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PUERTO RICO ELECTRIC POWER AUTHORITY

Written Statement of José F. Ortiz Vázquez

House Committee on Natural Resources
Hearing on the Rebuilding and Privatization of the Puerto Rico Electric Power Authority
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Introduction

This written statement is submitted on behalf of Mr. José F. Ortiz Vázquez, Executive Director and Chief Executive Officer of the Puerto Rico Electric Power Authority, or PREPA. Mr. Ortiz has held the position of CEO since July 23, 2018.

In his testimony, Mr. Ortiz describes PREPA's vision for the modernization of the Puerto Rico electric system and a future in which renewable sources of electric energy will be prevalent, and the transmission and distribution ("T&D") system will be hardened, made more resilient and operated by a third party under a public-private partnership arrangement. In that future, generation resources will be developed, owned and operated by private parties selected through competitive processes. Mr. Ortiz summarizes several of the most significant steps which PREPA, in cooperation with Puerto Rico's Public Private Partnership Authority (the "P3 Authority"), has taken with the support of the Puerto Rico Fiscal Agency and Financial Advisory Authority ("AAFAF") and the Governor to make this vision a reality. These include recent changes in PREPA's governance structure, including the appointment of several new Board members; the current status of PREPA's implementation of its Fiscal Plan; improvements in PREPA's operations and liquidity position; progress PREPA has made in developing its Integrated Resource Plan and in seeking to procure new generation resources; the status of the planned process for the privatization of PREPA's T&D system and for the future development and ownership of existing and new generation resources; the current status of efforts to reconstruct Puerto Rico's electric system; and successes PREPA has achieved in restoring and improving key elements of its infrastructure. Mr. Ortiz notes that this progress is being made thanks to unprecedented consensus in Puerto Rico on energy matters, as witnessed by the recent passage of the bipartisan Puerto Rico Energy Policy Act, and under the leadership, support and cooperation of the Governor, the P3 Authority, the Fiscal Oversight and Management Board for Puerto Rico (or "FOMB") and AAFAF.

Overview – Recent Developments and Progress within PREPA

As the Committee is aware, Puerto Rico has embarked on an historic effort to transform its energy system. PREPA's goal, in line with the goals that have been articulated by Governor Ricardo Rosselló, is a consumer-centered, innovative electric system that is resilient, reliable, efficient, sustainable and environmentally friendly, and that will deliver energy that is affordable. PREPA's role in this system will be different from the role it has played in the past. Puerto Rico law provides for the privatization of PREPA's T&D system; the current expectation is that this will be done through a public-private partnership arrangement under which the system will be operated, maintained and improved by a third-party operator. PREPA also anticipates that the

development of new generation resources and, perhaps, the ownership and operation of some existing PREPA generating facilities, will generally be undertaken by private parties.

The process of privatizing the T&D system is now well underway with the support of the P3 Authority and AAFAF. PREPA is working with other Puerto Rico agencies and stakeholders, including AAFAF and the P3 Authority, to create conditions in which new generation may be developed, and existing generation may be modernized and made more efficient. At the same time, PREPA is making significant progress in reforming its structure and operations, stabilizing its finances, enhancing customer service, reducing costs and emissions, and continuing the reconstruction and hardening of its systems and facilities.

1. PREPA Governance Changes

In late December 2018, Governor Rosselló announced the appointment of David K. Owens, Charles Bayless and Robert C. Poe as independent members of PREPA's Governing Board. These three new members have substantial experience in the electric utility industry and in public sector participation in the industry. Before his recent retirement, Mr. Owens was Executive Vice President of the Edison Electric Institute, the trade association of investor-owned electric utility companies, and an acknowledged authority on the structure of the electric utility industry, sector transformation and mutual assistance operations. Mr. Bayless, a former president of Tucson Electric Power and Illinois Power, has worked for many years with electric utilities experiencing operational or financial difficulties and in the restructuring of the electric industry. Mr. Poe, a resident of the island municipality of Vieques, is the former CEO of three state-owned companies similar to PREPA, and has worked with the U.S. Senate Committee on Energy & Natural Resources to secure resources required for the recovery of Vieques and Culebra. These three new Board members will play critically important roles in supporting PREPA's ongoing reconstruction and transformation.

2. PREPA Fiscal Plan Implementation and Improvements in Operations & Liquidity Position

a. Operating within approved budget and ahead of schedule in developing the next budget

On September 30, 2018, the FOMB approved PREPA's fiscal year 2019 budget as compliant with the relevant provisions of the Puerto Rico Oversight, Management and Economic Stability Act ("PROMESA"). Through the second quarter of fiscal year 2019, PREPA's gross revenues have been approximately 8% higher than budgeted. Total volumes of energy generated over the corresponding period were 1% above projected levels.

