



**COMMONWEALTH OF PUERTO RICO
PUERTO RICO ENERGY COMMISSION**

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

CASE NO: CEPR-AP-2015-0002

SUBJECT: Ruling on PREPA's Verified Motion
for Reconsideration.

RESOLUTION
ON THE VERIFIED MOTION FOR RECONSIDERATION
OF THE PUERTO RICO ELECTRIC POWER AUTHORITY

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I. INTRODUCTION

1. On July 7, 2015, the Puerto Rico Electric Power Authority ("PREPA") submitted to the Puerto Rico Energy Commission ("Commission") its first Integrated Resource Plan ("IRP"). On September 26, 2016¹, the Commission issued its Final Resolution and Order ("Final Order"), in which it disapproved the IRP submitted by PREPA, approved a Modified IRP, ordered PREPA to submit such Modified IRP with specific elaborations, and ordered PREPA to develop and carry out internal procedures to ensure that future IRPs comply with its legal obligations and satisfy professional standards.²

2. On October 13, 2016, PREPA filed a Verified Motion for Reconsideration of Provisions of the Final Resolution and Order ("Motion for Reconsideration"), taking issue with a number of the Commission's findings and directives, each of which will be discussed in detail below. The Commission, through Resolution of October 21, 2016, notified that it would consider the Motion for Reconsideration filed by PREPA and issue a final determination on its merits. Furthermore, the Commission invited all intervenors in the proceeding to express their opinion with respect to PREPA's Motion for Reconsideration. On November 2, 2016, comments were filed by Enlace Latino de Acción Climática ("ELAC") and the Independent Consumer's Protection Office ("ICPO"). On November 3, 2016, the Instituto de Competitividad y Sostenibilidad Económica de Puerto Rico ("ICSE-PR") filed its comments to the Commission. On December 13, 2016, the Commission extended the term for issuing a final resolution regarding PREPA's Motion for Reconsideration until February 10, 2017.

3. With the small exceptions noted below, the Commission **DENIES** PREPA's Motion for Reconsideration for the reasons set forth in this Resolution on the Motion for Reconsideration ("Resolution on Reconsideration") as further discussed below.

4. To the extent that any issue or argument raised by PREPA is not discussed in this Resolution on Reconsideration it is expressly **DENIED**. In reaching its decision, the Commission has carefully considered and deliberated upon all of the arguments raised by PREPA as well as the comments filed by ELAC, ICSE-PR, and the ICPO, and the record evidence.

5. This **Part I** sets forth the denial of the Motion for Reconsideration and sets forth the organizational structure of this Resolution on Reconsideration.

¹ The Commission notified the Final Order by email and on its website on September 23, 2016. The Final Order was notified by mail and recorded by the Clerk on September 26, 2016.

² See Final Resolution and Order on the First Integrated Resource Plan of the Puerto Rico Electric Power Authority, September 26, 2016, p. 102, for a detailed review of the history of the proceedings.

6. **Part II** summarizes the Commission's decisions on the grounds set forth in PREPA's Motion for Reconsideration.

7. **Part III** discusses the legal basis and framework for the Commission's decision in its Final Order as it applies to the totality of PREPA's IRP.

8. **Part IV** discusses the Commission's decision with respect to each of the grounds for which PREPA filed its Motion for Reconsideration

9. **PART V** summarizes the Commission's Conclusions.

II. SUMMARY OF COMMISSION'S RESOLUTION ON RECONSIDERATION

10. PREPA'S request that the Commission rescind the directives that PREPA seek permitting of a large new Combined Cycle unit ("CC unit") at Aguirre and repower Aguirre CC units 1 and 2 is **DENIED**.

11. The Commission **DENIES** PREPA's request to approve the Aguirre Offshore Gas Port ("AOGP") and the conversion to natural gas at Aguirre at this time. There is a lack of evidence in the record that demonstrates that, the aforementioned project, is the best option for meeting the ratepayers and PREPA's future energy needs. The Commission emphasizes that it is not disapproving AOGP.

12. The request to modify the Commission's Final Order with respect to new generation at Palo Seco is **DENIED**.

13. PREPA's request for flexibility on the timing of the retirements of Palo Seco Units 1 and 2, Costa Sur Units 3 and 4, and San Juan Units 7 and 8 and limited use designations of San Juan Units 9 and 10 is **GRANTED** in part, with instructions.

14. The requests for modification of the Commission's Final Order with respect to data and records collection and retention policies; renewable energy contracts and audits; and, the timing of reports on environmental subjects is **GRANTED**.

15. PREPA's request for modification and correction of the Commission's Final Order with respect to the Demand Load Forecast, PREPA's reserve margin, Siemens PTI's independence, the IRP's compliance, and Puerto Rico's wind potential is **DENIED**.

III. LEGAL BASIS AND FRAMEWORK FOR THE COMMISSION'S RESOLUTION AND ORDER ON RECONSIDERATION

16. Under the Uniform Administrative Procedures Act (“UAPA”)³, an agency’s decision must be based on the substantial evidence in the record.⁴ Throughout its Motion for Reconsideration, as will be discussed below, PREPA has failed to sustain its burden of proof of providing substantial evidence that refutes the reasonableness of the Commission’s decision or that the Commission’s decision is inconsistent with the manifest weight of the evidence.

17. In reaching its decision as to PREPA’s compliance with the law, the Commission relied upon Act 57-2014⁵, the IRP rules set forth in Regulation No. 8594⁶ as well as other relevant statutes and regulations.

IV. PREPA’S MOTION FOR RECONSIDERATION

A. Commission Determination of Compliance

18. PREPA argues that the Final Order examines the degree and timeliness of compliance with other Commission directives and requirements with respect to the IRP Rules. In so doing, according to PREPA, the Commission erred in determining that PREPA complied in part but not in full with the Commission’s IRP rule and did not fulfill the objectives of Act 57-2014.⁷ PREPA states therefore that with respect to the capacity expansion model, fuel forecast, demand forecast, reserve margin, financial constraints, renewable portfolio standard, fuel price sensitivities, demand-side resources and storage, the Final Order should be modified to find the IRP in compliance.⁸

19. PREPA’s arguments are not persuasive. The IRP Rule states that “[t]he purpose of this Rule is to ensure that the IRP serves as an adequate and useful tool to

³ Act No. 170 of August 12, 1988, as amended, known as the Uniform Administrative Procedures Act.

⁴ 3 L.P.R.A §2168.

⁵ Puerto Rico Energy Transformation and RELIEF Act, as amended.

⁶ Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority.

⁷ PREPA’s Motion for Reconsideration, ¶ 143.

⁸ *Id.*, ¶¶ 143 - 148.

guarantee the orderly and integrated development of Puerto Rico's electric power system."⁹ The IRP is not merely a technical compliance filing, used to check the box and establish a record. Rather, the IRP development and approval is a demanding and exacting process with rigorous analysis and intensive review. The outcome of a rigorous and completely compliant IRP filing should be a useful capital investment plan that can be relied upon in making decisions on energy resources – some that will be in place for decades to come.

20. Throughout this proceeding the Commission provided guidance with instructions to update various sections of the IRP so that PREPA would provide a useful document upon which the Commission, intervenors and the public could rely. This, PREPA failed to do. The public needs assurance that the paths chosen in reliance upon an IRP are going to achieve public policy objectives of least cost, reliability, integration of renewables and lower environmental impacts. The IRP provided by PREPA was insufficient in terms of the process and mechanisms chosen for achieving the results contained therein. Therefore, the Commission is unable to rely upon the IRP filed by PREPA. If the IRP cannot be used for its intended purposes, then it is noncompliant.

21. Simply because PREPA believes that it met the technical requirement (such as inclusion of renewables, assessment and rejection of storage) does not mean that PREPA's IRP was compliant. For example, the rule required a range of fuel price sensitivities with clear indications of the range required (median or most likely, 5% and 95% outcomes).¹⁰ The purpose of this requirement was to fulfill the necessity of determining the impact to ratepayers under different assumptions, as well as the most robust portfolio of resources. Instead, PREPA provided a single fuel price, and only provided an update when prompted. The update supplanted the fuel price in the original filing, which became the fuel price used in the analyses made during the rate case proceeding.¹¹ This does not meet the requirements to provide a range of fuel price forecasts, as explicitly required in the rules.

22. Even if PREPA's IRP filing was technically compliant—which the Commission finds it was not—it was nevertheless insufficient to support the findings PREPA seeks the Commission to make. The issue at hand is the intent of the rules, which is to obtain a reasonable evaluation of the costs and risks of various portfolios under different sets of assumptions. If PREPA did not perform such evaluations, no amount of "apparent" compliance is sufficient. Therefore, the goal is to obtain quality filed information that can be used to model different scenarios, which is critical to the IRP analysis. PREPA failed to provide this. The Commission has the expertise and knowledge, as well as the power and obligation, to review PREPA's filings in full. Thus, based on our analysis and judgment we

⁹ IRP Rule §1.03.

¹⁰ IRP Rule §2.04(B)1.

¹¹ CEPR-AP-2015-0001, In Re: Puerto Rico Electric Power Authority Rate Review.

find that the information submitted by PREPA was insufficient and not adequate to enable the Commission to confirm the reasonableness of PREPA's IRP and Preferred Plan contained therein.

23. The Commission is not and will not be a rubber stamp. The Commission has a statutory duty to evaluate and judge the process and methods used by PREPA and, in that context, its compliance with the laws, regulations and orders, giving the presented evidence the weight that it is due. The lack of adequate evidence is deep cause for concern as it renders unfeasible, the ability of PREPA to fully justify its integrated resource plans and for the Commission to evaluate them. This inadequate evidence included the failure to provide sufficient information as required in the rules and the failure to adequately support the information provided to demonstrate the reasonableness of PREPA's Preferred Plan.

24. The Commission's findings with respect to specific inadequacies and deficiencies stand and PREPA's Motion for Reconsideration regarding its compliance with the IRP rules is **DENIED**.

B. Commission Directive to Pursue Permitting of a Large Dual-Fuel Capable Combined Cycle (CC) Unit at Aguirre

25. PREPA argues that the Commission should reconsider and rescind its directive for PREPA to pursue permitting of a large new CC unit at Aguirre to replace the existing thermal units. According to PREPA, the Commission failed to consult applicable regulatory environmental legal authorities and agencies, and failed to understand the feasibility and impacts of implementing these aspects of the Final Order.¹² PREPA posits that approving construction of the large new CC unit and/or repowering the current CC units would have a negative impact on PREPA's efforts to comply with the Mercury Air Toxics Standards ("MATS") because PREPA would need to initiate a new licensing process.¹³ PREPA states that this could result in delaying MATS compliance by three to four years and put PREPA at risk for Clean Air Act penalties estimated at \$279,843,750.¹⁴ Further, PREPA claims that the Final Order lacks essential details about the proposed large new CC unit at Aguirre, and its dual fuel capability for natural gas use.¹⁵ According to PREPA, the regulations under the federal National Environmental Policy Act ("NEPA"),¹⁶ and Puerto Rico's Environmental

¹² PREPA's Motion for Reconsideration, ¶¶ 13,16 and 20.

