PREPA Ex. 3.0

COMMONWEALTH OF PUERTO RICO
PUERTO RICO ENERGY COMMISSION

IN RE: REVIEW OF RATES OF THE PUERTO RICO ELECTRIC POWER AUTHORITY, Petitioner.	No.: CEPR-AP-2015-0001 SUBJECT: VERIFIED PETITION FOR APPROVAL OF PERMANENT AND PROVISIONAL RATES

Direct Panel Testimony of

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and

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and

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Director, AlixPartners, LLP,

On behalf of the
Puerto Rico Electric Power Authority

May 27, 2016

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I. INTRODUCTION

A. Witness Identification and Attachments

Q. **What are your names and business addresses?**

A. We are Sonia Miranda Vega, Antonio Perez Sales, and Virgilio Sosa. Sonia Miranda Vega's business address is Autoridad de Energia Electrica, 1110 Ponce de Leon, San Juan, Puerto Rico, 00907, Antonio Sales Perez and Virgilio Sosa share the same address at Alix Partners, LLP, 2101 Cedar Springs Road, Suite 1100, Dallas, TX 75201.

Q. **Ms. Miranda, by whom and in what position are you employed?**

A. I am Director of Planning and Environmental Protection, Puerto Rico Electric Power Authority ("PREPA"). VS. smv

Q. **Mr. Sales, by whom and in what position are you employed?**

A. I am employed by AlixPartners and my position is Director.

Q. **Mr. Sosa, by whom and in what position are you employed?**

A. I am employed by AlixPartners and my position is Director.

Q. **Messrs. Miranda, Sales and Sosa, who are you testifying on behalf of in this proceeding?**

A. We are testifying on behalf of the Puerto Rico Electric Power Authority ("PREPA").

Q. **What are the attachments to your direct testimony?**

A. Yes. Our testimony includes the following exhibits:

- PREPA Exhibit 3.01: PREPA Business Plan (June 2015)
- PREPA Exhibit 3.02 PREPA Business Plan Update (May 2016)
- PREPA Exhibit 3.03: *Curriculum vitae* of Antonio Perez Sales
- PREPA Exhibit 3.04: *Curriculum vitae* of Virgilio Sosa

B. <u>Qualifications and Professional Background of the Panel Witnesses</u>

Q. **Ms. Miranda, what are your duties and responsibilities at PREPA?**

A. I lead PREPA's electric system planning area that is responsible for planning the Generation, Transmission and Distribution investments. As part of these duties, my team also manages PREPA's: 1) compliance with environmental laws, 2) environmental permitting for all PREPA projects; 3) administration of the capital improvement program; 4) administration of the power purchase and operating agreements; and 5) rate structure.

VS. smv

Q. **Ms. Miranda, prior to your current position, what other positions did you hold at PREPA?**

A. I have worked at PREPA's for almost 25 years. Prior to holding this position, I was Supervising Engineer of Transmission and Distribution. Prior to that, I headed the Planning and Research Division.

Q. **Ms. Miranda, what was your professional experience prior to assuming your duties with PREPA?**

A. I joined PREPA directly after receiving my degree.

Q. **Ms. Miranda, what is your educational background?**

A. I have a Bachelor of Science in Electrical Engineering from the University of Puerto Rico, Mayaguez Campus.

Q. Ms. Miranda, have you appeared as a witness in other regulatory or legal proceedings?

A. I have appeared as a witness in numerous proceedings.

Q. Ms. Miranda, what is the focus of your testimony on this panel?

A. My testimony focuses on PREPA's capital investment plan and the operational assumptions that are the basis for the revenue requirement.

V.S.
smv

Q. Mr. Perez, what are your duties and responsibilities at AlixPartners?

A. I advise clients in restructuring and turnaround situations, participate in creating and implementing business plans, assume interim operational roles.

Q. Mr. Perez, prior to your current position, what other positions did you hold at AlixPartners?

A. I have performed the duties described above during my entire tenure at AlixPartners.

Q. Mr. Perez, what was your professional experience prior to assuming your duties with AlixPartners?

A. Prior to AlixPartners I served in several business management positions at EDS (later acquired by Hewlett-Packard), a global information technology services firm, in the US, Continental Europe and Latin America. Prior to EDS, I worked as a management consultant at Andersen Consulting (now Accenture) in Europe and Latin America.

Q. **Mr. Perez, what is your educational background?**

A. I have an MBA from ESADE in Barcelona (Spain) and a Bachelor's degree in Chemistry from the Universidad Central in Barcelona (Spain).

Q. **Mr. Perez, have you appeared as a witness in other regulatory or legal proceedings?**

A. No, I have not.

Q. **Mr. Perez, what is the focus of your testimony on this panel?**

A. My testimony focuses on the implementation of improvement programs and the results achieved in the areas of customer collections, reduction in energy theft and non-technical loss and improvement in the customer experience.

V.S.
smv

Q. **Mr. Sosa, what are your duties and responsibilities at AlixPartners?**

A. I am a consultant for the firm and help customers identify and deliver improvement initiatives.

Q. **Mr. Sosa, prior to your current position, what other positions did you hold at AlixPartners?**

A. I have held the same position since I joined AlixPartners.

Q. **Mr. Sosa, what was your professional experience prior to assuming your duties with AlixPartners?**

A. I have mostly worked for the oil industry over the past 25 years either as an employee or in consulting roles.

Q. **Mr. Sosa, what is your educational background?**

A. I am an Industrial Engineer and have a Bachelor's degree from INTEC in the Dominican Republic and an MBA with honors from PUCMM in the Dominican Republic.

Q. **Mr. Sosa, have you appeared as a witness in other regulatory or legal proceedings?**

A. No, I have not.

Q. **Mr. Sosa, what is the focus of your testimony on this panel?**

A. The focus of my testimony on this panel is related to my work on PREPA's fuels initiatives including those about process, controls and costs reduction.

C. <u>Overview and Summary of Direct Testimony</u>

Q. **What are the purposes and subjects of your direct panel testimony?**

A. The purposes of this testimony are to:

1. Provide an overview of PREPA's recovery plan and explain how the rate deficiency has been cut by 60% to significantly mitigate the rate increase;

2. Explain PREPA's historical operational and service issues and describe how PREPA's Business Plan was developed to address these issues;

3. Describe the Business Plan and the progress to date in generating savings for PREPA customers;

4. Discuss the expected savings to be achieved going forward for PREPA customers; and

5. Describe how the Business Plan (and update to it) served as a basis for the known and measurable changes proposed to the 2014 test year revenue

requirement and provide support for PREPA's capital expenditures and operating expenses included in this rate filing.

II. BACKGROUND

Q. Please explain the factors that led to PREPA's liquidity crisis in 2014 and the current rate deficiency.

A. Numerous factors led to PREPA's financial difficulties. External challenges include a prolonged and ongoing recession, a significant drop in energy sales and decreasing population and demand. Internal challenges include a lack of institutionalized processes and procedures, outdated systems and information technology and frequent changes of employee positions and responsibilities with each electoral cycle every 4 years. For decades, PREPA has had successive Boards of Directors and senior management teams that have been subject to the changing direction of different administrations. Staffing decisions were frequently made without regard for prior experience or expertise. This pattern made it difficult for PREPA to tackle critical multi-year projects such as capital investment for environmental compliance.

In addition, the current design of PREPA's rates diverges significantly from PREPA's actual costs of serving its Customers. Fixed and variable charges do not correspond to fixed and variable costs and often chronically under recover costs. An example of this has been Contributions in Lieu of Taxes ("CILT") which is a subsidy to municipalities along with other rate subsidies that are intended to be recovered through the markup of fuel costs. However, the markup does not cover the true cost of the CILT and other subsidies, and has left PREPA unable to cover the all of its operational costs.

For example, in fiscal year ("FY") 2014 and FY 2015 the value of unrecovered subsidies was approximately $48 million and $78 million, respectively. This problem is even more pronounced as fuel costs have dropped.

Q. **Please describe the goal of PREPA's recovery plan.**

A. The goal of the recovery plan is to rebuild PREPA and make it financially viable while providing excellent customer service. This recovery plan aligns stakeholders' collective interests to share the burden to meet this goal and ensure the financial sustainability of the new PREPA – a lifeblood of Puerto Rico's essential economic infrastructure and economic recovery. Creditors, management, employees and finally customers are each playing a key role to rebuild PREPA.

