

PUERTO RICO ELECTRIC POWER AUTHORITY

House Committee on Natural Resources

Oversight Hearing on

PREPA Post Implementation of the LUMA Transmission and Distribution Contract

October 6, 2021

**Statement of Fernando Gil Ensenat, Chairman, Governing Board
and Josué A. Colón Ortiz
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Chairman Grijalva, Ranking Member Westerman, and members of the Committee, thank you for the opportunity to appear before you today to discuss the current status and ongoing transformation of the Puerto Rico Electric Power Authority and Puerto Rico's electric grid. My name Fernando Gil Ensenat. I am the Chairman of PREPA's Governing Board. With me is Josué A. Colón Ortiz; he was appointed PREPA's Executive Director on September 29, 2021.

PREPA appreciates the interest the Committee has expressed in progress PREPA has made in implementing the June 22, 2020 Operation and Maintenance Agreement with LUMA Energy. I will address this subject first, and will also address questions I understand the Committee may have concerning the status of former PREPA employees following the LUMA transition. I will then describe recent generation outages and what PREPA has done and is doing in response. I will offer a brief update as to where we stand in taking advantage of federal funding for the restoration of facilities for which PREPA remains responsible. I will also offer an update on PREPA's progress in advancing its renewable energy generation and energy storage procurement program.

I want to start by acknowledging that PREPA continues to face difficult challenges on a number of fronts. These include a PROMESA Title III restructuring process that has been underway since July 2017, and serious liquidity constraints. Added to this have been several severe weather events, including Hurricanes Irma and Maria in 2017, which destroyed or severely damaged much of PREPA's transmission and distribution system. Then came earthquakes in December 2019 and January 2020, which did serious damage to the Costa Sur Generating Station, one of PREPA's largest, and led to limits on the amount of liquified natural gas that can be stored at the EcoEléctrica facility for use in generating power. The COVID-19 pandemic has affected and continues to affect every aspect of life in Puerto Rico, including the pace at which repairs on the T&D system and PREPA generating facilities can be completed. Most recently, failures at a number of PREPA's generating facilities have required rotating load shedding to balance available electricity supply with demand.

To complicate these challenges, the Authority is undergoing a fundamental transformation, as required by Puerto Rico law. It is conducting perhaps the most ambitious program to procure

renewable generation and energy storage resources currently being pursued anywhere in the U.S. At the same time, PREPA has transitioned responsibility for operation and maintenance of its transmission and distribution system, in what was the largest transaction of its type ever completed in the United States. PREPA is evaluating a similar transition of responsibility for the operation, maintenance and decommissioning of its generating fleet to third parties. The PREPA organization has become much smaller than it was even a year ago, and significant changes in senior management have been made in the past ten days.

PREPA's handling of these challenges has been uneven. We have made mistakes. We are making changes intended to benefit from lessons we have learned and to improve our performance. Among these are very recent senior level changes, including my appointment as Chairman of PREPA's Governing Board and Josué Colón's appointment as Executive Director. The purpose of these changes, and others we will be making, is to position PREPA to achieve the goals established in recent laws and the approved Integrated Resource Plan.

We take our obligations to the people of Puerto Rico seriously, and are working to address the many challenges I have just described. We remain committed to the transformation of PREPA and Puerto Rico's electric system to one that is reliable, resilient, efficient, clean and customer-centric.

Status of the LUMA Transition

The recent transition of the transmission and distribution system to LUMA was complex. The transition required the transfer on June 1, 2021 of large numbers of employees from PREPA to LUMA, the cutover of billing systems, and the transfer of responsibility for call centers, all effective on June 1. At the same time, PREPA and LUMA had to manage the handover of responsibility for dispatching generation, responding to outages and performing day-to-day transmission and distribution system maintenance. The transfer of responsibility for running the system took place as scheduled on June 1, and the preparations PREPA and LUMA had made leading up to that date were equal to the challenge. LUMA succeeded in taking over the T&D system and the dispatch of generation on June 1, as scheduled, with minimal disruption. There were some significant problems following the transfer. Among these were a substation fire, which was caused by the failure of outmoded equipment, not anything specifically related to the transition. And there were customer outages that were unrelated to the transition.

