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

IN RE: REVIEW OF THE PUERTO RICO ELECTRIC POWER AUTHORITY´S 10-YEAR INFRASTRUCTURE PLAN – DECEMBER 2020	**CASE NO**.: NEPR-MI-2021-0002 **SUBJECT**: Request to Amend PREPA's Integrated Resource Plan

REQUEST TO AMEND PREPA'S INTEGRATED RESOURCE PLAN

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I. INTRODUCTION

Through this request to amend the Integrated Resource Plan (IRP) the Puerto Rico Electric Power Authority (PREPA) reiterates the inherent need to provide continued, reliable, clean, and affordable power service to Puerto Rico while the transition to renewable energy sources finalizes. For this purpose, PREPA has reiterated with the Puerto Rico Energy Bureau of the Public Service Regulatory Board (Energy Bureau) the convenience and need of converting Units 7, 8, 9 and 10 of the San Juan Power Plant to dual fuel burning capacity with the added capability of burning natural gas. PREPA reiterates that all the motions it has previously filed requesting the conversion of these units are genuine efforts which are aligned with the current IRP as they are necessary for the integration of renewable energy sources and for maintaining the adequate reliability of the electric system while this transition occurs. PREPA has never had the intention of bypassing or attacking the IRP as it believes these conversions are essential to maintain system reliability and are not inconsistent with the IRP. For the reasons stated below and as required by the Energy Bureau, PREPA hereby requests an expedited amendment to the current IRP to proceed with the conversion of these units as they are necessary for PREPA to provide an adequate and reliable electric service to the People of Puerto Rico.

II. RELEVANT PROCEDURAL BACKGROUND

On September 2017, Hurricanes Irma and María caused most of the transmission and distribution (T&D) system in Puerto Rico to collapse, leading to one of the most extended blackouts in U.S. history and leaving residents in some parts of the territory without electricity for almost a year. Communications, water and wastewater, transportation, healthcare, and critical

manufacturing sectors similarly experienced severe disruptions, in most cases caused by electric infrastructure damage or exacerbated by the underlying instability of the grid. The inability of the system to deliver power to all locations throughout the island shortly after a hurricane or tropical storm can result in harsh living conditions and loss of life caused by the unavailability of essential services such as potable water, refrigeration for medication, and communications.

PREPA's enabling act,[1] amended by Act 57-2014,[2] directs PREPA to adopt an integrated resource plan. When the hurricanes struck Puerto Rico, PREPA operated under the IRP that the Energy Bureau approved on September 23, 2016.[3] Under Puerto Rico laws and regulations, an IRP should incorporate a twenty (20)-year planning period[4] that shall be revised every three (3) years to show changes in the energy market conditions, environmental regulations, fuel prices, capital costs, and other factors.[5] Nevertheless, in the case of a substantial change in the energy demand or group of resources, the IRP review process may be carried out *before* the three (3) years to respond to and mitigate such changes.[6] Consequently, on March 15, 2018, the Energy Bureau authorized PREPA to file an updated IRP to reflect the effects of hurricanes Irma and María on the energy system.[7] After several procedural events and following an iterative development

[1] *Puerto Rico Electric Power Authority Act,* Act No. 83 of May 12, 1941, 22 L.P.R.A §§ 191-240, as amended ("Act 83-1941").
[2] *Puerto Rico Energy Transformation and RELIEF Act*, Act No. 57 of May 27, 2014, 22 LPRA §§ 1051-1056, as amended ("Act 57-2014").
[3] *Final Resolution and Order on The First Integrated Resource Plan of the Puerto Rico Electric Power Authority*, *In Re: Integrated Resource Plan for the Puerto Rico Electric Power Authority*, Case No. CEPR-AP-2015-0002, September 23, 2016.
[4] Pursuant to *Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority* (April 24, 2018) ("Regulation 9021") at Sec. 1.08(29), the Planning Period "shall mean the twenty (20) year period in an integrated resource plan for which resources must be planned to meet customer load requirements."
[5] *Final Resolution and Order on The First Integrated Resource Plan of the Puerto Rico Electric Power Authority*, *In Re: Integrated Resource Plan for the Puerto Rico Electric Power Authority*, Case No. CEPR-AP-2015-0002, September 23, 2016.
[6] Act no. 57 at Section. 6.23; *see also Puerto Rico Energy Public Policy Act*, Act no. 17 of April 11, 2019, 22 LPRA §§ 1141-1141f ("Act 17-2019") at Sec. 1.09; *and see also* Regulation 9021 at Sec. 2.05.
[7] *Resolution and Order, In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, Case No. CEPR-AP-2018-0001, March 15, 2018. In its Resolution and Order the Energy Bureau commenced the IRP review process and established the initial procedural calendar.

process, on June 7, 2019, PREPA filed the IRP ("2019 IRP") that was reviewed by the Energy Bureau and led to the IRP that the Energy Bureau approved on August 24, 2020 ("Approved IRP").[8]

A. FEMA Award of Recovery Funding

On September 24, 2020, the Federal Emergency Management Administration (FEMA) approved much needed funding amounting to approximately $9,459.91 million for PREPA to repair damage to its electric system caused by Hurricane María in 2017.[9] This funds obligation corresponds to FEMA's share after subtracting PREPA's insurers contribution to the permanent works total cost. Initially, the permanent works total cost was estimated at approximately $10,704.76 million. Subtracting an estimated insurance contribution of $193.75 million from this amount results in a total estimated cost of $10,511.01 million, of which 90% equals approximately $9,459.91 million and the remaining 10% approximately $1,051.10 million. The 90% cost share of the permanent works total cost is covered with FEMA funds and the remaining 10% cost share will be covered partially with funds under the Community Development Block Grant Section Energy Grid Rehabilitation and Reconstruction Cost Share Program (CDBG-DR Program[10]) up to $500 million and funds from the Commonwealth of Puerto Rico.

The funds to cover the 90% cost share of approximately $9,459.91 million were assigned from FEMA's Public Assistance program (FEMA 428), for which the U.S. Federal Government

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[8] Puerto Rico Integrated Resource Plan 2018-2019, Draft for the Review of the Puerto Rico Energy Bureau, Prepared for the Puerto Rico Electric Power Authority, June 7, 2019.

[9] *Gobernadora Wanda Vázquez Garced y Fema Anuncian Histórica Aprobación de Fondos para Proyectos de Reconstrucción de Energía y Educación*, 18 de septiembre de 2020, https://www.youtube.com/watch?v=cA615eyDz9M (last visited on October 3 2022).
FEMA Grants $26.2 Million Injection for Palo Seco and Other Facilities (October 28, 2020), https://www.fema.gov/press-release/20201028/fema-grants-262-million-injection-palo-seco-and-other-facilities (last visited on October 3 2022).

[10] The CDBG-DR Program is managed by the Department of Housing and Urban Development (HUD).

amended the FEMA policy procedures to provide a speedier and more flexible process for the application of federal funds to execute the permanent works needed to increase the reliability and resiliency of Puerto Rico's essential infrastructure. Hence, in 2020, FEMA announced the FEMA Accelerated Awards Strategy or "FAASt" process, which allows critical infrastructure projects to be grouped together to expedite the energy grid work in Puerto Rico.

The FEMA 428 allocation was included with other sources of funding provided to Puerto Rico for the recovery of the entire Island. Part of the funds assigned to Puerto Rico was provided under the 404 Hazard Mitigation Grant Program (HMGP or FEMA 404).[11] Hazard mitigation has been defined:

> as any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects. This definition distinguishes actions that have a long-term impact from those more closely associated with immediate preparedness, response, and recovery activities. The HMGP is designed to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. Hazard mitigation is the only phase of emergency management specifically dedicated to breaking the cycle of damage, reconstruction, and repeated damage.

Department of Emergency and Military Affairs, *Mitigation*, https://dema.az.gov/emergency-management/operationscoordination/recovery-branch/mitigation (last visited on September 25, 2022).

Additionally, FEMA obligated approximately $1.5 billion in federal funds under the HMGP or FEMA 404 funds for conducting permanent works on the electrical generation and water

[11] HMGP funding is authorized by Section 404 of the *Robert T. Stafford Disaster Relief and Emergency Assistance Act*, Public Law 93–288; Approved May 22, 1974, as amended through P.L. 117–58, enacted November 15, 2021 ("Stafford Act"). This post-disaster funding helps the Government of Puerto Rico to implement hazard mitigation measures to reduce or eliminate long-term risk to people and property from natural hazards. The amount of HMGP funding available to the Government of Puerto Rico is derived from the total federal disaster assistance provided under the disaster declaration. The Government of Puerto Rico and FEMA have agreed to implement hurricane recovery based on prioritized infrastructure sectors. All federal recovery funding – including HMGP – will be delivered via sectors to eligible sub-applicant. Additionally, the Government of Puerto Rico has prioritized the available HMGP funds to protect the federal investment in Puerto Rico's public infrastructure.

infrastructure. Therefore,there is currently a total of approximately $12.2 billion assigned for the reconstruction of PREPA's electrical system and water infrastructure in FEMA 428, FEMA 404, insurance, and local funds. The historical amounts of federal recovery funding from the FEMA exceeds the total public assistance funding in any federally declared disaster other than hurricanes Katrina and Sandy, the destructive 2005 storms in the US mainland.[12]

The proposed HMGP was developed by identifying and assessing the vulnerability of the critical facilities to hazards and includes a specific solution that can be set before the occurrence of the disaster with funding from locally matched federal funds. For HMGP, following Section 206.433(b) of the Stafford Act, the Government of Puerto Rico established power as the *main* priority for selecting mitigation projects to receive HMGP funding.

PREPA, as the sub-recipient of the federal funds, undertook the task of identifying hazard mitigation projects that would be eligible under the HMGP requirements and purpose. PREPA proposed two (2) new generation resources that PREPA had included in the Proposed IRP as infrastructure projects that could deliver hazard mitigation results that the 404 HPGM program-funded projects must provide. These projects were: a new combined cycle (CC) in the San Juan area[13], which would replace old thermal generation capacity, and the wholesale replacement of the entire PREPA peaking unit fleet ("Peaking Units").[14] The principle that supported PREPA's proposal for these projects as hazard mitigation projects was very targeted and came from lessons learned from hurricanes Irma and María, and the most recent experience with Hurricane Fiona.