¹³ *Id.*, ¶ 16.

¹⁴ *Id.*, ¶¶ 37 - 38.

¹⁵ *Id.*, ¶ 18.

¹⁶ 42 U.S.C. 4321, *et seq.*

Public Policy Act,¹⁷ do not allow the parallel evaluation of two or more environmental documents intended for the same objective at the same site and affecting the same generating units.¹⁸

26. To support the above argument, PREPA included two letters in its Motion for Reconsideration: one from the Permit Management Office (“OGPe”, for its Spanish acronym); and, the other from Environmental Quality Board (“EQB”).¹⁹ Both agencies state that the actions contemplated in the Modified IRP would presumably have additional environmental impacts than those evaluated in AOGP’s Environmental Impact Statement (“EIS”).²⁰ According to these Agencies, the filing of an EIS for the Modified IRP, as argued by PREPA, would have additional environmental impacts and would nullify AOGP’s EIS.²¹

27. PREPA has failed to properly construe the Commission’s Order. The Commission does not require or encourage PREPA to apply for permits without due preparation and consideration. Rather, the Commission recognizes that permitting should be undertaken in a carefully planned manner. In fact, the Order states that the Commission “approves for PREPA to begin a permitting process for a new large dual-fuel-capable combined cycle unit at Aguirre.”²² Furthermore, the Commission required PREPA to first submit to the Commission, “a detailed plan for the evaluation, siting, permitting and public procurement process for a new dual-fueled combined cycle unit to replace the Aguirre steam units.”²³ If indeed the permitting of such a unit would have the negative impacts that PREPA alleges in its Motion for Reconsideration, then PREPA can support that claim with a detailed analysis and evaluation when it makes its filing as required by the Commission’s Final Order.

28. Moreover, it should be noted that the Modified IRP approved by the Commission directing PREPA to seek permits for a new large CC at Aguirre, is an action that

¹⁷ Act 416-2004, as amended.

¹⁸ PREPA’s Motion for Reconsideration, ¶ 15.

¹⁹ PREPA’s Motion for Reconsideration, Attachment A.

²⁰ Some of the stated additional environmental impacts include different extraction levels of salt water to cool the condensers, different extraction levels from the South Aquifer for process water, water discharges to nearby bodies of water, and changes in air emissions. *Id.*

²¹ Regulation on the Evaluation and Filing of Environmental Documents (“RETDA”) Rule 116(D)(2) states: “Once the validity of the environmental compliance determination has expired or substantial variations are incorporated to the project, the compliance determination with Article 4(B) of Act No. 416, supra, issued by OGPe would be nullified.” (Our translation).

²² Commission’s Final Order, ¶ 263. (*emphasis added*).

²³ *Id.*, ¶ 292.

was already contemplated by PREPA in its Preferred Plan. Under Future 1 (PREPA's preferred future which includes AOGP), PREPA proposed to replace the Aguirre steam units 1 & 2 with "two large H Class combined cycle units ... by the end of fiscal year 2026 and 2027 at Aguirre site."²⁴ Therefore, the Modified IRP provided directives regarding the replacement of these thermal units similar to those actions contemplated in PREPA's Preferred Plan. Furthermore, the Modified IRP is not a variation to AOGP.²⁵ Instead, it is a variation of PREPA's Preferred Plan which would necessitate the same permitting requirements. While AOGP's EIS evaluates the cumulative air impacts of converting the Aguirre units to run on natural gas, it neither evaluates any of the other components of PREPA's Preferred Plan (aside from AOGP), nor the additional environmental impacts mentioned by OGPe and the EQB (such as water extraction and discharge). Thus, under the Modified IRP or PREPA's Preferred Plan, relatively similar permitting requirements would apply.

29. Also, PREPA failed to provide any evidence on the record that any deviation from its preferred plan would result in delays with MATS compliance or in additional penalties. Without this, there is no established evidentiary record that Future 2 was a foreclosed option. Therefore, building a new CC unit at Aguirre is consistent with PREPA's alternative MATS compliance option (under Future 2 – no AOGP) analyzed in the IRP. The potential penalties alleged by PREPA in its Attachments to its Motion for Reconsideration have not been substantiated with sufficient record evidence. Furthermore, the attachments provided by PREPA can be regarded as information outside the record of this case as it was not offered during the proceeding where the documents could have been subject to questioning by the Commission and intervenors in order to obtain more clarity. It was incumbent on PREPA to present this evidence during the course of the proceeding and not after the Final Order was issued.

30. With respect to an EIS, there is no record evidence of what has transpired for the AOGP to date. As ELAC noted, there is no evidence in the AOGP project's records at either the Planning Board ("JP", for its Spanish acronym) or OGPe, that an application has been submitted for the conversion to natural gas combustion of any of the units at Aguirre.²⁶ If in fact, PREPA does not have permits for the gas conversion, then it faces the same problem with respect to permitting as it does with repowering or the construction of the CC units.

²⁴ PREPA Base IRP, Vol.1, at 7-8, 8-46.

²⁵ The construction of a major stationary source of air pollutants requires an EIS per RETDA Rule 112(B)(5). At the same time, any substantial variations to a proposed project/action require a determination of environmental compliance, be it through an EIS or an Environmental Assessment ("EA"), per RETDA Rule 112(F)(3); RETDA Rule 116.

²⁶ ELAC's Opposition to Motion to Reconsider, p.3. ELAC cites JP's Resolution on record number 2014-69-0050-JGU and OGPe's Determination of Environmental Compliance on record number 2015-069902-DIA-10035 and notes that the JP Resolution of October 27, 2015 does not make reference to these conversions.

31. Finally, the Commission would like to emphasize several points. First, the Commission's Final Order sets in motion a process for evaluating the procurement of a competitively bid and fully permitted large dual-fuel CC unit at Aguirre. This is a first step towards ensuring least cost and reliable power for PREPA's customers. The purpose of data analysis and evaluation of a permitting process for the CC at Aguirre is to have an alternative readily available, if needed. Thus, the process entails not only permitting, but also design and requests for proposals. If the AOGP does not proceed, which could happen for any number of reasons, PREPA needs to be prepared with an alternative plan. It is not least-risk for PREPA to be unprepared for cancellation or delay of a single major infrastructure project. Second, the Commission has not disapproved AOGP. As it stated repeatedly in its Final Order, PREPA failed in its burden of proving that the AOGP is a least cost option.

32. The Commission therefore affirms its Final Order and directs PREPA to first submit a detailed plan for the evaluation, siting, permitting and public procurement process for a large dual-fuel capable CC unit at Aguirre on June 30, 2017. Every six months thereafter, PREPA shall submit to the Commission a report detailing the permitting status of such dual-fuel capable combined cycle unit, including any changes in that status that have occurred since the previous update. As mentioned before, if indeed PREPA faces problems with permitting or if this action represents negative impacts, then it can support that claim with a detailed analysis and evaluation when it makes its filing, as required by this Resolution.

33. PREPA's Motion for Reconsideration with respect to permitting a large dual-fuel CC unit at Aguirre is **DENIED**.

C. Commission Directive Requiring PREPA to Pursue Turbine Replacement at Existing Aguirre Combined Cycle Units

34. PREPA states that the Commission should reconsider and rescind the directives to pursue the repowering of existing CC units at Aguirre.²⁷ In making this argument, PREPA alleges that the Commission failed to consult applicable regulatory environmental authorities or agencies and failed to understand the feasibility and impact of implementing these aspects of the Final Order.²⁸ According to PREPA, approving construction of the large new CC unit and/or repowering of the current CC units would have a negative impact on PREPA's efforts to comply with MATS because PREPA will need to initiate a new licensing process.²⁹

²⁷ PREPA's Motion for Reconsideration, ¶¶ 13, 20.

²⁸ *Id.*, ¶ 16.

²⁹ *Id.*

35. The Commission finds that PREPA's arguments are without merit. In point of fact, turbine replacement is a key component of PREPA's current action plan. PREPA's own Supplemental IRP Action Plan includes the replacement/repowering of a CC unit as follows:³⁰

- Table 9-1: P3F1 (Base IRP) "Near Term Capital Expenditures" lists Aguirre 1 CC Unit Gas Turbine Replacement/Repower in the action plan.
- Section 9.2: "Requests for Proposals" (RFP) lists an RFP for Aguirre CC gas turbine replacement as an RFP expected in the Action Plan period.
- Table 9-3: "Action Plan Based on P3F1 in Base IRP" shows a permitting process for Aguirre 1 CC and Aguirre 2 CC Gas Turbine Replacement/Repower as starting in the first quarter of calendar year 2017.

36. As for repowering the CC turbines at Aguirre, this is considered by PREPA to be a default position, in that it is included in all scenarios as an action that should take place. PREPA acknowledged this when it stated in its Revised IRP, "[t]he project significantly improves the heat rate of Aguirre 1&2 CC units at a capital cost that is very likely to be less than any new combined cycle plant. So it makes sense to include the repowering to get better system efficiency without using incremental site space. We incorporated this option in all three portfolios."³¹

37. PREPA further acknowledged that, "[f]ive years after these fuel conversions and after AOGP enters service, the Aguirre CC 1&2 units are to be repowered with replacement gas turbines, improving heat rate from 11,140 to 7,582 Btu/kWh. This could allow an immediate increase in annual capacity factor to about 54 percent with no increase in annual fuel allocated to this CC plant, and at a substantially lower full load daily fuel consumption rate. Annual generation from these CC units would increase about 47 percent for same fuel. This repowering occurs in all three generation portfolios."³² Given these statements, it is clear that the Commission's finding and requirement is entirely consistent with PREPA's IRP. Moreover, the AOGP online date is uncertain and has been subject to multiple revisions. To date, PREPA has been unable to ensure this Commission that the online date for AOGP, should it proceed, will not change in the future. The alternative approved by the Commission to require the repowering of the CC units may have the

³⁰ PREPA's Supplemental IRP Action Plan, Section 9.

³¹ PREPA's Revised IRP 3.2.8.