PREPA has benefited from its experience in collaborating with the FOMB in developing its now-approved 2019 budget. PREPA is currently on schedule in the development of its 2019-2020 fiscal year budget, in collaboration with the FOMB.

b. Paid off the $300 million Commonwealth loan and continued to improve customer billings and liquidity position

In February 2018, in the wake of the devastation wrought by Hurricanes Irma and María, Puerto Rico's Central Government granted PREPA a loan of $300 million. The loan provided needed financial liquidity while PREPA worked to stabilize Puerto Rico's electric system and to restore

its cash flow from operations. On March 8, 2019, this loan was paid in full, with interest at the rate of 5%. This was an important milestone in PREPA's, and the Commonwealth's, recovery.

Another important milestone was PREPA's completion of its efforts to reconnect 100% of its customers and restore its ability to read meters and bill for service. With essentially all customer revenue meters once again operating and supplying customer data, PREPA has restored its ability to bill and collect for services rendered, putting its revenue base on a more secure footing and enhancing its ability to manage liquidity. PREPA is succeeding in its efforts to manage its cash balances and expenditures, collect past-due aged accounts receivable and generally improve its liquidity position.

c. Achieving improvements in system efficiency

PREPA's generation operations are improving, though more work remains to be done. Working with its advisors, PREPA has been developing an economic generation dispatch model that is designed to allow it to operate its generating fleet more efficiently, reduce costs and enhance grid reliability. Though work on the model is still ongoing, PREPA has significantly enhanced its ability to dispatch generation resources on a least cost basis, consistent with the maintenance of system reliability and security. As transmission system repairs continue to be completed, PREPA will gain additional dispatch flexibility, enabling it to achieve additional efficiencies and cost savings through economic dispatch, without compromising system reliability and security. PREPA anticipates that this economic dispatch initiative should yield savings in Fiscal Year 2019-20 of approximately $24 million. Additional savings and reliability improvements are expected once additional system improvement projects (such as battery energy storage systems) can be installed.

PREPA is also pursuing performance improvement initiatives at existing generating facilities that will most significantly benefit from more robust maintenance programs. These initiatives will improve both plant reliability and efficiency, and should save around $60 million in FY 2019-20.

Fuel cost is the single largest item in the PREPA budget. It, together with the cost of purchased power, accounts for around 70% of PREPA's expenses. A focus on improving the efficiency of the fossil fuel-fired generating fleet can result in overall annual savings in the hundreds of millions of dollars when compared to the manner in which the system has consumed fuel in the past. PREPA is devoting enormous efforts to measures that will improve fuel consumption efficiency at existing generating facilities or will permit substitution of lower cost fuels. At the same time, PREPA has focused on more proactively managing the levels of fuel inventories it maintains and in has put into place fuel procurement strategies that minimize the cost of maintaining those inventories. This reduces PREPA's need for working capital and improves its overall liquidity position. Improving fuel consumption and inventory management practices, PREPA projects, will yield savings of around $10 million in the current fiscal year, and from $13 million to $15 million in the 2020-21 fiscal year. These savings directly benefit all of PREPA's customers.

d. Achieving fuel cost savings and reducing reliance on petroleum fuels

Heavy fuel oil and diesel fuel continue to be among the most significant expense items PREPA must manage. Although it has recently taken important steps to diversify away from these fuels, PREPA must continue to purchase substantial quantities of them, since currently 68 percent of PREPA's generating capacity is fueled by oil. PREPA is currently engaged in negotiations with its suppliers of heavy fuel oil and diesel for extension of its current fuel supply agreements. It has succeeded in securing new fuel supply agreements that displace diesel fuel with natural gas, which will both substantially reduce PREPA's fuel costs and reduce emissions associated with PREPA's operations.

i. <u>Natural gas supply and conversion – San Juan Units 5 & 6</u>

After multiple attempts over many years, in July 2018 PREPA launched a competitive bid process seeking proposals for the supply of natural gas or another fuel to Units 5 and 6 of the San Juan Combined Cycle Power Plant, and the conversion of those units to run primarily on gas. Through competitive tender that attracted six qualified proponents, PREPA selected a proposal put forward by NFEnergía LLC, an affiliate of New York-based New Fortress Energy. NFEnergía's bid was selected on the basis of fourteen grading criteria, which included experience and capacity, approach and methodology, and price. NFEnergía offered the lowest delivered fuel prices, the highest level of cost savings and a commitment to deliver gas earlier and on more flexible terms than any other proponent had offered. On March 5, 2019, PREPA and NFEnergía entered into a contract for the supply of natural gas and the conversion of San Juan Units 5 and 6. The initial term of the contract is five years, with options for PREPA to extend it for three additional five-year periods.

NFEnergía will supply natural gas to the power plant from its micro fuel handling facility in the Port of San Juan, which has been under development for more than a year. This facility is being constructed with multiple truck loading bays to provide liquefied natural gas to on-island industrial customers and micro-grids. The conversion of San Juan Units 5 and 6 and the construction of the micro fuel handling facility are anticipated to be complete by mid- 2019.

The NFEnergía Fuel Supply and Purchase Agreement is the most flexible fuel supply agreement in PREPA's portfolio, and PREPA's advisors report that it is one of the most flexible LNG/gas supply agreements in the world. It places no annual or other long-term off-take commitments on PREPA and allows PREPA to manage its fuel supply to respond to unexpected changes in demand or generation, thereby improving operational efficiency and cost savings.