Since the June 1 transition, PREPA and LUMA have been adjusting to their new roles, with PREPA now solely responsible for the operation and maintenance of its generating assets and LUMA responsible for the operation and maintenance of the T&D system and generation dispatch. Our organizations are committed to the transformation of Puerto Rico's electric sector.

I should stress that no PREPA employee who was in good standing as of June 1 was terminated as a result of the transition. All PREPA employees whose functions were being transferred to LUMA

under the O&M Agreement were either given the opportunity to move to LUMA, at salaries comparable to their pre-existing salaries, or to take positions with Puerto Rico government agencies. Just prior to the June 1 transition, PREPA had 5,321 employees. As of June 8, LUMA had recruited 1,190 PREPA employees. Currently, PREPA has 1,260 active employees.

Recent Generation Outages

PREPA's fleet of generating facilities is old, outmoded, inefficient and expensive to run. PREPA's approved Integrated Resource Plan envisions that most of these units will be retired over the next ten years, in favor of new generation from renewable sources as well as energy storage. The IRP also envisions the retirement of the AES generating facility, as required by Puerto Rico law, by year-end 2027.

PREPA suffered a large number of generating facility outages in late August and through September. They had a variety of causes, but many had to do with the advanced age of PREPA's generating fleet. PREPA's newest baseload units are 25 years old, and the rest average over 40 years old. PREPA's ability to expend funds on maintenance and upgrades has been constrained by the Title III process, liquidity challenges and the need to address damage resulting from hurricanes and earthquakes. The execution of maintenance and repair work has also been affected by measures required in response to the COVID-19 pandemic. Over the past 45 days, several of PREPA's largest steam generating units were forced out of service. This, along with some faults in the transmission system and the limited availability of backup generation, meant that there was less generation available than was required to meet demand during peak periods. To address the generation resource shortfall, LUMA was required to shed load to allocate the limited electricity supply.

The most significant generating unit outage involves the Costa Sur generating station. On August 22, a transmission line fault led to loss of two of the San Juan generating units and transmission system fluctuations that affected generating facilities in the south, including Costa Sur. Those fluctuations led to vibrations which eventually forced Costa Sur Unit 6 offline and damaged the steam turbine rotor. Repairs of that equipment will take several months. In the meantime, a spare turbine rotor has been sent for repair in St. Louis. That repair should be completed and Unit 6 back in service within 4 months, subject to inspection results. Costa Sur Unit 5 suffered a rupture in its boiler and was taken out of service on September 13 for repairs. A break in the main steam line prevented the unit's return to service as scheduled on September 14. Welding work to repair that break was completed at the beginning of this week. Costa Sur's difficulties are particularly frustrating for PREPA, since following the January 2020 earthquakes PREPA invested around \$40 million to repair and restore both Costa Sur units and to eliminate a maintenance backlog. These repairs were effective, but the Costa Sur plant, being an old plant, remains vulnerable to age-related failures.

The Palo Seco Generating Station experienced several events beginning August 31 that have limited its available capacity. Unit 3 suffered boiler ruptures on August 31, and again on September 6. Unit 3 was limited on the September 25-26 weekend due to sargassum clogging of cooling water systems. This unit tripped again on September 27 due to a broken economizer. Repairs have been completed. Palo Seco Unit 4 was offline from September 11 to September 12 because of water chemistry issues, and was again offline on September 28 because of a turbine lubricating oil leak which burned a cable tray and affected a pump's hydrogen seal and a motor turning gear. This unit should be repaired and back in service by this weekend.

PREPA's Aguirre station, another large and old generating facility, has suffered a variety of boiler and pump failures in recent weeks. Most recently Unit 1 tripped offline because its cooling water intake system became clogged by sargassum and Unit 2 was limited due to the same event, as well by issues with a regulator valve.

In 2019, PREPA installed combustion turbines at its Palo Seco generating station to provide backup generation and system support. Those turbines were operated under temporary emergency waivers from the Environmental Quality Board after the January 2020 earthquakes. PREPA would have liked to have run those turbines last month to make up for the loss of generation at other facilities, but could not because it needs a clearance from the Environmental Protection Agency. So the new Palo Seco combustion turbines have not been available during the recent generation outage events. PREPA continues to seek the required air permits, and is ready to commission the combustion turbines once it has the necessary EPA authorization. We need EPA to act soon.