³² PREPA's Revised IRP 5.5.2.3.

additional benefit of reducing the risk of noncompliance with MATS if it is pursued in parallel with AOGP. If, after further review upon a more comprehensive filing by PREPA as part of the Aguirre Site economic analysis, AOGP is found to be unfeasible, the actions to move forward on the CC units will put PREPA in a better position than if it had done nothing.

38. Considering the Commission's decision in its Final Order with respect to AOGP, it is entirely appropriate to ensure that Aguirre CC repowering moves forward more rapidly. As PREPA itself has stated, "[i]f there is no AOGP, the repowering of the Aguirre CC unit 1 and 2 is implemented earlier to improve efficiency and mitigate the higher costs of burning diesel fuel."³³ PREPA also stated in the oral argument that "engineering and permitting for the repowering of the Aguirre CCs should...start as soon as possible."³⁴ PREPA presented no reason that such steps could not be taken immediately upon the Commission issuing a ruling on the IRP.

39. In summary, as demonstrated above, PREPA's Action Plan indicates that the repowering of the CC is a necessary and timely step. PREPA provides no evidence that the permitting should not be undertaken as rapidly as feasible, and does not indicate that taking this step would preclude any other form of MATS compliance. Therefore, PREPA's arguments against the repowering fall outside of the evidentiary record. Through its Motion for Reconsideration, PREPA now seeks to alter its Action Plan as presented. PREPA had ample opportunities throughout this proceeding to amend its IRP but failed to do so. The Commission's findings with regards to requiring PREPA to pursue turbine replacement at existing Aguirre CC units stands and PREPA's Motion for Reconsideration is **DENIED**.

D. Commission Findings and Directives Regarding the Continued Development, Spending and Further Justification of Aguirre Offshore Gas Port and Aguirre Fuel Conversion

40. PREPA makes several arguments with respect to AOGP. First, it puts forth the position that AOGP and the conversions should be fully approved and that the Commission erred in failing to approve AOGP and the conversions.³⁵ PREPA argues that the Commission's Final Order does not take into account the fact that the primary purpose of AOGP and the conversions of the existing Aguirre thermal units 1 and 2 and CC units 1 and 2 to natural gas are elements of PREPA's overall effort to move into compliance with MATS.³⁶ PREPA states

³³ PREPA's Discovery Response Set 1, 12(b).

³⁴ Technical Conference, April 6, 2016, PREPA presentation, p.41.

³⁵ PREPA's Motion for Reconsideration, ¶¶ 19, 22 and 42.

³⁶ *Id.*, ¶ 23.

that if the Commission's decision is to ultimately disapprove the construction of AOGP and instead approve the construction of the large new CC unit, it will adversely impact and significantly delay its ability to comply with MATS.³⁷ It posits that the Commission's Final Order errs because it reflects an assumption that the likelihood of PREPA incurring fines or other penalties as a result of non-compliance with MATS is non-existent or low.³⁸ Additionally, PREPA argues that non-compliance with MATS would expose PREPA to civil and criminal penalties, citizen suits, cease or desist orders, and would delay environmental justice.³⁹ PREPA also argues that a delay in MATS compliance will risk civil penalties estimated to be approximately \$279,843,750.⁴⁰ According to PREPA, the Commission's Final Order dramatically enhances the scope of PREPA's Clean Air Act liabilities or risks.⁴¹

41. Second, PREPA's asserts that its preferred alternative represents the best multi-pollutant emissions reduction profile and provides environmental justice relief to the Aguirre Power Complex neighboring communities by substantially reducing criteria air pollutants.⁴² PREPA points out that there are other environmental considerations that the Commission did not sufficiently weigh that will affect compliance with other laws and regulations, such as the Clean Power Plan, the new 1-hr SO₂, and National Ambient Air Quality Standards ("NAAQS").⁴³

42. Third, PREPA argues that the Commission's Final Order findings on AOGP's economics indicate that it will yield significant cost savings in a wide variety of fuel price scenarios.⁴⁴ According to PREPA, even in the scenario with the lowest set of prices for the different fuels, AOGP is clearly shown to be cost effective. Moreover, PREPA adds that there is a large risk if AOGP is not built, given that the economic costs may be substantial if prices were to recover as forecasted by PREPA and the Energy Information Administration ("EIA") in 2016.⁴⁵ According to PREPA, the price forecast submitted as Updated Fuel IRP represents

³⁷ *Id.*, ¶ 38.

³⁸ *Id.*

³⁹ *Id.* ¶ 25.

⁴⁰ *Id.*, ¶ 37.

⁴¹ *Id.*, ¶¶ 37 - 38.

⁴² *Id.*, ¶¶ 39 - 40.

⁴³ *Id.*, ¶ 39.

⁴⁴ *Id.*, ¶¶ 48 and 79.

⁴⁵ *Id.*, ¶ 79.

not the expected (most likely), but a lowest set of prices for the different fuels.⁴⁶ Lower fuel prices were assessed in the Supplemental IRP.⁴⁷ PREPA concludes that the findings on the economics of AOGP support full approval.⁴⁸

43. As a final point, PREPA argues that ELAC's claim that the cooling water used in condensers is discharged to the aquifer is untrue.⁴⁹

44. The Commission has carefully considered PREPA's arguments and finds them without merit. The Commission's findings and the concerns addressed in its Final Order with respect to AOGP are based on the evidentiary record provided by PREPA. **The Commission emphasizes that it has not disapproved AOGP.** The Commission made it clear in its Final Order that PREPA failed to demonstrate that AOGP was the best option for meeting PREPA's future resource portfolio needs. PREPA is entitled to make a filing that demonstrates this, but until then, given the risk of increased costs to ratepayers, the Commission cannot acquiesce to allowing AOGP to proceed forward towards completion beyond the bounds set forth in its Final Order wherein it authorized PREPA to spend up to \$15 million towards permitting.

45. ELAC argues in its opposition to PREPA's Motion for reconsideration that the construction cost of the AOGP project is \$385 million, excluding the cost to convert the Aguirre generating units, according to the Supplementary IRP.⁵⁰ In addition, ELAC posits that if the cost of operating and leasing the floating regasification and storage unit, which, according to the "Time Charter Party Agreement" exceeds \$77 million per year, is added to the \$385 million, then under the 15-year agreement the cost for the AOGP exceeds \$1.5 billion.⁵¹ The differential between the price forecast for natural gas and oil, according to the Supplemental IRP, could decrease to \$200 million, thus producing a negative return for the AOGP project.⁵² ELAC states further that the JP's approval of the AOGP project is based substantially on the cost of fuel and the assumption that the cost of oil will remain high so that the construction cost of AOGP will be covered by the alleged savings from natural gas

⁴⁶ *Id.*, ¶ 82.

⁴⁷ *Id.*, ¶ 84.

⁴⁸ *Id.*, ¶ 89.

⁴⁹ *Id.*, ¶ 90.

⁵⁰ ELAC's Opposition to Motion to Reconsider, p.3. ELAC cites Supplementary IRP, p. 10-2.

⁵¹ *Id.*

⁵² *Id.*

purchases.⁵³ As the Commission has repeatedly emphasized, the ultimate cost of the AOGP is an issue of concern which PREPA must address if it requests approval from the Commission to proceed with the AOGP in a future proceeding.

46. PREPA's first argument that AOGP is the only pathway to MATS compliance is spurious and inconsistent with its IRP. AOGP is the method PREPA has chosen in its efforts to become MATS compliant; however, it is not the sole method to reach compliance. The IRP examined construction of non-affected liquid-fired combined cycle units among other options as well. Even at the time of the IRP submission, it was clear that PREPA was likely to miss its MATS compliance deadline of April 2016, placing itself into a position of negotiating with the U.S. Environmental Protection Agency ("EPA") to seek a consent decree. As EPA's objective is to reduce air pollution, their primary goal is likely to encourage compliance in a sustainable manner. There is no record evidence that other MATS options would be less acceptable to EPA in a consent decree and to argue this is pure speculation. Moreover, PREPA did not provide during the proceeding information as to its assessment regarding potential EPA fines resulting from a delay in compliance. Nor did PREPA consider the potential fine implications of advancing down a new CC pathway instead of AOGP to determine which would produce a lower liability. The estimated fines set forth in PREPA's Motion for Reconsideration are outside the record and therefore unable to be questioned or examined. PREPA is admonished that in future proceedings it should provide in a timely manner all the evidence it would like the Commission to consider during the course of the proceeding.

47. By withholding approval of the AOGP option at this time, the Commission's objective is to compel PREPA to ensure that other options are assessed on a fair and equitable basis to ensure a least-cost IRP Action Plan. This would include a consideration of the potential contributions to the resource portfolio of energy efficiency, demand response, renewable energy and distributed generation. Moreover, by requiring PREPA to pursue a parallel process,⁵⁴ the Commission is reducing the risk to ratepayers.

48. With respect to PREPA's second argument that AOGP supports NAAQS compliance and environmental justice, this conclusion is not supported by the record. PREPA did not assess the SO₂ standard, nor did it develop any scenario in which NAAQS compliance is at risk. According to ELAC, the Pediatric Environmental Health Specialty Unit of the Mount Sinai Faculty of Medicine in New York has pointed out the dangers to public

⁵³ *Id.*, ELAC cites to the Resolution of the JP at 4-5. ELAC also notes that according to the Resolution of the JP, (pp7,21), the cost of the AOGP is \$266 million but that it has risen by \$119 million during a two-year timeframe.

⁵⁴ See discussion in Section C above.

health arising from the proposed regasification or vaporization of liquefied natural gas and the burning of natural gas, particularly due to emissions of volatile organic compounds such as formaldehyde, benzene, and acetaldehyde.⁵⁵ ELAC further noted the evidence it had previously submitted on the record regarding the marine impacts that AOGP would cause, as well as the impacts to the communities that depend on the marine resources for their sustenance.⁵⁶

49. PREPA's third argument that the primary driver for AOGP should be based on MATS compliance and not economics, is an erroneous assertion. PREPA mischaracterizes the Commission's Final Order by stating that the Commission recognized that the primary purpose of AOGP is MATS compliance and that cost savings are a secondary purpose. Moreover, the Clean Power Plan currently does not apply to Puerto Rico. All projects in an IRP should be assessed on an economic basis. All options examined by PREPA should be MATS compliant within similar if not identical timeframes. PREPA did not present evidence regarding potential EPA fines in its IRP. The decision to proceed with AOGP is fundamentally an economic decision within the sphere of potential MATS compliance options. In this case, two mechanisms for meeting MATS compliance at Aguirre were tested; AOGP; or, building a new CC at Aguirre.⁵⁷ As discussed in the Commission's Final Order, PREPA's current fuel price forecast, as provided in this case, renders the AOGP a marginal benefit.⁵⁸ The Commission can only consider what is presented as record evidence in rendering its decisions. PREPA's assertion that the price forecast in the Updated Fuel IRP is not the most likely but lowest set of prices fails to reflect what is on the record.⁵⁹

⁵⁵ ELAC's Opposition to Motion to Reconsider, p. 7. ELAC cites to pp. 49-50 of ELAC's Brief on record, citing the Letter from the Pediatric Environmental Health Specialty Unit (PEHSU), Mount Sinai Hospital, pp. 1-2, <https://elibrary.ferc.gov/IDMWS/advResults.asp>, case number CP13-193-000.