Q. **How do PREPA's Business Plan, rate request, and financial restructuring work together to achieve those goals?**

A. In 2014, PREPA faced a severe liquidity crisis and could not make critical payments to its creditors. In response, on June 28, 2014, Puerto Rico enacted the Puerto Rico Public Corporation Debt Enforcement and Recovery Act that allowed PREPA, along with other eligible public corporations, to restructure their debt burdens. In August of 2014, with more than $9 billion of debt to its bondholders and fuel line lenders, PREPA entered into forbearance agreements with its major creditors. PREPA's August 2014 forbearance agreements, which were extended on numerous occasions until early November 2015, provided PREPA with approximately $550 million in liquidity relief and allowed PREPA to continue operating without having to repay approximately $735 million due to its fuel line lenders. Without this relief, PREPA would have run out of money.

As a condition of these forbearance agreements, PREPA was also required to develop a five-year business plan and a recovery program and appoint a Chief Restructuring Officer. In September of 2014, Lisa Donahue assumed the role of Chief Restructuring Officer. Lisa Donahue worked with PREPA leader to milestones set out in the forbearance agreements including the formulation and delivery of an acceptable business plan. Once the foundation of the plan was laid out, and the operational initiatives were underway, it became clear that PREPA needed additional support to facilitate the plan and accomplish not only some of the savings outlined, but also the restructuring of PREPA's outstanding debt.

U.S. smv

In December of 2015, PREPA successfully negotiated with major creditors holding or insuring approximately 70% of PREPA's outstanding debt a Restructuring Support Agreement (as amended or restated from time to time, the "RSA"). The RSA called for legislation to enable the securitization of debt and provide PREPA with the tools to restructure. The Legislative Assembly enacted the Revitalization Act in February 2016. The Revitalization Act addresses PREPA's recovery on three main fronts:

- **<u>Debt Restructuring and Creditor Concessions:</u>** The Act codifies the RSA's creditor concessions that call for an 85% exchange rate — or a 15% discount to principal owed under existing participating uninsured PREPA bonds — as well as a five-year principal holiday and an agreed-upon weighted-average interest rate that is projected to be lower than the weighted-average interest rates on PREPA's existing bonds. The restructuring of participating bondholders' debt is expected to yield at least $725 million of present value savings to PREPA's Customers. In addition, PREPA reached agreement with its fuel line lenders to term out past due debt in excess of $700 million over a six year period at reduced interest rates – generating significant near term liquidity relief. Finally, PREPA reached agreement with its bond insurers (the Monolines) for them to offer a surety policy in an initial amount of more than $430 million in support of the DSRF required within the SPV structure, significantly reducing the need of PREPA to reserve cash for the initial DSRF and instead provide a path to build up the DSRF over time. This provides rate stability in that PREPA does not have to fund the $430million from either its own cash or to increase the rate to cover this required reserve.

- **Recovery Plan**. The Act contemplates significant operational reforms related to PREPA's governance, collections and billing processes, and CILT, and permits PREPA to run a request for proposal ("RFP") process and evaluate the notion of public-private partnerships for the modernization of its generation fleet and upgrading of its transmission and distribution systems. As discussed in this testimony, through its Business Plan and operational efficiencies, PREPA has already achieved approximately $165 million in one-time cash savings and approximately $200 million in recurring annual savings, and forecasts to save an incremental $120 million of recurring annual savings before 2019 In addition, efforts to date have enabled PREPA to lower its bad debt expense and corresponding assumption, which has in turn lowered the forward looking revenue requirement by approximately $67 million. Since June of 2014, PREPA has also reduced head count by more than 1,100 full time employees, generating annual payroll savings of approximately $124 million.

- **<u>Rate Relief</u>**. The Act provides for the establishment of rates to remain in effect during three year cycles subject to periodic adjustments that may be authorized by the Commission. These rates, among other things, must be sufficient to guarantee payment of principal, interest, reserves and any other requirements of bonds and other financial obligations that have not been defeased as part of the securitization provided in Chapter IV of the Electric Power Authority Revitalization Act, and reasonable costs of providing services of the Authority. A formula ratemaking mechanism, also is authorized by Article 6A(c) and Regulation No. 8720. This filing closes the remaining gap between revenues and operating costs including the funding of key investments outlined in the Business Plan. The benefits to PREPA customers including environmental compliance and additional operating efficiencies also is outlined in this testimony.

V.S., smv

III. <u>DEVELOPMENT OF PREPA'S BUSINESS PLAN</u>

Q. **Please describe, at a high level, PREPA's Business Plan and its objectives.**

A. The Business Plan is a core component of the recovery plan. It is the strategic roadmap for transforming PREPA's assets and operations, so that it can meet its service and legal obligations at a reasonable cost in the decades to come. Below is a list of the Business Plan's core objectives:

- Improve internal operations and efficiency: Myriad operational and planning changes have been implemented to date generating approximately $365 million of one-time and recurring annual savings for PREPA's customers. Additional changes are in-process and should generate an incremental $120 million of recurring annual savings.

- Improve system reliability: The Business Plan addresses PREPA's ailing grid calling for hundreds of millions of investment in its generation and transmission and distribution systems.
- Comply with environmental regulations: The Business Plan focuses on improving the generation fleet's inefficient, and non-compliant, reliance on oil burning power plants. This includes a proposed investment of approximately $2 billion to improve the generation fleet and meet MATS requirements.
- Improve governance: The Business Plan calls for the appointment of diverse, qualified, and not politically connected board members, identified by a nationally recognized search firm.

Q. **Please describe the key financial assumptions in the Business Pan.**

A. At its core, the Business Plan developed in June of 2015 is the financial foundation that guides the recovery plan. It provides the basis upon which goals, metrics and progress is measured. At the time it was prepared, the Plan incorporated the following key assumptions in its 2017 forecast:

1.) It was based on a sales forecast of 16.6K gwh, which was based on the PREPA forecast in the IRP and, as required by the Commission, called for an aggressive energy efficiency reductions;

2.) It relied on a fuel forecast dated April 2015, which called for # 6 fuel oil prices to average $78/bbl in 2017 – this was the base case fuel forecast in the original IRP filing;

3.) This translated to an expected $2,309.6 million in projected fuel and purchased power;

4.) Capital expenditures were forecast to be $760.3 million, including $384 million for AOGP;

5.) Total operating costs (not including performance improvements or OPEB) were expected to be $3,107.5 million, with the following components:

  a. Non-fuel O&M of $650.5 million;
  b. Labor expenses of $494.4 million;
  c. Bad debt expense of $152 million;

6.) Improvement initiatives expected to total $298 million, with the following elements:

  a. Fuel - $128.7 million;
  b. Customer service - $43.8 million;
  c. Procurement $55.0 million;
  d. Other, net $70.8 million; and

7.) CILT and other subsidies expected to total $276 million.

Q. **Why is the Business Plan relevant to this rate request?**

A. The Business Plan affected PREPA's need for new rates in three ways:

First, the Business Plan describes the concrete ways in which PREPA has already acted to narrow its revenue deficiency and limit its need for increased rates. Each operational efficiency, each dollar of savings, and each contribution by constituents that PREPA has already achieved equates to a reduced need to seek rate relief in this filing. Those savings are fully reflected in this request. The efforts outlined in the Business Plan outline have narrowed the gap between costs and revenues and cut the size of this rate increase by approximately $1.6 Billion in total. This means the rate increase would have been 10.99/kwh if these steps were not taken over the last 2 years, and the outstanding fuel line debt was no longer in forbearance. By, 2017, operational efficiencies within the plan are expected to reduce this gap by ~2.4 cents/kwh by 2017 and Creditor Concessions are expected to reduce this gap by an additional ~5.2 cents/kwh.

Second, it describes PREPA's plans to continue to improve efficiency and service, and to comply with its obligations in the future. The Business Plan outlines the investments and improvements PREPA plans to make, and the additional savings it plans to achieve going forward, if it receives the rates necessary to support them. In short, the Business Plan underscores why the rates PREPA seeks now are an essential first step in achieving PREPA rates that remain fairly stable in the long run.

VS.
smv

Third, the Business Plan and its updates provides the most up to date information regarding PREPA's projected cost structure, including capital expenditures and estimate of cost reductions that are the basis for most of the known and measurable adjustments to the 2014 test year in this proceeding.

Q. **How was the Business Plan developed?**

A. The first step in the development of the Business Plan was PREPA's CRO and PREPA's management team understanding and agreeing on a path to address PREPA's challenges. Experts in fuel, information technology systems, customer service, organizational design development, energy and power, and transmission and distribution assessed PREPA's strengths and weaknesses with a focus on its generation assets, transmission and distribution systems, collections processes, fuel inventory management, procurement processes, inventory management, safety and non-technical losses. The team prioritized the challenges and developed solutions to address critical issues early in order to maximize the near term benefits for customers. The Business Plan also focused on future initiatives for improvement and the investments necessary to achieve them. The resulting business plan was an action and investment plan that addresses PREPA's operational and structural challenges both in the near and far term.