[12] *White House announces nearly $13 billion in aid for Puerto Rico three years after Hurricane Maria*. https://www.reuters.com/article/us-usa-puerto-rico-idUSKBN26924B (last visited on October 3 2022).

[13] PREPA's proposal consisted of a new natural gas fueled 302 MW CCGT at Palo Seco by January 2025. It was estimated that the capital expenditure would amount to $293 million.

[14] PREPA's preferred plan called for the installation of 18 GTs, of 23 MW each, distributed at five (5) different plant locations around the island, with preference for those locations where the exiting 21 MW Frame 5 units are located. These new units will be capable of burning containerized natural gas delivered by truck with onsite tankage. The units are required to provide reliable distributed generation to serve critical and priority loads within the MiniGrids.

More specifically, the formulation of these projects was driven by the understanding of what the hurricanes affected the most and the resources that, if available to PREPA when the hurricanes passed, would have mitigated damages and accelerated the restoration of power to Puerto Rico.

Major events, like hurricanes, tropical storms, and earthquakes, leave the electric system vulnerable due to the damages to the transmission and distribution systems, including damages to poles, lines, substations, etc. Usually, a major event leaves Puerto Rico without electric service, which requires having enough available generation capacity to restart the system. The Puerto Rico electric system operates as an isolated system, which means it is not interconnected to other electric systems, so it greatly depends on the black start and peaking units to restart the system. These units are the first resources used to begin the system restoration. The black start and peaking units, combined with the base load units in the north and south, form electric islands through Puerto Rico, such as mini-grids, to provide reliable power in a continuous manner to utility's customers. When the major 230 kV and 115 kV lines are restored and operational, these electric islands are synchronized with each other until the entire system in connected. This restoration process is followed to preserve life, continue the restoration of the electrical service, and begin the economic activity after the passage of a major atmospheric event, like hurricanes and tropical storms.

To mitigate this critical situation, which affects the life quality of the residents of Puerto Rico, the first project evaluated was the new CC in the north of the main island, where the power system's load center is located. The CC could serve as a base load generation facility and supply energy for the benefit of the entire archipelago. However, when located in the north, it could energize the northern part of the Island, which depends mainly on the transmission lines that run from the south to the north and deliver the power that is primarily generated in the south. The 2017 hurricanes demonstrated that depending solely on these lines to transmit power to the north was

no longer an option and even more so after the hurricanes hit. A modern generation plant adjacent to Puerto Rico's largest population center would provide more dependable service rather than reliance on power transmission via the north-south transmission line corridor from the power plants south of the Island. With a new CC in the north of the Island, PREPA could energize the North without waiting for the main transmission to be fixed.

The new CC is a project that would replicate the mini-grid concept. These new thermal units operating together with the emergency and peaking units are the main sources of generation to supply the critical and priority loads of the mini-grids formulated in the 2019 IRP submitted by PREPA to operate in a resilient way after the passage of a major atmospheric event. By supplying the critical and priority loads only days after the passage of the major event, we can save lives and be effective and agile in the restoration of the electrical system. The main focus in this process is to preserve the lives of the residents of Puerto Rico.

The second project was the wholesale replacement of the Peaking Units. Having new Peaking Units would allow PREPA to replicate what the U.S. Corps of Engineers did in the aftermath of the hurricanes, placing emergency generators in different parts of the Island to create mini-grids and serve critical loads. Further, a new fleet of Peaking Units would provide ancillary services to baseload power plants that rely on these small generators to perform services such as black-start, essential to restore the electrical service after a major event, as explained before.

FEMA approved both projects to proceed to the first of the two (2) phases, the basic engineering studies, environmental data collection, and the development of a schedule and a budget. This must be submitted to FEMA for review and approval before proceeding to Phase II, which is the project's development.

B. PREPA's 2019 IRP

On June 7, 2019, PREPA filed its 2019 IRP, which were mainly prepared to account for the operational experience of restoring the electrical system after hurricanes Irma and María and for PREPA's fiscal conditions when these major events occurred. The hurricanes forced PREPA to rethink how its power supply and delivery infrastructure should be modified to ensure that the utility infrastructure was much better prepared for future major events. The experience of these disasters has focused PREPA on the need to increase the resiliency and survivability of its systems, with due consideration to system hardening, distributed generation, decreased dependence on fuel oil, and increased reliance on renewable energy resources.

In addition, PREPA's current fiscal situation as a debtor under the Title III of the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA) requires it to identify a roadmap for the electrical system infrastructure that will support its path to comply with sound financial utility practices. Furthermore, the Commonwealth of Puerto Rico enacted several acts for the transformation of PREPA and Puerto Rico's electrical system, including a mandate for a more aggressive transition from fuel oil-based generation to clean energy resources.

Among the most relevant assumptions, as approved by the PREB, that impacted the results of the 2019 IRP study there are the following:

- Significant reduction in energy demand or load to be served – This assumption resulted in a reduction of the total available generation capacity needs of the power system.
- Low or very low prices of renewable resources[15] – The tools used to simulate the economic

[15] The 2019 IRP used utility-scale PV systems costs consistent with the published 2018 Annual Technology Baseline (ATB) by National Renewable Energy Laboratory (NREL) with a cost adder factor accounting for island cost premiums relative to "typical" mainland US costs and corresponding to the U.S. Department of Defense Area Cost Factor for Puerto Rico.

dispatch of the available resources chose renewable resources instead of thermal resources due to the simulated low costs. The reference o mid cases between years 2019 and 2025 used levelized cost of energy (LCOE) values for photovoltaics (PV) from $63/MWh to $78/MWh in 2018 dollars. The low cases between those years used LCOE values for PV from $59/MWh to $68/MWh in 2018 dollars.

- Location of new renewable resources is distributed across the main island, adding most of the generation capacity to the north of the island – The 2019 IRP study focused on distributed generation resources for supporting the formation of mini-grids to restore the electrical service after major events like hurricanes. Having enough available generation capacity as close as possible to the load centers is essential to maintain the reliability of the service before, during and after a major event.

The 2019 IRP study resulted in two Preferred Resources Plans, the Energy System Modernization (ESM) plan and the Scenario 4 Strategy 2 (S4S2) plan. In both plans there is a significant integration of renewable energy due mainly to the simulated PV LCOE for the mid or reference cases. Given the economic advantages of the simulated low cost of renewables along with a significant forecasted decline in the load to be served, the study resulted on the economic retirement of most of PREPA's base load thermal generating units. However, given the uncertainty of Puerto Rico's macroeconomic factors under the still current economic recession which affect the energy demand behavior, among others, along with other possible constraints regarding permitting and developing timeline of new resources, PREPA clarified in its 2019 IRP report that the retirement of its thermal generating units is conditioned to the occurrence of the study assumptions. This, in addition to the reliable and safe integration of the new PV and battery energy storage system (BESS) resources.

The following table shows a summary of the retirement of existing generating units, conditioned to the safe and reliable integration of new renewable and thermal generation, the occurrence of the forecasted reduction in energy demand, and the achievement of PV and BESS procurement at the assumed reference LCOE values:

Preferred Resource Plan	Existing Generation Assets to be Retired After the New Generation is Interconnected	Existing Generation Assets to Remain	New Generation Resources
ESM	• AES Units 1 & 2 • Aguirre Units 1 & 2 • Palo Seco Units 3 & 4 • Costa Sur Units 5 & 6 • San Juan 5, 6, 7, 8, 9 & 10 • Aguirre CC Units 1 & 2 • Cambalache 1 • 18 Peaking Units	• Cambalache 2 & 3 • Mayagüez 1, 2, 3 & 4 • EcoEléctrica CT1, CT2 & ST	• PV: 2,580 MW • BESS: 1,640 MW • CC at Palo Seco: 302 MW • CC at Yabucoa: 302 MW • 18 Peaking Units: 418 MW
S4S2	• AES Units 1 & 2 • Aguirre Units 1 & 2 • Palo Seco Units 3 & 4 • Costa Sur Units 5 & 6 • San Juan 6, 7, 8, 9 & 10 • Aguirre CC Units 1 & 2 • Cambalache 1, 2 & 3 • Mayagüez (2 units) • EcoEléctrica CT1, CT2 & ST (these units are retired only if a new combined cycle is constructed in Costa Sur) • 18 Peaking Units	• Mayagüez (2 units) • EcoEléctrica CT1, CT2 & ST (these units will remain if the new combined cycle at Costa Sur is not constructed)	• PV: 2,820 MW • BESS: 1,640 MW • CC at Palo Seco: 302 MW • CC at Costa Sur: 302 MW • 18 Peaking Units: 418 MW

It is noted that the expected declining in load along with the assumed reference PV LCOE values at the time of the 2019 IRP made it economical to retire almost all existing thermal generating units during the Planning Period. Part 9 – Caveats and Limitations of the 2019 IRP report stressed that the retirement of existing generating units should be only implemented after all the prerequisites detailed in that section have been met, particularly that all new resources are

fully operational, and units planned for retirement are not required for reliable operation of the system.

As of the date of this motion, the assumptions detailed above have not been met. The energy demand has not declined and, recently, demand increases have been detected. Regarding the cost of renewable resources, the results of the recent Tranche 1 request for proposals (RFP) mandated by the Energy Bureau show that the lower quoted PV LCOE values are higher than $100/MWh. These LCOE values are much higher than the highest simulated reference PV LCOE, which was $78/MWh (2018 dollars) for commercial operation date (COD) during 2023. In addition, the Tranche 1 process resulted in most of the new renewable capacity installed in the south of main island, contrary to the assumption of the 2019 IRP that most of the new generation will be installed in the north.