⁵⁶ *Id.*

⁵⁷ Essentially, these options correspond to Portfolio 1 and Portfolio 2 of the Base IRP, and related variants in the Supplemental and Updated Fuel IRPs.

⁵⁸ The Updated Fuel IRP demonstrates the value of AOGP to be only \$219 million – less than half of the required investment. See Updated Fuel IRP, Table 1-4, p1-6.

⁵⁹ On March 21, 2016, PREPA submitted to the Commission its response to the Fourth Requirement of Information. In it the Commission asked PREPA if it had "any forecasts of fuel prices that were prepared more recently than the values contained in Appendix G [of Volume III of the August 2015 Revised IRP]". PREPA responded that it "requested Siemens Industry, Inc. to prepare a fuel price forecast for a 'Low Oil Price' scenario," and attached a forecast of fuel prices to the response. When questioned during the Technical Conference —held on April 6, 2016 in San Juan, PR— Siemens indicated that the fuel price provided in that response constituted a revision to the base case, and that it represented the consultant's best understanding of the state of the fuel market going forward. In other words, the fuel price forecast in the Updated Fuel IRP represented the most likely set of prices at that point in time.

50. With respect to the issue of cooling water used in condensers being discharged into the aquifer at the Aguirre Power Complex, cooling water is extracted from the Jobos Bay at a rate of 600 million gallons daily.⁶⁰ ELAC notes that PREPA subsequently discharges water to Jobos Bay at temperatures above the generally accepted legal limit.⁶¹ The Commission finds that PREPA in its next IRP filing should provide information regarding its compliance with cooling discharge requirements, as noncompliance could result in additional costs. The Commission will provide further instructions and guidance on this requirement on a future order or through a modification to the IRP Rules.

51. Finally, PREPA's decision to contest the Commission's finding regarding AOGP rather than to allay Commission concerns is disconcerting. By seeking reconsideration rather than advancing the economic analysis as requested by the Commission, PREPA does a disservice to its customers – the ratepayers. PREPA would do better to dedicate its efforts to providing a full evaluation of the options that can result in a least cost solution while striving to comply with MATS requirements.⁶² The Commission **DENIES** PREPA's Motion for Reconsideration with respect to AOGP. PREPA shall demonstrate that AOGP is the best option for meeting PREPA's future resource portfolio needs. Therefore, in order to do so, the Commission will commence a separate proceeding in which PREPA shall perform an economic analysis on the Aguirre Site, which includes AOGP. Such analysis will allow the Commission to make a final determination on the future of AOGP. Without such analysis, the Commission is not able to make an informed and responsible decision that does not represent a risk of increased costs to ratepayers.

E. Determination of Compliance with respect to PREPA's Action Plan

52. PREPA disputes the findings in the Commission's Final Order that it did not provide sufficient information regarding the Action Plan and environmental topics. PREPA argues that the Commission's findings do not reflect the totality of the large amount of information available to the Commission regarding the Action Plan.⁶³ PREPA claims that the Commission's Final Order is vague and does not indicate what specific additional information, if any, was necessary⁶⁴. PREPA points out that the high level of the essential elements of the MATS compliance plan are clear and include: conversion to natural gas of

⁶⁰ ELAC's Opposition to Motion to Reconsider, p. 14.

⁶¹ *Id.*

⁶² The Commission provided PREPA with a mechanism to initiate the process to conduct an economic analysis in the event PREPA determined that they needed to move forward with AOGP over the \$15 million cap. Such mechanism is described in Paragraph 291(2) of the Final Order.

⁶³ PREPA's Motion for Reconsideration, ¶¶ 26 - 27.

⁶⁴ *Id.*, ¶ 33.

existing Aguirre thermal units 1 and 2 and CC units 1 and 2 in conjunction with the construction of AOGP; designation of limited use of Palo Seco units 3 and 4 after the new CC units at Palo Seco are in service and transmission reinforcements completed; transmission system reinforcements and improvements; designation as limited use, and eventual retirement, of Palo Seco units 1 and 2, Costa Sur units 3 and 4, and San Juan units 7 and 8, handled and timed in a prudent manner; and, designation as limited use of San Juan units 9 and 10, subject to handling and timing in a prudent manner.⁶⁵

53. PREPA argues that the Commission's Final Order incorrectly stated that "PREPA's IRP also failed to discuss the effects of other relevant air emissions standards..." and that the Order overlooks the fact that AOGP has gone through a very strict FERC and OGPe licensing process.⁶⁶

54. PREPA also notes that providing additional information about EPA negotiations would have presented PREPA with a "Catch-22" since PREPA claims that the EPA was awaiting the outcome of the IRP case decision first.⁶⁷

55. PREPA's arguments here are without merit. Its assertion that the "final order finds that PREPA did not provide sufficient information regarding the Action Plan and environmental topics"⁶⁸ is unclear in as much as the Commission did not conduct an assessment of whether the Action Plan failed to discuss environmental topics. The Commission did find, however, that PREPA failed to provide sufficient information on the Action Plan as a whole. This was demonstrated by the fact that items reasonably assessed as part of the Action Plan, such as the immediate permitting of new turbines at Aguirre Combined Cycle 1 & 2, were not considered by PREPA to be reasonable short term actions. This was inconsistent with their statements in the Technical Conference, wherein PREPA stated that "...engineering and permitting for the repowering of the Aguirre CCs should also start as soon as possible...".⁶⁹ Moreover, energy efficiency was not included in the Action Plan as it should have been.

56. While PREPA asserts that they provided enough information on whether retrofits could be used for MATS compliance, no information was provided on this topic in written form. At the oral arguments for this proceeding, PREPA disclosed that it had

⁶⁵ *Id.*, ¶ 28.

⁶⁶ *Id.*, ¶ 41.

⁶⁷ *Id.*, ¶ 33.

⁶⁸ *Id.*, ¶ 26.

⁶⁹ Technical Conference, April 6, 2016, PREPA presentation, p. 41.

considered and rejected this possibility.⁷⁰ FERC and OGPe licensure processes are not a proxy for providing useful and substantive materials in the IRP filing. Nor did PREPA include information on air permits in its IRP. Neither the FERC EIS nor OGPe considerations on air emissions were submitted into evidence for the Commission to review. The Commission notes that another agency's evaluation of certain issues does not preclude the Commission from also conducting a review if it believes it is helpful and/or relevant to its deliberations. That is a decision for the Commission to make, not PREPA. Often, as is the case here, there is an intersection in relevant information that may be useful for more than one purpose to more than one government entity, when fulfilling its statutory obligation to review and render a decision. Therefore, PREPA is responsible for providing the information the Commission deems necessary to carry out the analysis an IRP entails.

57. With respect to the EPA negotiations, the Commission can only base its rulings on the information before it. PREPA could have provided more information to the Commission under seal, if that were the case, in order for the Commission to have more information available to consider. PREPA failed to do so.

58. The Commission **DENIES** PREPA's Motion for Reconsideration with respect to the Action Plan.

F. The Commission's Review and Assessment of Fuel Prices

59. PREPA claims that the Commission's Final Order analysis on the subject of fuel price scenarios is flawed and that the Order engages in speculation, is unsound and ignores available information, including historical experience.⁷¹ PREPA takes issue with the suggestion in the Commission's Final Order that perhaps PREPA could negotiate with EcoEléctrica to achieve natural gas price reductions attributable to AOGP. PREPA's response is that the Final Order does not identify any factor that, absent AOGP, would cause EcoEléctrica to reduce prices to equal the savings that would be the result of AOGP.⁷² According to PREPA, the Final Order does not factor in the limits on the ability to move natural gas from EcoEléctrica to other parts of the Island.⁷³ PREPA concludes that its fuel price assumptions are reasonable with respect to the future evolution of gas and light fuel oil prices.⁷⁴

⁷⁰ Sonia Miranda, Oral Argument, file #5, timestamp 14:45, May 13, 2016; PREPA's Motion for Reconsideration, ¶ 26.

⁷¹ PREPA's Motion for Reconsideration, ¶¶ 48 and 80.

⁷² *Id.*, ¶ 80.

⁷³ *Id.*, ¶ 81.

⁷⁴ *Id.* ¶ 83.

60. PREPA's objections are misplaced. The Commission in its Final Order did not presuppose negotiations with EcoEléctrica. Instead, the Commission's Final Order questions PREPA's assumption that AOGP provides a competitive reduction in EcoEléctrica's prices. PREPA's assumptions were unsupported by evidence in the record. The Commission's Final Order did not analyze fuel prices or speculate on fuel prices. It simply pointed out inconsistencies in PREPA's forecasts as compared against EIA records. It should be noted that PREPA relied on EIA in past planning and forecasting, which was reasonable.

61. PREPA's assumptions regarding fuel prices with respect to the impact that AOGP would have on EcoEléctrica are ill-supported. Moreover, PREPA's comments regarding the Commission's critique of the limitations in getting natural gas from EcoEléctrica to other parts of the island are misplaced. The Commission made no specific finding with respect to gas transport within Puerto Rico.

62. The Commission **DENIES** PREPA's Motion for Reconsideration with respect to the assessment of fuel prices.

G. Determination of Compliance with Respect to the IRP Rules

63. In its Motion for Reconsideration, PREPA raises several arguments with respect to the Commission's determination of compliance with the IRP rules. PREPA begins with the assertion that its modeling was sufficient and appropriate. PREPA argues that the premise that it did not use a capacity expansion model is both an incorrect and insufficient basis for the Commission's Final Order finding that PREPA did not comply.⁷⁵ PREPA submits that the facts do not support the Commission's finding that the work done by PREPA and Siemens PTI, including the consideration of Strategist,⁷⁶ violates the Commission's IRP Rule.⁷⁷ PREPA proceeds to argue that there is nothing in the Commission's Final Order that would support the conclusion that the absence of additional use of a capacity expansion model renders PREPA's IRP unsupportable.⁷⁸ PREPA submits that the finding that the IRP failed to use a capacity expansion model is not correct, pointing out that Siemens

⁷⁵ *Id.*, ¶ 46.

