Id.*, p. 3.

<sup>22</sup> *Id.*, pp. 3-4.

<sup>23</sup> *Id.*, pp. 4-5.

<sup>24</sup> *Id.*, p. 5.

<sup>25</sup> *Id.*, pp. 6-7

<sup>26</sup> *Id.*, p. 7.

<sup>27</sup> *Id.*

<sup>28</sup> PREPA refers to a document that allegedly was submitted on March 31, 2022, titled *Motion to Submit Letter Sent by the Oversight Board to Reiterate the Petition to Initiate Works to Comply with Environmental Regulations and Request for Technical Conference*. On March 31 PREPA did not file a document in the captioned case. A document with the same title was submitted by PREPA on May 31, 2022 ("May 31 Motion"). Nevertheless, on June 3, 2022, the Secretary of the Energy Bureau notified PREPA that the May 31 Motion was not properly filed and explained the filing deficiencies. PREPA took no action to correct the flaw. Therefore, the May 31 Motion is not part of the administrative record of the captioned case and the Energy Bureau will not consider it.

<sup>29</sup> June 24 Motion, p. 1.

<sup>30</sup> *Id.*, pp. 4-6.

<sup>31</sup> *Id.*, p. 9.

<sup>32</sup> *Id.*, p. 5.





additional sanctions will apply, consisting of a moratorium on roads and highway funds for projects in the nonattainment areas.<sup>33</sup>

PREPA argues that waiting for the integration of renewable energy to comply with the SO<sub>2</sub> standards is unrealistic.<sup>34</sup> It states that even if PREPA signed all eighteen (18) Power Purchase and Operating Agreements regarding the PV projects pertaining to the Tranche 1 Request for Proposals, the first 884.8 MW of renewable energy may be integrated into the energy system by the fall of 2024.<sup>35</sup> –PREPA concludes– the Commonwealth of Puerto Rico must achieve NAAQS compliance by April 9, 2023, and therefore, it cannot rely on the integration of renewable energy.<sup>36</sup>

On July 5, 2022, LECO filed a document titled *Response to PREPA's Second Motion on Gas Conversions for Aguirre, San Juan, Palo Seco Power Plants* ("July 5 Motion"). Through the July 5 Motion, LECO states it disagrees with PREPA that the method to provide reliable electricity and eliminate pollution from fossil fuel power plants is to extend the lives of Aguirre, San Juan and Palo Seco Power Plants, and urges the Energy Bureau to reject such proposal.<sup>37</sup> LECO argues that the proposed conversions would not achieve the goals for three (3) reasons: (i) they will take years to complete, long past April 23, 2022; (ii) EPA would reject any emissions limitation based on burning gas, since it would not constitute an "enforceable limit" as defined by EPA; and (iii) PREPA cannot guarantee a steady and reliable supply of gas.<sup>38</sup>

LECO further argues that the conversions proposed by PREPA would violate the Approved IRP. It states that such conversions are major expenses not considered in PREPA's Proposed IRP, and they are inconsistent with the Approved IRP.<sup>39</sup> LECO also avers that PREPA's argument regarding renewables is narrowly focused on utility-scale projects.<sup>40</sup> It states that PREPA ignores the integration of rooftop solar panels and energy storage, which could generate enough energy to replace the Aguirre, San Juan and Palo Seco power plants.<sup>41</sup> Moreover, LECO states that if the Energy Bureau held a technical conference, it requests that the EPA, the public and stakeholders be invited, and all options to achieve clean air and reliable electricity be on the table.<sup>42</sup>

## II. Summary of Relevant Legal and Regulatory Framework Applicable to Integrated Resources Planning

An Integrated Resources Plan (IRP) is an electric power utility's guidebook for providing least-cost electric service over the planning horizon. Its purpose is to develop a plan for the least costly options to serve customer demand, considering other important policy objectives such as resiliency, reliability, and the goals of the utility, the government, society, and the environment.<sup>43</sup> *Least-cost* refers to the least-cost-net-present value of revenue

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*, pp. 7-8.

<sup>35</sup> *Id.*, p. 8.

<sup>36</sup> *Id.*

<sup>37</sup> July 5 Motion, p. 11.

<sup>38</sup> *Id.*, p. 3.

<sup>39</sup> *Id.*, p. 9.

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

<sup>41</sup> *Id.*, pp. 9-10.

<sup>42</sup> *Id.*, p. 4.

<sup>43</sup> See, in general, Articles 1.3 (II) and 6.23 of the *Puerto Rico Energy Transformation and RELIEF Act*, as amended ("Act 57-2014"); Articles 1.2(p) and 1.9 of the *Puerto Rico Energy Public Policy Act* ("Act 17-2019"); Sections 2(o) and 6(B) of the *Electric Power Authority Act*, as amended ("Act 83-1941"); and *Regulation on the Integrated Resource Plan for the Puerto Rico Electric Power Authority*, April 24, 2018 ("Regulation 9021").



requirements taken at present value from the present day to the end of the analysis period.<sup>44</sup> As part of the IRP process, the utility assembles data on its existing resources,<sup>45</sup> historical customer demand<sup>46</sup> and electricity loads. It uses the minimization of revenue requirements as its priority criterion, but also considers other factors as: system reliability; short and long-term risks; environmental impacts; transmission and distribution (T&D) needs and implications; financial implications on the electric service company; and the public interest.<sup>47</sup>

In the context of PREPA, an IRP considers all its reasonable resources to satisfy the demand for electric power services during a twenty (20) year period, including those relating to the offering of electric power, whether existing, traditional, and/or new resources, and those relating to energy demand such as energy conservation and efficiency or distributed resources, as well as localized energy generation by the customer.<sup>48</sup> An IRP shall incorporate PREPA's obligation to comply with the laws and regulations that constrain resource selection.<sup>49</sup> For example, Act 82-2010, as amended by Act 17-2019, established the first Renewable-energy Portfolio Standard ("RPS") in Puerto Rico and required that a retail energy provider procure its power needs through renewable energy as follows: twenty percent (20%) by 2022, forty percent (40%) by 2025, sixty percent (60%) by 2040 and one hundred percent (100%) by 2050.<sup>50</sup> Relevant to the February 11 Petition, Article 1.9(3)(H) of Act 17-2019 provides that, as part of evaluating an IRP, the Energy Bureau shall assess PREPA's environmental impacts related to air emissions.<sup>51</sup> Further, within the prescribed revision period, PREPA's IRP shall be reviewed to consider changes in environmental laws and regulations.<sup>52</sup> An IRP must be evaluated and approved by the Energy Bureau and may not be eliminated or altered under any circumstances, without first carrying out a review process before the Energy Bureau.<sup>53</sup>

After the approval of an IRP, the Energy Bureau shall supervise and oversee compliance with it. The IRP will be reviewed and updated every three (3) years, in which case PREPA or the company responsible for operating the Electric System (currently, LUMA)<sup>54</sup> will present to the Energy Bureau a proposal to modify and update the IRP.<sup>55</sup> Nevertheless, provided, that there is a substantial change in the energy demand or in the set of resources needed to meet the demand for energy, the review process may be conducted before the three (3) years period, to respond and mitigate changes in the energy demand or in the set of resources

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<sup>44</sup> Regulation 9021

<sup>45</sup> *Id.* "Resources" includes generation, distribution, transmission, energy efficiency programs, demand-response programs, and customer resources like distributed generation and microgrids.

