TESTIMONY OF TOM SANZILLO AND CATHY KUNKEL

Q. PLEASE STATE YOUR NAMES AND BUSINESS ADDRESSES.

A. We are Tom Sanzillo and Cathy Kunkel. We are jointly sponsoring this testimony.

Tom Sanzillo is the Director of Finance for the Institute for Energy Economics and Financial Analysis. His business address is 3430 Rocky River Drive, Cleveland, OH 44111.

Cathy Kunkel is an Energy Analyst with the Institute for Energy Economics and Financial Analysis. Her business address is 3430 Rocky River Drive, Cleveland, OH 44111.

Q. PLEASE STATE YOUR QUALIFICATIONS.

Tom Sanzillo is the author of several studies on coal plants, rate impacts, credit analyses, and public and private financial structures for the coal industry. He has testified as an expert witness, taught energy-industry finance training sessions, and is quoted frequently by the media. Sanzillo has 17 years of experience with the City and the State of New York in various senior financial and policy management positions. He is a former first deputy comptroller for the State of New York, where he oversaw the finances of 1,300 units of local government, the annual management of 44,000 government contracts, and where he had oversight of over $200 billion in state and local municipal bond programs and a $156 billion pension fund.

Sanzillo recently contributed a chapter to the Oxford Handbook of New York State Government and Politics on the New York State Comptroller's Office.

Sanzillo has a bachelor's degree from the University of California in politics.

Cathy Kunkel has co-authored numerous reports for the Institute for Energy Economics and Financial Analysis related to utility regulation, electricity markets, mergers and acquisitions, and coal plant finances. Previously she was a Senior Research Associate in the Electricity Markets and Policy group at Lawrence Berkeley National Laboratory. She has been an expert witness in eight West Virginia Public Service Commission proceedings regarding resource planning and energy efficiency. She has also participated in hearings before the Puerto Rico Energy Commission in its Integrated Resource Plan proceeding.

Kunkel graduated from Princeton University with a B.A. in physics and from Cambridge University with a Certificate of Advanced Study from the Department of Applied Mathematics and Theoretical Physics.

Our resumes are attached as Exhibits 1 and 2.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. We are testifying on behalf of ICSE-PR, the Institute for Competitiveness and Sustainable Economy.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. Our testimony addresses the reasonableness of PREPA's proposed rates, from the perspective of their affordability; the reasonableness of the budget assumptions embedded in the rates; and the likelihood that the proposed rates will be adequate to support PREPA's re-entry to the credit markets. We find that the proposed rates are excessively high when benchmarked against other U.S. jurisdictions and unjustly biased in that they force industrial and commercial ratepayers to subsidize other customer classes. However, we also find that the budget assumptions embedded in the rates are unrealistic: if they are not met, PREPA's debt service coverage ratio (a key credit metric) will likely fall below what PREPA's consultants believe is necessary for re-entry to the bond markets. This will result in upward pressure on rates in future years, exacerbating our concerns about affordability. Our conclusion is that PREPA's ratepayers cannot support the level of legacy debt (inclusive of the previously approved Transition Charge) embedded in the proposed rates. Although we are conscious that debt restructuring is not part of this proceeding, the overall effect of the proposed rate increases points to the need for further debt renegotiation.

Additionally, our testimony addresses the need for close Commission oversight over PREPA's expenditures and makes recommendations regarding PREPA's arguments for a formula rate-making mechanism.

Thirdly, our testimony finds that the proposed rate design does not give customers, particularly commercial and industrial classes, the flexibility to lower their own energy costs and to expand the use of renewable energy generation in Puerto Rico. We recommend that open access in transmission and distribution be implemented and that the industrial and commercial tariff designs be weighted less heavily towards demand charges.

Finally, we attach an addendum (Exhibit 3) that summarizes our direct responses to some of the Commission's questions to intervenors provided in the September 27, 2016 resolution.

I. Proposed rates are unreasonable in comparison with other utilities

Q. HOW DO PREPA'S PROPOSED RATES COMPARE AGAINST RATES IN THE MAINLAND U.S.?

A. The rates proposed by PREPA are unaffordable. The testimony of PREPA witness Kaufman benchmarked PREPA against mainland U.S. utilities in terms of operating costs and operating revenues, but did not look at affordability metrics. The following table benchmarks PREPA against other states with comparably high electricity rates. Under PREPA's projected FY 2017 rates, Puerto Rico will pay twice the average price of electricity in the U.S. in 2014. Puerto Ricans have, on average one third the median income of households in those states with high electricity rates. In addition, and unlike any of the following states with comparably high electricity rates except Alaska, Puerto Rico had negative average GDP growth for the period 2011-2015[1] and economic contraction is expected to continue, with GDP projected to decline by 2.0% over the next year.[2]

Additionally, Puerto Rico's economy relies on manufacturing to a far greater extent than any other state with comparably high electricity rates and the contribution of manufacturing to GDP is nearly four times the U.S. average. The large contribution that this sector makes to Puerto Rico's economy implies that economic losses in this sector will have a bigger impact on the overall Puerto Rican economy than comparable manufacturing losses would have in other U.S. states. Yet, in other states with high electricity rates, the industrial rate is considerably below the average rate.[3]. And, as shown by the testimony of Dr. Ramon Cao on behalf of ICSE-PR, PREPA is proposing a rate increase that will lead to further contraction in Puerto Rico's economy.

[1] In fact, aside from a small increase from 2011-2012, Puerto Rico's real GDP has declined since 2006. (Government Development Bank, Gross National Product in 1954 dollars, http://www.gdb-pur.com/economy/statistical-appendix.html)

[2] PREPA's 2014 Audit highlights the disparity between United States GDP and Puerto Rico's. http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Annual%20Reports/Financial%20Statements,%20Required%20Supplementary%20Information%20and%20Supplemental%20Schedules%202014.pdf, p. 26.

[3] Industrial electric rates for mainland U.S. available from U.S. Energy Information Administration, www.eia.gov/electricity/data/browser/. The industrial rate for Puerto Rico for FY 2017 can be estimated by dividing total revenues for class GSP ($920 million) by total sales (4,510 GWh), as provided in Schedule H.

Table 1: Comparison of Puerto Rico's proposed FY 2017 rates with recent (2014) electric rates in U.S. states and other economic indicators.

State	Electricity Rates (cents/kwh) [4]	Median Incomes[5] 2014	Real GDP (Annual Average 2011 through 2015)[6]	Fraction of GDP from manufacturing[7]
Hawaii	33.43	$71,223	1.2%	1.93%
Puerto Rico	20.10[8]	$19,183	(0. 5%)[9]	47.6%
Alaska	17.46	$67,629	(1.0)%	2.44%
Connecticut	17.05	$70,161	0.4%	10.68%
New York	16.25	$54,310	1.4%	5.18%
U.S. Total[10]	10.44	$53,657	2.0%	12%

Q. WHAT FACTORS ARE CONTRIBUTING TO PREPA'S HIGH ELECTRICITY RATES?

A. Fuel and purchased power costs historically (FY 2012 – FY 2014) have comprised 75-80% of PREPA's total rate, in part because of the failure to update the base rate for several decades. Going forward, PREPA projects that fuel and purchased power costs will be approximately half of the total rate. In addition, PREPA's proposed rates contain an unreasonably high level of debt and debt service related costs.[11] In FY 2017, Schedule A-1 REV lists "Debt Service (Principal & Interest)"

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[4] U.S. Energy Information Administration, "State Electricity Profiles", 2014. http://www.eia.gov/electricity/state/

[5] For all states see: http://www.advisorperspectives.com/dshort/updates/Household-Incomes-by-State and the Commonwealth see: https://www.census.gov/content/dam/Census/library/publications/2014/acs/acsbr13-02.pdf

[6] U.S. Bureau of Economic Analysis, "Real GDP by State (millions of chained 2009 dollars)", June 2016.

[7] National Association of Manufacturers, "State Manufacturing Data," March 2016 (http://www.nam.org/Data-and-Reports/State-Manufacturing-Data/State-Manufacturing-Data/2015-State-Manufacturing-Data-Table/) and Government Development Bank of Puerto Rico, "Puerto Rico Fact Sheet", March 2016 (http://www.gdb-pur.com/economy/documents/PREconomicFactSheet-March2016.pdf)

[8] FY 2017 rate from Schedule F. The FY 2014 rate for Puerto Rico was 26.4 cents/kWh

[9] Government Development Bank, "Gross National Product in 1954 dollars", http://www.gdb-pur.com/economy/statistical-appendix.html

[10] Of the 50 states Mississippi has the lowest median income in 2014: $35,521.

[11] Exhibit 14.01, Tab D2A compares the outstanding value of PREPA's bond indebtedness to a market valuation of the bonds. The outstanding value is $8.1 billion and the market value is $5.3 billion. Cell S224 shows that the market value is 65.3% of the outstanding value of the bonds. PREPA has presented to the Commission, and the Commission

of $314.3 million, "Debt Service for Securitization" of $394 million, "Gross-up for Collections Lag and Uncollectible Revenue" (specific to the securitization charge) of $109 million, and "Capital Expenditure" of $337 million.[12] In total, debt and debt service related costs amount to $1.154 billion, or 6.7 cents/kWh, one-third of the proposed total rate.

Q. HOW DOES THIS LEVEL OF DEBT COMPARE TO OTHER PUBLIC POWER ENTITIES IN THE UNITED STATES?

A. Table 2 benchmarks PREPA's debt and debt service related costs against major public power utilities in the mainland. PREPA has – by far – the highest proportion of its total rate going towards debt and debt service related expenses. (This would still be true even if we did not include revenue-financed capital expenditures in this category).

The comparison to LIPA (the Long Island Power Authority), which has the second largest debt service shown in the table, is instructive. In 1998 the Long Island Power Authority (LIPA) issued $7 billion in long term bonds to pay costs incurred with the decommissioning of the Shoreham Nuclear Power Plant[13]. In 2013 the State of New York created the Utility Debt Securitization Authority (UDSA). The UDSA was created to absorb a substantial portion of the remaining liability. Since 2013 the UDSA has issued $3 billion in long term debt and plans another $1 billion.