Q. **Has the Business Plan been updated?**

A. The Business Plan is updated from time to time with progress made and updated information. Doing so allows the team to understand the challenges encountered and adjust and update the goals and targets. The Business Plan underwent a significant update, including the goals and financial components in May of 2016. This update significantly reduces the revenue requirement by $1.67 billion (from Business Plan as of June 15, 2015) and is attached as Exhibit 3.02 to our testimony. We will discuss the Business Plan update later in this testimony as it serves as a basis for the known and measurable changes – mostly cost reductions – incorporated in the revenue requirement.

IV. <u>BUSINESS PLAN INITIATIVES AND QUANTIFICATION OF SAVINGS</u>

Q. **Please generally describe the Business Plan Initiatives.**

A. The Business Plan as updated from time to time targeted operational improvements across all of the operational areas of PREPA including, among other things, Fuel, Generation, Customer Service, Operations and Infrastructure, and Labor and associated benefits. This section of our testimony walks through the major focus areas and quantifies the savings associated with PREPA's work.

A. Capital Investment in Generation and the IRP

Q. Explain the importance of the Integrated Resource Plan ("IRP") and how it ties to the Business Plan.

A. Plans for modernizing PREPA's generation fleet and maintaining and improving its transmission and distribution systems are the central elements of the Business Plan, and of the capital expenditure plan in particular. PREPA's IRP was the key input into the capital expenditure plan.

Q. Please provide an overview of the investment and attendant benefits proposed in the IRP.

A. PREPA will invest at least $3.2 billion in new infrastructure in two phases over the next 20 years. Phase 1 will cover infrastructure investments PREPA is required to make to comply with environmental regulations, integrate renewables, and improve system reliability. Phase 2 will cover additional investments to improve efficiency.

PREPA's final capital plan will be determined by the results of its IRP and the results of a competitive bidding process seeking bids for investment by third parties, as well as our ongoing negotiations with creditors. These investments will allow PREPA to reduce fuel costs, diversify its fuel mix towards natural gas, modernize its generation fleet , comply with environmental regulations, and incorporate more renewable energy sources into its system. Perhaps most importantly, the competitive bidding process will encourage outside investment in new infrastructure on the most attractive terms for the people of Puerto Rico. PREPA's IRP proposal focuses on four key areas:

1. 14 generating units are subject to MATS: Palo Seco (units 1-4), Aguirre (units 1-2), Costa Sur (units 3-6) and San Juan (units 7-10). Only the Costa Sur units are currently in compliance with all MATS requirements. All other units are partially in compliance with all of the requirements.

2. Palo Seco units 1&2 and San Juan units 7&8 were designated as limited-use, which limits their operation to a maximum of 8% annual capacity factor (based on heat input) for a period of 24 months from the MATS initial compliance date (April 16, 2015). Due to the different forced outages that occurred since last year, these units had to be operated in excess of the required limit in order to maintain the electrical system's safety and reliability. Once the generating units become stable and reliable, these units will be operated within the limited-use designation under the MATS guidelines.

VS, smr

3. PREPA's Transmission system needs substantial investment to improve its condition and provide the island with more power generation flexibility; and

4. PREPA needs system investment to meet its renewable energy portfolio requirements.

In general, in the IRP, PREPA is proposing investment that includes: 1) the construction of AOGP to provide access to low cost and clean burning natural gas, improve fuel diversity and facilitate MATS compliance; 2) the conversion of the Aguirre Steam and combined cycle plant to natural gas; 3) the construction of up to three new diesel combined cycle generating units at Palo Seco; and 4) substantial transmission system upgrades to allow the integration of various generation portfolios for the modernization of PREPA's fleet and achieve MATS compliance under the different futures that could materialize in Puerto Rico.

Q. **What is the status of the IRP?**

A. The IRP is pending before the Commission in a separate proceeding, No. CEPR-AP-2015-0002. The results of that case are to be determined. PREPA clearly cannot meet its environmental law requirements, or provide reliable and low cost service over time, without the approval and implementation of a sound IRP. I discuss the IRP further later in my testimony.

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smv

Q. **How does the investment plan proposed in the IRP relate to the capital investment included in the Revenue Requirement?**

The investment plan is the same except that certain projects have been delayed due to the fact that the IRP has not yet been approved. The primary difference is the delay of the expenditures associated with the AOGP project.

B. <u>Fuel Procurement and Generation Savings</u>

Q. **Please provide an overview of the situation encountered in the areas of fuel procurement, fuel inventory management and generation planning.**

A. The fuel and generation area suffered from numerous endemic problems. As mentioned, limited information sharing between areas combined with poor forecasting led to unnecessary build-up of fuel inventory. Fuel inventory controls and measurements were not in line with industry standards. In addition, the fuel procurement process was not strategic and was not appropriate for PREPA's financial situation to secure the best terms or pricing. Suppliers took advantage to secure lucrative contracts with detrimental credit terms.

As mentioned earlier, limited information sharing between generation, dispatch and fuels and lack of continuous commodity monitoring resulted in missed opportunities to further optimize the dispatch of units. High forced outage rates caused by deferred maintenance and skilled labor leaving operational roles and not being replaced, led to increased generation costs because of less efficient diesel backup units being used. This high forced outage rates also led to requiring increased spinning reserve levels to minimize power disruptions to customers. This wastes fuel and is very costly.

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Q. Please describe the initial actions taken by PREPA as part of the development of the Business Plan.

A. The team considered the problems in this area with a holistic approach focusing on the lack of planning and coordination between different operating areas causing inefficiencies. We reviewed the process from fuel forecasting and planning, procurement and receipt to reconciling actual consumption at the unit. The team concentrated on improving nonexistent or antiquated procedures to generate savings for PREPA customers. To the date of this filing, the work under the Business Plan has generated fuel related improvements have generated annual run-rate savings of approximately $135 million as well as one time liquidity improvements of approximately $86 million.

Q. How was the lack of coordination and planning addressed?

A. We first implemented fuel forecasting tool and improved processes to allow closer coordination between generation, dispatch and fuels. This effort has reduced inventory levels by approximately $36 million. The team also implemented a Sales and Operations Planning process (S&OP) process that continually achieves integrated focus, alignment and synchronization between the key generation functions – unit availability (*e.g.* planned/unplanned outages), fuel supply planning and dispatch planning. The S&OP includes an updated shared forecasting process that coordinates information between functions so that expected dispatch schedules, planned outages, fuel levels to optimize fuel and generation dispatch. The cadence of information sharing includes 15 minute daily touch points and weekly review meetings to discuss the revised 13-week schedule and optimization opportunities.

Q. **How were fuel procurement challenges addressed?**

A. The fuel procurement process did not provide sufficient opportunity to secure best terms. We worked to implement competitive RFP processes to generate annual reduction in fuel oil adders of approximately $22 million and an one-time approximate $50 million cash flow saving at the time of this testimony with another approximately $9 million and one-time approximate $15 million cash flow savings expected to happen at the contract renewal dates. The renegotiation of natural gas contract for Costa Sur has generated annual fuel savings of approximately $33 million.

In addition, the new processes and continuous information sharing have enabled savings from fuel cost arbitrage, capturing market opportunity particularly in dual fuel units, with approximately $23 million realized to date. This, for example, allows PREPA to run fuel oil plants when fuel oil is cheaper than natural gas or vice versa. It also enables the visibility to optimize dispatch of optional capacities offered in power purchase agreements.

Q. **How has PREPA addressed the forced outage challenges?**

A. In coordination with the Generation team, we analyzed the root causes of forced outage events by plant over recent years to identify systemic problems that could be addressed. As part of the exercise we identified the mitigating actions and their estimated impact to reduce the frequency and severity of forced outages. In summary these actions are focusing on training of key personnel, preventive maintenance planning and execution, and supporting processes (parts, etc.). This initiative should also help mitigate over time the need for costly increased spinning reserve levels.

C. <u>Customer Service Improvements</u>

Q. **Please provide an overview of the situation encountered in the customer service area.**

A. The customer service area was a major area of concentration during the development of the Business Plan. The team found four areas that needed improvement and would likely reap savings and service improvements for PREPA customers.