<sup>46</sup> *Id.* "Customer Demand" in this context means the amount of electricity consumed at a given time in a utility's electric service territory, measured in GWh.

<sup>47</sup> § 2.03(H)(2)(d) of Regulation 9021.

<sup>48</sup> § 1.3 (II) of Act 57-2014 and § 1.08(B)(20) of Regulation 9021.

<sup>49</sup> *Id.*

<sup>50</sup> Act 82-2010, as amended, known as the *Puerto Rico Energy Diversification Policy through Sustainable and Alternative Renewable Energy Act*, as amended, ("Act 82-2010").

<sup>51</sup> Article 1.9(3)(H) of Act 17-2019 and Section 2.03 of Regulation 9021.

<sup>52</sup> Article 1.9(2) of Act 17-2019. Note also that electric power service companies that render any service in Puerto Rico shall have the responsibility to fully comply with all applicable environmental legislation and regulations including, but not limited to, the MATS, which are monitored by the EPA. Article 1.10(g) of Act 17-2019.

<sup>53</sup> Article 1.9(4) of the Act 17-2019.

<sup>54</sup> LUMA Energy, LLC and LUMA Energy ServCo, LLC are collectively referred to as "LUMA".

<sup>55</sup> Article 1.9(2) of the Act 17-2019 and Article 6.23(d) of Act 57-2014.





needed to meet the demand for energy.<sup>56</sup> A revision of an IRP should reflect changes in energy market conditions, changes in technology, environmental regulations, fuel prices, capital costs, changes in load forecast, incorporation of generation based on renewable energy sources and components in the grid to comply with the RPS, distributed generation, energy efficiency and other factors.<sup>57</sup> Should circumstances arise, for just cause, the Energy Bureau may grant waivers or exemptions to an approved Integrated Resource Plan.<sup>58</sup>

### III. PREPA's Approved IRP

#### A. Approval of PREPA's IRP

On March 15, 2018, the Energy Bureau ordered PREPA to file an updated IRP before the mandatory review established in Act 57-2014 to determine the impacts of Hurricanes Irma and María on the Puerto Rico Electric System.<sup>59</sup> On June 7, 2019, PREPA submitted to the Energy Bureau its proposed IRP.<sup>60</sup> The filing was deemed complete by the Energy Bureau on July 3, 2019.<sup>61</sup> PREPA's Proposed IRP was evaluated by the Energy Bureau in a comprehensive adjudicative proceeding under Case No.: CEPR-AP-2018-0001. Evidentiary hearings were held on February 2020.

On August 24, 2020, the Energy Bureau issued a Final Resolution and Order, approving in part the Proposed IRP. The Approved IRP includes a Modified Preferred Resource Plan ("Action Plan") considering, among others, specific planning parameters for the power generation capacity additions<sup>62</sup> and retirements.<sup>63</sup>

#### B. Addition of Renewable and Battery Storage Resources

In the Approved IRP, the Energy Bureau established a schedule for minimum quantities of renewable resources and battery energy storage resources to be procured through Request for Proposals ("RFP") processes. It also directed PREPA to submit a renewable resource and battery energy storage procurement plan ("Procurement Plan"). Specifically, the Approved IRP included a program for six (6) tranches of procurement for renewable energy and battery storage resources from third parties,<sup>64</sup> in support of meeting Act 17-2019 targets for renewable energy installations.<sup>65</sup> According to the Approved IRP the procurement of renewable and battery resources shall be front-loaded within the five-year period Action Plan to allow time for construction, interconnections, and commissioning within the five-year Action Plan period.<sup>66</sup>

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> Article 1.9(1) of Act 17-2019.

<sup>59</sup> Resolution and Order, *In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, Case No. CEPR-AP-2018-0001, March 15, 2018.

<sup>60</sup> PREPA's Motion to Leave File IRP Main Report "ERRATA" Version, dated June 14, 2019, which included a corrected version of the Main IRP Report submitted on June 7, 2019, and is titled *Integrated Resource Plan 2018-2019, Draft for the Review of the Puerto Rico Energy Bureau, Prepared for the Puerto Rico Electric Power Authority, June 7, 2019 (Rev. 2.1)* ("Proposed IRP").

<sup>61</sup> Resolution and Order dated July 3, 2019, *In Re: Completeness Determination of PREPA's IRP Filing and Procedural Calendar*, Case No. CEPR-AP-2018-0001.

<sup>62</sup> *Id.*, ¶¶ 847-867, pp. 263-269.

<sup>63</sup> *Id.*, ¶¶ 869-873, pp. 270-271.

<sup>64</sup> *Id.*, ¶ 860, pp. 266-268.

<sup>65</sup> Approved IRP, ¶ 860, p. 266.

<sup>66</sup> Approved IRP, ¶ 860, p. 267.



The schedule for acquiring the renewable and battery energy storage resources has suffered certain delays. Still, implementing the Procurement Plan is ongoing, and the Energy Bureau is working on an expedited basis to integrate the renewable resources and battery storage substantially within the proposed schedule in the Approved IRP.<sup>67</sup> At the date of issuance of this Resolution, nine (9) Power Purchase and Operating Agreements (“PPOAs”) for solar photovoltaic renewable resources (“Solar PV”), totaling 430.1 MW have been signed. Nine (9) additional projects for Solar PV have been preapproved and are in the final phase of the negotiation process. In addition, nine (9) Battery Energy Storage System (“BESS”) projects and one (1) Virtual Power Plant (“VPP”), totaling 507 MW have been authorized by the Energy Bureau for final negotiations.<sup>68</sup> Most of the renewable and storage resources before mentioned –totaling approximately 800 MW– are expected to be integrated in the Puerto Rico electric system before the end of 2024.