C. Approved IRP and Modified Action Plan

On August 24, 2020, the Energy Bureau entered the *Final Resolution and Order on the Puerto Rico Electric Power Authority Integrated Resource Plan* ("Final IRP Order") in case no. CEPR-AP-2018-0001, *In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*. With this order, the Energy Bureau approved a final version of the IRP ("Approved IRP") and entered a Modified Action Plan. Final IRP Order at p. 260. This decision was entered ten months *after* PREPA submitted the application to FEMA to develop the projects for the new CC and Peaking Units in October 2019. FEMA obligated the project worksheet (PW) for these projects in October 2020.

The most relevant decisions and directives included in the Modified Action Plan are:

- Adoption of PREPA's plans for the retirement of the oil-fired steam resources over the

next five (5) years at San Juan, including units 7, 8, 9 and 10; at Palo Seco, including units 3 and 4, and at Aguirre, including steam units 1 and 2 and Aguirre combined cycle units 1 and 2. The Energy Bureau ordered PREPA to retire these units based on the installation schedule and location of any new peaking generation, new solar PV, and energy storage resources to address overall and local resource adequacy. The exact retirement sequence would be contingent on the amount and location of replacement resources procured by PREPA.

- Disallowance of the development of the inclusion of a new combined cycle (CC) at Palo Seco by 2025 but leave to begin preliminary work on new generation and energy storage at Palo Seco.
- Finding that it was reasonable to consider some limited replacement, but *not* a wholesale replacement of all units. The Energy Bureau ordered PREPA to establish a retirement schedule for the worst-performing of the eighteen (18) units. However, it allowed PREPA to conduct requests for proposals (RFP) open to all single or aggregated sources of demand and supply-side options of no more than 81 MW.
- Ordered PREPA to develop a competitive procurement, through RFP, to obtain Power Purchase and Operating Agreements (PPOA) that must be open to all forms of renewable energy, including, but not limited to, wind, hydro, solar PV, VPP, and storage. The procurement would be distributed among six (6) tranches, during which PREPA would procure a minimum amount of 3,750 MW of renewable energy and 1,500 MW of energy storage. The Energy Bureau set the following schedule as guidance for the procurement process.

Table 17. Guidance for Solar PV/Renewables, and Battery Energy Storage RFP Tranches

		Solar PV or equivalent other energy, MW		4-hr. Battery Storage equivalent, MW	
RFP Target Release Date	Procurement Tranche	Minimum	Cumulative	Minimum	Cumulative
Dec-20	1	1000	1000	500	500
Jun-21	2	500	1500	250	750
Dec-21	3	500	2000	250	1000
Jun-22	4	500	2500	250	1250
Dec-22	5	500	3000	125	1375
Jun-23	6	750	3750	125	1500

Figure from Final IRP Order, p. 268, Table 17.

Following the Puerto Rico Uniform Administrative Procedure Act[16] reconsideration and judicial review processes, the Final IRP Order, including the Approved IRP and Modified Action Plan, became final and unappealable and binding to PREPA by January 2, 2021.

D. IMPLEMENTATION OF THE MODIFIED ACTION PLAN

PREPA has conducted several studies and procurement processes in compliance with the Modified Action Plan. The following projects are related to the highlights of the Final IRP Order listed in Section II. C, *infra*.

1. Studies for the New CC at Palo Seco

The Final IRP Order authorized a scoping and feasibility analysis that includes a preliminary economic, siting, permitting, and planning study for a new CC in Palo Seco. As mentioned before, in October 2019, PREPA submitted the application to FEMA to develop the project for the new CC and, in October 2020, FEMA approved funding to develop and build a combined cycle power

[16] *Puerto Rico Uniform Administrative Procedure Act*, Act no. 38 June 30, 2017, as amended, 3 LPRA § 9601-9713.

plant in the North of Puerto Rico. PREPA started the CC scoping and feasibility study in 2021 and submitted the final report to the Energy Bureau on July 15, 2022.[17]

During the feasibility study, PREPA's consultant found that the construction of CC in the Palo Seco Power Plant was feasible, except that the site lacked a natural gas infrastructure, the primary fuel the CC would use. Accordingly, the Palo Seco Power Plant, is not the preferred location for a new CC. Afterward, at PREPA's request, the consultant evaluated an alternate location and studied the San Juan Power Plant as a possible site. The San Juan Power Plan has CC units 5 and 6 and an adjacent gas supply terminal that serves gas to these units. Thus, the San Juan Power Plant has the infrastructure to supply the units on site with natural gas. Therefore, the feasibility study concluded that the availability of the gas infrastructure made the San Juan Power Plant the preferred site to build a new CC.

A new CC with a capacity from 300 MW to 400 MW, burning natural gas at either Palo Seco or San Juan Power Plant, would increase the resiliency and reliability of the power system. A new CC would also replace much older and less efficient generating units, providing dependable generation capacity, lower production costs, and fewer emissions, complying with environmental regulations. Furthermore, the smaller steam and combustion turbines of a CC are more suitable for managing low load operations and can support the intermittencies and variability of renewable sources than larger steam units. In addition, these smaller units will contribute to lower operational reserve margins and, consequently, lower production costs. Therefore, a new CC can support renewable energy's safe and reliable integration and provide the dependable generation capacity required for electric service restoration after significant weather events. This was

[17] *See Motion to Submit Feasibility Study and July 2022 Status Report* dated July 15, 2022, submitted in Case no. NEPR-MI-2021-0003, *In Re: Preliminary Studies for a New Combined Cycle Power Plant in Palo Seco*. The study is attached as Annex A.

acknowledged by the Energy Bureau when in the Final IRP Order, it allowed the preliminary studies for the new CC based on the fact that "to protect against the uncertainty of near-future solar PV and battery energy storage price outcomes, or other potential reliability concerns" the preliminary studies were warranted. Final IRP Order at pp. 272-273, ¶ 880.0

Besides fueling infrastructure, the study also analyzed if there were any additional constraints in developing the CC project. Two main limitations were identified: one related to the time it would take to complete the project, and the second was the estimated cost. Regarding the estimated cost and as initially estimated in 2020 dollars, the funds approved by FEMA were $572.38 million. The feasibility study updated the estimate for the development of the project and found a substantial increase when updated to reflect 2023 dollars and inflation; the project would now cost $723.6 million, which is more than what FEMA approved. This means that funds approved by FEMA are insufficient to develop the new CC, either at Palo Seco or at San Juan.

According to PREPA's experience, a new CC project takes about ten (10) years to be developed in Puerto Rico, including the environmental and construction permitting, design, procurement, construction, commissioning, and operational testing. The projects for the construction of the two newest combined cycles in Puerto Rico, EcoEléctrica and San Juan Units 5 and 6, were developed in about ten years, including permits, engineering, procurement, construction, commissioning, and operational testing. Given PREPA's current power generation struggles, and that the development of the CC project is a long-term effort, PREPA determined that there are reasons of weight that favor prioritizing short- and medium-term measures to improve the existing thermal generation assets. As PREPA has explained in previous motions, the existing generation fleet is fragile and highly vulnerable to disturbances in the electrical system and, thus there is a need to increase the dependable generation capacity to improve the reliability

of the system. The significant load shedding events during the summer of 2021 and the limitations of generation capacity to serve the load after the recent passage of hurricane Fiona show the immediate need for repairs and for hardening the existing generation fleet, which will allow the reliable integration of renewable resources with the power system.

Considering the constraints described above, PREPA found that, even though the construction of the CC in the North is feasible and beneficial for the electrical system, there are not enough funds to complete the project. Additionally, there are more urgent actions to be taken in the short- and medium-term, for which the CC project-approved funds can be used. Further, the timeline for the commercial operation of a new CC does not address the current necessity to supply the energy demand in Puerto Rico, support the reliable and safe integration of renewable energy, and provide the energy needed during the restoration of the electrical service after major events.

Consequently, and based on the reasons stated above, PREPA will postpone the construction of a new CC. Thus, the funds allocated for this project will be utilized for one or more different energy hazard mitigation projects.[18] However, the new CC project will continue to be included in the medium to long term planning, since the CC will be essential and crucial to manage the variability and intermittency of the high penetration of renewable energy that is projected in the electrical system to achieve compliance with the Renewable Portfolio Standard (RPS) mandate.

[18] On August 3, 2022, the Energy Bureau entered a *Resolution and Order* in Case no. NEPR-MI-2021-0003, *In Re: Preliminary Studies for a New Combined Cycle Power Plant in Palo Seco*, directing the Puerto Rico Public-Private Partnerships Authority to conduct a request for proposals for a new CC gas turbine that can be converted to burn hydrogen at any location in Puerto Rico.

2. Emergency Generation

The 2019 IRP's proposed Preferred Resource Plan included the replacement of all eighteen (18) existing peaking units with modern more efficient units, mainly to provide dependable emergency generation that support black start operations after major events and the intermittency of renewable resources. The Energy Bureau only approved the replacement of 147 MW in peaking units' capacity, which included the 3 mega generators amounting about 66 MW installed in Palo Seco Power Plant and left 81 MW of capacity to be procured. Hence, PREPA submitted the replacement of 4 black start units for the Energy Bureau approval that the Bureau conceded for the replacement of 2 units at Costa Sur and 2 units at Yabucoa.

In summary, so far, the Energy Bureau has approved the replacement of 7 out of the 18 existing peaking units, leaving 11 units without replacement. PREPA already procured and installed the three (3) mega generators in Palo Seco Power Plant and is currently in the process of completing the RFP documents for the procurement and installation of the four (4) black start units.

In 2020, FEMA approved about $280.82 million to acquire eleven (11) emergency generation peaking units. With its motion of August 2, 2022, PREPA submitted to the Energy Bureau the Emergency Generation Feasibility Report – Existing Peaking Facilities (Annex B). This report supports PREPA's request to the Energy Bureau to proceed with Phase I engineering work for hazard mitigation funding of new simple cycle emergency generation facilities and equipment. This project is essential for restoring the power service after a significant event, including restarting the system following blackouts and supporting renewable energy's reliable and safe integration.