Fortunately, during late August and September, when several of PREPA's generating units were forced offline, the AES generating facility was consistently available. During that time the EcoEléctrica combined cycle generating facility was also generally available.

PREPA and its contractors are working hard to repair PREPA's damaged generating facilities. And PREPA is actively in the market seeking commitments from developers to add a large amount of renewable generation and energy storage to replace its aging generating fleet, as I will discuss.

Status of Federal Funding of Generation, Dam and Hydroelectric Projects

As required by the Federal Emergency Management Agency and Puerto Rico's Central Office for Recovery, Reconstruction and Resiliency, or COR3, PREPA has developed and has since updated a 10 Year Plan for the repair and renewal of Puerto Rico's electric grid as well as damaged generation, dam and irrigation facilities with federal support. The first version of this Plan was submitted on December 7, 2020, and an updated Plan will be submitted every 3 years. On September 21, 2021, PREPA submitted a 90 Day Plan that addresses areas covered by the 10 Year Plan on which PREPA will be focusing and executing over the next 90 days. With the 10 Year Plan in place, and processes for project review and approval by the Puerto Rico Energy Bureau, COR3 and FEMA now established and well understood, PREPA is now in a position to begin to

advance repair and renewal projects eligible for FEMA funding that were first identified three years ago, in the wake of Hurricane Maria.

Over the past 5 months PREPA has succeeded in advancing a large number of projects through the early stages of the FEMA/COR3 process. This has required the involvement of the Puerto Rico Energy Bureau, which must approve T&D and generation projects, as well as the Financial Oversight and Management Board for Puerto Rico, whose sign-off is also necessary. The process is complex, demanding and time consuming. The first projects, which were jointly submitted for approval by PREPA and LUMA, did not receive the required Energy Bureau approvals until June 8, 2021. Now with these approvals in hand, PREPA and LUMA can begin architectural and engineering design work that will feed into project approval submittals to be made to COR3 and FEMA.

With the transfer to LUMA of responsibility for Puerto Rico's transmission and distribution system, PREPA's efforts relating to FEMA federal disaster relief funding are now focused on projects involving generation, dams, hydroelectric facilities and irrigation. There are currently 41 generation, dams and hydro projects for which PREPA expects to receive FEMA funding. LUMA now has responsibility to secure from the Energy Bureau and FEMA authorizations for projects involving the transmission and distribution system. T&D system projects will absorb most of the funding that FEMA has obligated for Puerto Rico electrical infrastructure; generation projects for which PREPA remains responsible are a small portion – under 10 percent – of the total.

Of the roughly \$10.7 billion in funding that has been obligated for investments in Puerto Rico electric and related infrastructure, PREPA is now responsible for generation, dam, hydroelectric and irrigation projects that as of today would involve investments of approximately \$2.5 billion under FEMA's 428 and 404 programs. This amount will change as engineering analyses are performed and project scopes are more clearly defined. Of this amount, approximately \$900 million has been identified for generation projects, and nearly \$1.6 billion has been identified for dams, hydro and irrigation projects. Some repairs have been completed for which PREPA has sought or will seek reimbursement through COR3 from FEMA. Early in September PREPA received Puerto Rico Energy Bureau approval to proceed with 14 of 20 projects, and the other 6 projects were approved on September 28. PREPA submitted the first group of 14 approved projects to COR3 and FEMA for the establishment of required FEMA project numbers the same day the Energy Bureau approved them.

Around 61% of all federally funded generation, dam, hydro and irrigation projects have been started in the sense that a scope of work is under development. To date PREPA has received around \$500,000 in federal reimbursements. We are in early days, so the dollar spend is low, being focused on architectural and engineering design work. The spend will ramp up as projects move from the design phase into implementation.

Before project construction can commence, PREPA must submit projects to the Energy Bureau for its approval and, having received this, then must submit a scope of work to FEMA. That scope of work has to be detailed enough to enable FEMA to evaluate the environmental and historical resource impacts of the individual project. Depending on the nature of the project, at least 30% of the project design work needs to be completed in order to provide FEMA the information it needs, and for projects that may have significant impacts, as much as 100% of the project design work may need to be completed. The process takes a great deal of time. It can be set back by delays, for example, in obtaining FOMB approvals for renewal of professional services contracts for firms assisting PREPA in complying with FEMA and COR3 requirements.