⁷⁶ Strategist is the capacity expansion model used by LEIDOS, a consulting firm that assisted PREPA on Integrated Resource Planning prior to the retention of Siemens, PTI who consulted for PREPA and prepared the IRP that is the subject of this proceeding.

⁷⁷ PREPA's Motion for Reconsideration, ¶ 65.

⁷⁸ *Id.*, ¶ 71.

predecessor Leidos used Strategist.⁷⁹ PREPA claims that its consultant, Siemens PTI, made use of the work of Leidos when it considered the results in the First Stage IRP.⁸⁰

64. PREPA explained its view that this IRP case is not a typical IRP case.⁸¹ PREPA claims that Siemens used PROMOD because it fit the needs and circumstances of this IRP.⁸² According to PREPA, any additional use of a capacity expansion model here, beyond that used by Leidos, would have had to be very deeply constrained if it were to model anything close to PREPA's actual circumstances.⁸³

65. PREPA alleges that the Commission's deficiency Orders and other communications did not advise PREPA and Siemens that further use of a capacity expansion model was mandatory for approval.⁸⁴ PREPA argues that neither the first nor the second deficiency orders expressly stated that PREPA was required to further use a capacity expansion model. PREPA claims that the minutes of the Clarification meeting of December 22, 2015 do not show a directive to use a capacity expansion model.⁸⁵ Finally, PREPA cites to "Best Practices in Electric Utility Integrated Resource Planning" as not stating that the use of a capacity expansion model is required in all situations.⁸⁶

66. As to the modeling PREPA did do, it points to modeling financial constraints.⁸⁷ PREPA claims that its approach to modeling energy efficiency was conservative and that it did consider demand response.⁸⁸

⁷⁹ *Id.*, ¶¶ 20, 47, 50 and 51.

⁸⁰ *Id.*, ¶¶ 53 - 54.

⁸¹ *Id.*, ¶ 36.

⁸² *Id.*, ¶¶ 47, 50 and 68.

⁸³ *Id.*

⁸⁴ *Id.*, ¶¶ 47, 51.

⁸⁵ *Id.*, ¶¶ 73, 74 and 75.

⁸⁶ *Id.*, ¶ 77.

⁸⁷ *Id.*, ¶ 58.

⁸⁸ *Id.*, ¶¶ 58 and 60.

67. PREPA argues that the basis for the rejection of storage was reasonable.⁸⁹ PREPA's basis for not modeling the Renewable Portfolio Standard (RPS) requirements was reasonable according to them, because meeting the standard would require the retirement of Aguirre and Costa Sur, and the addition of new combined cycle generation. PREPA claims that meeting the standard would require "potential yearly cost of over \$100 million."⁹⁰

68. Finally, to support its IRP, PREPA directs the Commission to National Group which stated that PREPA's IRP is comprehensive, follows industry standards, uses objective factors, accomplishes the goals of integrated planning, is credible, and has no fatal flaws.⁹¹

69. The Commission is unpersuaded by PREPA's arguments. The Commission Regulations stand for themselves and should require no special invitation for compliance. If there is any doubt, the Commission makes clear here, that all parties are required to comply with all the rules and regulations of the Commission unless it seeks and the Commission grants, a waiver from those regulations. PREPA had no license to decide which rules it would follow and which it would ignore. In the instant case before us, PREPA never sought nor did the Commission approve a waiver on the use of a capacity expansion model. As the record shows, PREPA was familiar with the waiver procedures, having sought waivers of other filing requirements in this proceeding.

70. The Commission's rules are clear but were nevertheless, re-iterated in the December 4th Order⁹² for PREPA's benefit. For example:

- Sec. 1.08(B)(4) defines a "Capacity Expansion Model" as referring "to a computer model designed to seek a least cost, or 'optimal',⁹³ portfolio of electricity supply- and demand-side resources that meets the utility's load forecast, accounting for system constraints and the need to maintain the reliability of the system over the planning period".⁹⁴

⁸⁹ *Id.*, ¶ 61. PREPA notes that the Commission, "...in its order of February 9, 2016, waived the requirement of its December 4, 2015, order of modeling storage."

⁹⁰ *Id.*, ¶ 62.

⁹¹ *Id.*, ¶ 63.

⁹² The Commission issued an Order on IRP Compliance and Intervenor's Comments on December 4, 2015 in which it requested PREPA to correct the IRP's deficiencies by amending the updated IRP according to the Commission's requirements as set forth in the Order. The Commission issued the Order on December 4, 2016 and was notified and recorded by the Clerk on December 8, 2016.

⁹³ "Optimal" refers to "best or most effective."

⁹⁴ Commission's Regulation No. 8594.

- Sec. 2.04(B)(2)(a) states that, “PREPA shall use a Capacity Expansion Model or similar model structure to develop least cost resource plans that meet customer needs under the reference case scenario and various future scenarios.”⁹⁵

The definition of the capacity expansion model indicates that the computer model is designed to seek an optimal portfolio. As the Commission made clear throughout the proceeding and in its Final Order, this is a critical component of the IRP that permits an evaluation of all resource options under multiple scenarios. Failure to utilize a capacity expansion model is not a small matter.

71. Moreover, contrary to PREPA’s assertions that they did not receive additional directives to employ a capacity expansion model, the December 4th Order refers to the optimization of PREPA’s resource portfolio eight times, including six specific instances in which PREPA is ordered to create scenarios in which “build out [is] optimized.”⁹⁶ The clarification call of December 22, 2015 explicitly defined “optimization tools” and gave specific examples. Simply because the Commission did not provide specific instruction that the failure to use a capacity expansion would result in a deficient IRP does not mean that the requirement was not in place. PREPA should have understood that its failure to meet any of the requirements of the IRP, especially a requirement as significant as the capacity expansion model, left it at risk for a deficiency finding by the Commission. In essence, PREPA is arguing that the Commission should have provided it with a list of what rules it could ignore without being subject to a deficiency finding.

72. With respect to the capacity expansion model that Leidos prepared, it was not included as part of the IRP filing and the Commission was only made aware of its existence during discovery. Nor was the capacity expansion model used by PREPA in submitting its IRP. Work papers associated with this modeling were not made available, meaning that it was not possible for the Commission to review the Leidos model in the detail required. Moreover, the input assumptions used in the modeling performed by Leidos (for example, load and fuel price forecasts) were, by the time the document was presented to the Commission, significantly out of date. Therefore, it is difficult for the Commission to assign much weight to this model. PREPA repeatedly described the Leidos IRP as simply “preliminary” and unsuitable for filing before the Commission, especially given its lack of detailed consideration of the transmission system.⁹⁷ There is an irony in PREPA now requesting that the Commission consider the Leidos capacity expansion model, when clearly

⁹⁵ *Id.*

⁹⁶ Order on IRP Compliance and Intervenors’ Comments, December 4, 2015, p.4.

⁹⁷ April 8, 2016 Technical Conference.

it did not consider these results reliable or sufficient for the preparation of their filed IRP or to be submitted to the Commission as part of PREPA's filing.

73. PREPA clearly states that "Siemens PTI did not perform their own Strategist runs, but they did make use of the work of Leidos, including its Strategist results and key findings" and that "the IRP as presented by PREPA to the Commission was based on the results and findings of the Leidos First Stage IRP."⁹⁸ There is a distinction to be drawn here between the use of the Leidos First Stage IRP as a point of reference and actual employment of the model and its results. Leidos used a capacity expansion model. Siemens used Leidos results, but did not employ the model.

74. PREPA's explanation that it uses Strategist for long-term planning but "has not experienced load growth since 2006, thus no generating system adequacy studies have been required lately,"⁹⁹ is unfounded. Multiple utilities employ capacity expansion models, such as Strategist, to evaluate their existing fleets and options for replacement capacity, even in the face of slow growth – or no growth.¹⁰⁰

75. Moreover, PREPA sought to discredit the First Stage IRP prepared by Leidos and the process used to derive its preferred resource plan.¹⁰¹ The Action Plan of the First Stage IRP was not presented to the Commission and is not consistent with the proposed Action Plan PREPA filed with its IRP. Thus, PREPA's claims that it did use a capacity expansion model, and therefore complied with the IRP rule, is unpersuasive when that model was not relied upon to develop the Action Plan. The Commission's findings on modeling elements in PREPA's filing are based on the evidentiary record which support the Commission's conclusion that the Action Plan was not based on the First Stage IRP prepared by Leidos, but on the information derived from the planning model implemented by Siemens.

76. PROMOD is not a substitute for a capacity expansion model as the Commission explained in its Final Order.¹⁰² The purpose and use of PROMOD is different than the purpose

⁹⁸ PREPA's Motion for Reconsideration, ¶ 54, Attachment D, p.1.

⁹⁹ *Id.*, Footnote 12 to ¶ 50.

¹⁰⁰ See, for example, recent IRPs from Public Service Company of New Mexico (PNM) (<https://www.pnm.com/documents/396023/396193/PNM+2014+IRP/>), or from Kentucky Utilities/Louisville Gas & Electric (http://psc.ky.gov/pscecf/2014-00131/rick.lovekamp%40lge-ku.com/04212014122553/Volume_I.pdf).

¹⁰¹ Technical Conference, April 8, 2016. See File No.2, minute 8, wherein Dr. Bacalao discusses the lack of detail in the Leidos Model, and, File No. 2, minute 11:15, wherein Ms. Miranda discusses that the Leidos model, "didn't meet our needs", and commented on the lack of detail. She also stated that it did not meet requirements under Act 57-2014.

¹⁰² Commission's Final Order, ¶ 84, Footnote 67, wherein the Commission stated, "Production cost models are tools that determine the optimal output of a given set of generating units in every hour (or sub-hourly period)

and use of a capacity expansion model. They are not similar and one cannot be substituted for the other.

77. PREPA was required to use a capacity expansion model to develop least cost resource plans.¹⁰³ PREPA was then required to select a preferred resource plan from amongst the resource plans developed and evaluated in the optimization analyses.¹⁰⁴ Finally, PREPA was required to develop an action plan to specify implementation actions during the early years of the planning period, based on the preferred resource plan.¹⁰⁵

78. The Commission determined that the mechanism used to develop the Preferred Resource Plan was flawed. As explained in the Final Order, PREPA's failure to utilize a capacity expansion model to assess the least-cost options and to develop a resource plan was a fatal flaw that prevented the Commission from approving PREPA's Preferred Resource Plan with any degree of confidence.¹⁰⁶ Also, the Modified IRP was developed to specifically preserve optionality and allow for the modification of resources as proven necessary.