PREPA estimates that the conversion of San Juan Units 5 and 6 from diesel to natural gas could generate fuel cost savings of $500 million over five years, and may produce savings of $80 million - $100 million in FY2019-20. The conversion will also significantly reduce greenhouse gas emissions, thus improving air quality in the San Juan region. In addition, the San Juan 5 and 6 conversion project will bring natural gas to the north of Puerto Rico for the first time, achieving one of the strategic objectives of the Island's energy sector. It will also reduce the use of diesel fuel for power generation in Puerto Rico by 60% or more.

The completion of the San Juan 5 & 6 conversion will enhance the reliability of PREPA's system, particularly in the San Juan area. PREPA is extremely pleased to have executed the

NFEnergía Agreement and looks forward to beginning to consume gas in the first converted unit in June of this year.

ii. Natural gas supply and conversion – Costa Sur

In the spring of 2018 PREPA completed upgrades that permit full time operation of the Costa Sur plant, a large electric generating facility located on the southwest side of the Island, on natural gas. Since that time PREPA has developed plans to improve reliability of the Costa Sur fuel system, with those steps expected to be completed by June 2019.

The conversion of the Costa Sur plant to run primarily on natural gas is expected to yield fuel cost savings in FY 2019-20 of around $21 million. It will also significantly reduce emissions of greenhouse gases relative to those experienced when the facility runs on petroleum-based fuels.

iii. Fuel oil and diesel contract negotiations

Freepoint Commodities LLC supplies heavy fuel oil to PREPA. Currently, PREPA pays the market price of heavy fuel oil plus a per barrel adder fee for deliveries to the San Juan and Palo Seco generating facilities and a somewhat larger adder fee for deliveries to the Aguirre and Costa Sur generating facilities. The existing contract with Freepoint is set to expire on October 31, 2019. The extension offer that is being negotiated drops the adder fees to a price that is dependent upon when the contract extension is formally accepted. These lower fees would come into effect immediately and would result in adder fee savings of approximately $10.1 million for FY 2019-20 and $13.7 million for FY 2020-21.

Puma Energy Caribe, LLC supplies diesel to PREPA. Currently, PREPA pays market price for diesel plus a per barrel adder fee for delivery. The current contract with Puma expires in July 2019. The extension offer that is being negotiated provides tiered pricing of the adder fee based on volume purchased. Given the planned conversion to natural gas of San Juan Units 5 and 6, PREPA's diesel consumption is forecasted to fall in 2019 by more than half relative to diesel consumption in prior years. That PREPA is forecasted to consume 60 percent less diesel fuel in 2019 than in 2018 has put PREPA in a challenging negotiation position with Puma; nevertheless, PREPA anticipates that its overall spend on diesel fuel will decline very significantly.

e. Exploiting opportunities to secure and improve cash collections

One of the areas in which PREPA has made great strides recently is in its improvement of cash collections. After the hurricanes ravaged Puerto Rico in September 2017, PREPA faced the challenge of rebuilding a customer billing infrastructure that was damaged by the storms, while at the same time PREPA's customers were experiencing their own personal and financial turmoil. In light of the timing of PREPA's effort to reestablish monthly billings to nearly all customers and in recognition of the human toll that the hurricanes took on its customers, PREPA chose to not discontinue service to any customer for non-payment through November 2018. Beginning in December 2018, PREPA notified all of its customers that it was reinstituting service shut-off for non-payment of bills. Since this notice was given to customers, PREPA has collected approximately $100 million of non-current receivables from residential, commercial and industrial customers.

f. Continuing to improve operations, achieving savings and enhancing liquidity

PREPA is taking steps to improve customer service, and improve cash collections, through the implementation of a number of initiatives. One of these is E-Billing. A new PREPA website with electronic billing capacity has been launched, and a marketing campaign presenting the benefits of e-Billing will be rolled out in the second quarter. In addition, PREPA plans to introduce "Smart Meters" to the customer base to reduce theft, manage energy consumption, and modernize the technology assets. PREPA has qualified six Proponents for an Advanced Metering System through a Request for Qualifications and Information and expects to issue a Request for Proposals in April. PREPA is also working to improve customer service and enhance its cash collections by providing an on-island, overflow-only call center to augment the existing call center. An RFP for this outsourced overflow call center is currently in flight. Taken together, these initiatives, once implemented, could produce savings in the neighborhood of $265 million in Fiscal Year 2019-20, depending on the time required to deploy the new metering system.

Another important initiative involves improvements in PREPA's management of its construction contracts. PREPA's existing contract management systems and outsourcing practices were developed in an earlier era, when PREPA had 12,000 employees and produced nearly twice the amount of energy it produces today. With a current headcount of approximately 5,711 full-time equivalent employees, PREPA is significantly smaller in terms of total employees today. Many of the employees no longer with PREPA, many as a result of retirements and attrition, were skilled in a variety of operational disciplines, and PREPA has had to outsource some of the functions these skilled employees previously performed. In addition, PREPA has been taking steps to "right-size" its work force and achieve meaningful productivity gains. The result has been that PREPA has increasingly had to look outside its organization for construction and maintenance support. To address these changes, PREPA is implementing a new contract management and processing program that has been designed to promote safety in the utility's contract workforce while maximizing productivity, imposing construction quality control measures, and enhancing financial predictability. This program will improve PREPA's management of its many construction programs, from contract award through contract close-out, while achieving productivity gains and reducing the incidence of safety issues.