FEMA approved this project because it qualifies as a project that will prevent or reduce damages that future disasters may cause, particularly by preventing harsh living conditions and loss of life. The emergency generation capacity that this project provides would replace the existing old, fragile, and inefficient peaking generators and complement the 81 MW peaking generation capacity approved by the Energy Bureau in the IRP Final Order. The original project estimate was $280.82 million in 2020 dollars, already approved by FEMA, but considering inflation, the estimate of currently executing this project is a minimum of $490 million. Hence, it is needed to add funds to this project to complete it.

3. Renewable Energy and Storage Procurement

The renewable energy and storage procurement process mandated by the Energy Bureau is unprecedented in Puerto Rico and the United States. Following an iterative process with the Energy Bureau and its guidance as required by Regulation 8815[19], in February 2021, PREPA published the Tranche 1 RFP, which aimed to procure 1,000 MW of solar PV or other equivalent energy and 500 MW of battery storage systems in compliance with the Modified Action Plan. Final IRP Order at p. 266, ¶ 859. The Tranche 1 RFP process was a challenging and novel procurement process that, taught stakeholders and participants, many lessons.

Even with all the challenges faced, PREPA, guided by the Energy Bureau, concluded the procurement of the renewable energy portion of the Tranche 1 process and, as of September 1, 2022, the Energy Bureau had approved PREPA's executed eighteen (18) PPOA's for a total capacity of 844.8 MW and 2 BESS projects for a total capacity of 200 MW of battery energy

[19]Energy Bureau and PREPA, *Joint Regulation for the Procurement, Evaluation, Selection, Negotiation and Award of Contracts for the Purchase of Energy and for the Procurement, Evaluation, Selection, Negotiation and Award Process for the Modernization of the Generation Fleet*, Regulation no. 8815 (Nov. 9, 2016) ("Regulation 8815").

storage.[20] PREPA's Tranche 1 procurement process continues with the negotiation of the energy storage project proposals and virtual power plant proposals. Proponents with executed agreements would start developing the related projects in compliance with the contract, current regulations, and interconnection requirements.

It is currently expected that, if there are no delays and the permitting and construction processes run smoothly, the Tranche 1 renewables projects will achieve commercial operation by the end of 2024. In its commitment with the development of these projects, PREPA wrote a letter to the Fiscal and Oversight Management Board (FOMB) requesting the designation of Tranche 1's projects as Critical Projects, so they can be eligible for fast track permitting processes. However, it is stressed that the development of 844.8 MW in PV generation and 200 MW of BESS projects has never been executed in a timeline of 2 years in Puerto Rico and, probably, nor in any other jurisdiction. Therefore, it is expected that the proponents of these projects will face constraints and situations that are not foreseeable at the moment and that could delay the commercial operation date of the new resources. In addition, it is expected that the operational tests required before COD could not be performed simultaneously for all the approved projects, which could further delay their operations commencement.

The Tranche 2 RFP target release date was June 2021 and PREPA was going to publish it on October 30, 2021, but the Energy Bureau held this process until an Independent Coordinator designated by them publish the RFP. Tranche 2 RFP was just published by the Energy Bureau's

[20] The Modified Action Plan calls for a minimum of 1,000 MW of renewable energy or equivalent and 500 MW of energy storage to be procured during Tranche 1. The Tranche 1 RFP did not cap the participation at these amounts, it was opened to any amount of energy or storage and, if PREPA founds the prices and other considerations reasonable and acceptable within the scope of the Tranche 1 RFP, PREPA would consider projects even if the aggregate exceeded the minimum capacity established in the Modified Action Plan. However, PREPA, with the guidance of the Energy Bureau and the Oversight Board, recommended 844.8 MW and 2 BESS projects for a total capacity of 200 MW of battery energy storage mainly because other proponents' projects exceeded prices that could be considered reasonable.

Independent Coordinator on September 28, 2022. The RFP target release date of Tranche 3 was December 2021 and Tranche 4 was June 2022, but they have not been published yet. These three (3) tranches are supposed to add 1,500 MW of renewable energy and 750 MW of energy storage. At this point, we can assume that the six (6) tranches will not be completed before the subsequent IRP filing is due, and, at this juncture, PREPA cannot responsibly consider the energy that will be procured through the tranches for near-term generation supply and reliability planning.

III. REQUEST FOR LIMITED AMENDMENT TO THE APPROVED IRP AND MODIFIED ACTION PLAN

PREPA respectfully requests the Energy Bureau to initiate an expedited process to consider a limited update or amendment of specific data included in the Approved IRP and to allow PREPA to start the procurement for the conversion to dual-fuel capability of supply-side generation assets and the replacement of existing emergency generation assets that are not part of the Approved IRP or Modified Action Plan. Under Act 57-2014 and Regulation 9021, this amendment is warranted. Further, PREPA understands that there is just cause for the Energy Bureau to proceed with the expedited process for the discrete revision requested herein. The objective of the targeted update or amendment is to include:

1. Two (2) additional San Juan Steam Units as available generating units;
2. Modifying the four (4) San Juan Steam Units to dual-fuel units, capable of using natural gas as primary fuel, keeping fuel oil no. 6 as a secondary fuel source, which represent an economical solution to comply with environmental regulations; and
3. Replacing the 11 peaking units that remain after the approved replacement of 7 peaking units (3 mega generators installed in Palo Seco Power Plant, 2 black start units at Costa Sur, and 2 black start units at Yabucoa).

PREPA's goal with the request for a limited update or amendment of the Approved IRP and Modified Action Plan to allow the conversion of the four (4) San Juan Steam Units to have dual-fuel capability that it will, once the projects are included as long-term supply side resources by the

Energy Bureau, submit to FEMA an application for these conversions to be funded through the 404 HMGP. Based on preliminary analyses and discussions with experts with vast experience in the energy sector and operation of the energy system, and with the Central Office for Recovery, Reconstruction and Resilience (COR3) and FEMA, PREPA is confident that FEMA will obligate the conversion of the San Juan Steam Units funds and thus, the project costs would be 100% refundable. In summary, should the Energy Bureau allow PREPA to proceed with the San Juan Steam Units conversion, this project would be at **no cost** to PREPA's customers.

In addition, the requested limited update or amendment of the Approved IRP and Modified Action Plan has the purpose to allow the replacement of eleven (11) additional peaking units, to complement the seven (7) new peaking units already approved by the Energy Bureau. Once the projects are included as long-term supply side resources by the Energy Bureau, PREPA will submit to FEMA an application for this replacement to be funded through the 404 HMGP. If the Energy Bureau allows PREPA to proceed with the eleven peaking units' replacement, this project would be at **no cost** to PREPA's customers.

In the following sections, PREPA will present the Energy Bureau with arguments on why the request to begin a process for a limited and discrete review and amendment of the Approved IRP and Modified Action Plan complies with Regulation 9021 requirements. Also, PREPA will show the Energy Bureau that time is of the essence for this evaluation; thus, an expedited process which would still allow for public participation is warranted.

A. Act 57-2014 Provides for an Amendment of the Approved IRP Before the Three (3) Year Mandatory Review Period

On August 24, 2020, the Energy Bureau notified of the Approved IRP and Modified Action Plan, and, after several procedural events, on January 1, 2021it became final and unappealable.[21] Section 6.23 of Act 57-2014 establishes that the Approved IRP must be reviewed and updated every three (3) years. However, should there be a substantial change in energy demand or group of resources, the review process shall be carried out before the three (3)-year period provided herein to address and/or mitigate these changes. Act 57-2014 at Sec. 6.23. Section 1.09 of Act 17-2019 expanded on this and provided that a process to revise an IRP shall be carried out before the three (3) years should there be changes in the energy market conditions, environmental regulations, fuel prices, capital costs, and other factors,

B. Update or Amendment Process per the Energy Bureau Regulation 9021

Regulation 9021, the *Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority*, details the process and occurrences in which PREPA may propose an update, amendment, or review to an approved IRP. Under Section 2.05, reasons that might warrant PREPA to consider proposing an update, amendment or review to an approved IRP include, but *are not limited* to:

1. PREPA anticipates applying for a certificate to construct, purchase or otherwise acquire a long-term supply-side or demand-side resource that was not previously included as part of the approved IRP;
2. PREPA anticipates the need to undertake a procurement process for a demand-side or supply-side resource that was not previously included as part of an approved

[21] Thereafter, several parties submitted requests for reconsideration, and the Energy Bureau resolved these on December 2, 2020. Under the *Puerto Rico Uniform Administrative Procedure Act*, Act no. 38 June 30, 2017, as amended, 3 LPRA § 9601-9713, parties adversely affected by the provisions of the final resolution on reconsiderations could file an appeal for judicial review before the Court of Appeals within thirty (30) days of the date of filing of the notice of the final resolution on reconsiderations. No party filed a request for judicial review, and therefore, the Approved IRP became final and unappealable on January 1, 2021.

IRP;

3. The data used in the formulation of its approved IRP requires significant modification that affects the choice of a resource contemplated in the approved IRP; and
4. PREPA expects to make a Major Change to the Action Plan or Capital Plans before filing the following IRP proposal.

The request that PREPA makes before the Energy Bureau for a discrete amendment to the generation provisions of the Approved IRP is justified under the four (4) prongs listed above. Therefore, PREPA presents the Energy Bureau with a discussion of each requirement.

1. PREPA will apply for funds to modify a long-term supply-side resource that was not previously included as part of the approved IRP

In the Proposed IRP, PREPA presented the Energy Bureau with a proposal to add a new CC at Palo Seco as a long-term supply-side generation resource, for which PREPA submitted an application to FEMA in October 2019. After the Energy Bureau conducted the process to review the Proposed IRP, FEMA approved the allocation of millions of dollars under the 404 HMGP to develop the new CC project as a hazard mitigation resource. FEMA obligated funds for this project. However, the Approved IRP was entered before FEMA approved the PW. In the Approved IRP, the Energy Bureau limited PREPA's proposal of the new CC at Palo Seco to preliminary studies. After completing these initial studies, and for the reasons explained in Section II. D. 1, *infra*, PREPA determined that the development of the new CC should be postponed. This was informed to the Energy Bureau on August 2, 2022, when PREPA filed a motion informing that it had decided to reallocate the funds that were initially earmarked for the new CC for other hazard mitigation projects, including the conversion of the San Juan Steam Units.[22]

[22] *See Motion to Inform Reallocation of FEMA 404 HMGP Funds and Request for Approval of Generation Projects* filed in case no. NEPR-MI-2021-0002, *In Re: Review of the Puerto Rico Electric Power Authority's 10-Year Infrastructure Plan – December 2020*.