First, general customer collections needed to be addressed. The problems encountered included poor collections processes and weak follow through on account receivables. The combination of no collections effort on severely past due accounts and delayed execution of service suspensions with residential and wholesale customers led to high accounts receivable balances. In addition, deficient PREPA billing practices leading to high number of estimated (and disputed) invoices. The Act 33 process, which place collections on hold while bills are disputed, was abused and balances accumulated.

Second, collection processes were especially ineffective for governmental customers. Acceptance of non-payment led to high governmental past due balances exceeding $250 million spanning multiple years. We also encountered deficient billing practices and customer communication leading to high disputed balances spanning multiple years.

Third, customer service levels were poor, with average call center wait times in excess of 25 minutes and average wait times of 27 minutes in commercial offices. There also was a long lead-time to fulfill customer service orders — sometimes exceeding 8 weeks.

V.S.
smv

Fourth, PREPA also suffered from high energy theft and non-technical loss rates, due to a disorganized and understaffed theft reduction effort, cumbersome processes, ineffective use of information technology and a lack of meaningful deterrents to discourage energy theft. The worsening economic situation of the island has exacerbated the situation over the last several years, as had been the case in the United States mainland during the 2008 recession.

Q. **Please describe the improvements made in the area of general Customer collections and receivables.**

A. The General Customers segment includes all PREPA customers except Government Customers. The Business Plan focused on targeting specific customer groups with high delinquency rates, as well as on implementing and enforcing a streamlined service suspension process that eliminates any incentive for customers to pay late or not at all. Customer groups with higher delinquency rates targeted by the collections improvement program include certain wholesale customers (industrial, commercial and private hospitals), public housing residents and inactive accounts. As a result of the program, past due accounts receivable with General Customers has improved by approximately $28 million in the Aug 2015 through April 2016 period, as shown in the following table:

Metric (in $ MMs)	Aug-15	Apr-16	Change $ Aug-15 to Apr-16	% reduction
A/R: 30 – 59 d.	32.7	26.1	**- $6.6M**	**-20%**
A/R: 60 – 89 d.	12.9	6.9	**- $6.0M**	**-47%**
A/R: 90 + days	51.3	36.3	**- $15.0M**	**-29%**
Total A/R > 30 d.	96.9	69.3	-$27.6M	-28%
Rate - $/kWh	$0.21	$0.17	-$0.04	-17%

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smr

Q. How has PREPA addressed Public Housing Customer Collections?

A. PREPA has taken several actions under the Business Plan to address high uncollectible rate among public housing customers. As of February 29, 2016, receivables from more than 39,000 Public Housing residents totaled approximately $23.5 million, with 80% of this amount, equal to approximately $18.9 million, aged more than 120 days. . To address this issue, PREPA instituted the "Ponte al Día" program, including scheduled transportation and information visits to Commercial Offices for residents to learn and sign up for the program. For residents with outstanding balances, PREPA is offering payment plans with a down payment equal to 10% of the debt, as well as the customer entering into a payment plan of $10 month to settle the old debt. Customers with outstanding balances by the end of the Program in June, 2016 will be subject to service suspension. Thus far, 6,000 customers have agreed to payment plans and will start paying regularly with $1 million in cash collected in down payments. PREPA also signed a contract for direct transfer to PREPA of utility subsidies for Public Housing residents that amount to $400K monthly – or $4.8 million annually.

Q. **Please describe how PREPA has addressed disputed balances challenges.**

A. The first step in addressing the high number of disputed bills was to reconcile accounts and improve the billing practices that were creating a backlog of legitimate customer issues. Once this was addressed, PREPA implemented a new process and tracking reports to drive the backlog of open cases through the administrative process and to final resolution. As a result of this program, the outstanding balance of unresolved Act 33 cases has decreased by approximately $33 million in the August 2015 – April 2016 period, resulting in more than $25 million of cash collections for PREPA.

V.G. smr

Q. **How have Governmental past due balances been addressed?**

A. PREPA implemented a rigorous collections program with Government Corporations and Agencies, working in two fronts: first, addressing unresolved billing disputes with certain customers, in order to reach an agreement with the amounts actually owed by said customers to PREPA; and second, using service suspensions to drive payment of current consumption and agree on payment plans for older debts. PREPA has collected on average 107 % of the amounts invoiced to Government customers during the August 2015 through April 2016 period, despite delays from the Puerto Rico Treasury in paying for State Agencies (including Dept. of Education and industrial subsidies. Accounts receivable older aged more than 30 days with Government Corporations and Agencies have improved by approximately $11 million during the period mentioned above, from $247 million down to approximately $236 million.

Q. **What other actions has the team taken to improve collections?**

A. PREPA has engaged third party collections firms to focus on severely past due accounts, where previously no collections activity was performed. These accounts are tagged as inactive, as service was discontinued in the past with an outstanding debt left in the account after applying the deposit. Portfolio of inactive accounts exceeds 100,000 accounts, aged from 6 months to 5 years or older. Net collections (after commissions) from these accounts exceed $2.3 million since the program started in August 2015,

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Q. **How has energy theft and non-technical loss been addressed?**

A. PREPA has been experiencing rates of energy theft and non-technical loss (measured against net generated energy) that are higher than industry norms. Overall non-technical loss (including energy theft) was 6.4% as of June 30, 2014, compared to rates of 1-4% for utilities in the US mainland (Source: several Utility Industry Analysis). Efforts in this area, driven by the Business Plan, have resulted in an increase of 50% in cash collections, to approximately $20 million per year, with more than 10,000 theft cases caught, and a reduction in non-technical losses from 6.4% to 5.7% (more than a 10% decrease), which represents an additional 135 million kWh billed and approximately $25 million a year in savings for PREPA customers.

To reduce energy theft and non-technical losses, the team has focused in four areas: First, the ICEE (Consumo Irregular de Energía Eléctrica) Division responsible for fighting energy theft was reorganized. This included the appointment of a new leader along with new regional management and moving ICEE to report directly into Customer Service, in order to increase collaboration between the two teams. The reorganization also: 1) consolidated seven regional offices into four with a simpler chain of command and accountability, as well as increased productivity and quality in managing theft cases and customer negotiations. ICEE is in the process of adding twenty new field investigators, ten customer facing administrative personnel and five lawyers and arbitrators across all Regions.

Second, outdated processes were simplified. For example, the case management process was streamlined allowing for service suspension to be performed 20 days earlier. The new consolidated regions are using weekly key performance indicators (KPI) to ensure tight management of every step in the process, from lead generation through field activities to cash collection. The organization cleaned-up and prioritized backlog of ~5,000 cases delayed in the administrative process in the Regions. High-profile theft cases are being prosecuted in the court.

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Third, PREPA is leveraging the use of information technology. A new integrated database and analytical tool is being used to generate leads of potential theft cases for the filed investigation teams. The new database integrates billing, consumption and demographic information that were previously fragmented in several systems. The associated analytical tool has powerful algorithms that mine the data and identify potential theft cases based on patterns observed in previous theft cases. In addition, the team has launched the "Balance of Energy Project," which is a widely used method in the utility industry to identify areas with potential energy theft. This Project is underway with a pilot with six transformers in the Puerto Nuevo district in San Juan.

Fourth, the team has launched a program to verify metering equipment (voltage and current transformers) in approximately 10,000 high consumption customers in primary voltage, in order to ensure metering and billing accuracy and minimize non-technical losses. These customers represent around 30% of PREPA's revenues.

Q. **How is the customer experience being addressed?**

A. The Business Plan focused in three areas. First, average wait times in the Call Center have decreased from over twenty five minutes to approximately twelve at the time of this filing. Actions taken to achieve these improvements include representative and supervisor training, improvements in the IT system, improved call taking scripts and the implementation of performance metrics that are monitored in real time by managers, supervisors and representatives. In addition, PREPA has increased its call management capacity by directing 30% of its call volume to a third party call center, that handles bill payments, service and outage reports,

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Second, wait times in Commercial Offices have been reduced from 27 minutes to 17 minutes, through better allocation of resources between customer facing and back-office activities and improved supervision and metrics tracking. A program is underway to consolidate several Local Offices and to centralize back-office functions in regional hubs. This consolidation will result in further improvements in wait times and productivity and quality improvements in billing management functions, resulting in fewer visits required by customers to the commercial offices.

Third, a special focus has been placed in addressing the backlog of unfulfilled service orders from wholesale and retail customers, The amount of open service orders from wholesale customers has decreased from over 1,300 to less than 400 in the August 2015 to April 2016 period. These results are being achieved through the implementation of a streamlined process, a new IT system, employee training and weekly performance tracking meetings and reports.