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approved a securitization arrangement where 85% of a portion of the bond indebtedness is refinanced and the remaining PREPA legacy indebtedness is paid at 100% of outstanding value. There is no attempt to reconcile the sizable difference between the market value of the debt and what PREPA ratepayers are being asked to underwrite.

[12] We include "capital expenditure" in the category of debt and debt service related costs, because if PREPA had access to the capital markets, this would be financed with debt.

[13] Long Island Power Authority and Subsidiaries, Consolidated Financial Statements 2000 and 2001, http://www.lipower.org/pdfs/company/investor/lipa_financials2001.pdf, p. 5.

LIPA, now a separate operating entity retains an estimated $2.2 billion[14] in existing long term debt. Some of this debt is legacy debt and some of it has been used to fund new capital needs.

There are two noteworthy similarities between PREPA and LIPA. First, each has adopted a very similar corporate structure to facilitate management of its long term indebtedness. Second, each has incurred substantial debt for which there is no underlying specific asset that generates revenue to pay the debt.

The fundamental difference in the two utilities is their economic environment. PREPA is being asked to carry over $8 billion in long term debt in a territory with a household median income of $19,183. Nassau County and Suffolk County (LIPA's service area) are carrying indebtedness of approximately $4-$5 billion in areas with median incomes of $98,401 [15] and $88,323 [16], respectively.

Table 2: PREPA's debt service compared to other large public power entities.

	Revenues (R)	Debt Service (DS)	DS as % of Revenue	Generation	Debt Service	Rate	DS as % of Rate
	$ billions	$ billions	Percentage	Billion kwh	Cents/ kwh	Cents/ kwh	Percentage
PREPA	2.96	1.15	38%	17.27	6.7	20.1	33%
LIPA[17]	3.4	0.6	18%	20.4	2.9	18.0	16%
Santee Cooper[18]	1.8	0.28	16%	26.5	1.0	7.3	14%

[14] Long Island Power Authority, 2016 Approved Operating Budget, 2016 Approved Capital Budget, 2017 and 2018 Projected Operating and Capital Budget, http://www.lipower.org/profile/2016%20APPROVED%20BUDGET.pdf, page b-2.

[15] U.S. Census, "Quickfacts: Nassau County, NY", http://www.census.gov/quickfacts/table/SBO020212/36059

[16] U.S. Census, "Quickfacts: Suffolk County, NY", http://www.census.gov/quickfacts/table/RHI105210/36103

[17] Long Island Power Authority (LIPA) http://www.lipower.org/profile/2016%20APPROVED%20BUDGET.pdf , p. 5 rates, p. a-2 Revenue and Generation, p. A, Debt Service.

[18] Santee Cooper, Annual Report 2015, https://www.santeecooper.com/pdfs/about-santee-cooper/2015ar/2015AR_FINAL.pdf, Revenues and Interest, p. 13 and Generation p. 6.

AMP[19]	1.1	0.14	13%	14.0	1.0	7.9	13%
LAWPD[20]	3.3	0.46	14%	25.4	1.8	11.1	16%
Salt River Project[21]	3	0.30	10%	33.6	0.9	11.3	8%
CPS Energy [22]	2.6	0.33	13%	33.2	1.0	17.0	6%

Q. IS PREPA PROPOSING TO ALLOCATE COSTS EQUITABLY ACROSS CUSTOMER CLASSES?

A. No. The proposed PREPA rates disadvantage commercial and industrial customers because these classes are excessively bearing some of the cost of serving other rate classes. As shown in Exhibit G-3, industrial customers on tariffs GSP, GST, TOUP and TOUT will pay 26.5%, 35%, 14.6% and 34.6% more, respectively, than would be required to achieve the results of the Embedded Cost of Service Study. The graph at line 421 in the testimony of PREPA witnesses Zarumba and Granovsky shows that, to meet the Embedded Cost of Service Study, the commercial class should see a 6.1% rate increase and the industrial class a 1.4% rate increase; instead PREPA is proposing a 22.1% rate increase for commercial customers and 26.2% for industrial customers. PREPA Witnesses Zarumba and Granovsky state that "equitable allocation of the revenue requirement" among customer classes is one of the objectives of PREPA's new rate design (Exhibit 4.0, lines 45-62), but that this cannot be achieved immediately in this case. There is no specific target date established nor phase-in plan in the rate design for achievement of this

[19] American Municipal Power Inc., Consolidated Financial Statements and Supplementary Information 2015 and 2014, http://www.amppartners.org/docs/default-source/investors/financial-reports/2015/amp_consolidated_fs_2015.pdf?sfvrsn=2, p. 5.

[20] Los Angeles Power and Water Department (LAPWD), Power System Revenue Bonds 2016 Series B, http://emma.msrb.org/ER970367-ER758976-ER1160417.pdf, 6/30/15, Revenues and Debt Service, p. 52 and Generation page 54.

[21] Salt River Project, Electric System Revenue Bonds, 2015 Series A: http://emma.msrb.org/EP863182-ER690004-ER1091632.pdf, Revenues and Generation, p. 31, Rates p. 32, Debt Service, p. 38

[22] CPS Energy, FY 2015 Annual Report: https://www.cpsenergy.com/content/dam/corporate/en/Documents/Finance/FY_2015_Annual_Report.pdf, Three Year Highlights Unaudited, electronic page 17.

objective. The fact the proposed rate increase is so high means that residential rates would have to increase by more than 60% in order to align with the cost of service study (Exhibit 4.0, lines 420-421). In order to avoid this level of residential rate shock, PREPA is proposing rates that have the residential class subsidized by the commercial and industrial classes.

This is simply another indication that the overall rates are unaffordable. If, as Zarumba and Granovsky indicate, moving towards equitable allocation between classes is one of PREPA's objectives, then PREPA will be raising the residential rate even faster than the 38% overall rate[23] increase projected from FY 2016 through FY 2021.[24]

Although we are conscious that debt restructuring is not part of this proceeding, the overall effect of the proposed rate increases is unsustainable, pointing to the need for further debt renegotiation. The PREPA debt urgently needs to be renegotiated in order to bring the overall level of rates down, so that each class can afford to pay its own costs, without cross-subsidization, in accordance with sound rate-making practices.

II. Rates are likely to go higher than what PREPA projects

Q. WHAT LEVEL OF RATE INCREASE IS CURRENTLY PROPOSED BY PREPA?

A. PREPA is proposing an overall rate of 20.1 cents/kWh in FY 2017, compared with actual rates in the last fiscal year of 18.52 cents/kWh.[25] This rate includes the Transition Charge, an increase in the base rate, the implementation of various savings initiatives and a projected decrease in fuel

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[23] The actual rate in FY 2016 was 18.52 cents/kWh, according to PREPA's unaudited June 2016 monthly report. We use this number as the FY 2016 rate, as opposed to the 17.79 cents/kWh rate presented in Schedule F for FY 2016.

[24] In response to the Commission's 4th Request for Information (questions CEPR-01-03 and CEPR-01-04), witness Zarumba states that it will likely take several rate requests before an equitable allocation is achieved, but no specific timeframe is proposed.

[25] PREPA Monthly Report to the Governing Board, June 2016, http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Monthly%20Reports/2016/June%202016.pdf, p. 26

costs (See Schedule A-1 REV). By FY 2021, PREPA projects rates increasing to 25.6 cents/kWh, a 38% increase above current rates. PREPA projects stable rates at 24-25 cents/kWh through FY 2030.

We note that PREPA's actual FY 2016 rate of 18.52 cents/kWh is higher than the estimated FY 2016 rate of 17.79 cents/kWh shown in Schedule F-1. PREPA's underestimate of the FY 2016 rate is not explained and raises questions about the validity of FY 2017 cost assumptions.

Q. DO YOU THINK PREPA'S PROJECTIONS OF FUTURE RATE INCREASES ARE ACCURATE?

A. No. We think it likely that rates will go even higher than PREPA projects in Schedule F-1 because revenues will not be as high as expected and operational expenses will be higher than budgeted. Either or both of these outcomes will increase pressure to raise rates in future years. Additionally, if, as we believe, PREPA has underestimated its fuel expenditures for FY 2017, this will lead to quarterly rate increases in FY 2017.

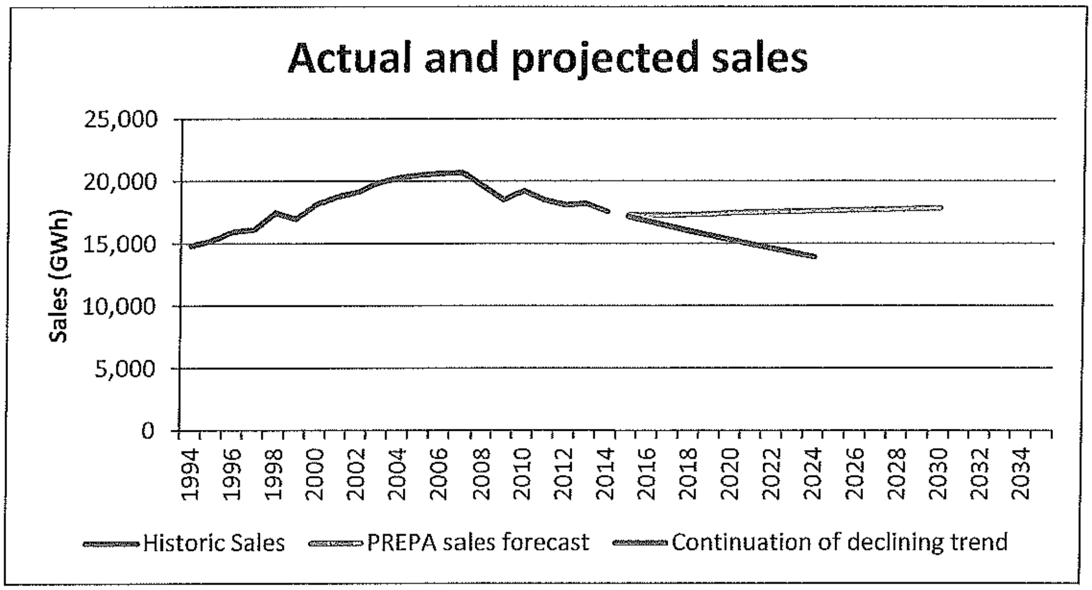
This will only worsen the problems of affordability and overall economic impact of the proposed rate structure described in Section I, above.