PREPA is prepared to present the scope of work (SOW) of the San Juan Seam Units conversion to FEMA. However, in compliance with the *Resolution and Order* entered in case no. NEPR-MI-2021-0002, *In Re: Review of the Puerto Rico Electric Power Authority's 10-Year Infrastructure Plan – December 2020*, PREPA must have the Energy Bureau's approval before presenting an SOW to COR3. Further, PREPA has presented the petition to convert the San Juan Steam Units for burning natural gas to the Energy Bureau on five (5) occasions[23] in the previously cited docket. In response, the Energy Bureau has stated that the process of evaluating such a petition must be done by revising the Approved IRP.[24] The conversion to natural gas will benefit the people of Puerto Rico since this fuel is a more economical solution. Given its characteristics and content, this gas does not impair air quality, so it is accepted by environmental regulators.

In the Proposed IRP, PREPA also presented the Energy Bureau with a proposal to replace all the existing eighteen (18) peaking units as a long-term supply-side generation resource. The Energy Bureau only approved 147 MW, which amounted 7 new peaking units, 3 mega generators installed in Palo Seco Power Plant and 4 black start units to be installed at Costa Sur and Yabucoa.

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[23] *Petition for Leave to Conduct Works in PREPA's Steam Units to Achieve Environmental Regulatory Compliance* (February 11, 2022); *Motion to Submit Letter Sent By the Oversight Board, to Reiterate the Petition to Initiate Works to Comply with Environmental Regulations, and Request for Technical Conference* (June 3, 2022); *Second Motion to Reiterate Petition for Leave to Conduct Work to Achieve Environmental Regulatory Compliance and Request for Technical Conference* (June 24, 2022); Motion to Inform Reallocation of 404 Funds and Request for Approval of Generation Projects (August 2, 2022); Partial Request for Reconsideration of the August 3 and 18 Orders (September 3, 2022). See, Annex C. PREPA herein incorporates and adopts by reference all the arguments presented in these motions.

[24] *See e.g. Resolution and Order* entered in case no. NEPR-MI-2021-0002, *In Re: Review of the Puerto Rico Electric Power Authority's 10-Year Infrastructure Plan – December 2020* on September 15, 2022 ("In view of the above and considering there is no pending proceeding before the Energy Bureau to modify the Approved IRP or to approve a new IRP, as well as the fact that PREPA recognizes that the Approved IRP and the Modified Action Plan do not include the conversion of SJ 7-10, the Energy Bureau deems that PREPA's request for reconsideration is not warranted. Therefore, the Energy Bureau DENIES the September 3 Motion. The Energy Bureau reminds PREPA that, although an IRP shall be reviewed and updated every three (3) years, provided there is a substantial change in the energy demand or in the set of resources needed to meet the demand for energy, the review process may be conducted before such period, to respond and mitigate changes in the energy demand or in the set of resources needed to meet the demand for energy. Besides, should circumstances arise, for just cause, the Energy Bureau may grant waivers or exemptions to an approved IRP. Any modification to the Approved IRP must be carried out using the applicable legal procedures prescribed by the law and the Energy Bureau's regulations.")

In its motion of August 2, 2022, PREPA requested the Energy Bureau to approve the replacement of 11 additional peaking units, for which FEMA already obligated funds and a feasibility study was performed that resulted in a positive recommendation to execute such replacement.

During the recovery efforts after the passage of Hurricane Fiona, PREPA struggled to provide enough reliable generation capacity due mainly to the unavailability of several peaking units, which are the main players in restoring the power after a total blackout. These recent operational conditions clearly show the need for and importance of having enough available dependable generating units to promptly restore the service and supply critical customers.

Even though the Energy Bureau approved the repair of the peaking units, this measure is not enough to assure a reliable response of the existing emergency generation after major events. Given the forecasts of more frequent and stronger weather disturbances, it is recommended that the peaking units are dependable and available any time, which is hardly achieved with old generating units, like PREPA´s existing peaking units. In addition, the reliable integration of significant amounts of renewable energy with the power system requires managing the intermittency of such resources and the transition between the day and night hours. New peaking units will provide a better and more efficient management of these conditions than the existing units.

2. PREPA will undertake a procurement process to upgrade a supply-side resource that was not previously included as part of an approved IRP

The conversion of the San Juan Steam Units and the replacement of eleven peaking units are subject to the approval of the Energy Bureau. Should the Energy Bureau grant PREPA leave to convert the San Juan Steam Units and to replace the eleven peaking units, PREPA will undertake all applicable procurement processes to modify and procure the units, respectively.

When the Energy Bureau grants PREPA approval to move forward with these critical projects, PREPA will submit the initial SOWs to COR3. After the SOWs are approved and the projects receive a PW number, and thus, the funds are obligated, PREPA will conduct all procurement and contracting processes following state law. These processes include PREPA's internal and binding processes and following Regulation 8815, when applicable.

3. The data used in the formulation of its approved IRP requires significant modification that affects the choice of a resource contemplated in the approved IRP

A portion of the data used in formulating the Proposed IRP as inputs and adopted by the Energy Bureau in the Approved IRP must be modified to accommodate the converted San Juan Steam Units.

With the submittal of the Proposed IRP, PREPA presented a list of the existing units that are part of PREPA's generation fleet and were considered for developing the 20-year planning period horizon. Prop. IPR at p. 4-3, Exhibit 4-5. The submittal shows that PREPA considered San Juan Steam units 7 and 8 with the caveat that both were affected by Mercury and Air Toxics Standards (MATS) limitations. PREPA also indicated that both units would retire by 2023 and 2021, respectively, due to their age, condition, and the costs to bring units in compliance with MATS. Steam units 9 and 10 were not considered in PREPA's models because two (2) out of the four (4) San Juan Steam Units were listed as out of service. PREPA noted in the Proposed IRP that while the San Juan 7 and 8 units were included in the model, and 9 and 10 were not, from a modeling perspective, they are fully interchangeable and, should PREPA determine in the future that San Juan 9 was more reliable than one of the other units, it may be substituted without impacting modeling results. *Id.*

Thus, the data submitted for modeling purposes that the Energy Bureau ultimately adopted regarding available units and retirements must be amended to reflect two (2) additional units in San Juan, that is to include steam units 9 and 10, and to consider the four (4) San Juan Steam Units converted to dual-fuel capable units, operating mainly on natural gas, but with the capability of using fuel oil no. 6 as back-up fuel.

In addition to the above, the Proposed IRP included several data assumptions that have not happened and need to be updated:

- The load forecast showed a significant decline in the energy demand.
- Low or very low prices of renewable resources[25].
- Location of new renewable resources is distributed across the main island, adding most of the generation capacity to the north of the island.

1. PREPA will make a Major Change to the Modified Action Plan before filing the following IRP proposal.

Under Regulation 9021, a Major Change includes a *modification* of a generation plant having a *nameplate capacity of 50 megawatts or greater*. Regulation 9021 at 1.08(B)(23). As detailed above, San Juan Steam Units have a nameplate capacity of 100 MW each and are currently built to generate using fuel oil no. 6, also known as Bunker C fuel. With this petition, PREPA requests the Energy Bureau to approve a limited amendment to the Approved IRP and Modified Action Plan to allow PREPA to modify the San Juan Steam Units to units with dual-fuel capability; which can burn natural gas as the primary fuel and also maintain no. 6 fuel oil as a back-up fuel option.

[25] The reference o mid cases between years 2019 and 2025 used LCOE values for PV from $63/MWh to $78/MWh and the low cases between those years used LCOE values from $59/MWh to $68/MWh, all in 2018 dollars.

PREPA requests the Energy Bureau to update or amend the Approved IRP to allow PREPA to conduct a Major Change to the San Juan Steam Units.

Per Section 2.05(D) of Regulation 9021, PREPA shall proposed for the Energy Bureau review, the components of Section 2.03 of Regulation 9021 that should be applied to the analysis of the proposed update or amendment. Therefore, PREPA proposes updating the following components of Section 2.03 of Regulation 9021:

- Section 2.03(C)(1)(a) – Forecast Peak Demand and Energy: PREPA will provide updated data.
- Section 2.03(D)(1)(c) – Existing Supply-Side Resource Supplemental Data: PREPA will provide updated data relevant to the proposed projects.
- Section 2.03(F) – New Resource Options: PREPA will provide updated data relevant to the proposed projects.
- Section 2.03(G) – Assumptions and Forecasts: PREPA will review and update the relevant data to the proposed projects.
- Section 2.03(H)(2)(d) – Preferred Resource Plan: PREPA will review and update the data and analysis relevant to the proposed projects.
- Section 2.03(K)(1) – Action Plan Documentation: PREPA will review and update the data and analysis relevant to the proposed projects.

IV. CONVERSION OF THE SAN JUAN STEAM UNITS

PREPA asks the Energy Bureau to allow a limited update or amendment to the Approved IRP to enable PREPA to convert the San Juan Steam Units to operate with natural gas as a primary fuel and be able to continue using no. 6 fuel oil as backup fuel. This amendment would help PREPA achieve compliance with the State Implementation Plan and add 400 MW of more economical and cleaner generation.

A. ENVIRONMENTAL CONSIDERATIONS AND THE STATE IMPLEMENTATION PLAN

As an electric utility, PREPA must comply with different environmental laws and regulations, including the Clean Air Act (CAA)[26] and the comprehensive federal law regulating air emissions from stationary and mobile sources. This law authorizes the EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and welfare and regulate air pollutants, including hazardous ones.