### C. Potential Addition of New Fossil-Fuel Generation

In the Approved IRP the Energy Bureau rejected PREPA’s proposed inclusion of approximately 400 MW of new fossil-fuel peaking resources in a least-cost plan.<sup>69</sup> Nevertheless, the Energy Bureau determined to allow –to certain extent– the use of new peaking resources to provide reliability to existing operating older gas turbine units.<sup>70</sup> The Energy Bureau approved the replacement of a small portion of the older gas turbine resources with new peaking resources, using competitive procurement processes and open to all technologies.<sup>71</sup> Notably, PREPA was allowed to replace 147 MW of gas turbine capacity with fossil-fuel generators providing peaking support services.<sup>72</sup> This peaking capacity includes the *MegaGen* mobile units totaling 66 MW installed at Palo Seco. This leaves up to 81 MW of new capacity to procure.<sup>73</sup>

In the Approved IRP, the Energy Bureau also rejected the addition of a new 302 MW gas-fired Combined-Cycle (“CC”) unit at Palo Seco by 2025 as part of a least-cost plan.<sup>74</sup> To protect against the uncertainty of near-future solar PV and battery energy storage price outcomes, or other potential reliability concerns, the Energy Bureau authorized PREPA to begin preliminary work on a new fossil fuel-powered unit and/or energy storage at Palo Seco, subject to the constraints in the Action Plan.<sup>75</sup> Specifically, the Energy Bureau authorized PREPA to spend up to \$5 million for preliminary economic, siting, permitting, and planning analysis. The analysis shall include any associated infrastructure, including but not limited to fuel delivery infrastructure.<sup>76</sup> We must point out that the new 302 MW gas-fired combined cycle (CC) unit mentioned above does not necessarily need to be installed at the Palo Seco Power Plant. If justified, and, for resiliency purposes, it can be installed at any other part of the north of the Island.

Under the above, the Approved IRP allows the installation of fossil-fuel power peaking units and, potentially, a 302 MW gas-fired combined cycle unit, to further support the reliability of the electric system during the integration of renewable and battery storage resources.

<sup>67</sup> See, in general, *In Re: The Implementation of the Puerto Rico Electric Power Authority Integrated Resource Plan and Modified Action Plan*, Case No.: NEPR-MI-2020-0012.

<sup>68</sup> *Id.*

<sup>69</sup> Approved IRP, ¶ 648, p. 199.

<sup>70</sup> *Id.* and Approved IRP, ¶ 869, ¶ 871 and ¶ 873, 270-271.

<sup>71</sup> *Id.*

<sup>72</sup> Approved IRP, ¶ 885, p. 275.

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*, ¶ 14, pp. 3-4.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*





D. *Generation Resources Retirement*

Consistent with the proposed integration of renewable and battery storage resources, as well as the installation of new supporting peaking generation, the Approved IRP provides that PREPA should retire its older fossil-fuel oil-fired steam and certain combined cycle turbines assets in order of the declining cost to operate when they are no longer needed for system reliability during the period of 2021 and 2025.<sup>77</sup> Relevant to this Resolution, the Energy Bureau approved the retirement of the following oil-fired generation resources: (i) the San Juan Steam Units; (ii) the Palo Seco Power Plant steam Units 3 and 4; and (iii) the Aguirre Power Plant steam Units 1 and 2, and combined cycle (CC) Units 1 and 2.<sup>78</sup>

The Energy Bureau also approved the retirement of several existing gas turbine peaking units and its replacement with new gas turbines ("GTs"), including certain units at Palo Seco and Aguirre Power Plants.<sup>79</sup> Notably, the Energy Bureau ordered PREPA to establish a retirement schedule for the worst-performing of the eighteen (18) existing peaking units and file this as part of the bi-annual status reports for the retirement of oil-fired steam and combined cycle units.<sup>80</sup>

E. *San Juan Steam Units*

In the Proposed IRP only two (2) out of the four (4) San Juan Steam Units were considered as available generation units.<sup>81</sup> The San Juan Steam Units 7 and 8 were included in the Proposed IRP.<sup>82</sup> However, since the San Juan Units 7, 8, 9, and 10 are substantially identical, they were modeled as interchangeable for purposes of the Proposed IRP.<sup>83</sup> Nevertheless, it must be clear that only two (2) of the four (4) units are included in the Approved IRP as available generation resources, and both are expected to be retired by 2025.<sup>84</sup>

The San Juan Steam Units are designated as "limited-use" units because they do not comply with MATS' requirements. Such designation means that each unit's capacity factor when burning oil shall not exceed eight percent (8%) of its maximum or nameplate heat input, whichever is greater, averaged over a 24-month block contiguous.<sup>85</sup> PREPA further recognized in the Proposed IRP that the San Juan Steam Units are not in acceptable operational conditions and would require a non-economically viable capital investment to reach MATS compliance and acceptable operational conditions.<sup>86</sup>

<sup>77</sup> Approved IRP, ¶869, p. 270. The retirements should align with synchronous condensers conversion. Approved IRP, ¶630, p. 193.

<sup>78</sup> Approved IRP, ¶869, p. 270.

<sup>79</sup> Approved IRP, ¶873, p. 271.

<sup>80</sup> *Id.*

<sup>81</sup> Proposed IRP, Exhibit 4-5, p. 4-3, p. 4-19, p. 4-23, and p. 4-26.

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

<sup>84</sup> Approved IRP, ¶870, p. 270 and Proposed IRP, Exhibit 4-6, p. 4-4.

<sup>85</sup> See Proposed IRP, p. 4-26 and PREPA's filing under cover *Moción para presentar Documento: Reporte Detallado del Estatus Actual de la Flota de Generación de la Autoridad*, dated October 23, 2021, *In Re: Puerto Rico Electric Power Authority's Permanent Rate*, Case No.: NEPR-MI-2020-0001.

<sup>86</sup> Proposed IRP, Exhibit 4-2, p. 4-1 and Exhibit 4-6, p. 4-4.