Infrastructure Vision

In partnership with the Puerto Rico Energy Bureau (the "Energy Bureau"), the Central Office of Recovery, Reconstruction and Resiliency ("COR3") and the P3 Authority, PREPA is currently planning for the development and build-out of resilient, efficient, cost-effective, and environmentally-friendly electrical infrastructure for Puerto Rico and its people. This infrastructure will include a hardened T&D grid, most likely consisting of eight micro-grids, that will be more reliable and resilient in the face of natural disasters and will be capable of rapid restoration following emergencies. It will be designed to be able to withstand an extreme category 4 storm (such as María) with sufficient margins to ensure high survivability for a category 5 storm. Puerto Rico's electric generation mix will incorporate large amounts of renewable generation, supplemented by battery energy storage systems, as well as modern, highly efficient and flexible conventional generation, most of which will be fired by clean-burning and abundant natural gas. This mix will yield energy cost savings that could approach

$1 billion per year for Puerto Rico electricity consumers, and should result in reductions in CO_2 emissions of as much as 50 percent in 10 years

PREPA has presented to the Energy Bureau an Integrated Resource Plan ("IRP") which lays out a number of alternative scenarios through which its infrastructure vision may be achieved. The Energy Bureau has directed PREPA to provide further information and to address certain gaps the Energy Bureau has identified. PREPA intends to work collaboratively with the Energy Bureau, COR3 and the P3 Authority on the finalization of an IRP that will provide a detailed roadmap to the transformation of Puerto Rico's energy system.

1. Puerto Rico's goals for electric generation

PREPA envisions a future, just a few years from now, in which Puerto Rico will have deployed more renewable generation and battery storage relative to both electric load and installed capacity than any other jurisdiction in the United States. Puerto Rico's objectives relating to generation include:

- Reducing reliance on fuel oil and overall fuel costs;
- Modernizing the generation fleet, retiring inefficient units and increasing the development of renewable energy and natural gas-fired facilities;
- Investing in facility repairs and enhancements to improve system reliability;
- Leveraging proven energy storage, distributed energy, and "mini-grid" technologies to provide greater flexibility, reliability, and resiliency of energy supply;
- Improving dispatch capabilities by implementing modern technologies; and
- Improving overall system operational flexibility.

Consistent with these objectives, it is likely that all new generation assets in Puerto Rico will be owned and/or operated by private entities, and existing PREPA-owned generation will be sold or privately managed.

2. Development of an Energy Grid Modernization Plan

A major focus of PREPA, working with COR3 and the P3 Authority, with input from the U.S. Department of Energy, has been development of the Energy Grid Modernization Plan (the "EGM Plan"). This Plan includes programs and initiatives that are intended to permit fulfillment of key objectives for the electric system identified in the Governor's Recovery Plan. It is driven by the recognition that Puerto Rico's unique geography calls for a decentralized, cleaner and transformed energy system in order to achieve the goals of reliability and resiliency. The purpose of the EGM Plan is to expedite the implementation of a preferred plan utilizing procurement options presented by the P3 Authority, identify the pricing structure necessary to retain existing natural-gas fired generation in the south, consider locational alternatives for new large scale highly-efficient natural gas-fired combined cycle generating facilities, ensure reliable capacity in the San Juan area, and enhance the T&D system in ways that will support the planned expansion of renewable utility-scale solar PV generation and battery storage systems.

The EGM Plan's key principles include:

- Repairing and hardening the T&D system to current codes and standards for critical infrastructure and high risk areas;
- Decentralizing generation and moving as quickly as possible to cleaner, sustainable energy sources;
- Deploying "islandable" grids in order to increase grid flexibility and resiliency across Puerto Rico;
- Transforming IT and OT systems so that they can fully support operation of distributed energy resources; and
- Adopting and implementing an Emergency Preparedness Plan.

The EGM Plan will drive a transformation that will result in a more flexible and decentralized grid. It envisions around $21 billion in total capital expenditures, averaging $2.0 billion per year, with maximum annual capital expenditures of $3.18 billion in year three. Of this total, 59 percent would be for transmission, distribution and substation repair, hardening and reinforcement. A significant share of the funding envisioned by the EGM Plan will be provided by the Federal Emergency Management Agency, or FEMA, through its Public Assistance program; the bulk of this funding will be allocated to T&D system reconstruction and hardening. FEMA funding support for the EGM Plan is warranted because execution of the Plan will provide the quickest recovery possible, reduce the costs of rebuilding relative to alternatives, and make future disasters less damaging and deadly.