Under Section 107(a) of the CAA, each state, territory, or local air district is responsible for submitting a SIP to specify how NAAQS will be achieved and maintained within each air quality control region. 42 U.S.C. § 7407(a). The CAA also requires that the U.S. Environmental Protection Agency (EPA) review and approve SIP that meet the requirements of the Act. In the case of Puerto Rico, compliance with the CAA requires the Department of Natural and Environmental Resources (DNER) to submit a SIP for EPA's approval concerning the 2010 1-Hour Sulfur Dioxide (SO_2) NAAQS. [27]

The EPA designated the Guayama-Salinas and San Juan air districts as nonattainment areas for the SO_2 NAAQS, effective April 9, 2018. EPA's nonattainment designation was based on SO_2 modeling results from modeling performed on these air districts. On May 2016, the Government of Puerto Rico decided to use the EPA's approved air dispersion model (AERMOD) as the strategy to demonstrate compliance with the SO_2 NAAQS.

[26] Clean Air Act, Public Law 95-95—August 7, 1977.

[27] On March 10, 2022, DNER opened a proceeding to evaluate the SIP and the amendments to the RCAP, by publishing notices of public hearing regarding its intent to adopt a SIP, and amendments to RCAP. On April 9, 2022, PREPA submitted written comments on this prior version of the proposed SIP ("March 2022 proposed SIP") (Attached as Annex D), and on April 11, 2022, PREPA submitted additional comments during the public hearing. On August 26, 2022 DNER published notices of public hearing regarding (i) its intent to adopt the SIP, and (ii) amendments to RCAP. On October 7, 2022, PREPA submitted comments to these (Attached as Annex E). PREPA hereby adopts by reference the arguments presented to the DNER in the attached comments.

The air district of Guayama-Salinas includes part of the municipalities of Guayama and Salinas. In the case of the San Juan air district, it includes the municipality of Cataño and part of the municipalities of San Juan, Guaynabo, Bayamón, and Toa Baja. These air districts cover the area where PREPA's Aguirre, San Juan, and Palo Seco steam plants are located.

Given the nonattainment designation by EPA under the CAA, the DNER must submit a final SIP for EPA approval, which shall provide for attainment of the 2010 1-Hour SO_2 NAAQS in the Guayama-Salinas and San Juan nonattainment areas **by April 9, 2023**. The SIP was due to EPA by October 9, 2019. Because the DNER missed the October 9, 2019, deadline EPA issued the *Findings of Failure to Submit (FFS) SIP Required for Attainment of the 2010 1-Hour Primary Sulfur Dioxide (SO_2) NAAQS*, with an effective date of December 3, 2020. 85 Fed. Reg. 69,504 (Nov. 3, 2020). The FFS triggers CAA deadlines for EPA to impose mandatory sanctions if EPA has not determined that Puerto Rico made a complete SIP submittal and starts a 2-year clock for EPA to issue a Federal Implementation Plan (FIP).

According to the current Puerto Rico SIP process, EPA should have determined that the DNER's final SIP submission was complete by June 3, 2022, to avoid the imposition of 2-to-1 offset sanctions in the nonattainment areas. Since DNER did not meet the SIP submission on that date, each new ton of SO_2 emitted from any new or modified source in the nonattainment areas must be offset by a two-ton reduction. In addition to PREPA's power plants, the 2-to-1 offset sanction applies to all facilities considered emissions sources in the nonattainment areas. To achieve compliance with EPA's regulations, the 2-to-1 offset sanction will require all the owners and operators of emissions sources in the nonattainment areas to implement emissions control measures for twice the emissions in comparison with their actual emissions. This sanction

increments the operational and maintenance costs of operating industrial and commercial facilities in the nonattainment areas, affecting the economic development in these areas.

Furthermore, if EPA does not determine that the SIP is complete **by December 3, 2022**, additional sanctions will apply, consisting of a moratorium on roads and highways funds for *all* projects in the nonattainment areas, except projects related to safety. These projects generally include new roads or improvements to existing roads and highways. Puerto Rico depends on receiving federal funds for developing roads and highway projects, which can amount to over $144 million annually. These federal funds or part of them would enter into a moratorium if the SIP submitted by the DNER is not declared complete by December 3, 2022. Considering the current fiscal situation of the Government of Puerto Rico, if the roads and highways funds moratorium sanctions are applied, the safe transit across the roads and highways in the nonattainment areas would be adversely affected due to the lack of funds to execute the necessary maintenance, repairs, and construction on these roads and highways.

As part of the development of the SIP, the DNER has modeled the SO_2 emissions in the Guayama-Salinas and San Juan air districts and found that these areas cannot achieve attainment if PREPA continues using fuel oil no. 6 (Bunker C) and regular diesel fuels in the generating units of Aguirre, San Juan, and Palo Seco Power Plants, absent generating unit retirements. When modeling combustion turbines using ultra-low sulfur diesel (ULSD), the emissions are reduced but not enough for achieving attainment because of the emissions that are produced in the units that continue using fuel oil no. 6. In the absence of generation retirements, various modeling runs indicated that achieving attainment in the relevant air districts would require burning natural gas in existing steam units of Aguirre, San Juan, and Palo Seco Power Plants.

Looking for an environmental compliance strategy that allows PREPA's thermal units to remain operational while the reliable transition to new renewable energy resources is achieved, PREPA has held several meetings with DNER and EPA staff in recent months. During these meetings, the DNER and PREPA agreed on the dual priorities of providing reliable electricity to the residents of Puerto Rico and meeting the NAAQS requirements for the benefit of the people's health and welfare.

On December 9, 2021, PREPA's Executive Director and DNER's Secretary held a meeting with Ms. Lisa F. García, Regional Administrator of EPA Region 2, at EPA's New York office.[28] During this meeting, the parties discussed the possible emission reduction scenarios that can bring attainment of the SO_2 NAAQS, including the possibility of switching to natural gas as an option and long-term conversion to renewable energy sources. EPA's parallel SIP process for meeting the approaching deadlines was also discussed.

Among others, Ms. Lisa F. García from EPA states in her letter:

> EPA is encouraged that PREPA is committed to continue working with PR DNER, and to provide the necessary technical information to perform the air quality modeling analysis for the San Juan and Guayama-Salinas nonattainment areas, determine appropriate 1-hour SO_2 emission limits, and identify other potential control strategies that are enforceable and can be implemented in a timely manner.
>
> With respect to the assertion in PREPA's letter that it cannot retire certain baseload generating units as ordered by the Puerto Rico Energy Bureau, through the [Approved IRP], and that it intends to seek a modification of the IRP, EPA understands that PREPA is obliged, under Puerto Rico law, to comply with the IRP and that avenues exist for PREPA to seek modification of the IRP by the Puerto Rico Energy Bureau. EPA also notes that any modification to the IRP must ensure compliance with all environmental regulations and laws.
>
> EPA encourages PREPA to continue to work with PR DNER to explore options for bringing the areas into attainment with the health-based 1-hour SO_2 standard. Perhaps an interim approach would be for PREPA to provide

[28] A copy of EPA's letter to PREPA summarizing this meeting discussion is attached to this motion as Annex F.

> PR DNER with a combination of emission reduction strategies to reach attainment.

Annex F Ms. F. Garcia letter at p. 2.

Considering the priorities of providing reliable electricity and meeting the SO_2 NAAQS, the DNER and PREPA identified the following action items as feasible strategies for achieving attainment:

- Integration of renewable energy as mandated by the Approved IRP and Modified Action Plan.
- Substituting fuels used in existing thermal generating units.
- Development of an SO_2 monitoring network within the designated nonattainment areas for demonstrating attainment with the NAAQS.

Consistent with these actions, in the short-term, PREPA will:

- Continue participating in the renewable energy and storage RFP tranches mandated in the Modified Action Plan.
- Substitute regular diesel with Ultra-Low Sulfur Diesel (ULSD) fuel at combined cycle units, combustion turbines, and the aero-derivative machines located at the San Juan, Palo Seco, and Aguirre Power Plants.
- Comply with the DNER's requirements for developing an SO_2 monitoring network.

Regarding this short-term strategy, PREPA has already completed the Tranche 1 RFP process, is participating in the Tranche 2 RFP process (to the extent allowed by the Energy Bureau), is taking steps for substituting regular diesel with ULSD fuel and is following the DNER's requirements to implement the SO_2 monitoring network.

As Section II of this petition explains, given the renewable resources interconnection conditions, achieving Act 82-2010's[29] renewable portfolio standard's (RPS) goals safely and reliably is a long-term effort, given the renewable projects' completion date is not contemplated in the following year. Accordingly, it is impossible for the SO_2 NAAQS SIP to solely rely on implementing the new resources' integration mandated by the Approved IRP and Modified Action

[29] *Public Policy on Energy Diversification through Sustainable and Alternative Renewable Energy in Puerto Rico*, Act. No. 82 of July 19, 2020, as amended, 22 LPRA §§ 8121 – 8136 ("Act 82-2010").

Plan to attain the NAAQS. To adequately maintain a safe and reliable electric service for the people of Puerto Rico, PREPA will need to execute the necessary actions to keep its steam units operational and in compliance with environmental regulations. As explained, modeling results indicate that attaining the SO_2 NAAQS would require burning natural gas at existing steam units. Thus, in the short- and medium-term, pursuing the substitution of fuel oil no. 6 with natural gas in the San Juan, Palo Seco, and Aguirre Power Plants would be an appropriate course of action.

This course of action will allow PREPA to keep the northern and southern base units online to guarantee the continuity and reliability of the electric service, operate with the reserve margins required by being an isolated electrical system and at the same time in compliance with environmental regulations.

Currently, there is no natural gas infrastructure on the premises of the Palo Seco and Aguirre power plants. This constraint, together with the delayed schedule for the integration of renewable resources, does not allow PREPA to establish a SO_2 compliance strategy relying solely on the integration of renewables or natural gas fuel switching for the steam units at the Palo Seco and Aguirre Power Plants. PREPA will continue focusing on finalizing the Tranche 1 renewables and energy storage projects mandated by the Approved IRP and Modified Action Plan. Once there is a more precise renewables integration schedule, PREPA will present an additional SO_2 SIP compliance strategy and commitments related to natural gas for the Palo Seco and Aguirre Power Plants. The SO_2 limitations in the SIP cannot be met solely with the new resources' integration mandated by the Approved IRP and Modified Action Plan. At the same time, PREPA needs to maintain a safe and reliable electric service for the people of Puerto Rico. To meet the limitations imposed, PREPA will execute the necessary actions to keep Palo Seco and Aguirre steam units

operational and comply with environmental regulations. This will be done in consultation with the relevant regulatory entities, such as EPA, DNER, and the Energy Bureau.