Q. Please describe other Customer Service initiatives currently being implemented.

A. There is much work to do in generating savings and improving the customer experience. In addition to the programs described above, following is a list of initiatives being implemented in 2016 to continue the progress made thus far:

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- Comprehensive program to realign field, customer facing and back-office workforce, rebalance skills and minimize low-value add activities – September 2016;
- Project to recycle inactive meters in the field (less than 5 years deployed), targeting approximately $5 million savings – September 2016;
- Enforcement of policies for collection of deposits and bonds in order to mitigate the risk of non-payment – October 2016;
- Increase in reconnection fees in order to recover actual process costs – October 2016;
- Second phase of performance metrics roll-out, extending reach to Region / District / Supervisor level across commercial organization, increasing frequency to weekly data is available – October 2016; and

- Call Center RFP to select new vendor and extend scope. 70% of customer calls will be handled by the 3rd party Call Center under the new operating model. Improvements to functionality, reporting capabilities and technical performance of the billing system – December 2016.

D. <u>Operations and Infrastructure</u>

Q. **Please provide an overview of the situation encountered within the operations and infrastructure directorate.**

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A. A lack of accountability, inefficient planning and procurement processes, unnecessary bureaucracy, and an under-trained work force were key drivers of the directorate's poor performance when the Business Plan was developed. The effects of this underperformance were real and were degrading the ability of the other Directorates to properly function. High vehicle out of service rates (>20%), long sourcing lead times (6 plus months), warehouses with inadequate supplies of needed material, significant amounts of obsolete vehicles, materials, and equipment (approximate $70 million book value), and supervisors that did not know the basic skills required to complete their job were some of the specific challenges encountered that are being addressed by the Business Plan.

Q. **How are the vehicle fleet-related issues being addressed?**

A. PREPA is addressing its fleet-related challenges in three ways. First, it is making improvements to its internal operations and processes in order to ensure its limited resources are operating as efficiently as possible. Examples of these improvements include increased usage of the fleet management and procurement computer systems to ensure accountability and accuracy, weekly analysis and distribution of key performance indicators and follow-on resource planning and coordination when necessary, and improved communications between the fleet and sourcing divisions. Second, PREPA is investing in new vehicles to replace the portion of its fleet that is greater than 15 years old. The ultimate goal of this investment initiative is to drive the average age of PREPA's maneuverable vehicles down from approximately 15 years, where it stands now, to approximately 10 years which is close to in-line with industry standard. This will also enable PREPA to complete the right-sizing of its vastly over-sized fleet. Finally, PREPA is in the process of outsourcing the maintenance and repair function for its light and medium duty vehicles. PREPA does not have enough mechanics to maintain its current fleet. This initiative will enable PREPA to scale its maintenance capacity up quickly in the near term and improve service levels and also scale it down as the fleet decreases in size over the long run.

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Q. **How are procurement issues being addressed?**

A. The Revitalization Act and several personnel changes have enabled an overhaul of PREPA's procurement strategy and approach to its daily operations. First, as a result of the Revitalization Act, PREPA is now able to use requests for proposal ("RFP") as a purchasing tool to obtain the best terms and prices and thwart collusion amongst its suppliers. Since the passing of the Act, PREPA has significantly increased its use of RFPs and will continue to do so. Second, PREPA has reorganized its procurement and warehousing departments to enable better service to the other Directorate's, avoid waste, and maintain accountability. Organizational regions have been consolidated, warehouses have been closed, purchasing agents have been re-aligned based on their experience and skillset, and an office of analysis and control has been created. Finally, PREPA is transitioning to a strategic sourcing model in which all suppliers are expected and incentivized to operate as partners rather than just suppliers. Ultimately, this will result in a significant increase in the number of sourcing contracts that PREPA has in place which is a key to alleviating most of the remaining internal process challenges.

Q. **How has PREPA restructured its inventory control and management process?**

A. As mentioned above, an office of analysis and control has been established with a primary goal of improving inventory management and control and enhancing communication between the Directorates, the sourcing division, and the warehousing division. Since mid-2015, this team has reviewed nearly all requisitions for accuracy and necessity, coordinated the reallocation of inventory across the island based on historical usage statistics and necessity, conducted hundreds of hours of training for warehouse supervisors, and implemented multiple process changes and formal key performance indicators. Ultimately, this has led to a savings for PREPA customers of approximately $25 million with an additional $16 million expected in FY 2017. In addition, the sustainable nature of the office ensures that the process changes that have been made will remain in place over the long run.

Q. **How has PREPA improved its real estate strategy?**

A. PREPA is conducting an RFP to hire third party professional real estate firm to develop an overall strategy and sell excess properties. This firm will work with PREPA to develop a strategic real estate plan – including a prioritized list of properties which can be monetized to rationalize PREPA's real estate portfolio.

E. <u>Labor and Human Resources Related Improvements</u>

Q. **Please provide an overview of the situation encountered with respect to PREPA's labor and human resources policies.**

A. Generally, the team encountered outdated human resource processes that were not conducive to a safe and productive workforce. Among the problems were inflexible work rules and high absenteeism. Paid leave was twice the industry norm at 80 days per year. The retirement system is projected to be insolvent by 2024 and needs immediate attention to thwart that result. There also is an unacceptable safety record, with more than 14,000 accidents and 15 fatalities over a 10 year period.

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Additionally, PREPA did not have any succession plans with approximately 1,050 staff currently eligible for retirement – many of which are in critical positions. PREPA is currently averaging 350 retirements per year.

PREPA also lacked a formal performance management process and limited use of KPIs. The team encountered low accountability and lack of leadership from top management. Often leaders and managers were placed in positions based on political affiliation vs. job qualifications. Job descriptions also were outdated or non-existent.

From an organizational standpoint, PREPA is an inefficient bureaucracy with numerous silos. Certain areas are overly staffed with non-value added administrative personnel. In addition, the executive directorate and executive team is oversized. There also is a shortage of expertise in specific technical skill areas.

Q. **How has PREPA addressed productivity and benefits issues?**

A. Using Law 66-2014, PREPA is implementing key changes to work rules and benefits required to improve costs and productivity. These rules will improve the output of the workforce and ultimately save money and provide better service to PREPA customers.

With respect to benefits, PREPA has selected a new vendor for Retired Employees Health. This change will save PREPA customers approximately $4 million per year. PREPA also concluded am audit of active employees' health plans that yielded approximately gf$3 million in cash reimbursements to PREPA. In addition, an ongoing analysis is taking place to evaluate Pension Plan Options. The team also has commenced the selection process for the administrator of active employees' health plan that will result in additional cost savings.

Q. **Has headcount declined?**

A. Yes. PREPA headcount has declined by approximately 1,100 full time employees since 2014. This has been accomplished through attrition versus layoffs. PREPA expects an additional decline of approximately 600 full time employees by 2019.

Q. **How has PREPA addressed safety problems?**

A. The team has hired an industry-leading firm to assess current situation and develop program to improve the safety culture at PREPA. The DuPont team benchmarked the safety practices at PREPA and worked with the team to develop short, medium, and long term initiatives. This will involve additional training and equipment for employees. This is a multi-year program. A standard dashboard is being implemented to track the implementation of the safety improvement program and its progress.

Q. **How has the PREPA addressed succession planning?**

A. PREPA identified the most critical retention risks in T&D, Generation and Customer Service (covering approximately 80% of the workforce) and developed a risk reduction plan. Successors for critical roles were identified. Experience gaps and required training has also been identified. A risk reduction plan identified successors for 50% of the critical roles and alternative strategies were developed for 40% of the roles.

Q. **How has the PREPA addressed performance management?**

A. PREPA has identified KPIs across PREPA and with individual Directorates to assess individual and organizational performance and accountability. KPI data is being gathered and a report template has been created. The KPIs were developed based on aligning all the directorates and employees toward accomplishing the common goals of the business plan. Thus far, the performance management program has been piloted with Senior Staff. This template includes defined PREPA-wide competencies that provide a consistent gauge for which to measure performance along with senior staff self-evaluations. An online performance evaluation tool has been created to capture evaluations and support a broader roll-out. At this stage, these evaluations are focused on competency evaluations and aligning objectives.

Q. **How has PREPA addressed the organizational structure of PREPA?**

A. The team has defined key organizational/operational roles needed to operate PREPA. Utilizing these updated roles, the organizational structure was redesigned with staffing levels to support operational priorities. A streamlined governance and decision process has been designed and recommended to compliment this organizational structure so that decision-making is timely and occurs at the proper levels.