Several of the units, particularly San Juan Steam Unit 10,<sup>87</sup> have been out of service and without proper maintenance for many years.<sup>88</sup> For example, the last major maintenance of the San Juan Steam Units 7, 8, and 10 was between 2008-2010.<sup>89</sup> According to PREPA, the San Juan Steam Units require substantial capital investment to be operational and in compliance with the applicable environmental regulations.<sup>90</sup>

PREPA also acknowledged in the Proposed IRP that there were no capital projects to address compliance with MATS for units affected by the applicable standard, including the San Juan Steam Units.<sup>91</sup> Further, the Proposed IRP assumed that the existing MATS affected units would be retired by 2025, therefore, PREPA assumed no associated consequences for MATS noncompliance through penalties or enforcement actions.<sup>92</sup> The portfolios evaluated in the Proposed IRP only included limited-use and retirement options to comply with MATS. PREPA did not propose investing in emission controls as a compliance option and, therefore, this was not considered in the Proposed IRP analysis.<sup>93</sup>

The degraded conditions of the San Juan Steam Units were recognized by PREPA also in the IRP process conducted in 2015.<sup>94</sup> Notably, in the Approved 2016-IRP, the Energy Bureau authorized the retirement of San Juan Power Plants units 7 and 8.<sup>95</sup> It also authorized limited use of the San Juan Power Plant units 9 and 10.<sup>96</sup> Such determination was supported by the following facts: (a) the units were reaching the end of their useful life, (b) the units do not comply with MATS, (c) the units are operationally inflexible due to their high minimum run rates, slow ramp rates and high forced outages. These characteristics, it was concluded, reduced the reliability of the units, and introduced barriers to integrating renewables.<sup>97</sup> In addition, it was considered that the high fuel consumption of these units did not justify their continued use.<sup>98</sup>

#### F. Aguirre and Palo Seco Power Plants Steam Units

In the Proposed IRP, PREPA also acknowledged that the Aguirre Power Plant steam Units 1 and 2, and the Palo Seco Power steam Units 3 and 4 are not in acceptable operational conditions, do not comply with MATS, and would require a non-economically viable capital

<sup>87</sup> The San Juan Steam Unit 10 has been out of service since 2015. See Proposed IRP, p. 4-26 and *Motion to Complete Generation Projects SOWs Submittal and Partial Response to RFI and Request for Extension of Time to Submitt Additional Responses to RFI* dated February 14, 2022, Attachment C, Response ROI no. 5, *In Re: Review of the Puerto Rico Electric Power Authority's 10-Year Infrastructure Plan-December 2020*, Case No. NEPR-MI-2021-0002.

<sup>88</sup> See PREPA's filing under cover *Moción para presentar Documento: Reporte Detallado del Estatus Actual de la Flota de Generación de la Autoridad*, dated October 23, 2021, *In Re: Puerto Rico Electric Power Authority's Permanent Rate*, Case No.: NEPR-MI-2020-0001.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

<sup>91</sup> Proposed IRP, p. 4-27.

<sup>92</sup> Approved IRP, ¶298, p. 77.

<sup>93</sup> Proposed IRP, p. 4-26.

<sup>94</sup> See, in general, *Final Resolution and Order on the First Integrated Resources Plan of the Puerto Rico Electric Power Authority*, Case No. CEPR-AP-2015-002, dated September 26, 2016 ("Approved 2016 IRP").

<sup>95</sup> Approved 2016 IRP, ¶270-¶273, pp. 80-81.

<sup>96</sup> *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> *Id.*





investment to reach MATS compliance and acceptable operational conditions.<sup>99</sup> Some of these units have been without proper maintenance for many years.<sup>100</sup>

Likewise, the Aguirre Power Plant steam Units 1 and 2, and the Palo Seco Power Plant steam Units 3 and 4 require substantial capital investment to be operational and in compliance with the applicable environmental regulations.<sup>101</sup> PREPA also assumed in the Proposed IRP that, (i) there were no capital projects to address compliance with MATS for these units,<sup>102</sup> and (ii) since the units would be retired by 2025, PREPA assumed no associated consequences for MATS noncompliance through penalties or enforcement actions.<sup>103</sup> For the Palo Seco Power Plant and the Aguirre Power Plant steam units, PREPA only considered limited-use and retirement options to comply with MATS.<sup>104</sup> That is, the Proposed IRP did not consider investing in emission controls as a compliance option.

G. *Evaluation of SO<sub>2</sub> NAAQS Impacts*

In the Proposed IRP, PREPA recognized that EPA's SO<sub>2</sub> NAAQS nonattainment designation of the San Juan and Guayama-Salinas areas affected fossil-fuel generation units in San Juan, Palo Seco, and Aguirre Power Plants.<sup>105</sup> These units include, among others, (i) the San Juan Steam Units, (ii) the Aguirre Power Plant steam Units 1 and 2, and (iii) the Palo Seco steam Units 3 and 4.<sup>106</sup> PREPA further recognized that it will continue to monitor and report emissions, but need not alter operations of the units at the time.<sup>107</sup> PREPA also noted that the results of the Proposed IRP modeling will affect the development of the Puerto Rico State Implementation Plan (SIP), and that some assumptions regarding the removal of Palo Seco 1 and 2 and two (2) of the San Juan units<sup>108</sup> will support SO<sub>2</sub> emissions reductions in the San Juan area.<sup>109</sup>

As part of evaluating the Proposed IRP, the Energy Bureau assessed PREPA's environmental impact related to air emissions, including MATS and SO<sub>2</sub> NAAQS.<sup>110</sup> Notably, in the Proposed IRP PREPA noted that compliance with the SO<sub>2</sub> NAAQS in the San Juan area will be achieved through the retirement of older, oil-fired generation units at the Palo Seco and San Juan power plants.<sup>111</sup> Also, other options for compliance for such units included the installation of sulfur emission control technology, fuel switching, or ceasing or reducing operations.<sup>112</sup>

<sup>99</sup> Proposed IRP, Exhibit 4-6, p. 4-4 and Exhibit 4-2, p. 4-1. PREPA's filing under cover *Moción para presentar Documento: Reporte Detallado del Estatus Actual de la Flota de Generación de la Autoridad*, dated October 23, 2021, *In Re: Puerto Rico Electric Power Authority's Permanent Rate*, Case No.: NEPR-MI-2020-0001.

<sup>100</sup> The last major maintenance of the Palo Seco Steam Unit 3 was performed in 2009. PREPA's filing under cover *Moción para presentar Documento: Reporte Detallado del Estatus Actual de la Flota de Generación de la Autoridad*, dated October 23, 2021, *In Re: Puerto Rico Electric Power Authority's Permanent Rate*, Case No.: NEPR-MI-2020-0001.

<sup>101</sup> *Id.*

<sup>102</sup> Proposed IRP, p. 4-27.

<sup>103</sup> Approved IRP, ¶298, p. 77.

<sup>104</sup> Proposed IRP, p. 4-26.

<sup>105</sup> Proposed IRP, Exhibit 4-24 and pp. 4-20, 4-21 and 4-23.

<sup>106</sup> *Id.*

<sup>107</sup> *Id.*, p. 4-22.

<sup>108</sup> Given that only two (2) of the San Juan Steam Units were considered in the Proposed IRP (Units 7 and 8), the retirement of those two (2) units means that the proposed strategy considers that the four (4) San Juan Steam Units must be retired between 2021-2025.

<sup>109</sup> *Id.*, p. 4-23.

<sup>110</sup> Articles 1.9(2), 1.9(3)(H) and 1.10 (G) of Act 17-2019 and Section 2.03 of Regulation 9021.