In the case of the San Juan Power Plant, there is natural gas infrastructure in place which is currently supplying the San Juan Combined Cycle units 5 and 6. This existing infrastructure can be used to provide natural gas to the San Juan Steam Units to achieve attainment with SO_2 in the San Juan air district. Converting the San Juan Steam Units to generate energy with natural gas will allow them to remain in operation while in compliance with environmental regulations. At the same time, renewable resources are to be safely integrated into the electrical system. Considering the above, PREPA has determined to pursue conversion of San Juan Steam Units to combust natural gas to achieve attainment with the 2010 1-Hour SO_2 NAAQS mandated in the CAA. Accordingly, PREPA, at this moment, seeks leave from the Energy Bureau to pursue this project of paramount importance, which will benefit the people of Puerto Rico in the following ways:

1. It is an essential step to achieving attainment with the 2010 1-Hour SO_2 NAAQS in the San Juan air district and, consequently, helping the Government of Puerto Rico to avoid costly sanctions, especially those that represent losing federal funds for road and highway improvements.
2. Burning natural gas in the San Juan Steam Units will significantly reduce emissions to the air of SO_2 as well as other pollutants, which has a direct effect on the environment and health of the People of Puerto Rico, particularly those that live and work in the municipalities of San Juan, Guaynabo, Bayamón, and Toa Baja. A summary of the DNER modeling results showing the reduction in emissions when burning natural gas in the San Juan Steam Units is attached to this motion in Annex G.
3. Converting the San Juan Steam Units to operate with natural gas as a primary fuel source will also achieve compliance of these units with the MATS required by EPA, 40 CFR Part 63 Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants, which became effective on April 16, 2012. As such, several PREPA units were subject to the regulation on the Non-Continental Liquid Oil Fired Electric utility steam-generating unit. As an environmental and regulatory compliance strategy, PREPA effectively committed and completed the dual-fuel conversion of its Costa Sur units5 and 6, adding natural gas to the operation and reducing the use of fuel oil no. 6. Similarly, PREPA is adopting this compliance strategy with the regulation by achieving the dual-fuel conversion project for the San Juan Steam Units.

4. Because natural gas is a much cleaner fuel than fuel oil no. 6 (Bunker C), the operations and maintenance costs of burning natural gas in the San Juan Steam Units would be lower than those of burning No. 6. This reduction in operations and maintenance costs results in savings that would be passed over to the customers.
5. The fuel market prices of natural gas do not fluctuate much as those of petroleum derivatives, like diesel and no. 6 fuels. In addition, natural gas prices tend to be lower than diesel and no. 6 fuel prices. These economic aspects result in a more stable and lower fuel cost for the customers.

B. The Conversion is Feasible

The San Juan Steam Units' conversion to combust natural gas as primary fuel is feasible. This conversion was assessed in 2011 when PREPA conducted evaluations to convert Costa Sur steam units 5 and 6 to operate mainly on natural gas fuel. The assessment summary reports of the conversion of San Juan units 7 and 8 and of San Juan units 9 and 10 are attached to this motion as Annex H and I, respectively. At that time, PREPA conducted evaluations, with the support of generating units' original manufacturers, for the conversion to operate with natural gas fuel in the steam units at Costa Sur, Aguirre, Palo Seco, and San Juan. This resulted in a plan to convert these power plants' steam units to dual-fuel capability and operate mainly with natural gas. One of the primary purposes of this fuel conversion plan was to comply with MATS environmental rules. In addition, the natural gas supply to the San Juan Steam Units is possible without building significant additional infrastructure. Currently, a natural gas supply station is located adjacent to the North side of the San Juan power plant, which already supplies natural gas to units 5 and 6. Further, PREPA has confirmed that there is availability to provide the natural gas volume needed for all the San Juan steam units once they are converted.

1. Added capacity and reliability

The conversion of the San Juan Steam Units would provide an added capacity of 400 MW, which will not be modified after the conversion works are finalized. Nevertheless, due to pending

environmental restrictions and repairs, the available capacity of the San Juan Steam Units, units 7 and 9, is limited to 163 MW. Therefore, once the San Juan Steam Units are repaired and converted to burn mainly natural gas, the electric system will have an additional 237 MW to serve as baseload generation and will, in turn, be reliable generation compliant with the 1-Hour SO_2 NAAQS and MATS. This added dependable generation capacity is essential for renewable energy's reliable and safe integration into the power system.

Given that the highest concentration of load in the north and in the metropolitan area, the contribution of 237 MW from San Juan Steam Units and 440 MW from San Juan CC, will contribute in a significant manner in the restoration of the electric system, and the control of the northern voltage profile.

Operating with reduced or limited generation in the northern base units (San Juan and Palo Seco) where the highest concentration of load is located, may cause the operational margins of safety in stationary regime were reduced and the electrical system is predisposed to voltage instability problems. The increase in the levels of real and reactive power transfer in the 230 kV and 115 kV circuits in the transmission system (especially in the main south-north links), due to the reduced or limited generation in the north, reduces the margins of transfer capacity to handle situations of outages, contingencies, and clearances.

Following the Energy Bureau's reasoning when it approved the San Juan 5 and 6 steam units' conversion to operate with natural gas in January 2019,[30] and as the situation remains today, Puerto Rico needs reliable base load generation to provide much-needed stability for the system. In the case of Puerto Rico, given the lack of baseload from hydro or nuclear, and the projected retirement

[30] *See Resolution and Order* approving the conversion of San Juan 5 and 6 steam units to dual-fuel units, *In Re: Request for Proposals for Conversion of San Juan Units 5 & 6 to Natural Gas*, case no. CEPR-AP-2018-0001.

of coal-fired generation in 2027, the best option for environmentally compliant base load during the integration of renewable sources of generation would be natural gas-fired generating units. As with the San Juan 5 and 6 conversions, the conversion of the San Juan Steam Units will make available to PREPA necessary base load generation in a relatively short timeframe.

2. Conversion project schedule

PREPA projects that the execution of the engineering, procurement, and construction (EPC) of the San Juan Steam Units conversion project and the completion of the environmental permits of all these units would take from five (5) to ten (10) years. It is estimated that the completion of each unit's environmental permits could take eighteen (18) to twenty-four (24) months. For illustration purposes only, assuming January 2023 as the effective date of the EPC contract, what follows is a hypothetical project schedule:

Unit	**Project Start**[31]	**Project Completion**
San Juan 8	January 2023	December 2024
San Juan 10	January 2025	December 2026
San Juan 7	January 2027	December 2028
San Juan 9	January 2029	December 2030

This schedule shows a period of eight (8) years for converting all SJ 7-10. However, a reasonable contingency period of two (2) years should be added to this schedule, considering that the conversion project could be affected by unforeseen and extraordinary events such as atmospheric disturbances or earthquakes, among others. Therefore, the San Juan Steam Units conversion project could take ten (10) years.

[31] The project start date refers to commencing the process of obtaining the required preconstruction permits and needed predesign engineering studies.

However, PREPA, as a result of this, proposes that a phased approach for the conversion be taken and approved. PREPA requests the Energy Bureau to consider supporting the conversion of units 8 and 10 first. These units are not currently in service; therefore, taking this offline to perform the conversion works will not affect the near-term forecasted available generation. Then, after units 8 and 10 are converted, and in service, PREPA would take units 7 and 9 offline to commence the conversion works. This phased approach strives to not limit the current generation available to the operator while the conversion works are being performed.

3. Cost estimate of the conversion

As explained above, PREPA will amend the SOW approved for the new CC and use the funds for other projects, which include the conversion of the San Juan Steam Units. Out of the available funds, once the Energy Bureau grants PREPA's petition for leave to convert the units, PREPA will allocate $138.5M for this project. This cost-estimated is based on a previous fuel conversion study conducted on SJ 7-10.

C. An Expedited Process to Evaluate PREPA's Request for the Limited Amendment is Warranted

PREPA requests the Energy Bureau to expedite the consideration of the limited update or amendment to the Approved IRP and Modified Actin Plan that PREPA herein requests.

Currently, PREPA requested FEMA an extension for submitting the SOW of the conversion of San Juan Power Plant Steam Units, as the 404 HMGP funds have an expiration date, which was going to expire during the current month of October. Hence, PREPA respectfully requests the Energy Bureau to expedite the evaluation of the request included herein. In addition, the SIP shall be presented to the EPA for evaluation during the current month, so the Government of Puerto Rico complies with the process and is not exposed to further sanctions

PREPA understands that it is convenient to have an initial technical conference to discuss the petition to amend the Approved IRP and Modified Action Plan and also to discuss a schedule for the consideration of the project. It is hereby requested that this technical conference is scheduled as soon as possible. A conference will allow PREPA to thoroughly discuss this petition with the Energy Bureau, receive feedback and requests for any information that may be missing, and accelerate the process.

Given the deadlines mentioned above and the importance of meeting those pressing milestones, PREPA understands that the expedited scheduling of a technical conference is warranted.

V. THE AMENDMENT HEREIN REQUESTED DOES NOT AFFECT THE IMPLEMENTATION OF THE MODIFIED ACTION PLAN

Approving the San Juan Steam Units' conversions will not alter the Modified Action Plan's implementation. The Modified Action Plan's main target is procuring renewable energy and battery storage through six (6) tranches. PREPA will continue to support Tranches 2-6, as effectively as possible and as the Energy Bureau allows. This support will not be affected by the conversion and peaking units replacement projects.

The only mandate that may be altered is the retirement schedule set forth by the Energy Bureau as outlined in the Modified Action Plan, but, at this time, such retirement does not have a firm date of implementation, and the conditions precedent to these retirements have not materialized.