79. Act 57-2014 states that "...the Commission...shall review, approve and modify said plans as applicable to ensure full compliance with the public policy on energy of the Island and the provisions of this Act."¹⁰⁷ PREPA's IRP was not in compliance with the public policy on energy as discussed above and as discussed in the Final Order.

80. In modifying the IRP, the Commission set a pathway for PREPA to submit a future IRP that is compliant. Moreover, the Commission acted prudently by limiting the amount of ratepayer dollars that could be expended towards projects that were not sufficiently demonstrated by PREPA to be least cost and in the public interest. In adopting the Modified IRP, the Commission's goal is simply to protect PREPA's customers by ensuring that they are not saddled with costs resulting from pursuing a plan that was not demonstrated to be least cost. As additional dollars are committed to an Action Plan, it

within a specific timeframe (one day, one week, one month, one year, etc.). These models generally include a high level of detail on the unit commitment and economic dispatch of specific units, as well as on their physical operating limitations. They are not, however, designed to determine the optimal addition of new resources to meet future capacity requirements or the retirement of non-economic units."

¹⁰³ IRP Rules §2.04(B)(2)(a).

¹⁰⁴ *Id.*, §2.04(B)(5).

¹⁰⁵ *Id.*, §2.04(B)(7).

¹⁰⁶ Final Order, ¶ 12.

¹⁰⁷ Act 57-2014, Sec. 623.

becomes more difficult to change course. If that course is changed, it will result in wasted dollars. The Commission's Modified IRP avoids this by setting PREPA on a cautious and prudent course of action in which expenditures are focused on specific directives to PREPA and progress is made toward procuring a sound IRP plan.

81. At the same time, the Commission provided an opportunity for PREPA to demonstrate that AOGP and other projects are prudent, while also providing clear instruction on what steps PREPA needs to take in order to create a compliant IRP and to provide the required information to the Commission. The Commission's actions in its Final Order with respect to the Modified Action Plan are short term in nature and in the public interest. They are designed to keep PREPA moving forward until a more robust, compliant IRP is filed and approved.¹⁰⁸ Moreover, the Commission also stated, "[i]nclusion of specific actions or investments in this Modified Action Plan does not constitute pre-approval of those actions or investments by this Commission, nor is PREPA guaranteed recovery of costs related to those actions or investments."¹⁰⁹ Thus, there will be an opportunity to revisit each aspect of the Modified Action Plan either when PREPA submits a Preferred Plan based on a capacity expansion model or seeks approval to proceed with a generation project.

82. With respect to financial constraints, PREPA's definition is drawn exclusively on the basis of a future scenario in which high cost capital projects are executed. This approach makes little sense and runs in contrast to the First Stage IRP cited by PREPA. In the First Stage IRP, Leidos placed a modeled constraint on the availability of capital and varied the weighted average cost of capital to test the impacts of the financial constraints.¹¹⁰ These approaches prove that the method is in use and that PREPA is aware of the practice. It is important to point out that PREPA is statutorily required to file a new IRP on July 1, 2018. The Commission expects PREPA to use a capacity expansion model to develop a preferred resource plan and a new action plan that are compliant with the Commission's IRP rules.

83. Regarding Energy Efficiency and Demand Response, PREPA failed to evaluate these areas except under specific instruction from the Commission, and then only harnessed the Commission's assumptions from the December 4th Order. PREPA is correct in its assertion that the Commission temporarily released PREPA from the obligation to comply with the provisions regarding storage options on Section 7 of Part I of the December 4th

¹⁰⁸ Final Order, ¶ 286.

¹⁰⁹ *Id.*, ¶ 287.

¹¹⁰ First Stage IRP, Section 3, Scenarios 2, 5, 6, and 9.

Order..¹¹¹ However, PREPA failed to comply with the requirement to provide a description of the storage evaluation performed in the IRP rider on March 18th, 2016.

84. PREPA's explanation regarding its failure to model the RPS standard at full compliance as defined under Act 82-2010 hinges on an explanation that costs would be excessive. PREPA cites to a figure, of "potential yearly cost of over \$100 million"¹¹² that is not in evidence. PREPA's contention that a potential yearly cost of over \$100 million precludes compliance under Act 82-2010 is irrelevant. As with the Commission's regulations, PREPA cannot chose which laws it will comply with. RPS compliance is required by law, and Sec. 2.04(B)(7)(d) of the Commission's IRP Regulations addressing the Action Plan requires that the "action plan shall comply with all laws and regulations enacted... including but not limited to the renewable portfolio standard."

85. The Commission finds that PREPA's modeling framework was inappropriate despite clear direction in the IRP rule and from the Commission's orders. Further, PREPA's consultants failed to use a model framework available to PREPA. PREPA's Motion for Reconsideration therefore is **DENIED** with respect to Compliance with the IRP Rules.

H. Commission Approval of the Permitting of Three and The Construction of Just One, Dual-Fuel Capable Combined Cycle Units at Palo Seco

86. PREPA claims that the Commission's requirement to proceed with permitting for three small generation units at Palo Seco, but construction of only one of the units is premature and impractical and will cause unnecessary increases in development, generation, and transmission costs, reliability issues, and a potential delay in MATS compliance.¹¹³ PREPA requests that the Final Order be modified to allow proceeding with all three units, explaining that its strategy is to permit three units and then make a decision at a later date about how many of the units to procure.¹¹⁴ PREPA alleges that approving the construction of only one unit will increase costs and weaken PREPA's negotiating position.¹¹⁵ Further, PREPA argues that construction of only one new unit at Palo Seco will lead to

¹¹¹ Commission's Resolution and Order, February 9, 2016, p.4, releasing PREPA from the provisions on storage options and ordering PREPA to submit a description of its evaluation of transmission and storage in the IRP Supplement by March 18, 2016.

¹¹² PREPA's Motion for Reconsideration, ¶ 62.

¹¹³ PREPA's Motion for Reconsideration, ¶ 93.

¹¹⁴ *Id.*, ¶¶ 94, 93a.

¹¹⁵ *Id.*, ¶¶ 93b, 93c.

increased transmission costs and delays and decreased system resilience.¹¹⁶ PREPA states that if only one small CC unit is installed at Palo Seco, it would delay MATS compliance in the North beyond the year 2022.¹¹⁷ PREPA requested that the Commission clarify that it did not intend to mandate a particular unit configuration at Palo Seco and that it retains the flexibility to make a prudent decision on the design configuration.¹¹⁸

87. The Commission has considered PREPA's arguments and determines that the Commission's findings on new units at Palo Seco are based on the evidentiary record. Therefore, its decision in the Final Order stands. PREPA's updated preferred portfolio, P3MF1M,¹¹⁹ includes only one new unit at Palo Seco, a single 70 MW SCC-800 unit.¹²⁰ PREPA stated in its 2nd Supplemental IRP that "planning on three SCC-800 1X1 CCs instead of one F Class 1X1 CC at Palo Seco will add some flexibility if the EE materializes and PREPA decides that only one SCC-800 will be needed at Palo Seco".¹²¹ Moreover, PREPA also stated that "[a]t the time of making construction decisions, the actual path of the demand should be revised and only the required units should be constructed; e.g., only one SCC-800 (or similar) in the north instead of three as in the original Portfolio 2."¹²² All of the analytical results that support PREPA's choice of P3MF1M as the preferred portfolio, including system costs and emissions metrics, are based on the modeling of a resource plan with only one new unit at Palo Seco.¹²³

88. Furthermore, PREPA stated at the Technical Hearing that "engineering and permitting of 3 small combined cycle plants ... at Palo Seco should start as soon as possible" and that "selection of the number of units in the north for which the EPC [i.e. engineering, procurement, and construction] should proceed" would be determined later based on demand.¹²⁴ PREPA's action plan does not state specifically how many units it plans to

¹¹⁶ *Id.*, ¶¶ 93d, 93e, 93f.

¹¹⁷ *Id.*, ¶ 101.

¹¹⁸ *Id.*, ¶¶ 95, 98.

¹¹⁹ Plans included in the Supplemental IRP include an "M" in the name of the plan to denote that both the portfolio and the future have been "modified" as compared to those in the Revised IRP. As such, the plan based on modified Portfolio 3, modified Future 1 in the Supplemental IRP is referred to as "P3MF1M".

¹²⁰ Updated Fuel IRP, p. 8-1, section 8.1.1. *See also* Updated Fuel IRP Figure 8-2.

¹²¹ 2nd Supplemental IRP of April 25, 2016, p. 9-1.

¹²² *Id.*, p. 1-2.

¹²³ Updated Fuel IRP, p. 8-3, section 8.1.2.

¹²⁴ Technical Hearing presentation, p.41.

construct. Rather, it only states that PREPA will issue an RFP for “new generation at Palo Seco.”¹²⁵ While additional transmission costs were identified in the Action Plan,¹²⁶ PREPA did not identify or discuss any scheduling delays associated with construction of only one unit. Apart from additional transmission costs, no additional costs associated with negotiating with contractors or loading onto the single unit common costs of the engineering and planning stages were discussed in the IRP. Therefore, PREPA’s arguments regarding delays associated with permitting of three units but construction of one fall outside of the evidentiary record.

89. Through its Motion for Reconsideration, PREPA is seeking to alter its Action Plan as presented and calls into question whether what it did present was viable. This only reinforces the Commission’s Final Order to proceed cautiously with the approval for construction of just one unit and the permit of all three. PREPA had opportunities in April and May, 2016 to ensure that its action items were consistent with its requirements. It cannot now alter the record to secure a different outcome, especially when the Commission does not have evidence in the record to support such an outcome. The Commission’s ruling that PREPA may permit three units at Palo Seco but may only construct one is therefore consistent with PREPA’s action plan and the evidentiary record.

90. The Commission emphasizes that it is not within the purview for PREPA to decide how many units are built. That power lies with the Commission. PREPA of course should prepare a fully compliant IRP with a Preferred Plan that mirrors the best options and that forms the basis for requesting approval to construct additional capacity. Act 57-2014 explicitly gives the Commission the power to approve or deny appeals to construct new facilities.¹²⁷ The permission to construct even one new unit at Palo Seco therefore must proceed from the Commission’s approval of a submitted notice of intent. If PREPA wishes to construct three units at Palo Seco, it must submit a notice of intent to do so along with sufficient justification that construction of more than one unit is necessary, adequate, and consistent with the public interest.