F. Other Business Plan Initiatives

Q. **Please provide progress on the Business Plans initiative calling for the appointment of diverse and qualified board members.**

A. PREPA has conducted a comprehensive process to select a global executive search firm with expertise within the Energy and Utility sectors to search for independent board member candidates for PREPA and SPV boards. The global firm is being assisted by a local Puerto Rican firm to maximize the pool of Puerto Rico residents among the candidates. Next steps in the process is for PREPA to prepare two lists of 10 potential candidates (one each for PREPA and the SPV) from which the Governor is expected to appoint the new board members. This is targeted to occur by the end of June, in line with the requirements of the RSA and the PREPA Revitalization Act.

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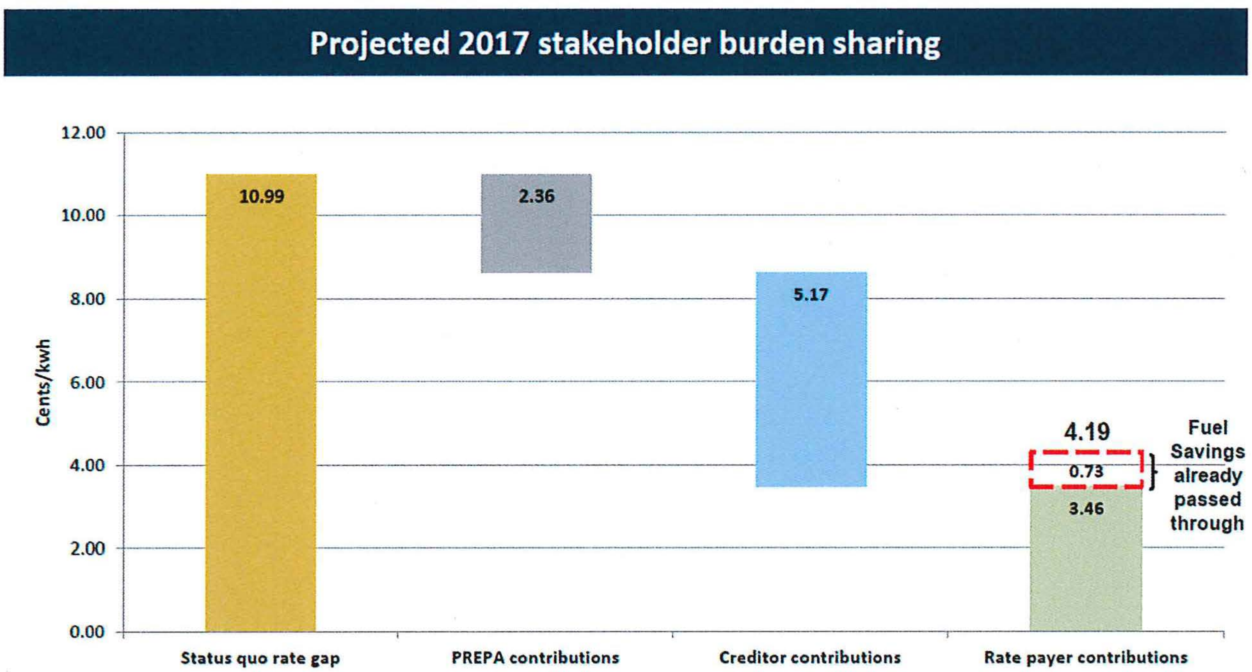
G. Summary of Savings under the Business Plan and Projections Going Forward

Q. **Please summarize the savings under the Business Plan and its updates in cutting the rate deficiency?**

A. At the end of 2014, the financial shortfall, characterized at the time as the PREPA rate gap in late 2014, was significant at 10.99 cents/kwh or over $1.8 billion. This revenue deficiency has been cut by approximately 60% from the inception of the recovery plan to ~4.2 cents/kwh at the time of this rate filing. In order to not overly burden the rate payer with the rate deficit that had accumulated over many years, PREPA took an equitable approach of a shared burden between all stakeholders. To bridge the rate gap of 10.99 cents per Kwh, the creditors contributed 5.2 cents per kwh, the operational improvements that PREPA is implementing contributes 2.4 cents per kwh, and the rate payer contributes the remaining approximately 4 cents per kWh. To put this in perspective, the overall average rate would be over 31 cents/kWh but for the transformational work under the recovery plan – the propose rate in this filing is 20.14 cents per kWh. The following table breaks down how the 10.99 cent rate gap has been addressed:



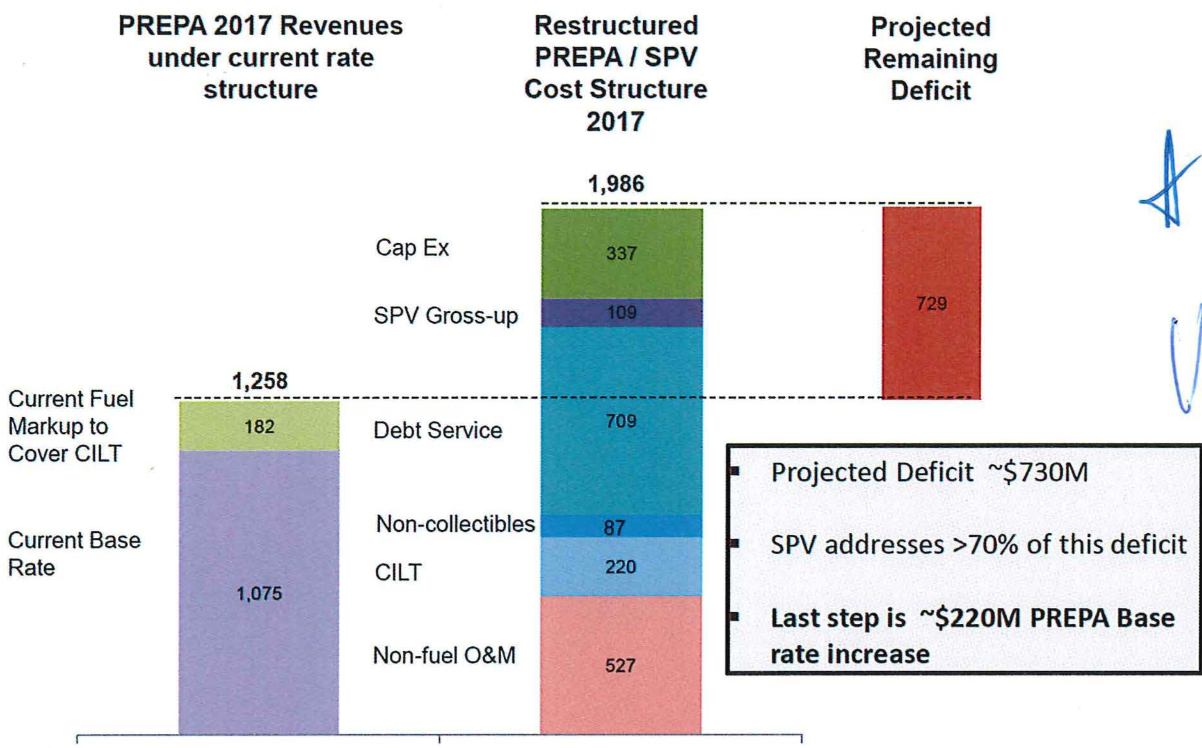
PREPA's contributions focus on:

- Fuel and Generation
- Procurement and Fleet
- Collections improvements
- Theft and CILT
- Headcount attrition and benefits savings

(1) Aggregate PREPA savings in line with previous estimates
(2) Creditor contributions in line with previous estimates, when adjusting for Jan/Jul relending not originally contemplated
(3) Assume fuel line lenders are due at payable

Q. **Can the remaining rate deficiency be met with further operational savings alone?**

A. No. The team has cut this rate increase to the minimum possible without impairing PREPA's recovery. As discussed below, the Business Plan initiatives have achieved approximately $365 million of one-time cash and recurring annual operating improvements to date and approximately $67 million of bad debt expense relief. However, even with this aggressive program, the rate deficiency is currently ~4.2 cents at the time of this filing. While PREPA is targeting an additional $120 million of recurring annual savings by 2019 – an additional $730 million is needed to fund critical investments and close the rate gap. The SPV filing, which is critical to achieving creditor concessions, will move PREPA closer and provide approximately 2.9 cents/kwh to cover restructured debt service, if approved. However, PREPA needs an additional ~1.3 cents/kwh in a permanent base rate increase, and formula rate mechanism to close the rate gap and fund critical planned investments to ensure reliability, EPA compliance, and fuel price stability. For example, without rate recovery, PREPA will not be able to move forward with a key component to the recovery and future savings for PREPA customers -- the Aguirre Offshore Gas Port ("AOGP"). This project will provide access to low cost and clean burning natural gas, improve fuel diversity and facilitate MATS compliance. The following graphic summarizes the remaining rate deficiency that is addressed in this rate proceeding:



V. BUSINESS PLAN SAVINGS AS A BASIS FOR KNOWN AND MEASURABLE CHANGES IN THEREVENUE REQUIREMENT

Q. What is the test year utilized to develop the revenue requirement?

A. The test year in this proceeding is 2014 adjusted for known and measurable changes.

Q. Why was a 2014 test year utilized?

A. The Commission's rules, at 1.08(B)(43) provide that "[t]he historical test year to be used in the formal application is the most recent twelve (12) month period for which audited financial statements exist."