<sup>111</sup> Approved IRP, ¶296, p. 76

<sup>112</sup> Proposed IRP, p. 4-22.



Nevertheless, PREPA did not consider the conversion to dual fuel use of the steam units affected by the SO<sub>2</sub> NAAQS to achieve environmental compliance.

The Energy Bureau also determined that although PREPA identified how environmental regulations affected new generation resources it did not provide the expected capital and operating costs for compliance with current, proposed, and reasonably anticipated regulatory and legal requirements.<sup>113</sup> To wit, PREPA did not consider in the Proposed IRP the cost to comply with the SO<sub>2</sub> NAAQS. In the Proposed IRP and, to achieve compliance with the SO<sub>2</sub> NAAQS, PREPA did not consider the costs associated with the conversion to gas of the SO<sub>2</sub> NAAQS' affected units.

#### IV. Analysis

##### A. Summary of the February 11 Petition

The gist of the February 11 Petition is that compliance with SO<sub>2</sub> NAAQS in the nonattainment *Metro* area would require the use of natural gas in the San Juan Steam Units.<sup>114</sup> PREPA argues there is an existing natural gas infrastructure near the San Juan Power Plant supplying the San Juan Combined Cycle Units 5 and 6, which can be used to supply gas to the San Juan Plant Steam Units.<sup>115</sup> To that extent, PREPA requests authorization to execute "works" to convert the San Juan Steam Units for dual fuel. PREPA recognizes there is no natural gas infrastructure on the premises of the Aguirre and Palo Seco Power Plants, and therefore, it does not propose an SO<sub>2</sub> NAAQS compliance strategy based on natural gas fuel for the Guayama-Salinas nonattainment area.<sup>116</sup>

Despite PREPA's plead, as a threshold matter, we clarify that in the instant case the Energy Bureau is not to decide if the conversion of the San Juan Steam Units to dual fuel use constitutes the proper strategy to attain compliance with the SO<sub>2</sub> NAAQS in the *Metro* nonattainment area. Rather, the matter for the Energy Bureau to decide is if the proposed conversion of the of the San Juan Steam Units to dual fuel use is consistent with the Approved IRP. Should the proposed conversion be inconsistent with the Approved IRP, the February 11 Petition must be denied.

##### B. Consistency with the Approved IRP

As discussed, in **Part III (E)**, only two (2) of the San Juan Steam Units were considered as available resources for the planning horizon covered in the Approved IRP. Likewise, both must be retired between 2021-2025. In addition, since these two (2) units do not comply with the MATS standard, their operation is limited to no more than eight percent (8%) of its maximum or nameplate heat input, whichever is greater, averaged over a 24-month block contiguous.<sup>117</sup>

As established in the Approved IRP, the San Juan Steam Units are not in acceptable operational conditions and would require a non-economically viable capital investment to reach MATS compliance and acceptable operational conditions.<sup>118</sup> In the Proposed IRP

<sup>113</sup> Approved IRP, ¶5, p. 6.

<sup>114</sup> PREPA further argues that the proposed conversion to dual fuel would allow to achieve compliance with MATS requirements.

<sup>115</sup> February 11 Petition, p. 18.

<sup>116</sup> *Id.*, p.17.

<sup>117</sup> Proposed IRP, p. 4-26 and PREPA's filing under cover *Moción para presentar Documento: Reporte Detallado del Estatus Actual de la Flota de Generación de la Autoridad*, dated October 23, 2021, *In Re: Puerto Rico Electric Power Authority's Permanent Rate*, Case No.: NEPR-MI-2020-0001.

<sup>118</sup> Proposed IRP, Exhibit 4-2, p. 4-1 and Exhibit 4-6, p. 4-4.





PREPA further recognized as a strategy for compliance with the SO<sub>2</sub> NAAQS the retirement of certain steam units at the Palo Seco and San Juan Power Plants.<sup>119</sup>

PREPA also acknowledged there were no capital projects to address environmental compliance for the San Juan Steam Units.<sup>120</sup> It only considers limited-use and retirement options to achieve environmental compliance in connection with the operation of the San Juan Steam Units.<sup>121</sup> PREPA did not consider the conversion of the San Juan Steam Units to comply with the SO<sub>2</sub> NAAQS. Had this been done, the scope of work, the estimated costs, as well as the potential extension of the useful life of the generation units would have been considered as part of the modeling of the Proposed IRP, and it was not.<sup>122</sup>

PREPA alleges that along with the DNER has conducted “several analyses” and that as a result, compliance with SO<sub>2</sub>, NAAQS can be achieved only by using natural gas in the generation units in the nonattainment areas. The scope and details of the alleged analyses are not discussed in the February 11 Petition. Neither PREPA explained how those analyses are consistent with the modeling performed in the Proposed IRP to demonstrate compliance with the SO<sub>2</sub> NAAQS. The conversion to dual fuel of the San Juan Steam Units was not even considered in the modeling used to develop the Proposed IRP and the least-cost plan. Now PREPA pretends to ignore the basis supporting the modeling of the Proposed IRP, but, more important, the representations advanced in support of approving the Proposed IRP, particularly, regarding the strategy to comply with the SO<sub>2</sub> NAAQS.

PREPA also argues that the proposed conversions will provide the optimal operational and economic conditions for the new renewable resource’s integration. Should that be the case, evaluating the assertion must be performed in an IRP-like case, substantially following the criteria established in Regulation 9021. Again, the comprehensive process conducted for evaluating the Proposed IRP did not consider the economics and/or operational benefits of the conversion of the San Juan Steam Units to dual fuel use.<sup>123</sup>

The Energy Bureau recognizes that is important that PREPA complies with the applicable environmental laws and regulations and, relevant to this Resolution, the SO<sub>2</sub> NAAQS. Nevertheless, the results of evaluating PREPA’s Proposed IRP, conducted through a comprehensive adjudicative process enduring approximately two (2) years cannot be discarded lightly. Notably, based on facts available to PREPA at the time of the development and evaluation of the Proposed IRP.

For purposes of the Proposed IRP, PREPA decided to demonstrate compliance with the SO<sub>2</sub> NAAQS emphasizing on the retirement of old fossil-fuel generation units and integrating renewable resources and battery storage. Such tenets were incorporated in the Proposed IRP comprehensive modeling and were a critical part of its evaluation by the Energy Bureau. Therefore, the Energy Bureau concludes that unsubstantiated allegations in the February 11 Petition are not sufficient to discard the determinations in the Approved IRP. The captioned case does not imply the procedural requirements required to seek the modification of the final and firm determinations in the Approved IRP.