3. IRP Submitted to Energy Bureau

PREPA is required, under Puerto Rico Act 57 of May 27, 2014, to prepare an IRP generated through a detailed planning process which considers all reasonable resources required to satisfy the demand for electrical services over a twenty year planning horizon, including resources related to energy supply and demand. The IRP is required to take into account resiliency, reliability, and stability of the power system, and the measures it recommends must be fully compliant with current and future environmental regulations. The Energy Bureau's Regulation No. 9021 states that an IRP is intended to serve as a "useful tool to guarantee the orderly and integrated development of Puerto Rico's electric power system, and to improve the system's reliability, resiliency, efficiency, and transparency, as well as the provision of electric power services at reasonable prices."

On February 13, 2019, PREPA filed its new IRP for Energy Bureau review and approval. The IRP was developed with the assistance of Siemens Power Technology, Inc. and other PREPA advisors. It considers a large number of options and uncertainties, and reflects input from PREPA and a large number of stakeholders. Its recommendations are fully aligned with the five key pillars adopted by the PREPA Board in its Vision for the Future of Power in Puerto Rico. Accordingly, the IRP's recommendations are intended to result in an electric system that is Customer-Centric, Financially Viable, Reliable and Resilient, a Model of Sustainability, and an Economic Growth Engine. The recommendations were made on the basis of rigorous analyses of five Scenarios initially developed with input from PREPA and the Energy Bureau, to which was added a sixth Scenario consisting of the measures identified in the ESM Plan. The Scenarios were combined for comparative analysis with three different resource Strategies, one

reflecting a traditional, centralized energy system, another reflecting a system of more distributed flexible generation emphasizing resiliency and close proximity to the customer, and a third reflecting a hybrid of the first two Strategies. The Scenarios and Strategies defined candidate portfolios or resources which were then assessed in light of high, base and low load forecasts and various fuel and resource cost forecasts.

As filed, the IRP envisions the establishment of a series of mini-grids, a design for energy T&D networks that enhances resiliency by separating the existing grid into pockets of critical loads served by distributed resources that can operate in both grid-connected and "islanded" modes. These mini-grids will utilize existing distribution infrastructure and can be much larger than typical micro-grids; for example, one mini-grid will encompass the entire San Juan region. The proposed eight mini-grids will cover most of the Island and will be able to withstand or recover very quickly from a catastrophic weather event. The IRP also envisions the addition of more distributed generation resources, including more renewable resources, as well as several new, highly efficient natural gas-fired generating facilities. The distribution of these facilities around the Island is intended to reduce significantly Puerto Rico's vulnerability to hurricanes and other weather events, and to enable rapid and effective responses when such events occur. Implementation of the actions described in the IRP will improve energy efficiency, reduce fuel costs and dramatically reduce air emissions.

On March 14, 2019, the Energy Bureau issued a Resolution and Order in which it determined that certain elements of the IRP are not fully compliant with its IRP Regulation and prior orders. That Order directs PREPA to address the identified deficiencies and refile its IRP by April 15, 2019. PREPA is currently developing responses to the Order, and has asked the Board for additional time to submit those responses.

Once the Energy Bureau determines that the proposed IRP complies fully with the requirements of the IRP Regulation, an adjudicative process focused on the IRP may begin. This process offers opportunities for public input. Following its receipt of this input and its completion of its review, the Energy Bureau will approve the IRP, as it may be modified, and will approve an Action Plan reflecting the Preferred Resource Plan. The Action Plan will guide future investment in Puerto Rico's electric system.

4. <u>RFPs for new generation and infrastructure being developed and under consideration</u>

While the IRP is being considered, PREPA, COR3 and the P3 Authority have determined that they must move forward to solicit proposals to develop resources Puerto Rico will need to deploy in the near future, consistent with the preferred scenarios developed in the IRP, to ensure that adequate generation is available to meet the Island's needs, to promote the ongoing recovery, and to contribute to the reliability and resiliency of the electric system, in line with the Government's energy policy goals. To these ends, PREPA has collaborated with P3 Authority in the development of a Request for Proposals for rooftop solar and battery energy storage resources. Bid proposals have been received from a short list of qualified bidders for battery energy storage; the final bid review is on hold pending determination of availability of FEMA funding and/or government guarantee which was a prerequisite of the energy storage bidders in moving forward to contract with PREPA. The RFP for rooftop solar should be issued soon.

PREPA has also collaborated with the in the development of RFPs for replacement of defunct combustion turbine peaking units and for rehabilitation of existing hydroelectric units. These RFPs are expected to elicit responses from developers that will ultimately result in public-private partnership contracts calling for the construction and operation on an expedited basis of generation resources that will be key to the transformation of Puerto Rico's electricity system.

T&D System Privatization

One fundamental element of the planned transformation of Puerto Rico's energy system is the transfer of responsibility for the operation, maintenance, expansion and optimization of PREPA's transmission and distribution system to a qualified private sector T&D system operator by way of a long-term public-private partnership agreement. This transfer will have a number of benefits, but perhaps the most significant of them is that it will promote stability, continuity and consistency in the planning, management and operation of Puerto Rico's electric grid. By placing responsibility for T&D system management into private hands, subject of course to appropriate Energy Bureau regulatory oversight, the partnership approach will permit the private sector operator to put in place a leadership team that will be insulated from political pressures, changes in political administrations and the distractions of frequent personnel changes. This leadership team will be in a position to develop and execute on a long-term vision for the grid in a way that publicly owned enterprises in Puerto Rico have found challenging. Puerto Rico has had success with the public-private partnership agreement model in other settings, such as the long-term lease of the San Juan Luis Muñoz Marín International Airport and the PR-22/PR5 toll road, among others.