Q. PLEASE EXPLAIN WHY THERE IS A RISK THAT REVENUES WILL BE LOWER THAN ANTICIPATED.

A. We believe that PREPA's long-term sales forecast is too high. PREPA forecasts that electricity consumption in Puerto Rico will remain essentially flat through 2030, as shown in the following graph.[26]

[26] Schedule F-1.

GRAPH: PREPA Actual and projected sales of electricity with IEEFA adjustment to PREPA outlook (1994-2034)



PREPA has faced declining electricity consumption for the past several years.[27] PREPA's sales declined 16% from 2007 through 2015, from 20.6 billion kWh to 17.3 billion kWh. Sales were flat at 17.3 billion kWh in FY 2016.

Q. HOW DOES PREPA JUSTIFY ITS SALES FORECAST?

A. In response to discovery (ICSE-PR request 26), PREPA states that electricity sales have historically been correlated to Puerto Rico's GDP. The economic forecast from Inter-American University Global Insight shows GDP starting to increase in FY 2017. PREPA states that FY

[27] Declining electricity sales are cited as a challenge for the Authority in its 2014 Audited financial statement. http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Annual%20Reports/Financial%20Statements,%20Required%20Supplementary%20Information%20and%20Supplemental%20Schedules%202014.pdf, p. 7.

2016's 0.4% increase in electricity sales over FY 2015 further supports the idea that Puerto Rico's economy is beginning to expand. Additionally, PREPA notes that its sales forecast has been accurate for the last two years. ("PREPA's forecast shows a growth of 0.2% each year, and this is reasonable considering the accuracy of the last two projections and the consumption behavior in FY 2016").

Q. DOES PREPA'S ANALYSIS CONSIDERTHE IMPACT OF REDUCED ELECTRICITY PRICES ON FY 2016 SALES?

A. PREPA's forecasting methodology document provided in response to Commission request CEPR-AH-1-05 (Attachment 8) indicates that the electricity price is included in the forecasting model. Given that PREPA's rates declined 22% from FY 2015 to FY 2016[28], this should not be discounted as a driver of PREPA's increased FY 2016 sales.

Q. WHAT ASSUMPTIONS UNDERLY PREPA'S FUTURE SALES FORECAST?

A. PREPA's forecasting methodology document describes the sales forecast as based on underlying Puerto Rico economic indicators and the electricity price. The document states that these economic indicators were obtained from the projections of Inter-American University Global Insight.

The response to ICSE-PR Question 26 indicates that IAUGI's projection shows GDP bottoming out in FY 2016, in contrast to the Puerto Rico Planning Board's forecast of continued GDP decline in FY 2017.[29] Previously, PREPA has used the lower of the IAUGI, Planning Board, and

[28] PREPA Monthly Report to the Governing Board, June 2016, p. 5, http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Monthly%20Reports/2016/June%202016.pdf
[29] D. Costa, "Planning Board: Puerto Rico Economy to Drop 2% in Fiscal 2017," Caribbean Business, May 6, 2016, http://cb.pr/planning-board-puerto-rico-economy-to-drop-2-in-fiscal-2017/

Advantage Business Consulting forecasts in creating its revenue forecasts.[30] That methodology has not been used in this case.

Q. WHY DO YOU EXPECT THE DOWNWARD TREND IN ENERGY SALES TO CONTINUE? WHAT IMPACT WOULD THIS HAVE ON RATES?

A. PREPA's past statements and data show that Puerto Rico's economic growth and the overall level of electric rates are both important drivers of changes in electricity consumption. Based on the Puerto Rico Planning Board's forecast of continuing GDP decline in FY 2017, the Puerto Rico Fiscal Plan's projection of real GDP decline through 2026[31] and PREPA's plan to raise rates 38% by FY 2021, we think is likely that PREPA's long-term forecast of flat electricity consumption is too high. We have adjusted the above graph to create an illustrative scenario based upon a continuation of PREPA's declining trend.[32]

Lower-than-forecast electricity consumption results in the spread of costs of electricity production over a smaller sales base (kWh sold). Because a large fraction of PREPA's production costs are fixed costs, in part stemming from PREPA's high debt levels, the net effect is upward pressure on rates.

Q. WHY IS THERE A RISK THAT PREPA'S OPERATIONAL EXPENSES COULD BE HIGHER THAN FORECAST?

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[30] PREPA Power Revenue Bonds, Series 2013A, http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Official%20Statement/PREPA%20Revenue%20Bonds%20Series%202013A.pdf, p. 39-40.

[31] Commonwealth of Puerto Rico Fiscal Plan, October 14, 2016 (http://www.fortaleza.pr.gov/sites/default/files/16.10.14%20Fiscal%20Plan%20vFinal.pdf), p. 82.

[32] In its IRP Order, the Commission faulted PREPA for failing to develop a load forecast sensitivity that was significantly lower than its baseline load forecast, noting that "a substantially lower forecast could be justified, at the least, by the recent loss of Puerto Rico" (IRP Order, September 23, 2016 at paragraph 133).

A. We have identified four risks: the risk of (a) slippage in PREPA's proposed savings initiatives; (b) higher than anticipated fuel costs; (c) funding capital expenditures through revenues for the next several years; (d) increases to the transition charge.

Q. PLEASE EXPLAIN HOW PREPA'S PROPOSED SAVINGS INITIATIVES ARE RELEVANT TO ITS RATE FORECAST.

A. PREPA has proposed and is implementing numerous savings initiatives. These initiatives, according to the testimony of Miranda, Sales and Sosa, have "already achieved approximately $165 million in one-time cash savings and approximately $200 million in recurring annual savings," and PREPA "forecasts to save an incremental $120 million of recurring annual savings before 2019" (lines 180-183). If these savings initiatives do not materialize as forecast, rates will need to be raised to compensate.

Q. WHY DO YOU BELIEVE THAT PREPA IS UNLIKELY TO MEET ITS SAVINGS GOALS?

A. The Commission has raised several issues[33] with PREPA that relate to the organizational preparedness of the Authority[34] to carry out the administrative and budget actions required to successfully implement its reorganization.

In PREPA's third response to the Commission it has acknowledged that PREPA's organizational capacity is uneven with "varying degrees of preparedness for each improvement areas."[35] Our concern about organizational capacity is exacerbated by the departure of Sonia Miranda, the only

[33] The Commission's August 2, 2016 resolution and order provides the background of the Commissions efforts to secure details of the organizational issues confronting PREPA. The Commission has been probing witnesses Miranda and Donahue concerning their unspecified statements regarding: 1) a history of poor accountability in PREPA; 2) political interference and 3) staff capacity. This line of inquiry goes directly to the point that the savings initiatives may not materialize and that the program reforms may not solve PREPA's long standing problems.
[34] The Commission's recent order in the IRP case also raises significant concerns regarding PREPA's organizational preparedness. (IRP order, September 23, 2016 paragraph 13).
[35] CEPR-SH-001-009(b)

PREPA employee who sponsored the original panel testimony on the savings initiatives (Exhibit 3.0).

Recent PREPA management decisions also call into question its ability to control costs. For example, PREPA entered into a large number of above-market contracts for solar from 2010-2013[36]. Additionally, in selecting contractors for its bond restructuring, where contractors are being paid tens of millions of dollars, PREPA failed to use competitive bidding.[37]

In addition, PREPA has not presented its savings initiatives in a transparent and consistent manner that would provide confidence in PREPA's ability to meet the targets.

Q. HOW DOES PREPA'S APPROACH TO ITS SAVINGS INITIATIVES CONTRAST WITH BEST PRACTICES?

A. Typically when public agencies are involved in a large series of initiatives to bring a budget into balance, the actions are tied together in what is sometimes called a "program to eliminate the gap" (PEG).[38] The program creates a uniform system of accountability that identifies specific budget and organizational initiatives and how the initiatives save money or generate additional revenue, sets out financial targets, creates standards of accounting for the measurement of the benefit, assesses related risk, establishes timelines and benchmarks to measure progress toward objectives and assigns responsibility to administrators for achievement of objectives and corrective action plans.

[36] IRP Order, September 23, 2016, paragraphs 179 and 184.
[37] Restructuring Order (June 21, 2016) paragraphs 258-262.
[38] See, for example: http://policyatlas.org/wiki/Program_to_Eliminate_Gap_Procedures_(PEG)

On a budget-wide basis the PEG initiatives are integrated into the budget process of specific units, agencies of government and into executive level budget documents. A careful tracking[39] is maintained to monitor agency progress and to take action when early warning signs show slippage in meeting performance objectives.

In contrast, PREPA's presentation of savings initiatives and revenue-producing actions identified in the rate docket do not present a uniform system that is transparent, easily understandable, or usable for the kind of rigorous budget monitoring that one would expect given the size of PREPA's budget imbalance.[40]

For example, Schedule F-4 provides information on assumptions underlying PREPA's FY 2017 revenue requirement. Under "customer service improvement savings", Schedule F-4 lists changes to reconnection charges, theft recoveries and reduced T&D losses, which together appear to total approximately $30 million in FY 2017. Under "other improvement savings", Schedule F-4 appears to show more than $54 million in savings in FY 2017. Yet Schedule A-2 shows only $23.75 million and $24 million in FY 2017 savings in these two categories, respectively.