91. Notwithstanding the above, the Commission agrees with PREPA that the Final Resolution and Order does not mandate a particular configuration with regard to the exact sizing or performance specification of the prospective new generation at Palo Seco. The Commission expects PREPA to seek bids for new generation and will oversee PREPA’s evaluation of those bids at the appropriate time to ensure that the specific design configuration is selected prudently and is in the best interests of the ratepayers.

¹²⁵ Updated Fuel IRP, p.9-3 and Table 9-3, section 9.2.

¹²⁶ *Id.*, Updated Fuel IRP, note (3), Table 9-2.

¹²⁷ Act 57-2014, Section 6.34.

92. PREPA's Motion with respect to the construction of three units at Palo Seco is **DENIED** with the exception of providing PREPA flexibility to procure a unit with the best design configuration.

I. Commission Approval of Designation of San Juan 9 and 10 as Limited Use Units; Commission Approval of Retirement Decision for Costa Sur Units 3 and 4, Palo Seco Units 1 and 2 and San Juan Units 7 and 8

93. PREPA requests that it be given flexibility with regards to unit retirement and limited-use designation dates. PREPA claims that the San Juan 9 and 10 units cannot be designated limited use until new generation is installed at the North and the related transmission reinforcements and projects are completed.¹²⁸ PREPA states that if only one small CC unit is installed in Palo Seco, the additional transmission projects required to address the reduction of generation in the North may delay by at least two years the estimated completion date of the transmission investments.¹²⁹ This could result in a delay in MATS compliance in the North beyond 2022, even if a new small combined cycle would be installed and brought in service in Palo Seco by 2020-21.¹³⁰

94. Based on the information presented to the Commission during this proceeding, the Commission stands by its Final Order with regards to the ultimate disposition of these units, but acknowledges PREPA's need for some flexibility in the process. ICSE-PR noted that construction of new generation will improve efficiency and provide for the retirement of oil-fired steam units in compliance with Act 57-2014.¹³¹ Also, as expressed by the Commission, ICSE-PR points out that Act 57-2014 requires that at least 60 percent of the electricity generated from fossil fuels be generated in a highly efficient manner and points to the Commission's proceeding on the matter.¹³²

95. The retirements of these units is a positive first step in complying with Act 57-2014 and should be accounted for in the next IRP. Moreover, the Commission finds here that there is a balance between the need to consider costs and having the flexibility to negotiate with EPA and providing system stability. With this in mind, the Commission is not imposing strict retirements dates for these units. Therefore, the Commission determines that PREPA should be permitted flexibility to delay retirement for the purposes of system stability, while

¹²⁸ PREPA's Motion for Reconsideration, ¶ 104.

¹²⁹ *Id.*, ¶ 105.

¹³⁰ *Id.*

¹³¹ ICSE-PR comments in Opposition to Motion for Reconsideration, p.5.

¹³² *Id.*, citing Sec. 2.9, §6C(a)(i) of Act 57-2014, as amended, which requires compliance within five years from July 1st, 2014; Commission Docket No. CEPR-MI-2016-0001.

still working toward permanent retirement as soon as practically possible. For example, the occurrence of a triggering event, such as replacement capacity coming on line should result in immediate unit retirements. In its March 31, 2017 filing, as described below, PREPA should provide additional information to support its claim regarding the cost basis for further flexibility with the limited-use units and retirement decision. PREPA must also include a timeline for final retirement and limited-use designations for the Commission's review and approval.

96. PREPA's Motion for Reconsideration is **GRANTED IN PART** with instructions regarding the unit retirement and limited-use designation dates discussed above.

J. Commission Requirements on Data Collection and Environmental Reporting

97. PREPA seeks modification of its data collection requirements. While in agreement with the direction of the Commission's rulings, PREPA requests several modifications. PREPA indicates that data on hourly consumption per customer class, monthly peak demand per customer class, customers by class affected by feeder interruptions, and the total estimated customers by customer class is not available.¹³³ PREPA proposes that the data collection and retention requirements, rather than being imposed immediately, be added to the subjects of the plan to be submitted at a later date in order to avert having to do an immediate investigation and information technology work. PREPA claims that this modification also will allow for a better coordinated retention and collection policy.¹³⁴

98. PREPA also requested that environmental reporting dates be consolidated. According to PREPA, the Final Order contains multiple directives regarding reporting on environmental subjects, with overlapping directives in part and timing requirements that appear inconsistent. PREPA also argued that the Final Order also directed PREPA to report on December 31, 2016 on the status of "discussions with EPA regarding MATS compliance and any other pending environmental litigation", with inconsistent dates for follow-up reporting.¹³⁵

¹³³ Motion for Reconsideration, ¶ 109.

¹³⁴ *Id.*, ¶ 109.

¹³⁵ *Id.*, ¶ 120.

99. PREPA proposes that the reports be combined, that the first report be due December 31, 2016, and that the subsequent reports be due every six months thereafter in order to create a consistent schedule and reduce the burden of preparing these reports.¹³⁶

100. The Commission agrees with PREPA that consolidating the reporting of these documents would reduce the burden on PREPA and provide for better clarity going forward. The Commission therefore **GRANTS** PREPA's request. Given that the first filing deadline has passed, the Commission orders PREPA to make its first filing of the above data on March 31, 2017, a second filing on June 30, 2017 and a third filing on December 31, 2017. Beginning in the year 2018, filings shall be made every six months on June 30th and December 31st. This will apply to both the data collection described in Paragraph 97 and to the environmental reporting described in Paragraph 98 of this Resolution on Reconsideration.

101. The data collection and reporting outlined in Paragraph 97 above, relating to hourly consumption per customer class, monthly peak demand per customer class, customers by class affected by feeder interruptions, and the total estimated customers by customer class, should be included in the June 30, 2017 filing.

K. Modified Action Plan Requirement to Begin Competitive Bidding Process for New Renewable Energy Projects

102. PREPA argues that the competitive bidding process should not start until after PREPA has completed its evaluation of existing contracts, including whether renegotiations are feasible. PREPA also claims that it needs to have a clear understanding of its interconnection limits.¹³⁷

103. The Commission finds PREPA's Motion for Reconsideration has merit and is therefore **GRANTED** with respect to the competitive bidding process. PREPA should pursue the renegotiations of its existing contracts and report on the status to the Commission as an Addendum to its June 30, 2017 filing. Thereafter the Commission will issue an Order with a date to commence the competitive bidding process. The Commission agrees that it is important to gain an understanding of PREPA's interconnection limits and capabilities. However, lacking from PREPA's Motion for Reconsideration is an indication of how long this will take. Therefore, the Commission orders PREPA to have the review of its interconnection capabilities and limits, which results will be included in the Addendum to the June 30, 2017 filing.

¹³⁶ *Id.*, ¶ 121.

¹³⁷ *Id.* ¶¶ 115, 116.

L. Commission Finding with Respect to the Demand Forecast

104. PREPA requests that the Commission withdraw its findings of insufficiency on the subject of demand forecasts, claiming that the underlying work by PREPA and Siemens PTI, and the updated demand data demonstrate the reliability of the forecasts which were discussed in detail at the April 6, 2016 Technical Conference. PREPA alleges further that the Commission's advisors indicated that the Commission might request written documentation on this subject, but PREPA subsequently did not receive such a request. However, according to PREPA, on March 21, 2016, it provided the attachment titled *PREPA IRP Methodology Forecast.pdf*, where the demand forecast methodology was explained, as part of the Information Submission and Answers to the February 29, 2016 Supplementary Interrogatory and Request for Information of ICSE-PR.¹³⁸

105. PREPA also notes that the Supplemental IRP uses a low level of demand as requested by the Commission and that given this, it is not very plausible that a lower level of demand would affect the resource selections in the Supplemental IRP.¹³⁹

106. The Commission finds that PREPA's load forecast methodology was insufficiently documented and supported in the IRP and PREPA failed to reasonably consider variation in load forecasts.

107. Siemens' load forecast methodology is documented in the IRP but was not used. Rather, Siemens relied on PREPA's load forecast for the methodology which was never documented in written form during the proceedings although it was described at the Technical Hearing. Contrary to PREPA's assertions, the Commission's advisors requested that a methodological description be provided in written form which PREPA failed to do.¹⁴⁰ PREPA did, however, provide a written methodological description to ICSE-PR as a discovery response, but this methodological description is brief and lacks details.¹⁴¹ No numerical inputs or assumptions and no workpapers were provided to the Commission, as required by the IRP Rule.¹⁴² As such, the Commission was not able to appropriately audit PREPA's load forecast methodology.

¹³⁸ *Id.*, ¶ 125.

¹³⁹ *Id.*, ¶¶ 126, 128.

¹⁴⁰ Oral Argument, file #3, timestamp 6:10.

¹⁴¹ PREPA response 125e to discovery request of ICSE-PR.

¹⁴² IRP Rule §2.04(B)6.

108. ICSE-PR notes that the lack of reasonable assumptions for demand undermined the integrity of any central station build-out plans as part of the IRP. ICSE-PR cites to the Commission's December 4, 2015 Order in which PREPA was ordered to provide information about central station build-out options such as demand-side management, energy efficiency, distributed generation and demand response.¹⁴³ As the Commission noted in its Final Order, the failure to account for these measures negatively impacted the reliability of PREPA's demand forecast as it did not account for potential additional reductions in demand.¹⁴⁴

109. Therefore, PREPA's Motion for Reconsideration with regards to the demand forecast is **DENIED**.

M. Commission Finding Regarding PREPA's Examination of Reserve Margin

110. PREPA disagrees with the Commission's findings with respect to its reliance on a Loss of Load Hours ("LOLH") for determining the reserve margin and argues that it is an appropriate measurement tool.¹⁴⁵

111. PREPA argues that its four (4) LOLH relate to the level of service expected to be provided to customers and is analogous to the Loss of Load Expectancy ("LOLE") used by Independent System Operators in the continental United States, except that it is significantly more relaxed due to the nature of Puerto Rico being an island.¹⁴⁶ PREPA argues that contrary to the statements expressed in the Final Order, PREPA used a comprehensive approach in the formulation of Portfolios, considered a wide range of options, and did not leave valid options unidentified.¹⁴⁷

112. PREPA's arguments are unpersuasive. Currently, PREPA's reserve margin is 90 percent. Therefore, its existing generating fleet is capable of serving almost twice its peak load.¹⁴⁸ This is an extremely large reserve margin even taking into account Puerto Rico operating as an island without the ability to transact for power with other regions.

¹⁴³ ICSE-PR Comments in Opposition to Motion for Reconsideration, p. 4-5.