The process of privatizing PREPA's T&D system is progressing well, and PREPA continues to collaborate with AAFAF and the P3 Authority to that end. In late October 2018, the P3 Authority issued a Request for Qualifications ("RFQ") seeking statements of qualification from companies and consortia interested in managing and operating Puerto Rico's T&D system. The RFQ sought proposals supporting: (i) delivery of low-cost electricity to ratepayers of Puerto Rico; (ii) increasing system resiliency and reliability; (iii) deployment of new technologies; and (iv) implementation of industry best practices and operational excellence. Four qualified RFQ respondents – Duke Energy Corporation, Exelon Corporation, PSEG Services Corporation, and a consortium formed by ATCO, Ltd, IRM and Quanta Services – were invited in late January 2019 to submit responses to a Request for Proposal ("RFP").

Respondents have been invited to develop formal proposals as well as comments on a draft Term Sheet. Management presentations were offered last week and this week, and current plans call for distribution of an initial draft of a partnership contract by the end of April. The current schedule has proposals in response to the RFP being submitted in late July, preferred qualified respondents being identified in mid-August, negotiations with qualified respondents on the terms of their proposals continuing through late summer and early fall, and selection of the successful proponent in mid-September. The T&D system partnership contract is targeted for execution towards the end of the fourth quarter of 2019.

Generation Development and Ownership

The process of privatizing PREPA's generation fleet is in its early stages.

The current expectation is that all new generation will be owned and/or operated by private entities, with the near- to mid-term goal of fully separating ownership of the T&D and generation assets. The transformation of PREPA's existing generation assets will take place in a process, not yet finalized, independent from the T&D transformation. The process objective is to transfer the existing generation assets to private ownership and/or operation and to establish a framework wherein future generation assets are privately owned/operated, consistent with the recently established energy public policy goals previously outlined. In coming months, the P3 Authority will be providing a Confidential Information Memorandum to interested parties to begin the solicitation process covering the existing PREPA generation assets. PREPA will continue working with AAFAF, the P3 Authority and other stakeholders, including the FOMB, to attain the desired objectives and maintain compliance with the certified Fiscal Plan.

Reconstruction of the Electric System & FEMA Funding

1. Status of FEMA Public Assistance Disaster Relief Funding

PREPA is eligible for FEMA Public Assistance ("PA") Category A, B and F disaster relief funding.[1] As of April 1, 2019, PREPA has been obligated $1.88 billion in Category B funding, of which $1.34 billion has been disbursed. Only expenses incurred in connection with work performed before March 31, 2019 is eligible for Category A and B funding.

Puerto Rico elected to participate in alternative procedures for PA funding for all large project permanent work following Hurricane María.[2] Under these alternative procedures, FEMA is to provide funding for all permanent work for large projects based on fixed costs estimates. PREPA and COR3 are currently in the process of agreeing to a cost estimate with FEMA for obligation of permanent work funds pursuant to the alternative procedures. The current deadline to agree to a fixed cost estimate is October 2020.

[1] FEMA Public Assistance funding is divided in seven categories, Categories A-G. Category A and B funding is for emergency work, defined as "work which must be done immediately to save lives and to protect improved property and public health and safety, or to avert or lessen the threat of a major disaster," 44 C.F.R. §206.201(b); and Category C-G funding is for permanent work, defined as "work that must be performed through repairs or replacement, to restore an eligible facility on the basis of its pre-disaster design and current applicable standards." *Id.* § 206.201(i). Relevant here, Category A funding is for debris removal; Category B funding is for emergency protective measures; and Category F funding is for Public Utilities.

[2] Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work at 3 (FEMA-4339-DR-PR) (April 2018).

Category B Funding Obligated and Disbursed to PREPA as of 4/1/19			
Disaster	**Total Obligated**	**Total Disbursed**	**Total Cost Share**
Emergency Declaration Hurricane Irma (3384)	$12,593,074	$12,593,042	$4,197,692
Hurricane Irma (4336)	$95,507	$95,507	$31,836
Hurricane María (4339)	$1,875,617,151	$1,329,398,206	$0
Total	**$1,888,305,732**	**$1,342,086,755**	**$4,229,528**

2. Status of FEMA Funding Obligations and Project Worksheet Approvals

FEMA obligates and disburses funding through Project Worksheets ("PWs"). PWs document the scope of work and cost estimates for a given project. Each PW is intended to serve as a logical grouping of work required for individual projects, *e.g.*, Category B work for a specific contract. For an individual project, FEMA will draft a PW in consultation with the grantee (COR3) and applicant (PREPA). In order to be obligated to provide funding FEMA must approve the PW. Once approved, the grantee, in consultation with the applicant, must submit FEMA Standard Form 270, Advance or Request for Reimbursement, with validated supporting documentation (*e.g.*, invoices and inspections of work completed). In theory, upon approval of Form 270, funds are disbursed to the grantee to make an award to the applicant.