PREPA argues that achieving the RPS goals in a safe and reliable manner is a long-term effort, that will not be achieved as envisioned in the Approved IRP. This and other similar

<sup>119</sup> Given that only two (2) of the San Juan Steam Units were considered in the Proposed IRP (Units 7 and 8), the retirement of those two (2) units means that the proposed strategy considers that the four (4) San Juan Steam Units must be retired. Proposed IRP, p. 4-23.

<sup>120</sup> Proposed IRP, p. 4-27.

<sup>121</sup> See also discussion in **Part III (g)**.

<sup>122</sup> Not even in the February 11 Petition, in which PREPA is purportedly seeking authorization to execute works conducive to the conversion of the San Juan Steam Units to dual fuel use, has PREPA provided estimated costs of such works. Thus, PREPA is still avoiding a fundamental requirement that will impact the determination of the least-cost plan.

<sup>123</sup> Neither it considered the conversion to dual fuel of the steam units located in the Aguirre and Palo Seco Power Plants. To wit, the Aguirre steam Units 1 and 2, and the Palo Seco steam Units 3 and 4. See discussion in **Part III (f)**.





allegations of PREPA in the February 11 Petition should have been advanced by PREPA during the IRP evaluation process. If PREPA disagreed with the Approved IRP, it should have challenged such determination using the available procedures. It did not. PREPA cannot use this case and, particularly, the February 11 Petition, as an improper collateral attack to the Approved IRP.

The Energy Bureau recognizes that, according to the Approved IRP, **the older oil-fired steam units shall be retired in order of the declining cost to operate when they are no longer necessary for the electrical system reliability.** Nevertheless, that does not imply an authorization to convert such units to dual fuel to further extend its useful life. Using natural gas and fuel oil was extensively considered in the evaluation of the Proposed IRP, nevertheless, PREPA did not proffer, nor the Energy Bureau evaluated the scenarios now proposed by PREPA through the February 11 Petition.

Although some of PREPA's arguments regarding environmental compliance, particularly regarding the SO<sub>2</sub> NAAQS, may be compelling, they are misplaced. We reiterate that such evaluation should have been included as part of the Proposed IRP, not more than one (1) year after its approval, in the February 11 Petition. Again, the retirement of the San Juan Steam Units is linked to the safe and reliable integration of renewable resources. Nevertheless, the reliability of the San Juan Steam Units was not evaluated in the IRP process based on its conversion to dual fuel use. That was not a consideration during the IRP process. PREPA's proposal to convert the San Juan Plant Units to dual fuel aims to extend the useful life of these old-fossil fuel fired units far beyond the retirement date considered in the Approved IRP, year 2025. In some cases, the conversions are expected to be achieved after year 2030.<sup>124</sup> Thus, the retirement of such fossil-fuel fired units is even more uncertain and conflicting with the integration of renewable generation resources established in the Approved IRP.

Finally, the renewables integration schedule envisioned in the Approved IRP does not have specific dates for integrating each one of the renewable generation resources. Nevertheless, given the current implementation status of the Procurement Plan, the uncertainty suggested by PREPA in the February 11 Petition is unjustified. If PREPA believed that integrating renewable resources prescribed in the Approved IRP was not achievable it should have requested the reconsideration or the judicial review of such determination.

Considering the foregoing discussion, the Energy Bureau **DETERMINES** that the San Juan Steam Units conversions to dual fuel use is inconsistent with the Approved IRP.

*C. PREPA's Compliance Strategy Key Shortcomings*

The matter for the Energy Bureau to decide is if the proposed conversion of the San Juan Steam Units is consistent with the Approved IRP. For the reasons in **Part IV (B)**, the Energy Bureau determined that the proposed conversion is not consistent with the Approved IRP. PREPA therefore, is not authorized to execute the works requested in the February 11 Petition. Notwithstanding the foregoing, the Energy Bureau deems proper to briefly discuss key shortcomings regarding the PREPA's SO<sub>2</sub> NAAQS compliance strategy discussed in the February 11 Petition.

PREPA's argument regarding compliance with the SO<sub>2</sub> NAAQS in the designated *Metro* nonattainment area is wanting and contradictory. PREPA does not describe in the February 11 Petition the "works" that it will conduct for the proposed conversion nor provide a detailed schedule for its execution. However, PREPA asserts that the conversion is technically "feasible", based on two (2) identical, three (3) pages "bullet type interim summary reports" dated January 5, 2011.<sup>125</sup> Notably, the outdated and inconclusive bullet type reports state that the fuel conversion of San Juan Steam Units would require, (i) boiler deratings (50 MW when firing 100% natural gas), (ii) oil/gas co-firing, or (iii) implementing

<sup>124</sup> February 11 Petition, p. 23.

<sup>125</sup> February 11 Petition, Exhibit D and Exhibit E.





expensive boiler design changes. These circumstances are telling and, if anything, are against the proposed conversion of the San Juan Steam Units.

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First, derating the San Juan Steam Unit boilers to 50 MW is not consistent with the “generation insufficiency” to comply with the “minimum reserve requirements” alleged by PREPA elsewhere.<sup>126</sup> Notably, the normal operation of the San Juan Steam Units is approximately 100 MW. Besides, contrary the allegation of “generation insufficiency”, PREPA only considered two (2) of the four (4) San Juan Steam Units in the Proposed IRP and, were modeled for limited use only. PREPA was and still aware of the limited availability of the San Juan Steam Units for the planning horizon evaluated in the Approved IRP. Second, oil/gas co-firing is inconsistent with the expected compliance with the SO<sub>2</sub> NAAQS if additional SO<sub>2</sub> emissions from the fuel oil needs to be considered and will thwart the proposed SO<sub>2</sub> emissions reduction. Third, implementing expensive boiler design changes is not consistent with PREPA’s known financial condition. It is inconsistent with the reasoned determination of the Energy Bureau to retire –between 2021-2025– the only two (2) San Juan Steam Units modeled in the Approved IRP.<sup>127</sup> Note that the other two (2) San Juan Steam Units were not considered as available generation resources in the Proposed IRP.<sup>128</sup>