PREPA has recently submitted a request to COR3 for reimbursement of \$7.1 million for architectural and engineering work required in connection with generation and dams, hydro and irrigation projects identified for FEMA funding. Those funds should be disbursed to PREPA this week. So we are making progress, slowly, in obtaining access to the FEMA funds that have been identified for projects involving generation, dams, hydro and irrigation.

Status of PREPA's Renewable Generation/Energy Storage Procurement Process

As required by its approved Integrated Resource Plan and orders of the Energy Bureau, PREPA has embarked on one of the most ambitious efforts being undertaken anywhere in the United States to procure new renewable generation and energy storage resources. Over the next three years, to comply with Energy Bureau directives, PREPA will seek commitments from third party developers to permit, construct, own and operate a total of 3,750 MW of renewable energy generation resources and 1,500 MW of energy storage resources. PREPA issued a Request for Proposals for renewable generation and energy storage systems on February 22, 2021. This was Tranche 1 of 6 Tranches; in this first Tranche, as the Energy Bureau directed, PREPA sought commitments to develop at least 1000 MW of renewable generation and to develop energy storage systems having capacity of at least 500 MW.

The response to PREPA's first RFP has been encouraging. Quantities of both renewable generation and energy storage offered were greater than the targets PREPA identified for the first Tranche. Last Thursday PREPA communicated to participants in the first Tranche PREPA's decisions as to which proposals have been selected to advance to "Phase III" of the RFP process. More than three dozen project proposals will be considered and given the opportunity to be awarded contracts in this third and final Phase. This could result in over 40 individual contracts with generation, storage and virtual power plant project developers. PREPA and its advisors will complete System Impact Studies and Facility Studies addressing the interconnection of each project to the transmission and distribution grid, and PREPA will make interconnection cost estimates based on these studies available to each project proponent. It will then invite each proponent to make its best and final price offer. PREPA expects to commence the final contract

documentation process with individual project proponents in October, and expects to complete this process in November and December of this year. The Energy Bureau-mandated target is for the selected projects to commence commercial operation within 24 months of contract execution.

PREPA will issue its Tranche 2 RFP by mid-October. In this second Tranche, as the Energy Bureau has directed, PREPA will seek to procure at least 500 MW of renewable generation capacity and at least 250 MW of energy storage capacity. The remaining 4 Tranches will be issued at 6 month intervals over the next couple of years.

We are pleased with the interest we have seen among developers in responding to Puerto Rico's urgent need to add clean and reliable generating resources to the island's electric grid. PREPA is committed to making its renewable procurement process a success, and to the goal of transforming Puerto Rico's electric system to one that is reliable, resilient, environmentally sustainable and customer-centric.

Conclusion

In compliance with the applicable laws and regulations, PREPA continues to work with LUMA to implement the LUMA O&M Agreement and to support LUMA in its efforts to transform the Puerto Rico transmission and distribution grid. Our organizations share the goal of making the grid more reliable, resilient, cleaner, affordable, and more customer-centric. Our relationship is good and improving.

PREPA is doing all that it can to address and resolve the problems that have led to an unacceptable number of outages in its aged and inefficient generation fleet. Recent management changes at PREPA are intended to reinforce the Authority's commitment to turning this situation around.

PREPA is making progress in securing federal funding to support the renewal of generation and hydro assets, though the process continues to be complex and time-consuming. PREPA, the government of Puerto Rico, and all the people of the island appreciate the federal funding that will help us do this. It will make a huge difference for our people. I want to thank members of Congress for their support for the transformation of the Puerto Rico Electric system through the federal funding mechanisms they have established.

And finally, PREPA is focused intently on advancing its procurement of new renewable and energy storage capacity as quickly as possible. Initial indications on this front are positive. More generally, PREPA remains fully committed to continuing on the path of transforming Puerto Rico's electric sector and to a future in which energy is cleanly and efficiently produced and reliably distributed to the people of Puerto Rico at reasonable cost.

Thank you for the opportunity to appear before you today.