Under the Commonwealth Loan Agreement, executed February 22, 2018, PREPA was not permitted to release work to contractors for restoration services until funding was obligated by FEMA under the PW process. As of December 12, 2018, there were 35 funded PWs associated with PREPA.[3]

3. Shortfalls in FEMA Funding Obligated and Received

Section 428 of the Stafford Act, administered by FEMA, provides for funding to re-build damaged infrastructure to mitigate the probability of future disasters causing damage similar to the damage that resulted from Hurricanes Irma and María. Recognizing this, PREPA aims to harden its T&D system in vital areas to improve their ability to withstand future hurricanes. Among these are the San Juan metropolitan area, the largest load center in Puerto Rico, where a number of critical energy-dependent facilities are located; the "Pharmaceutical Corridor," Puerto Rico's economic backbone; the Humacao district, home to a number of critical loads and among the regions hardest hit by Hurricane María; and the islands of Vieques and Culebra, where new generation and distribution grids must be constructed. PREPA has sought FEMA funding to support rebuilding in these and other areas, in the total amount of $2.5 billion. Of this amount, $1.88 billion has been obligated, and $1.34 billion has been received by PREPA. So far, FEMA has obligated no dollars for permanent work. The delays PREPA has experienced are severely impeding recovery efforts and are prolonging the period in which large numbers of Puerto Ricans remain vulnerable to weather events affecting the electric system.

[3] OpenFEMA Dataset: Public Assistance Funded Projects Summaries, last updated Dec. 12, 2018.

Key Infrastructure Improvements

Even though funding has been a challenge, PREPA has succeeded in a number of important areas in executing projects that will reduce fuel costs, reduce air emissions, reduce vulnerability of the T&D system and enhance overall electric system reliability and resiliency. PREPA also has some initiatives underway that will or could yield substantial additional savings. All told, PREPA could achieve savings from established projects of $100 million, with another $200-$300 million in savings or enhanced collections from other projects, including smart meters, reliability enhancements and PPOA renegotiations, once complete.

1. Natural gas conversions – Costa Sur and San Juan 5 and 6

As previously mentioned, last year 2018 PREPA completed upgrades that permit full time operation of the Costa Sur plant on natural gas delivered to the Island in the form of LNG. The conversion of the Costa Sur plant to natural gas is expected to yield fuel cost savings in FY 2019-20 of around $21 million. Preparations for the conversion of Units 5 and 6 of the San Juan Combined Cycle Power Plant to run primarily on natural gas are now underway, and PREPA currently anticipates that natural gas will begin to displace diesel at those units as early as June of this year. Depending on the market prices of diesel fuel and natural gas over the five year initial term of the PREPA-NFEnergía fuel supply agreement, this conversion project could save PREPA and therefore Puerto Rico electricity consumers $500 million or more in avoided fuel costs. As an additional benefit, the San Juan 5 and 6 conversion project will bring natural gas to the north of Puerto Rico for the first time, achieving one of the strategic objectives of the Island's energy sector. Both the Costa Sur and San Juan 5 and 6 conversion projects will significantly reduce air emissions, as well.

2. Comprehensive vegetation management program

PREPA is working diligently to improve the reliability and resiliency of Puerto Rico's electric grid. Vital to this effort are Vegetation Management ("VM") activities which ensure that trees and other plant life are maintained at appropriate distances from existing transmission and distribution lines to minimize vegetation-related outages. Prior to Hurricanes Irma and María, PREPA was resource constrained in its ability to provide adequate, proactive Vegetation Management. Constraints included insufficient staff, equipment and strategy; the result being that PREPA's VM practices were nearly completely reactionary.

PREPA significantly lags the nation in terms of grid system reliability metrics. To address this deficiency, PREPA has initiated both near-term and long-term strategies to improve these metrics, with the goals of making electrical service to the people of Puerto Rico more reliable and improving grid resiliency in the face of future hurricanes.

PREPA currently has two local contractors providing VM work. This work is primarily focused on distribution power lines and in the near term is being targeted at the areas of the island most in need.

From a strategic perspective, PREPA is also implementing a multi-year outsourced Vegetation Management Program. This program entails PREPA developing an in-house Vegetation Management office and expertise which will oversee the program. The program will consist of a multi-year strategy to return PREPA's grid to a "maintenance" level of vegetation within the

transmission right-of-ways and in and around the distribution lines. As is industry best practice, the program will consist primarily of outsourced contracts with world-recognized specialty VM companies which will provide the labor and equipment required to accomplish the goal of minimizing vegetation-related T&D system outages and maximizing access to PREPA's facilities for maintenance and repair, and ensuring a robust and reliable transmission and distribution system.