Finally, in its response to the Commission's third request for information (CEPR-SH-001-006), PREPA states that it does not yet have mechanisms in place to compensate or penalize managers if improvements are achieved or not achieved, though PREPA plans to make this "a component of the annual review process" and a "factor determining future career advancement opportunities,"

[39] Often outside groups with specific budget interests monitor these initiatives as well. See, for example: http://www.cbcny.org/category/tags/program-eliminate-gap

[40] Here we contrast the system monitoring for operational expenses with the system monitoring used to insure that revenues are collected and debt service is paid. The debt service system is elaborate with significant attention paid to internal control accounting and revenue disbursement. See entire Testimony of Michael Mace, Transition Docket, with summary chart at Line 1558.

though no specifics were provided. This again raises the question of whether there will be appropriate incentives within PREPA's organizational culture for achievement of savings initiatives.

Q. YOU ALSO CITED HIGHER THAN ANTICIPATED FUEL COSTS AS A FACTOR THAT COULD PUT UPWARD PRESSURE ON RATES. PLEASE EXPLAIN.

A. PREPA's estimated fuel expense for FY 2017 according to Schedule A-1 REV is $655,968,367; according to Schedule A-6 REV, it is $763,695,078. This represents a $1.581 to $1.689 billion reduction in fuel charges from the 2014 audited statement of $2.344 billion. The reduction is carried as a cost savings by PREPA in its presentation to the Commission.[41] PREPA then projects fuel costs to rise again in FY 2018, back to approximately the FY 2016 level (Schedule A-6 REV).

It is unrealistic to expect PREPA to pay only $656-$764 million for fuel in FY 2017. PREPA has recently provided its interim, unaudited Monthly Report for June 2016, the end of PREPA's Fiscal Year (FY). The unaudited data puts PREPA's FY 2016 fuel costs at $1.210 billion[42] based upon consumption of 23,202 barrels[43] at an average cost of $52.17[44] per barrel.

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[41] Pampush, Porter and Stathos Direct Testimony Line 475 puts the savings at $1.595 billion.

[42] PREPA Monthly Report to the Governing Board, June 2016, http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Monthly%20Reports/2016/June%202016.pdf, 8. Fuel Consumption (Cost – Fiscal Year Total)

[43] PREPA Monthly Report to the Governing Board, June 2016, http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Monthly%20Reports/2016/June%202016.pdf, 2. Fuel Consumption (BBL- Fiscal Year Total).

[44] PREPA Monthly Report to the Governing Board, June 2016, http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Monthly%20Reports/2016/June%202016.pdf, I. Operations Highlights, A. Production, 4. Average Cost Per Barrel, Fiscal Year

Schedule E-7 REV projects a 14% decline in barrels of oil consumed in FY 2017 relative to FY 2016. Even so, in order for fuel costs to decline from $1.210 billion in FY 2016 to $656 million in FY 2017, a 30%-40% drop in fuel prices would be required. This is not realistic.[45]

We have surveyed recent oil price forecasts from four prominent, independent sources. None of the oil price forecasts anticipate a precipitous drop in the price of oil for 2017. Prices in 2017 are expected to be flat compared to 2016, according to the United States Energy Information Agency ($50.58 per barrel)[46], World Bank ($53 per barrel), International Monetary Fund ($51 per barrel) and The Economist Intelligence Unit (EIU) ($55 per barrel).[47] Additionally, PREPA's own fuel forecast used in its IRP does not predict any significant decline in PREPA's fuel costs from FY 2016 to FY 2017.[48]

In Schedule F, PREPA informed the Commission that it anticipated a 2016 fuel cost of $1,078,088,287. The unaudited actual expenditures were $1.210 billion, a 20 percent increase.

It is with a high degree of certainty that we conclude that PREPA will not achieve the $1.581 to $1.686 billion in savings from oil price declines from FY 2014 to FY 2017 identified in PREPA's (seemingly inconsistent) presentation. If PREPA's fuel cost remains at or near the 2016 level, PREPA's actual cost for 2017 will be as much as $400-$500 million more than the proposed budget submitted in support of the Revenue Requirement.

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[45] Indeed, PREPA's August monthly report shows fuel costs in the first two months of FY 2017 have declined only 12% relative to the same period of FY 2016 (p.2). Additionally, this document shows that actual fuel costs in the first two months of FY 2017 were more than 100% above budget "due to higher cost of fuel than budgeted" (p. 8). PREPA Monthly Report to the Governing Board, August 2016. http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Monthly%20Reports/2016/August%202016.pdf

[46] Energy Information Administration, Short-Term Energy Outlook (Crude Oil), October 2016 http://www.eia.gov/forecasts/steo/

[47] Knoema, "Crude oil price forecast: Long term 2016 to 2025", https://knoema.com/yxptpab/crude-oil-price-forecast-long-term-2016-to-2025-data-and-charts

[48] PREPA Supplemental Integrated Resource Plan, April 19, 2016. Appendix C.

Q. YOU REFERENCED REVENUE-FUNDED CAPITAL EXPENDITURES AS A THIRD FACTOR THAT COULD DRIVE RATES HIGHER THAN PROJECTED. PLEASE EXPLAIN.

A. Another factor that is likely to drive rates higher than forecast is the likelihood that PREPA will need to continue financing capital expenditures through revenues, rather than through new debt issuances, because of its inability to access the capital market. Schedule F-2, PREPA's balance sheet under the proposed new rates, shows "New Issue Capex Financing" beginning in FY 2018 at a level of approximately $400 million per year through FY 2020. Presumably, this has been included in the proposed rates through debt service charges, although this has not been presented in a transparent manner. However, if PREPA is not able to access the capital markets beginning in FY 2018, PREPA would need to finance this level of capital investment through cash, which would require a higher revenue requirement in those years than debt financing, leading to upward pressure on rates. (PREPA's IRP estimated the cost of AOGP at $385 million[49] and, given that the Commission has ordered PREPA not to proceed with construction at this time, some of this projected "new issue capex financing" could presumably be reduced).

In fact, it is unlikely that PREPA will be able to enter the capital markets starting in FY 2018. The Commission noted in its IRP Order that "[i]t is uncertain when PREPA will have access to the capital markets; and when it does have that access, in what amounts and at what cost." (IRP Order of September 23, 2016 at paragraph 65). The testimony of PREPA witnesses Pampush, Porter and Stathos estimates that PREPA will be able to regain access to the capital markets at reasonable rates "by 2020 or later" (lines 991-996). The testimony of these witnesses suggests that Schedule F's representation of "new issue capex financing" beginning in FY 2018 is unlikely to materialize.

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[49] PREPA Integrated Resource Plan (August 17, 2015 version), page 5-7.

Q. YOU MENTIONED THE TRANSITION CHARGE AS A FOURTH FACTOR PUTTING UPWARD PRESSURE ON RATES. PLEASE EXPLAIN.

A. The costs embedded in the Transition Charge, including the upfront and ongoing financing costs for the Securitization Bonds, are not subject to Commission oversight and are not being reviewed in this proceeding. The amount of upfront fees is already well over the budget initially provided in PREPA's application for the Transition Charge. The Commission's statutory lack of oversight over the fees, combined with apparent conflicts of interest in establishing the fees, has led the Commission to be concerned that PREPA ratepayers will be exposed to "fees without limit."[50] An increase in the Transition Charge would result in higher overall rates.

Additionally, as noted by PREPA witness Donahue in response to the Commission's 4th request for information, there is a risk that the final structure of the bond deal could result in higher rates. Specifically, if more bondholders participate in the underlying securitization transaction, then the Transition Charge would have to rise to cover the additional bond indebtedness of the Corporation. But, Donahue is "unclear" whether that transfer of indebtedness from PREPA to the Securitization transaction would decrease PREPA's total debt service obligations.[51] She states, "it is possible that the mix of participating bonds will have a different maturity and interest profile than previously assumed, which would make the ultimate impact of greater participation [in the Restructuring Support Agreement] unclear...[W]e cannot assume a $1 for $1 decrease." In other words, there is a risk that the Transition Charge could be increased without an equal decrease in

[50] Restructuring Order (June 21, 2016) paragraph 266.
[51] PREPA Response to CEPR-SGH-02-02 (a).

the legacy debt service component of the base rate, depending on the final participation level in the Restructuring Support Agreement, thereby driving rates up.[52]

III. PREPA's proposed expenditures and investments require close regulatory scrutiny.

Q. DO YOU AGREE THAT PREPA REQUIRES CLOSE COMMISSION OVERSIGHT OVER ITS EXPENDITURES AND INVESTMENTS?

A. Yes. PREPA witness Hemphill states that PREPA's proposed formula rate-making (FRM) mechanism will provide for "increased Commission oversight of PREPA's business planning process." (Hemphill supplemental testimony lines 53-54).

We agree that the many changes underway at PREPA, the apparent low level of trust between PREPA and its regulator[53], and our concerns described previously regarding likely slippage in PREPA's budget initiatives all point towards a need for strong Commission oversight.

In this section, we evaluate PREPA's proposed FRM mechanism in that light and provide additional recommendations for the Commission's consideration.

Q. WHAT IS THE PROPOSED "FORMULA RATE-MAKING" MECHANISM?

A. PREPA has proposed a "formula rate-making" (FRM) mechanism in which PREPA would file a base rate case every three years, and in the intervening years it would true-up the different components of the rate to align with actual costs without changing the allocation of costs between customer classes. Specifically, in the years in which it does not file a base rate case, our understanding is that PREPA would seek to set rates for the next fiscal year based on its budget

[52] Ibid.

[53] As suggested by the Commission's recent IRP Order (see paragraphs 13, 142, 243, 281) and Transition Charge Order (see paragraph 272).

for that fiscal year, plus a reconciliation of the previous year's rates based on actual expenditures and the Commission's determinations of prudence. If rates in the previous year were too low to cover expenditures, and the Commission finds that PREPA's expenditures were prudent, rates would be raised in the subsequent year to cover the difference. This reconciliation would only apply to the base rate, i.e. it would not include the fuel and purchased power adjustment riders, the Transition Charge, CILT and subsidies which are to be adjusted separately. (Hemphill Direct Testimony, Ex. 7 lines 404-418).