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PREPA acknowledges there is no natural gas infrastructure on the premises of the Palo Seco Power Plant, and therefore, asserts that it cannot establish an SO<sub>2</sub> NAAQS compliance strategy of the Palo Seco Power Plant based on natural gas.<sup>129</sup> However, PREPA alleges that the conversion of the San Juan Steam Units would permit compliance in the “San Juan” area. Such assertion is incorrect. As explained before, the EPA designated the *Metro* nonattainment area, which includes areas in the municipalities of San Juan, Cataño, Bayamón, and Guaynabo. The designated *Metro* nonattainment area is predominantly affected by the SO<sub>2</sub> emissions from the Palo Seco and San Juan Power Plants. Attainment of compliance with the SO<sub>2</sub> NAAQS must be established **in the designated nonattainment area**. Compliance is not determined for the contributing emission sources. Therefore, for the purposes of the evaluation at hand, there is no such thing as Palo Seco or San Juan Power Plants compliance. The SO<sub>2</sub> NAAQS limits the concentration of SO<sub>2</sub> in the air for a *designated nonattainment area*, which means that all SO<sub>2</sub> emission in the designated nonattainment area are accounted for. An SO<sub>2</sub> concentration is determined and compared to the applicable limit. Reducing the SO<sub>2</sub> emissions from the San Juan Power Plant without reducing the SO<sub>2</sub> emissions from the Palo Seco Power Plant would not allow attainment of the SO<sub>2</sub> NAAQS in the *Metro* nonattainment area. The proposed conversion of the San Juan Steam Units will not prevent the potential consequences of not attaining compliance with the SO<sub>2</sub> NAAQS in the *Metro* nonattainment area. The reduction of the San Juan Power Plant SO<sub>2</sub> emissions will not be sufficient to meet the SO<sub>2</sub> concentration limit in the *Metro* nonattainment area.

Not only the proposed conversion of the San Juan Steam Units would not achieve the levels of SO<sub>2</sub> required in the *Metro* nonattainment area, but the proposed conversion schedule is too far to be compliant. The reduction in the concentration of SO<sub>2</sub> in the *Metro* nonattainment area must be achieve by April 9, 2023. PREPA proposes the conversion of San Juan Steam Units in stages, namely San Juan 7 in 2024, San Juan 8 in 2026, San Juan 9 in 2028, and San Juan 10 in 2030. Thus, even if the conversion of the San Juan Steam Units would allow the reduction of the SO<sub>2</sub> emissions to attain the SO<sub>2</sub> NAAQS (which is not the case as proposed by PREPA), it will not happen until **2030**. More than seven (7) years after the SO<sub>2</sub> NAAQS’ attainment date.

Regarding the schedule to attain compliance with the SO<sub>2</sub> NAAQS in the June 24 Motion PREPA expressed that:

<sup>126</sup> *Urgent Motion for Reconsideration of the June 4 Order* filed by PREPA on June 24, 2022, *In Re: Review of the Puerto Rico Electric Power Authority’s 10-Year Infrastructure Plan – December 2020*, Case No.: NEPR-MI-2021-0002, dated June 24, 2022, p. 22.

<sup>127</sup> See discussion in **Part III (E)** of this Resolution and Order.

<sup>128</sup> *Id.*

<sup>129</sup> February 11, Petition, p. 17.





*[a]s part of the Tranche 1 RFP process, on February 3, 2022, after PREPA's evaluation and approval, the Energy Bureau approved eighteen (18) PV projects totaling 844.8 MW. On March 25, 2022 the Oversight Board also supported them. PREPA expects that all the PPOAs for the eighteen (18) PV projects will be executed next week. Afterward, all the approved PV projects have up to twenty-four (24) months to achieve commercial operation. Thus, should PREPA sign all eighteen (18) PPOAs, the first 844.8 MW of renewable energy may be integrated into the energy system by fall of 2024. However, as highlighted above, the Commonwealth must achieve NAAQS compliance by April 9, 2023. Therefore, waiting and relying solely on renewable energy integration to reduce SO<sub>2</sub> by the compliance date is unrealistic.*

PREPA's reasoning is ludicrous. Note that PREPA regards the integration of renewable resources, as a mechanism to attain compliance with the SO<sub>2</sub> NAAQS, as "unrealistic". Specifically, PREPA asserts that the renewable resources from the RFP-Tranche 1 will be in commercial operation by fall of 2024 and, compliance with the SO<sub>2</sub> NAAQS must be attained by April 9, 2023. Nevertheless, pursuant to PREPA's proposed schedule, not even the first proposed conversion will be completed before April 9, 2023. The conversion of certain units will not be completed until 2030. More than seven (7) years after the SO<sub>2</sub> NAAQS attainment date. Thus, contrary to PREPA's suggestion, integrating renewables and battery storage resources will significantly accelerate compliance with the SO<sub>2</sub> NAAQS as compare with the proposed conversion of the San Juan Steam Units.

PREPA also argues there is existing natural gas infrastructure near the San Juan Power Plant supplying the San Juan Combined Cycle Units 5 and 6, which can be used to supply gas to the San Juan Plant Steam Units. PREPA did not discuss in the February 11 Petition the permitting status of that facility, given the determination of the Federal Energy Regulatory Commission ("FERC") in *New Fortress LLC*, Docket No. CP20-466-000. As PREPA knows, permitting of certain facilities to provide natural gas to the San Juan Combined Cycle Units 5 and 6 and other activities of New Fortress LLC is in the initial steps. PREPA overlooks those permitting activities related to the construction, modification, and/or expansion of gas infrastructure facilities near the San Juan Power Plant may be complex and time consuming; further delaying any attempt to use natural gas in the San Juan Power Plant.

We need not to decide at this time if the strategy for compliance with the SO<sub>2</sub> NAAQS proposed by PREPA is reasonable. That may be evaluated in more comprehensive IRP-like process case. Nevertheless, at this time, considering the comprehensive evaluation of PREPA generation resources conducted as part of the IRP approval process, which included compliance with the SO<sub>2</sub> NAAQS, the February 11 Petition is wanting.

#### **D. Energy Bureau Early Intervention in Environmental Matters Related to the SO<sub>2</sub> NAAQS SIP**

The Energy Bureau emphasizes that PREPA's strategy to comply with the SO<sub>2</sub> NAAQS has been settled since August 2020, as part of the Approved IRP. PREPA well knows what it proposed and what was approved by the Energy Bureau. As discussed before, nothing has changed since, to justify a departure from the Approved IRP. PREPA, nevertheless, unfairly suggests that the Energy Bureau neglected this important issue.

As PREPA knows, since December 2020, the Energy Bureau have been participating in early attempts led by the EPA Region 2 Caribbean Protection Division to support the Government of Puerto Rico in attaining a compliant SO<sub>2</sub>-NAAQS SIP. The Approved IRP and its implications for the development of complaint SO<sub>2</sub>-NAAQS SIP were discussed in a meeting held at the Energy Bureau on December 22, 2020. The meeting was attended in person or via teleconference by representatives of the Energy Bureau,<sup>130</sup> PREPA, EPA, DNER, PR-

<sup>130</sup> Including all the Commissioners.





HWA<sup>131</sup>, and the DTPW<sup>132</sup>. Specifically, the parties discussed the expected integration of generation renewable resources and the retirement dates of certain PREPA's old fossil-fuel generation units. At the time, PREPA reiterated its compliance strategy to reduce the SO<sub>2</sub> emissions based on integrating renewables and the retirements in the Approved IRP.