3. Temporary generating facilities

PREPA is currently seeking to obtain three mobile generation units to be positioned in the Northern and Eastern areas of the Island. These temporary generating facilities would be used for reliability during construction and emergency power in the event of a natural disaster, and will also address reliability issues that persist as PREPA continues to restore its T&D system and improve the operational performance of its current generating assets.

4. Negotiations with Independent Power Producers to achieve purchased power cost savings

For some time now, PREPA has been engaged in negotiations with solar- and wind-power project developers with Power Purchase Operating Agreements ("PPOAs"). PREPA's goals in these negotiations are to achieve agreements that will provide environmentally friendly, reliable generation at market-reflective prices that align with those assumed on PREPA's Fiscal Plan and the IRP, will yield lower energy costs to Puerto Rico's electricity consumers, and are consistent with PREPA's need to dispatch generation on an economic basis and plans for generation reflected in the IRP.

PREPA has also been engaged in discussions with the operators of two existing large fossil fuel-fired generating facilities that supply energy to PREPA concerning the renegotiation of their PPOAs. PREPA's goals here are to achieve contract changes that reflect energy pricing assumed in the Fiscal Plan and the configuration of Puerto Rico's electric system envisioned in the IRP, which is predicated on a significant move away from petroleum- and coal-fired generating resources toward renewables and natural gas. The Fiscal Plan assumes that, as a result of the ongoing negotiations for renewable and thermal generation, PREPA will realize significant savings.

5. Request for Jones Act Waiver permitting deliveries of U.S.-sourced LNG to Puerto Rico

Along with Governor Roselló, the Puerto Rico Secretary of State and the Economic Development Bank of Puerto Rico, PREPA has filed a petition with the U.S. Department of Defense and the U.S. Department of Homeland Security for a temporary waiver of provisions of the Jones Act that preclude deliveries of natural gas produced in the United States to Puerto Rico. While the U.S. is soon to become the world's second largest supplier of liquefied natural gas, or LNG, there are no LNG carriers that qualify under the Jones Act to move LNG in bulk quantities from the U.S. mainland to Puerto Rico. So PREPA and power generator developers seeking to supply the Island cannot make U.S.-supplied LNG a part of their generating facility development plans. Unless the Jones Act is waived until a sufficient number of qualifying LNG carriers can be made available to transport LNG from the U.S. mainland to Puerto Rico, the advantages of cost-effective, favorably located LNG supply sources will be denied Puerto Rico as it modernizes its electric generation fleet, and the opportunity for mainland U.S. LNG suppliers to penetrate the Puerto Rico market will be lost.

PREPA is hopeful that DHS and the Defense Department will grant our request to permit LNG to be transported in bulk from U.S. sources to Puerto Rico on vessels that are not Jones Act qualified pending availability of enough suitable LNG carriers that can qualify under the Jones Act. If they do, Puerto Rico energy consumers stand to save hundreds of millions of dollars in fuel costs, and U.S. LNG producers will have a secure domestic market for their projects.

Conclusion

PREPA is making a good deal of progress in the rebuilding of Puerto Rico's electric system and the restructuring of PREPA itself, while energy sector transformation and privatization is completed, with the support of AAFAF, the P3 Authority and COR3. It is pursuing a vision for the future of the electric system in accordance with the public policy set by the Governor of Puerto Rico, the certified PREPA Fiscal Plan and a robust EGM Plan. Consistent with these policies and plans, PREPA has developed and plans to implement an IRP that calls for the transformation of the system to one supported by a hardened and resilient T&D system made up of microgrids, in which renewable sources of generation will take on a leading role and efficient, clean natural gas-fired generating units will displace less efficient, more costly and higher emitting oil-fired generating facilities.

PREPA, together with AAFAF and the P3 Authority, is seeking to involve private sector participants every step of the way, starting with the planned award of a public-private partnership agreement for the operation, maintenance and expansion of the T&D system. PREPA is undertaking all of these efforts within significant financial constraints and in collaboration with AAFAF and the P3 Authority given that comprehensive transformation of Puerto Rico's energy sector is a real and complex challenge. The federal government's continuing support, of course, is essential for PREPA and the Government of Puerto Rico to be able to complete this effort successfully. Additional and immediate term support from Congress and the Executive branch to (i) expedite the flow of federal funds, (ii) finalize estimates to rebuild the Island's energy infrastructure, and (iii) obtain a limited Jones Act waiver for U.S. LNG supply are high priorities for PREPA, the Government and our collective desire, together with the federal government and the FOMB, to emerge from Title III bankruptcy status as soon as possible with a strong, revitalized and modern electric system that affords the Island the ability to grow its economy sustainably and resiliently.

Much remains to be done before Puerto Rico's electric system is where it needs to be. PREPA, together with AAFAF, the P3 Authority, COR3 and other partners, will continue to work on restoration activities, and to plan to "build back better." Progress here is slower than it should be because of the continuing uncertainty around the amount and availability of federal funds from FEMA. Opportunities for power generators to contract for abundant, attractively priced U.S.-sourced natural gas will be realized only if the Jones Act is waived to permit deliveries of that gas to Puerto Rico. These situations must be addressed and resolved soon, so that Puerto Rico can make the long-term commitments required to transform its energy system.