Q. **What is a known and measurable change?**

A. The Commission's rules at 1.08(B)(22) provide that known and measurable changes means "verifiable and quantified changes that have occurred or are expected to occur after the test year in the capitalization, rate base, operations and maintenance expenses, revenues or other factors used in determining Embedded Cost of Service."

Q. **Please describe how the Business Plan (along with updates to it) are the basis for most of the known and measurable changes to 2014 test year.**

A. Initially, we note that the calculation of the revenue requirement is addressed in the panel testimony of Francis Pampush, PHD, Lucas Porter, and Dan Stathos, ("Revenue Requirement Panel testimony")(PREPA EX, 5.0)). That testimony discusses its reliance on the Business Plan to arrive at the estimated change in PREPA's costs of providing electric service. In particular, in order to develop an FY 2014 test year as adjusted for known and measureable changes through FY 2017, they analyzed the 2014 and 2015 results and identified specific changes in PREPA's operations that are expected to affect operating results for FY 2017. The primary source for the changes is the performance improvement estimates set forth in the Business Plan and discussed in our testimony.

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New Rate Structure Revenue Requirement	FY 2014	FY 2017	Variance
Sales GWh	**17,560,901,746**	**17,268,325,180**	**(292,576,566)**
Fuel & Purchased Power $/kWh	$ 0.20171	$ 0.08547	$ (0.11625)
Contribution to municipalities (CILT) $/kWh	$ -	$ 0.00300	$ 0.00300
Special Customer Subsidies & Public Lighting $/kWh	$ -	$ 0.00975	$ 0.00975
Base Rate $/kWh	$ 0.10168	$ 0.07314	$ (0.02855)
Securitization Payment $/kWh	$ -	$ 0.03005	$ 0.03005
Overall Required Rate $/kWh	**$ 0.30340**	**$ 0.20140**	**$ (0.10200)**
Fuel & Purchased Power Expense			
Fuel	$ 2,344,999,982	$ 763,695,078	$ (1,581,304,904)
Purchased Power	807,619,515	828,393,012	20,773,498
Performance Improvement	-	(116,212,842)	(116,212,842)
Fuel & Purchased Power Expense	**$ 3,152,619,496**	**$ 1,475,875,249**	**$ (1,676,744,248)**
CILT in F&PP Adjustment Clause	389,649,601	-	(389,649,601)
Total F&PP Adjustment Clause	**$ 3,542,269,097**	**$ 1,475,875,249**	**$ (2,066,393,848)**
Contribution to municipalities (CILT)	$ 245,372,807	$ 51,783,821	$ (193,588,986)
Public Lighting	-	93,241,901	93,241,901
Special Customer Subsidies	116,694,478	75,071,019	(41,623,459)
Total Cost of Subsidies	**$ 362,067,285**	**$ 220,096,742**	**$ (141,970,543)**
CILT Subsidy Recovery Required in Base Rate	(27,582,316)	220,096,742	247,679,058
Non-fuel O&M Expense			
Salaries	$ 335,242,719	$ 280,360,861	$ (54,881,858)
Pension & Benefits	195,554,701	154,576,960	(40,977,741)
Total Labor Expense	**$ 530,797,419**	**$ 434,937,821**	**$ (95,859,598)**
Pension Underfunding	-	-	-
Other Expenses, O&M	203,348,077	227,564,256	24,216,178
Total Other Operating Expenses	**$ 203,348,077**	**$ 227,564,256**	**$ 24,216,178**
Customer Service	-	(23,750,000)	(23,750,000)
Procurement	-	(55,000,000)	(55,000,000)
Other, Net	-	(24,000,000)	(24,000,000)
Total Non-Fuel Performance Improvement	**$ -**	**$ (102,750,000)**	**$ (102,750,000)**
Bad Debt Expense	191,533,358	85,383,767	(106,149,591)
CILT Subsidy Recovery Required in Base Rate			
Energy Administration Assessment	-	5,800,000	5,800,000
Total Other Expenses	**$ 191,533,358**	**$ 91,183,767**	**$ (100,349,591)**
Total Non-fuel O&M Expense	**$ 925,678,854**	**$ 650,935,843**	**$ (274,743,011)**
Total Operating Expense	**$ 4,440,365,635**	**$ 2,346,907,833**	**$ (2,093,457,802)**
Working Capital	$ -	$ -	$ -
Capital Expenditure (Maintenance & Investment)	270,228,429	336,557,808	66,329,379
Retirements / Demolition	-	-	-
PREPA Debt Service (Principal & Interest)	635,326,147	314,389,739	(320,936,408)
DSCR Adder for Shortfall	-	-	-
Adjustment for Other Income	$ (18,010,147)	$ (38,924,845)	$ (20,914,698)
782 **Total PREPA Revenue Requirement**	**$ 5,327,910,065**	**$ 2,958,930,536**	**$ (2,368,979,530)**

Q. **Can you provide more detail on the Sales forecast known and measurable change?**

A. The Business Plan was prepared using the load forecast developed for the base IRP. For developing the load forecasts for the base IRP, PREPA estimated the energy consumption and generation for the current FY 2015 with extrapolations which consider the monthly behavior of these variables from historical data from FY 1993 through FY December 2014. With the estimates for FY 2015, we used econometric models to forecast the consumption and clients by main class (residential, commercial and industrial) for the next five FY years. The models include the main variables from the Puerto Rico economy, the cost of kWh by customer class and the behavior of the last year consumption for each class. Usually, the energy consumption by kilowatt hour (kWh) as a dependent variable has a correlation with the main variables of the local economy. The variables of Puerto Rico economy are the Gross Domestic Product, the Gross National Product and the Disposable Personal Income. PREPA obtains those from three different sources: the Puerto Rico Planning Board, Interamerican University- IHS Global Insight (IAU-GI) and Advantage Business Consulting Group (ABC). For the IRP PREPA used the IAU-GI model. In the load forecast of the base IRP, Government Energy Efficiency (EE) as mandated by Act 57-2014, to reduce the consumption at government institutions with respect of a benchmark, was forecasted to achieve 80 percent of the mandate.

Historical consumption resulted higher than estimated since fuel prices, and thus electricity costs resulted lower than projected and the Government EE, even after Act 57 being in force for a full year, has not achieved the required reduction in consumption. Generally speaking, there was little incentive for government agencies to manage and control their energy consumption, in particular those belonging to the municipalities. In addition, most Energy Efficiency efforts require capital spending, which is in extremely short supply in Puerto Rico's current financial difficulties. The 80 percent estimate for compliance is an extremely optimistic view on government compliance. In spite of this, PREPA's system peak is at night, so any energy reduction by these accounts would typically affect the day peak and energy consumption.

The load forecast was updated on April 2016. The revised forecast considered historical data until March 2016 and economic indicators updated in October 2015. It also included an estimate of the cost of kWh considering the securitization cost and the most recently updated fuel price from DOE. This updated forecast was used in the revenue requirement and therefore for this rate case.

Q. **Can you provide more detail on the fuel and purchased power expense known and measurable change?**

A. For the base IRP, which was used to develop the Business plan, Siemens Industry, Inc. prepared fuel prices forecast based on historical daily fuel prices for the period between January 1, 2010 and March 25, 2015 provided by PREPA, as well as in the price formulas used for fuel price calculations in PREPA's fuel contracts. Due to the downturn of the oil and other fuel prices in the second half of year 2015, a fuel prices forecast for a "Low Oil Price" scenario was developed in February 2016. For the preparation of this revised forecast, PREPA provided additional historical data information up to January 28, 2016. Due to the projected reduction in fuel costs in FY 2017, the fuel expenses are reduced when compared with FY 2014.