On February 16, 2022, the DNER requested technical assistance from the Energy Bureau. Specifically, DNER asked for comments to a proposed draft of the SO<sub>2</sub>-NAAQS SIP. The then-proposed plan included the use of ultra-low sulfur diesel ("ULSD") in certain generation units and the conversion to gas of the San Juan Power Plant steam units, the Aguirre Plant steam units, and the Palo Seco Pant steam units. On March 3, 2022, a meeting was held at the Energy Bureau with representatives of the Energy Bureau,<sup>133</sup> DNER, DTPW, and the PR-HWA. As expressed elsewhere, the Energy Bureau reiterated its position regarding the applicability of the Approved IRP, specifically the proposed schedule for integrating renewable resources and the retirement of old fossil-fuel generation units. On March 8, 2022, the Energy Bureau provided to the DNER written comments and suggestions to the draft SO<sub>2</sub>-NAAQS SIP.<sup>134</sup> The Energy Bureau consultants also conferred several times with the DNER's technical staff to discuss the comments and suggestions provided. On April 11, 2022, the Energy Bureau formally provided written comments to the following documents issued by the DNER: (a) *Puerto Rico Non-Attainment State Implementation Plan Sulfur Dioxide (SO<sub>2</sub>) National Ambient Air Quality Standard*, published by the DNER on March 11, 2022, and (b) *Regulation for the Control of Atmospheric Pollution Amendment (Rule 102, 210 and 425)*, published by the DNER on March 11, 2022.

The Energy Bureau's position on the proposed gas conversions has been on the public record for some time, and PREPA knowingly ignores it. Although PREPA recognized to the EPA –as early as October 2021– that the proposed gas conversions require a modification to the Approved IRP, it took no step to do so.<sup>135</sup>

## V. Conclusion

Considering the foregoing discussion, the Energy Bureau **DETERMINES** that the San Juan Steam Units conversion to dual fuel use is not consistent with the Approved IRP. Thus, the Energy Bureau **DENIES** the February 11 Petition.<sup>136</sup> PREPA is not authorized to execute works conducive to the conversion for dual fuel use in the San Juan Steam Units. The Energy Bureau reminds PREPA that any petition to modify or alter the Approved IRP must be

<sup>131</sup> Puerto Rico Highway Authority Administration ("PRHWA").

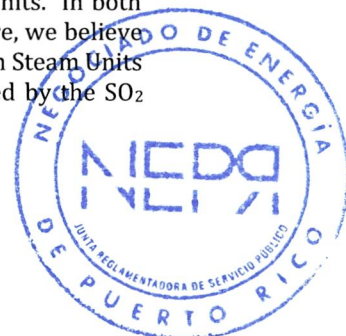
<sup>132</sup> Puerto Rico Department of Transportation and Public Works ("DTPW").

<sup>133</sup> Including all the Commissioners.

<sup>134</sup> In addition to matters related to compliance with the Approved IRP, the Energy Bureau provided other recommendations that DNER/PREPA could implement to achieve a compliant SO<sub>2</sub>-NAAQS SIP. For example, the Energy Bureau recommended modifications to certain air emission permits to account for the actual and/or expected use of certain units, particularly considering that certain such units have been designated for limited use due to other environmental concerns such as MATS.

<sup>135</sup> [Given the significant expected generation deficit, PREPA does not anticipate being able to retire generation units or limit their use by the timeframe contemplated in the approved IRP without compromising the electrical system's safety, stability, and reliability. **To that end PREPA intends to seek a modification to the IRP to allow PREPA to run its baseload power units for a longer period than currently stated in the IRP.**] See letter sent by PREPA's executive Director, Eng. Josué Colón to the EPA/DNER on October 21, 2021, ¶2, p. 7. (Emphasis provided).

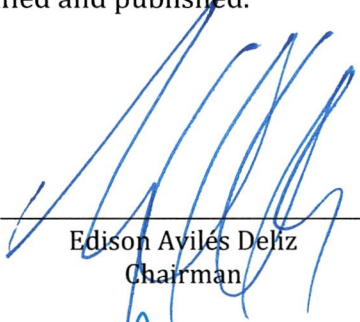
<sup>136</sup> PREPA asserts that since there is no natural gas infrastructure on the premises of the Palo Seco and Aguirre Power Plants, it cannot establish an SO<sub>2</sub> NAAQS compliance strategy for the nonattainment areas in which those power plants are located based on the use of natural gas. February 11, Petition, p. 17. Besides, through the February 11 Petition, PREPA does not seek authorization to execute works conducive to the conversion of the Aguirre steam Units 1 and 2 and the Palo Seco steam Units 3 and 4 for dual fuel use. Still, in **Part III (f)** we discuss in some detail the relevant provisions of the Approved IRP covering these generation units. In both cases, retirement of the referenced generation units is mandated between 2021-2025. Therefore, we believe that our rationales for denying the execution of works conducive to the conversion of the San Juan Steam Units for dual fuel use is equally applicable to the Palo Seco and Aguirre Power Plants units affected by the SO<sub>2</sub> NAAQS.

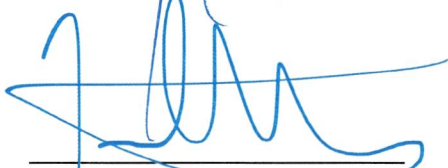


evaluated and approved by the Energy Bureau. The Approved IRP may not be eliminated or altered under any circumstance, without first carrying out a review process before the Energy Bureau.<sup>137</sup> Any modification to the Approved IRP must be carried out using the applicable legal procedures prescribed by the law and the Energy Bureau's regulations.

Given the foregoing determination there is no need to conduct technical hearing. Therefore, PREPA and LECO's request for a technical hearing is **DENIED**.

Be it notified and published.

  
Edison Avilés Deliz  
Chairman

  
Ferdinand A. Ramos Soegaard  
Associate Commissioner

  
Lillian Mateo Santos  
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 August 3, 2022. I also certify that on August 3, 2022 a copy of this Resolution was notified by electronic mail to the following: laura.rozas@us.dlapiper.com; margarita.mercado@us.dlapiper.com, kbolanos@diazvaz.law; mvazquez@diazvaz.law. I also certify that today, August 3, 2022, I have proceeded with the filing of the Resolution issued by the Puerto Rico Energy Bureau.

For the record, I sign this in San Juan, Puerto Rico, today August 3, 2022.

  
Sonia Seda Gaztambide  
Clerk



<sup>137</sup> § 1.9(4) of t Act 17-2019.