PREPA is proposing a six-month process for adjusting the rates in the off years (the years in which it is not filing a base rate case). This is the same length of time that Act 57 allows for a base rate case (as the current rate case proceeding), although the Commission has the option of a 60-day extension for a base rate case. PREPA contemplates an annual proceeding that would allow for intervention by other parties, discovery and testimony (Hemphill Supplemental Testimony, Ex. 16 lines 190-192).

Q. DO YOU AGREE WITH REFERRING TO THIS PROPOSAL AS A FORMULA RATE?

A. No. The concept of "formula rate-making" carries the implication of less regulatory oversight and even automatic adjustments to rates according to a formula.[54,55] We strongly oppose any such

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[54] Indeed, witness Hemphill's original direct testimony (lines 353-356) seemed to support this concept by describing the proposed FRM as "a cycle where rates are revised every year to reflect updated cost and usage information with an *in-depth examination of the cost components*, allocation studies, interclass revenue allocation adjustments and rate design occurring every three years" (emphasis added). This description of the FRM does not appear to contemplate providing in-depth information to support the costs that PREPA would seek to recover. However, the Hemphill supplemental testimony calls for full Commission oversight of the cost components of the revenue requirement (lines 185-195).

[55] Indeed, one of the examples of formula rates cited in witness Hemphill's direct testimony provides an extreme example of limited regulatory oversight and public scrutiny. Alabama's FRM mechanism has been criticized for lack of transparency, cursory Commission review and excessive profits to Alabama Power (See: D. Schlissel and A.

concept. At this time in which so many changes are being attempted within PREPA and a major attempt is underway to reform the agency, the public cannot afford less regulatory oversight of PREPA. Additionally, automatic adjustments to rates would likely result in excessive rate increases in the absence of Commission oversight over PREPA expenditures.

Witness Hemphill's supplemental testimony, however, states that there would be no difference in the amount of information provided to the Commission regarding the components of the revenue requirement to be adjusted under its proposed annual rate filings, and that PREPA is committed to providing audited financial information in annual rate cases as available.[56] Additionally, PREPA proposes that the level of review be similar, with a 180-day process and full intervenor participation. The difference is that a base rate case can be extended to 240 days at the Commission's discretion, providing for a higher level of scrutiny and oversight. (We would recommend, if the Commission adopts some version of PREPA's proposal, that it allow the option for a 60-day extension in an annual rate review case).

If a proposal in line with the recommendations in witness Hemphill's supplemental testimony that does not involve less regulatory oversight, nor any automatic adjustment to rates, is considered, it should more clearly be referred to as an "annual rate review", not a formula rate. We will refer to it as an "annual rate review" in the rest of this section and urge the Commission to reject the language of "formula rate-making."

Sommer, "Public utility regulation without the public: The Alabama Public Service Commission and Alabama Power," Institute for Energy Economics and Financial Analysis, March 1, 2013.) Clearly this outcome should be avoided.

[56] Hemphill Supplemental at lines 333-335.

Q. DO YOU AGREE THAT PREPA'S UNIQUE CIRCUMSTANCES CREATE CHALLENGES FOR TRADITIONAL RATE-MAKING?

A. Yes. The logic of traditional rate regulation based on a historical test year will not work well for PREPA under its current circumstances. Under this type of regulation, a utility does not begin to recover on capital expenditures made after its last rate case until its next rate case. In an environment of growing sales, and hence growing revenues, the utility is able to carry the cost of these investments without the need to increase rates. But PREPA is not operating in an environment of growing sales, nor does it have the ability to debt finance its capital expenditures; it must pay for them immediately out of revenues.[57]

Q. WHAT ARE THE DIFFERENCES BETWEEN A BASE RATE CASE AND PREPA'S PROPOSED ANNUAL RATE REVIEW MECHANISM?

A. Assuming that the Commission requires the same level of detail on the cost components of the revenue requirement as it would in a base rate case, there are two main differences between a traditional base rate case and the proposed annual rate review. One is that PREPA would not be presenting a cost of service study or proposing changes to rate design when it files an annual rate review case. Instead, as required by law, PREPA will initiate proceedings to adjust the rate design every three years with all requirements including cost of service studies.

[57] PREPA can also leverage third-party financing for major capital projects, via power purchase agreements, for example. But PREPA still has significant ongoing capital expenditures that currently must be funded through revenues.

The other difference is that under the annual rate review mechanism, PREPA will set rates based on its budget for the next year and based on reconciling the previous year's revenues with actual costs. A traditional base rate case does not involve such a reconciliation.

Q. WOULD THE RECONCILIATION OF THE PRIOR YEAR'S REVENUES AND COSTS BE AUTOMATIC?

A. Not as proposed in witness Hemphill's supplemental testimony, and we agree that the reconciliation should not be automatic. The Commission would have the opportunity to determine whether the incurred costs were prudent (Hemphill Ex. 16 at lines 98-104). If the Commission determines that PREPA incurred certain costs imprudently, they would be excluded from cost recovery.

However, we note that – because PREPA does not have owners' equity – even if a cost is disallowed as imprudent, ratepayers will still pay indirectly for that cost, through deferred maintenance or investment. That is, if PREPA's operational expenditures are higher than budgeted in a given year, PREPA will have to adjust by reducing maintenance or capital expenditures in that year. If the Commission disallows PREPA's excessive operational expenditures as imprudent, then PREPA will never recover the funds that it should have spent on maintenance or capital expenditures. In other words, unlike a private investor-owned utility, a determination of imprudence does not mean that shareholders bear the cost; it means that ratepayers bear the cost in another form. Therefore, it is important that PREPA be regulated as closely as possible to minimize imprudent expenditures.

Q. DO YOU HAVE ANY RECOMMENDATIONS FOR HOW COMMISSION MIGHT ATTEMPT TO MINIMIZE IMPRUDENT EXPENDITURES?

A. Yes. The Commission could require more frequent financial updates on major capital expenditures, such as AOGP if construction is ultimately approved. This would allow the Commission to detect any problems with the project early and also to ensure that PREPA is structuring contracts appropriately so that engineering, procurement and construction contractors are bearing some of the risks of the project going over budget.

Additionally, the Commission could hire its own engineering advisor to oversee PREPA's management of large projects, such as AOGP. This has occurred elsewhere; for example, the Mississippi Public Service Commission has an engineering advisor monitoring the Kemper integrated gasification combined cycle project.[58]

The Commission could also require PREPA to present a turnkey cost estimate from an engineering, procurement and construction (EPC) contractor for major projects. In a turnkey project, the EPC contractor is charged with delivering the final project at a set cost. Requiring a turnkey estimate would give the Commission a reference point for how an independent third-party would price the risk inherent in a large construction project and assist the Commission in determining what is a prudent cost.

[58] "URS Corporation (URS), later acquired by AECOM, was requested by the Mississippi Public Service Commission (MPSC) to provide Independent Monitoring services for the Kemper Integrated Gasification Combined Cycle (IGCC) Project located in Kemper County, MS. The scope of services includes monthly reporting by URS (AECOM) and its subcontractors, the Independent Monitor (IM), of the status and prudency of the on-going engineering, procurement, construction and startup activities performed by Mississippi Power Company (MPC or the Company), its parent Southern Company and subsidiary Southern Company Services (SCS), and its subcontractors on the project." (URS Corporation, IM Monthly Report to Mississippi Public Service Commission, May 2016, http://www.psc.state.ms.us/executive/pdfs/2016/Kemper/Monthly%20Report%20May%202016%20Executive%20Summary.pdf)

Finally, the Commission could investigate the oversight model known as the Independent Private Sector Inspector General (IPSIG).[59,60]

These recommendations could be adopted whether or not an annual rate review is approved.

Q. COULD THE PROPOSED ANNUAL RATE REVIEW BE USED BY THE COMMISSION TO FURTHER THE GOAL OF MINIMIZING IMPRUDENT EXPENDITURES?

A. Due to the serious inconsistencies and flaws in this petition, we believe that the Commission should reject the proposed rate increase, which would preclude the Commission from adopting an annual rate review mechanism at this time. However, if and when the Commission approves what it considers to be a just and reasonable base rate for PREPA, strict oversight must follow and an annual rate review could be used by the Commission as a tool for minimizing imprudent expenditures going forward.

The proposed annual rate review has the advantage of setting a calendar for consistent and fairly frequent filings from PREPA. In order to avoid imprudent capital expenditures, we urge the Commission to require a detailed budget of capital expenditures for the next fiscal year and explain any deviations from PREPA's approved IRP.

The Commission can also minimize the risk of imprudent expenditures by using its authority to disallow imprudently incurred costs. If PREPA believes that it will have the opportunity to raise rates in the next year if it misses its budget targets, PREPA will have less incentive to hit those targets. This risk can be mitigated if the Commission insists on a high level of transparency up-

[59] http://www.iaipsig.org/directors.html

[60] See: http://www.osc.state.ny.us/reports/nyra/nyrareport905.pdf for an example of how an IPSIG works. Tom Sanzillo, the former First Deputy Comptroller of New York State, participated directly in this effort to reform a public authority that for decades was mismanaged and ultimately subjected to criminal sanctions.

front regarding how PREPA plans to meet its savings targets in the coming year and also makes use of its ability during the reconciliation process to disallow expenditures that were not prudently incurred.

IV. The proposed rate design does not give customers, particularly industrial and commercial customers, the flexibility to lower their own energy costs and expand the use of renewable energy generation in Puerto Rico

Q. HAS THE COMMISSION ARTICULATED ANY GOALS REGARDING THE TRANSFORMATION OF PUERTO RICO'S ELECTRICITY GENERATION MIX?

A. Yes. The recent IRP order describes the Commission's goal as "to replace old, costly plants with lower-cost options: more efficient plants, renewable resources, energy efficiency, demand response and distributed generation technologies – some of which empower consumers to manage their own costs, all of which reduce environmental damage as well as customers' exposure to fuel price volatility." (IRP Order, September 23, 2016 at paragraph 30).