In addition to the changes in the fuel price assumptions, the fuel & purchased power performance improvements are also a driver of the known and measurable changes and are outlined below. As will be discussed, a portion of these improvements are captured in the fuel and purchase power line items (those that are achieved) and the remainder are captured in the fuel performance improvement line item.

Performance improvements captured in the fuel performance improvement line item are:

- Implemented an S&OP process that enabled the optimization of fuels inventory levels and capitalize dispatch optimization delivering approximately $23 million in cost savings (fuel and purchased power);

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- Used a strategic RFP process to delivered net fuel adder (residuals and distillates) savings of approximately $22 million. Part of this saving is already considered in the fuel purchase expense;

- Negotiated the natural gas for the Costa Sur complex by adding a natural hedge with henry hub index and reducing the existing FO based formula. Estimated annual savings of approximately $33 million; and

- Analyzed the root causes of forced outages by power plant and implementing mitigation actions to reduce the frequency and severity of forced outages. This will also support the reduction of spinning reserves. On target to deliver approximately $54 million in annual savings.

Q. Can you provide detail on the Non-Fuel O&M Expense known and measurable changes discussed earlier in your testimony?

A. The 2014 historical figures for non-fuel O&M expense are based on PREPA accounting records and reports. Known and measurable changes to non-fuel O&M expenses are a decrease of approximately $274 million primarily driven by reduced labor costs, a significant decrease in the amount reserved for bad debt, non-fuel performance improvements, and minor increases in the other categories. Below is a summary of the drivers of these changes with the exception of performance improvements, which are detailed in other sections of this document.

A. Additional safety upgrades – As a result of the assessment conducted by DuPont as part of the Recovery Plan, PREPA has added approximately $4.4 million to the 2017 revenue requirement to cover priority safety-related investments.

B. Other expenses, O&M - This category is comprised of Property & Casualty Insurance Premiums, Restructuring Fees, Retiree Medical Benefits, Security Expenses, Banking Services, Maintenance, Utilities, and Miscellaneous expenses. All Other Expenses are projected to grow at 1% per year over the forecast period, except for Restructuring Fees, which is expected to be zero after FY 2017.

C. Reduction in bad debt expense from operations – Improving customer collections across all customer classes has been a focus for PREPA since the Summer of 2014. Improving general collections processes, the re-initiation of collections efforts on severely delinquent accounts, regular service suspensions, improved billing practices, improved processes for challenging Act 33 disputes, and a focus on non-technical loss has dramatically affected PREPA's collections statistics. The 2014 bad debt expense was approximately 3.7% of the total revenue requirement. Based on the most recent collections statistics available in FY 2016 monthly operating reports, the bad debt expense assumption in the revenue requirement model is 2.9%. This combined with a decrease in the cost of fuel has led a total decrease in bad debt assumption of approximately $106 million.

D. Energy administration fee – In 2014, PREPA was not required to fund the Energy Commission and in 2017 it will be required to do so. This leads to an increase of approximately $5.8 million in the 2017 revenue requirement.

E. Since 2014, overall PREPA headcount has decreased by approximately 1,100 (~7,800 in June 2014 to ~6,700 in March 2016) which is the predominant driver of the approximately $96 million decrease in combined salary, pension, and benefits costs forecast in 2017. Also during that time period, PREPA has made a concerted effort to put sustainable processes and controls in place to limit the amount of over time that is accrued. Finally, in 2017, PREPA expects to continue to fund pension obligations at similar levels to 2015 and 2016 which is a reduction of approximately $40 million versus 2014. A comprehensive review of PREPA's pension obligations is expected to lead to increased contributions beginning in 2018.

A. **Can you provide a summary of how the capital investment was updated as a known and measurable change?**

A. Below is a breakout of the capital investment plan in the 2017 revenue requirement.

	Rev. Req. Model as of May 16, 2015
Maintenance Capex	232.1
Investment Capex	
AOGP	56.3
New Units / Repowering	-
T&D investment capex	48.2
Retirements / Demolition	-
Total investment capex	104.5
Total Capex	336.6

The most significant driver of the approximately $66 million change in the capital expenditure plan is the inclusion of approximately $56 million for initial funding of AOGP.

Q. **Can you provide a summary of the major capital projects included in this rate filing?**

A. This rate filing includes capital projects mainly focused on system maintenance and reconstruction, MATS compliance, grid's reliability and renewables integration. The major capital investments required during FY2017-2019 include AOGP, existing generating unit's maintenance and overhauls, and transmission and distribution systems reconstruction, reinforcements and expansion projects. The program includes major reconstruction projects of many of the 230 kV and 115 kV transmission lines, 38 kV sub-transmission lines, distribution feeders as well as system switchyards which are in need of repair due to age, aggressive ambient conditions and difficulties for scheduling energized equipment outages. Additional capital investments strategically located on the transmission system, such as dynamic reactive power sources, new underground 115 kV circuits and new power transformers are mandated by reliability considerations and must be in place before the MATS non-compliant units in the north can be retired. These expenditures are essential to improve the efficiency, quality and reliability of service to the Authority's clients, and critical to allow for renewables integration, fuel diversification, and costs reduction.

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VI. CONCLUSION

Q. **Does this complete your direct testimony?**

A. Yes.

No. CEPR-AP-2015-0001
PREPA Ex. 3.0

ATTESTATION

Affiant, Virgilio Sosa, being first duly sworn, states the following:

The prepared pre-filed Direct Testimony and the Schedules and Exhibits attached thereto and the Schedules I am sponsoring constitute the direct testimony of Affiant in the above-styled case. Affiant states that he would give the answers set forth in the pre-filed Direct Testimony if asked the questions propounded therein at the time of the filing. Affiant further states that, to the best of his knowledge, his statements made are true and correct.

Virgilio Sosa

Affidavit No. 3,566

Acknowledged and subscribed before me by Virgilio Sosa, of the personal circumstances above mentioned, in his capacity as Director of AlixPartners, LLP, who is personally known to me or whom I have identified by means of his driver's license number from Texas, 23075169, in San Juan, Puerto Rico, this 26 th day of May 2016.

Public Notary

JAIME J. ORTIZ RODRIGUEZ
PUERTO RICO
NOTARIO PUBLICO
EXENTO PAGO ARANCEL
LEY 47
4 DE JUNIO DE 1982

No. CEPR-AP-2015-0001
PREPA Ex. 3.0

ATTESTATION

Affiant, Sonia Miranda Vega, being first duly sworn, states the following:

The prepared pre-filed Direct Testimony and the Schedules and Exhibits attached thereto and the Schedules I am sponsoring constitute the direct testimony of Affiant in the above-styled case. Affiant states that she would give the answers set forth in the pre-filed Direct Testimony if asked the questions propounded therein at the time of the filing. Affiant further states that, to the best of her knowledge, her statements made are true and correct.

Sonia Miranda Vega

Affidavit No. 3,547

Acknowledged and subscribed before me by Sonia Miranda Vega, of the personal circumstances above mentioned, in her capacity as Director, Planning and Environmental Protection of the Puerto Rico Electric Power Authority, who is personally known to me or whom I have identified by means of her driver's license number ____________________, in San Juan, Puerto Rico, this 26th day of May 2016.

Public Notary

JAIME J. ORTIZ RODRIGUEZ
PUERTO RICO
NOTARIO PUBLICO

EXENTO PAGO ARANCEL
LEY 47
4 DE JUNIO DE 1982

No. CEPR-AP-2015-0001
PREPA Ex. 3.0

ATTESTATION

Affiant, Antonio Perez Sales, being first duly sworn, states the following:

The prepared pre-filed Direct Testimony and the Schedules and Exhibits attached thereto and the Schedules I am sponsoring constitute the direct testimony of Affiant in the above-styled case. Affiant states that he would give the answers set forth in the pre-filed Direct Testimony if asked the questions propounded therein at the time of the filing. Affiant further states that, to the best of his knowledge, his statements made are true and correct.

____
Antonio Perez Sales

Affidavit No. 3,570

Acknowledged and subscribed before me by Antonio Perez Sales, of the personal circumstances above mentioned, in his capacity as Director of AlixPartners, LLP, who is personally known to me or whom I have identified by means of his driver's license number ____________________, in San Juan, Puerto Rico, this 26 th day of May 2016.

____
Public Notary

JAIME J. ORTIZ RODRIGUEZ
PUERTO RICO
NOTARIO PUBLICO

EXENTO PAGO ARANCEL
LEY 47
4 DE JUNIO DE 1982