When PREPA presented the Proposed IRP to the Energy Bureau, it included in the maximum modeled capacity only two (2) of the four (4) San Juan Steam Units. Prop. IRP at p. 4-3, Ex. 4-5. PREPA Existing Units Included in the IRP. However, PREPA noted that while San Juan 7 and 8 were included in the models, and 9 and 10 were not, from a modeling perspective, they were entirely interchangeable. *Id.* For example, if PREPA determined that San Juan 9 is more reliable

than one of the other units, it may be substituted without impacting model results. As to retirement schedules, PREPA proposed to retire San Juan 7 in 2023 and San Juan 8 in 2021 due to their age of over fifty years since first commissioned, their condition and the costs that it would entail to bring the units to comply with MATs. Prop. IRP at p. 4-1, Ex. 4-2. The data provided during the IRP proceeding did not include two (2) of the San Juan Steam Units and retired the remaining two (2) during the implementation of the Action Plan. The Energy Bureau adopted PREPA's approach and incorporated it into the Modified Action Plan.

The Modified Action Plan incorporated PREPA's plans to retire the oil-fired steam resources over the next five (5) years at San Juan, including units 7, 8, 9 and 10. App. IRP at p. 270, ¶ 870. The Energy Bureau stated that:

> PREPA will retire these units based on the installation schedule and location of any new peaking generation, new solar PV, and energy storage resources to address overall and local resource adequacy. The exact retirement sequence will depend on the amount and location of replacement resources procured by PREPA. However, the Energy Bureau **ORDERS** this to occur during the term of this Modified Action Plan and **WARNS** PREPA that undue delays in the retirement of these units will result in stringent penalties.

Id. at ¶ 871.

Therefore, when considering the causes precedent established by the Energy Bureau to proceed with the retirement of the oil-fired steam units, the retirement of the San Juan Steam Units *is not* due yet.

Pursuant to the Approved IRP, "PREPA should retire its older, oil-fired steam assets in order of the declining cost to operate when they are no longer necessary for system reliability," (*Id.* at p. 10, ¶ 64) and that the retirement should happen when the units "are no longer necessary for reliable system operations." *Id*. at p. 193, ¶ 630. The Approved IRP further provides that the generating units retirement schedules determination be "dependent on achieving specific reliability

milestones: completion of new battery energy storage capacity, potential additional peaking capacity, and obtaining [demand response] resources and peak load reduction through [energy efficiency] provision." *Id.* at pp. 14 - 15, ¶ 92.

In summary, the retirement of the generation units shall occur upon the reliable integration of new resources with the power system. Therefore, PREPA must keep existing generating units operational and running until the reliable integration of new resources is completed. According to the IRP Order, the thermal units' retirement must be "in accordance with PREPA's caveats[32] indicating a need for replacement capacity, assurance of meeting the overall reliability needs, and in alignment with more specific timing thresholds described in the Modified Action Plan." *Id.* at p. 193, ¶ 630. In tandem with the above, the Energy Bureau adopted PREPA's caveats and limitations related to the retirement of existing generating units, which provide that:

> - The recommendations are based on other prerequisite developments which include the forecasted reduction in load, assumed levels of reliability of the remaining of the existing fleet at the time of retirement, and the commissioning of the new generation resources and
> - the retirement of existing generating units should only be implemented after all the prerequisites above have been met, mainly that all new resources are fully operational, and units planned for retirement are not required for reliable system operation.

PREPA's proposed IRP, Part 9, Caveats and Limitations, no. 17, p. 9-4.

Following this, PREPA is committed to determining the generating units' retirement schedules consistent with the Approved IRP and Modified Action Plan and keeping the units operational until they are no longer necessary for reliable system operations. Given that the decision to retire existing generating units depends first, on the forecasted reduction in load, which not occurred since the system demand in the last three years increased, and second, on the reliable integration of new resources, the new generating facilities shall be fully operational and

[32] Included in PREPA's proposed IRP at Part 9, Caveats and Limitations, No. 17, p. 9-4, filed in case no. CEPR-AP-2018-0001, *In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*.

dependable, which not occurred since Tranche 1 projects are in studies phase, the other Tranches have not been realized, these prerequisites must be met before existing generating units are retired. Otherwise, retiring existing units before the new resources are interconnected and fully functional will substantially reduce the system's reliability, resulting in prolonged outages affecting thousands of customers' health, safety, and quality of life.

In the event of a major event (storms, hurricanes, earthquake) where south-north lines are out of service and substantial portions of the grid, renewable facilities like PV, and wind generation systems, have been damaged. The generating units' retirement compromises the system's ability to deliver power to critical loads, such as hospitals and other essential services during and immediately following an extreme weather event. Puerto Rico electric system operates as an isolated system, which means it is not interconnected to other electric systems, so it depends on the black start and peaking units, which are the first resources used to begin the system restoration.

In addition to the generating capacity considerations, the retirement schedules shall consider the ancillary services provided by most of the existing generating units, like reactive capacity, voltage and frequency regulation, plus the necessary electrical system improvements. Also, the synchronous generators internal characteristics like inertia, damping, among others.

Accordingly, and given the development and interconnection timeline for the renewable projects, PREPA currently needs to maintain all its generating units fully operational and available. Furthermore, PREPA must guarantee strict compliance with other regulatory mandates, like environmental regulations, while the existing units remain operational during the transition phase.

Consequently, as shown, the Modified Action Plan will only suffer a discrete amendment that will not affect or alter the rest of the plan and projects in progress to fulfill those plans.

VI. IN THE ALTERNATIVE, THE ENERGY BUREAU SHOULD GRANT PREPA A WAIVER OF THE APPROVED IRP

PREPA understands that there are grounds for the Energy Bureau to allow a limited amendment to the Approved IRP. However, Section 1.9 of Act 17-2019 provides for the Energy Bureau to grant dispensations or waivers from the IRP for just cause. PREPA respectfully requests the Energy Bureau to grant such dispensation. In this case, and pursuant to PREPA's requests, granting a waiver is warranted because there is just cause to grant such a remedy.

Just cause is a general term used in a wide array of legal analysis. This concept has been defined as that cause outside the legal cause that is based on reasonable grounds and there must be an honest reason and regulated by good faith. I. Rivera García, *Diccionario de Términos Jurídicos*, 3ra ed., Puerto Rico, LexisNexis, 2000, pág. 142. What constitutes just cause is defined on a case-by-case basis. *Pueblo v. Valdés*, 155 DPR 781 (2001). The just cause requirement excludes ambiguous justifications, excuses or stereotyped approaches. Rojas v. Axtmayer Ent., Inc., 150 DPR. 560 (P.R. Mar. 21, 2000) (revoking a judgment in which the Court of Appeals dismissed a certain application for appeal, concluding that the term of service was breached without just cause). The just cause requirement is met by means of concrete and particular explanations, duly evidenced and that allow a court to conclude that the delay or delay occurred reasonably due to special circumstances. *Id*.

There is just cause to grant PREPA a waiver from the Approved IRP to allow the conversion of the San Juan Steam Units. PREPA, owner and administrator of the generation assets, has thoroughly evaluated how the allocation of the 404 HMGP funds best serve the People of Puerto Rico. PREPA's engineers and experts, which have the expertise gained through the vast experience of having worked at PREPA for over thirty (30) years, determined that keeping the four (4) San Juan Steam Units in service for an additional period and converting them to combust with natural

gas is the best investment of the grant. Considering as threshold that the conversion project is to be funded as a hazard mitigation project, it is safe to say that there is no other project that PREPA can perform at this time that would bring the hazard mitigation and resiliency that the conversions can. As stated above, maintaining the four (4) San Juan Steam Units online and operating with natural gas a primary fuel will help mitigate the impact of depending on the transmission lines that take the generation from the south to the north of the Island, would help with the integration of renewables and, at the same time, will produce economies to the customers because natural gas has been historically the most economical fuel that PREPA has used. Furthermore, converting the San Juan Steam Units will allow PREPA to present the DNRA, and thus in turn EPA, a feasible SIP to achieve environmental compliance.

Moreover, it is justified that the Energy Bureau grants a waiver at this time to proceed with the conversion and maintain the units online because time is of the essence. As stated above, to avoid losing the 404 HMPG funds, PREPA was supposed to complete the application package for the conversions and other projects that PREPA propose, by October 2022. Even though PREPA requested an extension of this date, FEMA is evaluating this request and, thus, time is of the essence, and this is more than just cause to grant the dispensation herein requested. PREPA respectfully states that there is no time to engage in lengthy processes. Steering away from long processes will not cause any harm to other parties. Rather, losing the funds would mean to neglect providing the People of Puerto Rico much needed additional reliable and cost-efficient generation. Further, it is not only that there are several benefits from the conversion, but also that the conversions would come to Puerto Rico at **no cost.**

Additionally, a dispensation is also warranted and the most desirable option between the dispensation and the amendment process because the clock is not running out only for the 404

funds, but also for the submittal of the SIP that is fully backed by the corresponding approvals of the Energy Bureau in order to be able to provide EPA a feasible plan that can be found compliant before the December 3, 2022 deadline.

WHEREFORE, PREPA respectfully requests that the Energy Bureau **GRANT** PREPA leave to amend the Approved IPR and grant PREPA the authorization to convert the Units 7, 8, 9 and 10 of the San Juan Power Plant to dual fuel burning capacity with the added capability of burning natural gas.

In San Juan Puerto Rico, this 11th day of October 2022.

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CERTIFICATE OF SERVICE

It is hereby certified that, on this same date, I have filed the above motion with the Office of the Clerk of the Energy Bureau using its Electronic Filing System at https://radicacion.energia.pr.gov/login, and a courtesy copy of the filling was sent to LUMA through its legal representatives at margarita.mercado@us.dlapiper.com and laura.rozas@us.dlapiper.com.

In San Juan, Puerto Rico, this 11th day of October 2022.

f/ Joannely Marrero Cruz
Joannely Marrero Cruz

ANNEX A-I

REQUEST TO AMEND IRP- ANNEX A-I