¹⁴⁴ Commission Final Order, ¶¶ 202 – 205.

¹⁴⁵ PREPA's Motion for Reconsideration, ¶¶ 132 - 134.

¹⁴⁶ *Id.*, ¶ 134.

¹⁴⁷ *Id.*, ¶ 136.

¹⁴⁸ Revised IRP, Table 3-1.

113. The Commission noted in its Final Order that PREPA's IRP neither discussed nor explained its choice of 4 LOLH per year as the reliability constraint which is substantially less stringent than the "one day in ten years" standard used by many reliable authorities.¹⁴⁹ There are multiple references implying that portfolios were designed to keep LOLH at or below four hours per year.¹⁵⁰ As PREPA notes, the Commission found that LOLH is not necessarily an inappropriate measure of reliability. Nevertheless, the LOLH used by PREPA did not produce the transparency in reserve margin planning that the Commission requires.

114. Moreover, even if the LOLH was acceptable, PREPA's use of it was flawed, making it far less useful. For example, PREPA's LOLH analysis did not compare the benefit of increased reliability to the cost of adding the generation necessary to produce that benefit which is of critical importance. PREPA also failed to provide support for its choice of a reliability metric.

115. For the foregoing reasons, the Commission **DENIES** PREPA's Motion for Reconsideration with respect to the reserve margin.

N. Siemens' Independence

116. PREPA requests that the Commission render a finding that Siemens was unbiased and independent, noting the recommendation that the repowering of the Aguirre CC 1 and 2 units be carried out by using a different vendor than Siemens' combustion turbines. PREPA states that there was a conscious effort to identify various suppliers for all the generation options evaluated.¹⁵¹

117. The Commission stands by its ruling. Siemens was largely responsible for the preparation of the IRP. An example of a potential conflict of interest was the screening study for combustion turbines that comprised turbines from seven manufacturers, including Alstom, GE, Hitachi, MHI, Rolls-Royce, and Wärtsila, in addition to Siemens. Nevertheless, the thermal resource selection process performed by Siemens PTI reviewed closely only three options: one from GE and two from Siemens technologies.¹⁵² Whereas, PREPA alleges that Siemens acted independently, PREPA had the duty to demonstrate this in the course of the proceeding. This includes sustaining its burden of proving that nothing in its actions with Siemens could provide even *the appearance* of a conflict. The Commission has the power and obligation to ensure that the recommendations and actions of an IRP are in the best interests

¹⁴⁹ Final Order, Footnote 113.

¹⁵⁰ Revised IRP, Section 8.3.3.

¹⁵¹ PREPA's Motion for Reconsideration, ¶¶ 139 - 140.

¹⁵² Revised IRP, Vol. I, p. 3-17; Revised IRP, Vol. I, Table 3-12.

of the public. The IRP recommendations appear to blur the lines between public interest and Siemens' interests. The Commission asserts that the public trust is of paramount importance. There should be complete and total separation of interests between those consultants who make recommendations to PREPA and those businesses who would benefit from the recommendations so as to avoid even the appearance of a conflict.

118. The Commission **DENIES** PREPA's Motion for Reconsideration with regards to the findings on Siemen's independence.

O. Wind Resources

119. PREPA cites to its Base IRP to point out that the Commission failed to capture the two reasons for not including wind turbine projects as an onshore potential. First, it noted that the potential is rather low and second that wind turbines are becoming increasingly difficult to site in the island due to local opposition.¹⁵³ PREPA also cites to an EIA report for further validation of its position.¹⁵⁴

120. The Commission is unpersuaded by the arguments repeated here by PREPA. There is no clear record evidence of local opposition. However, even if there was proven evidence of local opposition, that does not excuse PREPA from complying with the law and the RPS. Moreover, general blanket statements about wind potential cannot be relied upon by this Commission in as much as the development of wind energy facilities is very site specific and requires studies based on the actual locations. Variations in location can lead to different results.

121. The Commission **DENIES** PREPA's Motion for Reconsideration with respect to Wind Resources.

P. Additions to IRP procedural timeline

122. PREPA points out that the Final Order Appendix is missing certain procedural timelines which include the following: the Commission's four sets of requirements of information issued to PREPA and PREPA's responses; the Procedural Order of September 30, 2015, filed on October 1, 2015, scheduling the Technical Conference; and, the Resolution and Order of October 23, 2015, postponing the Technical Conference. PREPA states that these items should be added to the timeline.¹⁵⁵

¹⁵³ PREPA's Motion for Reconsideration, ¶ 149; ¶ 150, citing to Base IRP, Vol. I, p. 4-3.

¹⁵⁴ *Id.*, ¶ 151, citing to <http://www.eia.gov/state/analysis.cfm?sid=RQ>; http://apps2.eere.energy.gov/wind/windexchange/where_is_wind_pr_vi.asp

¹⁵⁵ PREPA's Motion for Reconsideration, ¶ 155.

123. The Commission concurs with PREPA that these items were inadvertently left out of the timeline. The Commission **GRANTS** PREPA's Motion for Reconsideration with regards to the procedural timeline.

V. CONCLUSION

124. Articles 6.3 (b) and (c) of Act 57-2014 grant the Commission the authority to adopt and implement regulations necessary to "guarantee the capacity, reliability, safety, efficiency, and reasonability of electric rates." Section 6B(h)(iii) of Act 83, as amended by Act 57-2014, authorizes the Commission to establish the rules applicable to the development of PREPA's IRP. Pursuant to such provisions, the Commission adopted Regulation No. 8594, which sets forth the regulatory framework and filing requirements applicable to the submission by PREPA and the review by the Commission of PREPA's first IRP.

125. On July 7, 2015, PREPA submitted its first IRP which was subjected to a thorough review by the Commission with input from numerous stakeholders. The Commission has carefully considered and weighed all the issues that resulted in its Final Order of September 26, 2016. The issues raised by PREPA in its Motion for Reconsideration were carefully reconsidered in this Resolution on Reconsideration and have resulted in the findings presented below.

126. PREPA's Motion for Reconsideration with regards to the Commission's determination of compliance is **DENIED**.

127. PREPA's Motion for Reconsideration with regards to the Commission's determination to pursue permitting of a large dual-fuel capable combined cycle unit at Aguirre is **DENIED**.

128. PREPA's Motion for Reconsideration with regards to the Commission's determination to pursue turbine replacement at the existing Aguirre combined cycle units is **DENIED**.

129. PREPA's Motion for Reconsideration with regards to the Commission's determination regarding continued development, spending, and further justification of Aguirre Offshore Gas Port and Aguirre fuel conversions is **DENIED** until PREPA files its Aguirre Site economic analysis and demonstrates that these are the least cost options.

130. PREPA's Motion for Reconsideration with regards to the Commission's determination regarding PREPA's Action Plan is **DENIED**.

131. PREPA's Motion for Reconsideration with regards to the Commission's determination on fuel prices is **DENIED**.



132. PREPA's Motion for Reconsideration with regards to the Commission's determination of compliance with respect to IRP modeling is **DENIED**.

133. PREPA's Motion for Reconsideration with regards to the Commission's determination on the permitting of three and construction of one, dual-fuel capable combined cycle units at Palo Seco is **DENIED**.

134. PREPA's Motion for Reconsideration with regards to the Commission's determination of the designation of San Juan 9 and 10 as Limited Use Units and the determination regarding the retirement decisions for Costa Sur 3 and 4, Palo Seco 1 and 2, San Juan 7 and 8 is **GRANTED IN PART** with instructions.

135. PREPA's Motion for Reconsideration with regards to the Commission's determination concerning data collection and environmental reporting is **GRANTED** with instructions.

136. PREPA's Motion for Reconsideration with regards to the Commission's determination on the competitive bidding process is **GRANTED** with instructions.

137. PREPA's Motion for Reconsideration with regards to the Commission's determination on the sufficiency of the demand forecast is **DENIED**.

138. PREPA's Motion for Reconsideration with regards to the Commission's determination on the reserve margin is **DENIED**.

139. PREPA's Motion for Reconsideration with regards to the Commission's determination on the independence of Siemens is **DENIED**.

140. PREPA's Motion for Reconsideration with regards to the Commission's determination on wind resources is **DENIED**.

141. PREPA's Motion for Reconsideration with regards to the Commission's determination on the procedural timeline is **GRANTED**.


142. The Commission has attempted to issue a thorough Resolution that is responsive to the major issues raised by PREPA in its Motion for Reconsideration. To the extent that there are any issues or arguments not addressed in this Resolution, they are **DENIED**.

143. Except as noted in this Resolution on Reconsideration, the Commission's Final Order issued on September 26, 2016 is affirmed in its entirety and remains in full force and effect.


Any party adversely affected by the provisions of this Resolution on Reconsideration may file an appeal for judicial review before the Court of Appeals within thirty (30) days as of the date of filing of the notice of the Resolution. A copy of any request for judicial review shall be served on the Commission and the other parties to the instant proceeding within the term to request judicial review. The presentation of the judicial review resource will be governed by the applicable provisions of the UAPA and the Rules of the Court of Appeals.

For the benefit of all the parties involved, the Commission issues this Resolution in both Spanish and English languages. Should any conflict between each version arise, the English version shall prevail.

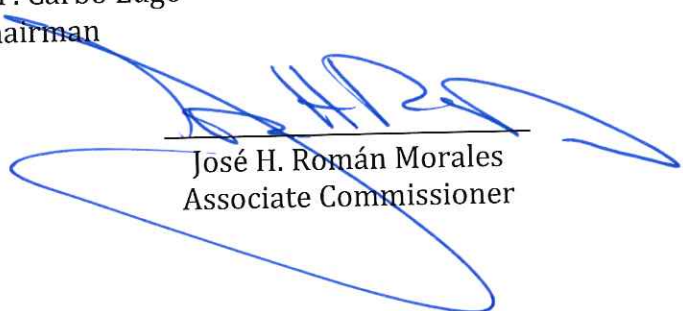
Be it notified and published.



Agustín F. Carbó Lugo
Chairman



Ángel R. Rivera de la Cruz
Associate Commissioner



José H. Román Morales
Associate Commissioner

CERTIFICATION

I hereby certify that the Puerto Rico Energy Commission has so agreed on February 10, 2017. I also certify that on this date a copy of this Resolution on PREPA's Verified Motion for Reconsideration regarding Case No. CEPR-AP-2015-0002 was notified by electronic mail to the following:

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For the record, I sign this in San Juan, Puerto Rico, today, February 10, 2017.



María del Mar Cintrón Alvarado
Clerk