Q. DOES PREPA'S PROPOSED TARIFF IN THIS CASE FURTHER THE ABOVE GOAL?

A. No. The proposed tariff submitted by PREPA in this proceeding runs counter to this goal, by failing to allow customers to source power from lower-cost options through a wheeling service and by discouraging customers from investing in distributed renewable energy generation technologies.

Q. PLEASE EXPLAIN HOW A WHEELING SERVICE WOULD ALLOW CUSTOMERS TO SOURCE LOWER-COST POWER.

A. PREPA's generation costs are very high. PREPA's Embedded Cost of Service Study found that a 100% cost-based unbundling of Tariff GRS, for example, resulted in the generation portion of the rate being 11.5 cents/kWh (Zarumba and Granovsky Exhibit 4.0 at line 491).[61] This is a result of PREPA's expensive oil-based generation system (see Response to Commission Request CEPR-PC-01-13). The few operational renewable energy contracts that PREPA has are also over-priced, at an average price of $189/MWh for solar and $157/MWh for wind. This is a sharp contrast with jurisdictions in the United States, even those with far less solar potential than Puerto Rico. In Minnesota, for example, a state with a demonstrably lower solar resource than Puerto Rico, Xcel Energy has estimated the cost of solar in 2016 at $67.30/MWh, nearly two-thirds less expensive than PREPA's current solar contracts.[62] PREPA did not competitively bid these renewable energy contracts, resulting in unnecessarily high prices.[63] This strongly suggests that third-party power providers could provide renewable energy to commercial and industrial customers less expensively than PREPA, if third-party power providers had access to the grid.

If wheeling were allowed, it would also provide a strong incentive for PREPA to reduce its costs and greater leverage to PREPA in renegotiating some of its above-market contracts[64] because of the introduction of competition. In the near term, the introduction of competition would allow customers greater freedom to source electricity from renewable energy or other providers potentially at a lower cost.

[61] This is not the actual rate proposed for Schedule GRS because of mitigation and the inclusion of a $8/month fixed charge.
[62] Xcel 2015 IRP Supplement filed with the Minnesota Public Utilities Commission, January 29, 2016.
[63] A. Skibell, "How a stubborn utility and aging grid added to island's woes," E&E Publishing, May 2, 2016.
[64] Though PREPA has signed a large number of above-market contracts for solar projects, it is unclear how many of these projects will ultimately be developed. (IRP Order, September 23, 2016, paragraphs 184-188). PREPA has been ordered to renegotiate or terminate above-market contracts for projects that are not operational. (IRP Order, September 23, 2016, paragraph 299).

In addition, wheeling (provider selection) at the distribution system level for renewable energy would increase demand from renewable sources, providing for significant opportunities in the application and development of technologies such as utility scale batteries, and additional storage and smart grid technology placing Puerto Rico as the natural leader in its region.

Additionally, we note that this is an opportune time for the introduction of a wheeling tariff because PREPA is in the early stages of major capital investment in modernizing its generation system, but it has not yet made significant investments. The Modified IRP ordered by the Commission provides for a more flexible approach than PREPA originally proposed by ordering the near-term construction of smaller units at Palo Seco and increased energy efficiency and demand response. With proper planning, PREPA could anticipate the departure of commercial and industrial customers from its system under a wheeling tariff (to purchase electricity from third-party renewable energy or highly efficient fossil generation sources) and not overbuild its own generation system.

Q. HAS PREPA MADE ANY STEPS TOWARDS THE ESTABLISHMENT OF WHEELING SERVICE?

A. The unbundling of tariffs proposed in this proceeding is one step towards the establishment of a wheeling service. The testimony of witnesses Zarumba and Granovsky acknowledges the importance of tariff unbundling because "different customers purchase different services from the utility" (line 439). Zarumba and Granovsky at lines 467-482 provide two examples of tariff unbundling in the mainland United States: the Federal Energy Regulatory Commission's requirement since 1996 of "open access to transmission" and the decisions of seventeen U.S. states to allow retail choice. Both of these examples were designed to further competition between generation sources by allowing third-party power providers fair and open access to the grid and allowing customers to purchase directly from these providers, bypassing the generation owned by their incumbent utility. Despite providing these examples of tariff unbundling, PREPA is still not proposing to allow customers to choose the services (generation, transmission and distribution) that they can purchase from PREPA. PREPA does not offer, and does not plan to offer, transmission and distribution-only services that would give open access to third-party power providers and permit customers to contract with those providers.

Q. IS THERE ANY LEGISLATION THAT REQUIRES WHEELING?

A. Yes. Our understanding is that Puerto Rico Act 73-2008 directed PREPA to establish a wheeling service by January 2, 2010. This did not occur. Later, through Act 57-2014 (Section 6.30), the Commission was required to regulate wheeling and to establish the rules necessary for a wheeling service.

PREPA should be required in this proceeding to develop a wheeling tariff so that commercial, industrial, and if possible residential customers can take advantage of renewable energy sources that are lower cost than those supplied by PREPA. This would assist customers in controlling costs, as well as spurring the development of renewable energy in Puerto Rico.

Q. PLEASE EXPLAIN WHY YOU BELIEVE THAT THE PROPOSED TARIFF DISCOURAGES INDUSTRIAL CUSTOMERS FROM INVESTING IN DISTRIBUTED RENEWABLE ENERGY TECHNOLOGIES.

A. PREPA's proposed tariff also disincentivizes industrial and commercial customers from investing in distributed renewable energy through its over-reliance on demand charges and nonbypassable energy charges. The proposed rate increases the proportion of revenues from demand charges versus energy charges. While the overall industrial rate increase is 26.2%, the increase in demand charges for the main industrial tariff, Schedule GSP (from $8.1/kVA to $12/kVA) is nearly 50%. The net metering credit that industrial and commercial customers receive from investing in their own distributed renewable energy generation is equal to the energy-only charge (11.1 cents/kWh for GSP Tariff), not the retail rate. In other words, net metering customers still must pay the demand charges, as well as the CILT, subsidy charge and the securitization charge. In tariff GSP, for example, these charges amount to $12/kVA (demand), $200/month (fixed charge), 0.303 cents/kWh (CILT), 1.02 cents/kWh (subsidy charge) and 3.05 cents/kWh (Transition Charge), none of which are subject to the net metering credit. This tariff design, which fails to give any capacity credit to distributed renewable energy resources, fails to recognize the benefits that distributed renewable energy customers provide, including avoided line losses, deferred transmission and distribution capacity upgrades, deferred generation capacity, and reduction in peak demand.[65]

The tariff design also highlights the unsustainably high debt levels embedded in PREPA's rates. Overall rates for GSP customers are proposed to be approximately 20.4 cents/kWh.[66] A net metering customer on this tariff can only avoid 54% of that charge, 11.1 cents/kWh. An industrial or commercial customer on schedule GSP that offsets all of its own electricity consumption will still pay the equivalent of 9.3 cents/kWh, of which 4.4 cents/kWh are subsidies and the legacy debt embedded in the securitization charge.

[65] Because of PREPA's load shape, which includes an afternoon peak and an evening peak, distributed solar resources would need to be combined with an effective demand response program in order to shift load away from the evening peak so that solar can contribute to reducing peak demand.
[66] Total revenues for class GSP ($920 million) divided by total sales (4,510 GWh), as provided in Schedule H.

Effectively, by weakening the incentive for industrial and commercial customers to invest in their own distributed renewable energy resources and instead tying them to payments of PREPA's legacy debt, PREPA's proposed tariff is crowding out investment in renewable energy generation in Puerto Rico.

V. PREPA's assertion that proposed rates will maintain an adequate debt service coverage ratio is flawed.

Q. WHY IS THE DEBT SERVICE COVERAGE RATIO (DSCR) THE CRITICAL CREDIT METRIC FOR PREPA'S RE-ENTRY INTO THE CREDIT MARKETS?

A. We concur with PREPA on three critical points. First, that the DSCR is the most important credit metric used by credit rating agencies to establish the Authority's creditworthiness at this time.[67] Second, that Modified Cash Basis accounting is an approach[68] that can be utilized for a public power entity with inadequate cash flow and constrained market access. We take note of PREPA's use of this method to ensure that PREPA "recovers prior year capital expenditures through debt service and anticipated capital expenditures through revenue funded capex."[69] The Modified Cash Basis method in theory allows the Authority to capture and present its full revenues and expenses in a transparent manner. Third, that "the true test of credit worthiness is the belief by lenders that they will receive timely and complete repayments of all of the cash flow that are due them. This analysis cannot capture subjective beliefs, but can provide values relative to quantitative indicators."[70]

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[67] Pampush, Porter and Stathos Testimony, Line 1359-1360.
[68] Pampush, Porter and Stathos Testimony, Lines 296-298
[69] Pampush, Porter and Stathos Testimony, line 413.
[70] Pampush, Porter and Stathos Testimony, Lines 1166-1169.

Q. HOW IS THE DSCR DEFINED?

A. The DSCR establishes the relationship between PREPA's Net Income (available resources to pay debt and invest after revenues are subtracted from expenses) and its Total Debt Service obligation. The relationship is described as a ratio and it is derived from the typical formula:

Debt Service Coverage (DSCR) = Net Income/Total Debt Service

Net Income is measured as revenues minus operating expenses. When PREPA's Net Income exceeds Total Debt Service the ratio is greater than 1 and demonstrates that PREPA has sufficient cash to pay its debt service.

Q. WHAT IS CONSIDERED AN ADEQUATE DSCR?

Credit rating agencies, lenders and PREPA consider a 1.0 DSCR an inadequate level of coverage to determine credit worthiness. Utilities or any business face risks that alter their budgets and financial plans in unforeseen ways. The investment world looks to higher ratios, showing more evidence of cash availability, to offset these risks. PREPA's Trust agreements require 1.2 DSCR.[71]

Given PREPA's currently distressed fiscal condition and its lack of reasonable market access PREPA's consultants have concluded that the Authority would fare better in the capital markets with a DSCR of 1.57 to 2.00.[72]

[71] Pampush, Porter and Stathos Testimony, Lines 1376-1379.

[72] Pampush, Porter and Stathos Testimony, Lines 1038

While PREPA's financial presentations offer a number of different DSCR valuations in testimony[73] PREPA informed the Commission that the DSCR is 3.9[74] for its stand-alone Legacy Debt. Then, when PREPA's Legacy Debt is consolidated with the Securitization Charge, PREPA claimed that the DSCR is 1.9. The underlying spreadsheet was later corrected and PREPA revised its estimate of the DSCR for consolidated debt to 1.47.[75]

PREPA contends that the post rate increase financial scenario supports a finding that the rate increase(s), individually and when consolidated, supply PREPA with sufficient revenue to pay debt service. In short PREPA finds that its finances exceed the 1.57 to 2.00 DSCR and meets the standard most conducive to the Authority's re-entry into the capital markets.

Q. DO YOU CONCUR WITH THIS CONCLUSION?

A. No. Our analysis supports the following three findings:

1. The Authority does not meet the DSCR standard when presented on a consolidated basis. PREPA's own analysis shows a DSCR of 1.47. This falls below its own standard of 1.57.

2. Our analysis shows the DSCR for consolidated debt is 1.36 (not 1.47 as PREPA claims). If capital expenditures (which are costs that are passed to consumers) are included in the DSCR calculation, as they should be, the DSCR is even lower.

[73] Pampush, Porter and Stathos Testimony, Lines 802-804.

[74] This portion of the testimony is supported by a PREPA spreadsheet: "PREPA Rate Case Financial Model 160620_Rate Change to PR", Tab: DSCR, cell H15. "PREPA RCFM".

[75] Pampush, Porter and Stathos Testimony Line 803 refers to DSCR of 1.9 for PREPA's securitized debt inclusive of its legacy debt. The spreadsheet supporting this figure is: "PREPA Rate Case Financial Model 160620_Rate Change to PR", Tab: IS, H59, "PREPA RCFM". This number was later corrected by PREPA: see and Pampush, Porter, Stathos, Supplemental Direct Testimony, Exhibit 14.00, October 13, 2016, Lines 73-83 and PREPA Exhibit 14.02, Tab IS, H59. The corrected DSCR is 1.47.

3. Taken as a standalone entity PREPA (non-securitized legacy debt) only meets the standard if the Commission:

a. accepts unrealistic and risky budget forecasts; and

b. excludes capital expenditures that are being passed along to consumers in the final rate design.

Using more realistic budget assumptions the DSCR is below the 1.57 standard.

Q. HOW DID YOU REACH THIS CONCLUSION?

A. IEEFA has constructed a post rate increase DSCR based upon PREPA's presentation of revenue, expenses and its debt service needs in Schedule A (REV). We present two DSCR coverage ratios using the same methodologies employed by PREPA in the PREPA RCFM spreadsheet. The first covers a consolidated revenue and expense scenario that includes the revenue and expenses for both PREPA under its rate request in this proceeding and the Revitalization Corporation as presented and approved by the Commission in the Securitization rate docket (CEPR-AP-2016-001). The second scenario excludes the Transition Charge and assesses PREPA's DSCR as a standalone financial entity.

Q. HOW DOES PREPA'S DEBT SERVICE COVERAGE RATIO FOR ITS CONSOLIDATED DEBT SCENARIO COMPARE TO ITS STANDARD OF 1.57?

A. PREPA's standard which would provide the Authority with an improved chance of market re-entry is a DSCR of 1.57. PREPA's revised analysis contained in Exhibit 14.02 sets the DSCR at 1.47, below the credit metric necessary to support the Authority's market re-entry.

Q. PLEASE EXPLAIN HOW YOU CALCULATED A DSCR OF 1.36 (AS OPPOSED TO PREPA'S ESTIMATE OF 1.47) WHEN PREPA AND THE CORPORATION ARE CONSIDERED AS A CONSOLIDATED ENTITY.

A. Our analysis and conclusions start with PREPA's budgetary submissions that support a consolidated Revenue Requirement of $3,462,194,772 against projected operational expenses (minus revenue funded capex and Legacy Debt Service) of $2,346,907,833 as provided in Schedule A-1 (REV). IEEFA then subtracts revenues from expenses to derive a Net Income of $1,115,286,833 (See Table 3).

Table 3: Post Rate Increase Consolidated 2017 Revenue and Expenses[76] and IEEFA Calculation of Net Operating Income

Budget Item	Total
Revenues	$3,462,194,772
Expenses	$2,346,907,833
IEEFA Net Income	$1,115,286,889

Table 4 uses the Net Income from Table 3 and adds Total Debt Service by combining the Debt Service values provided in Schedule A-1 (Rev) for PREPA's Legacy Debt Service and Transition Charge. The consolidated DSCR is 1.36. This is below the standard established by PREPA (1.57 to 2.00).

Table 4: Post Rate Increase IEEFA Calculation of 2017 Debt Service Coverage for Consolidated PREPA Legacy Debt and the Securitization Charge

Debt Service	Net Operating Income	Total Debt Service	Debt Service Coverage Ratio (DSCR)

[76] The revenue and expenses are taken from Exhibit 5.04 and Schedule A-1. The Net Income calculation is derived by IEEFA as a simple subtraction of revenue and expenses.

Consolidated PREPA and Securitization)	$1,115,286,889	$817,653,975.00	1.36

It is important to note that this calculation is very conservative because it does not include capital expenditures at all. In reality, 2017 revenue funded capital expenditures should be included in this calculation as they represent a 2017 cash cost that PREPA must pay. Either capital expenditures should be treated as an operating expense (because they will be paid in cash through revenues in FY 2017), which would reduce PREPA's net operating income to $778,729,081 and the DSCR to 0.95; or, the expenses should be included in debt service as they are integral to PREPA's overall debt management plan.

Q. CAN YOU EXPLAIN HOW PREPA CALCULATED A HIGHER DSCR FOR THE CONSOLIDATED ENTITY?

A. Yes. PREPA's Exhibit 14.02 shows PREPA revenues for FY 2017 of $2,997,855,381. When added to the Transition Charge revenue requirement of $503,264,236, the total revenue for the consolidated entity is $3,501,119,617. This is higher than the total revenue requirement shown in Schedule A-1 (REV) for FY 2017, which we used in our calculation. We are unable to account for the discrepancy.

Q. WHAT DO YOU CONCLUDE ABOUT PREPA'S ABILITY TO MEET ITS DSCR STANDARD FOR ITS LEGACY DEBT WHEN THE AUTHORITY IS CONSIDERED AS A STAND-ALONE ENTITY?

A. PREPA does not meet the standard unless unacceptable and unrealistic budgetary assumptions contained in the Authority's financial presentation are accepted.

We find the DSCR for PREPA's Legacy Debt is 1.95, but only if a number of speculative assumptions regarding PREPA's budget are accepted, and if capital expenditures are not included in the DSCR calculation. Without making these assumptions, the DSCR is less than 0.88.

Q. PLEASE EXPLAIN HOW PREPA'S ASSUMPTIONS LEAD TO A DSCR OF 1.95 WHEN PREPA IS CONSIDERED AS A STAND-ALONE ENTITY, RATHER THAN PREPA'S ESTIMATE OF 3.9.

A. PREPA's 3.9 DSCR represents the Authority's Legacy Bonds only.[77] This analysis and this proceeding is concerned with PREPA's total legacy debt service costs (exclusive of Transition Charge revenues).

In order to maintain a consistent method of presenting the DSCR for both the stand-alone and consolidated calculations IEEFA starts with the same figures for revenue and expense contained in -Schedule A-1 (REV). We make one adjustment to Table 3. We reduce the projected $3.462 billion revenue figure by the value of the Transition Charge: $503 million. The Transition Charge is the amount PREPA pays to service the Securitization bonds. Under the statute and presentation to the Commission PREPA simply passes through the revenues for debt service for the Transition Charge to a payment agent for the bondholders. Therefore, this revenue is not available to PREPA to pay for its operating expenses, legacy debt or capex. This calculation reduces the revenue left to pay PREPA's operational needs to $2.958 billion. The net income for PREPA as a stand-alone entity is $612 million (Table 5).

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[77] "PREPA Rate Case Financial Model 160620_Rate Change to PR", Tab: DSCR, cell H15. "PREPA RCFM". Cell H15 presents the debt service to cover only PREPA's remaining portion of the legacy debt. Cell H16 presents the DSCR assuming the full debt service cost for PREPA that is inclusive of the legacy debt and PREPA's other debt obligations. This DSCR is 2.07. The use of the 3.9 DSCR is somewhat misleading in the testimony as it does not present the impact of the full revenue requirement on the DSCR.

Table 5: Post Rate Increase IEEFA Calculation 2017 Revenue and Expenses and Net Operating Income for PREPA on a Stand-Alone Basis

Budget Item	Total
IEEFA Revenues	$2,958,930.536
Expenses	$2,346,907,833
IEEFA Net Income	$612,022,703

We then use the same DSCR equation employed in Table 4 to derive the debt service ratio for PREPA as a stand-alone entity. The Legacy Debt requires an outlay of $314 million, resulting in a debt service ratio of 1.95. This DSCR meets the standard of 1.57-2.0 established by PREPA, but is lower than the 3.9 ratio presented in the Pampush, Porter and Stathos testimony (Exhibit 5.0).

Table 6: Post Rate Increase IEEFA 2017 Debt Service Coverage by for PREPA as standalone entity

Debt Service	Net Operating Income	Total Debt Service	Debt Service Coverage Ratio (DSCR)
Legacy Funded Debt Service (LDS)	$612,022,703	$314,389,739.00	1.95

Q. PREPA'S EXHIBIT 14.02 (TAB IS, CELL:H48) DERIVES A 2.07 DSCR FOR PREPA'S STANDALONE DEBT POSITION. DO YOU AGREE?

A. No. We use the same methodology as found in the spreadsheet, however we are using the data presented in Schedule A-1 (REV).

Q. DO YOU BELIEVE THERE SHOULD BE ADJUSTMENTS TO THE 1.95 DSCR FOR PREPA'S REVENUE FUNDED LEGACY DEBT SERVICE FOR AN ACCURATE AND PRUDENT PRESENTATION?

A. Yes. As above, this estimate neglects capital expenditures, which do not appear to be included in PREPA's accounting but should be incorporated in some fashion because they are a cost passed to ratepayers. If PREPA's FY 2017 capital expenditures are included in operating expenses (because they are to be funded through revenues), the net income on a stand-alone basis falls to $275,464,895, implying a DSCR of only 0.88.

Additionally, the presentation contains assumptions related to oil prices, PREPA's savings initiative and energy sales that are speculative, even highly speculative. As discussed in Section II of our testimony, we believe that PREPA has over-stated its savings initiatives, under-estimated FY 2017 fuel costs and over-estimated future sales. Referring to Table 6, if PREPA's net income drops by $120 million or more it will fail to meet the DSCR standard of 1.57. This is a very small margin of error, given that we believe that PREPA's fuel costs, for example, may have been underestimated by as much as $400-$500 million. Given the individual and cumulative impact of the risks we cite above in Section II we conclude the actual DSCR for the legacy stand alone debt is well below the 1.57 DSCR prescribed by PREPA's consultants.

Q. PLEASE SUMMARIZE YOUR DSCR CALCULATIONS

A. The following table summarizes our DSCR calculations:

Table 7: Summary of DSCR calculations

	PREPA and Corporation consolidated DSCR	PREPA stand-alone DSCR
PREPA estimate	1.47	3.9
IEEFA adjustments using PREPA methodology and assumptions	1.36	1.95; but < 1.57 if budget estimates not achieved
IEEFA estimate accounting for capital expenditures	0.95	0.88

Q. HOW SHOULD PREPA TREAT REVENUE-FUNDED CAPITAL EXPENDITURES IN THE DEBT SERVICE COVERAGE CALCULATION?

A. We take no position on how the Commission should include the Capex Expenditures of $337 million for FY 2017 identified in the rate case. We only believe that it should be accounted for somewhere in the calculation. If not, the presentation overstates the revenues available to pay debt service.

All revenues and expenses need to be included in the calculation to provide a full and complete DSCR. When the Revenue Funded Capex expenditure is properly included in some form into PREPA's calculations, either as debt service or operating costs, it drives the DSCR down below acceptable standards. In short, if the DSCR captures all revenues and expenditures then it will not meet the standards. Or, in other words, PREPA only meets the DSCR standards if unrealistic revenue, expenditure and energy sales assumptions are accepted, and if the Commission accepts an incomplete and distorted financial accounting of the DSCR calculation that does not include capital expenditures.

Q. WHAT IMPLICATIONS DOES THE SUBSTANDARD DSCR HAVE FOR PREPA'S BUDGET?

A. PREPA's low DSCR and unrealistic budget forecasts mean that PREPA will face pressure to raise its rates and lower its capital expenditures.

Under PREPA's plan, the first $503 million of electricity sales revenues go to pay the Transition Charge to cover the bond indebtedness included in the Securitization transaction. As noted above this arrangement substantially reduces PREPA's net income.

If PREPA's budget assumptions do not materialize, PREPA will need to figure out how to adjust its budget and financial plan. If revenues decline due to decreased electricity sales, for example, both the Transition Charge and the PREPA rate are placed under pressure. The choice for PREPA management is either to increase rates or to reduce its budget in order to effectively supply additional cash for the Transition Charge upward adjustments. If PREPA does not raise rates, it will have shortfalls in its operational budget.

Similarly, if PREPA's expenditures exceed budget projections, the financial burden will fall upon PREPA's operational budget and on the rates charged to customers.

As PREPA's consultants have noted, not only will this situation result in upward pressure on rates, but it will also pressure PREPA to cut capital expenditures:

> First, these (government-owned) utilities do not have owners' equity. Thus they are considerably more sensitive to the fluctuations that are business as usual for any utility or business for that matter. A swing in expense outside its control can wreak havoc on the utility's business plan. For PREPA, this means real delays in rebuilding and implementing investment that ultimately makes them a more efficient utility.[78]

[78] Hemphill Testimony, Lines 338-343.

We concur that PREPA will likely be pressured to reduce its revenue funded capex initiatives in 2017 and beyond, as well as being pressured to increase rates to bring revenues in line with expenses. This will slow down necessary projects for PREPA. We are also cognizant of the negative impact that considerable budget slippage will have during 2017 on PREPA's ability to re-enter the capital markets and implement future investment plans.

Q. ARE THERE OTHER AREAS OF CONCERN REGARDING PREPA'S ABILITY TO RE-ENTER THE CAPITAL MARKETS?

A. Yes. As described earlier in this section, we believe that PREPA's proposed rates will not result in an adequate DSCR, leading to pressure to increase rates and cut capital expenditures.

However, PREPA's rates are already excessive, a factor that is not reflected in PREPA's discussion of its ability to re-enter the capital markets. In July 2015 Moody's published a document that addressed frequently asked questions regarding Puerto Rico's credit status. The document provides a context for its credit rating of Puerto Rico given its extraordinary financial condition. In addition to standard credit metrics, like the DSCR, the overall credit rating for Puerto Rico must consider: bondholder recovery rates, missed bond payments, economic growth and revenues, pension risk, federal response, sovereignty issues and bond insurance. The Moody's document concludes that Puerto Rico's "main hurdle will likely be the ability to show its economy has transcended the structural impediments to growth that have largely weighed on it since 2006."[79]

[79] Moody's Investor Service, *Frequently Asked Questions About Puerto Rico's Fiscal and Debt Crisis,* Issuer-In-Depth, July 22, 2015, p.7

The lack of any underlying economic data (see: PREPA's response to ICSE-PR question 5) to support PREPA's implicit claim that the Puerto Rican economy can support the level of rates being proposed is a broader impairment to PREPA's creditworthiness.

Q. WHAT IS YOUR OVERALL CONCLUSION REGARDING PREPA'S PROPOSED RATE INCREASE?

A. In this proceeding, the Commission is challenged to make a decision based on unreliable data and flawed debt service calculation methodologies. The proposed rate increase is not affordable and, even if it is implemented, PREPA is unlikely to realize the savings assumptions embedded in the rate, increasing pressure to drive rates higher. We believe it will not be possible to achieve an affordable rate structure without renegotiation of the underlying debt. Additionally the proposed rate design undermines the goal of stimulating the development of renewable energy in Puerto Rico.

For these reasons, we urge the Commission to reject the proposed rate increase and require PREPA to go back to the drawing board and present a transparent and sustainable rate design. Moving forward, we urge the Commission to closely monitor PREPA's expenditures and capital investments, possibly in conjunction with the PROMESA Board, to minimize the risk of imprudent expenditures.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

State of West Virginia

CERTIFICATE OF AUTHENTICITY

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

Rafael M Barker, State of West Virginia, serving in the capacity of Notary Public of/in/for the State of West Virginia beginning 11/6/2009 and ending 11/20/2019, and that his acts are entitled to full faith and credit by the courts and authorities of the land, as contained in the records of my office.

Given under my hand and the Great Seal of the State of West Virginia

No. C201610212543977

Signature:

Natalie E Tennant

West Virginia Secretary of State

Friday, October 21, 2016

This Certificate only certifies the authenticity of the signature and the capacity of the person who has signed the public document, and, where appropriate, the identity of the seal or stamp which the public document bears. The Certificate does not certify the content of the document for which it was issued. The Certificate is not valid for use anywhere within the United States of America, its territories or possessions.

ATTESTATION

Affiant, Catherine Kunkel, being first duly sworn, states the following:

The foregoing Testimony constitutes the direct testimony of Affiant. Affiant states that she would give the answers set forth in the Testimony if asked the questions propounded therein at the time of the filing. Affiant further states that, to the best of her knowledge, the statements made are true and correct.

Catherine Kunkel
Consultant, ICSE-PR

Date: 10/21/16

Affidavit No. ________

Acknowledged and subscribed before me by Catherine Kunkel, of the personal circumstances above mentioned, in her capacity as Consultant for the ICSE-PR., who is personally known to me or whom I have identified by means of her driver's license number F714884, in Charleston, West Virginia this 21st day of October 2016.

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
RAFAEL M. BARKER
STATE FARM INSURANCE
101 PENNSYLVANIA AVE.
CHARLESTON, WV 25302
My commission expires November 20, 2019

Public Notary

STATE OF NEW YORK
Ulster County Clerk's Office } SS.:

I, Nina Postupack, Clerk of the County of Ulster and of the Courts of said County, and of the Supreme Court of the State of New York, in and for said County, the same being Courts of Record, DO HEREBY CERTIFY: That Arleen M. Schenck

whose name is subscribed to the certificate of the proof or acknowledgement of the annexed instrument, and thereon, written, was at the time of taking such proof or acknowledgement, a Notary Public in and for the County of Ulster, dwelling in the said County, sworn and duly authorized to take the same. AND FURTHER: That I am acquainted with the handwriting of such Notary Public, and verily believe that the signature to the said Certificate of Proof or acknowledgement is genuine.

IN WITNESS WHEREOF, I have hereunto set my hand, and affixed the seal of said Courts and County, this 21st day of October, 2016

Nina Postupack, County Clerk

Alice Rawlins Deputy Clerk

ATTESTATION

Affiant, Thomas Sanzillo, being first duly sworn, states the following:

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

T Sanzillo

Affidavit No. ________

Acknowledged and subscribed before me by Thomas Sanzillo of the personal circumstances above mentioned, in his capacity as Consultant for the ICSE-PR., who is personally known to me or whom I have identified by means of his driver's license number 781617285, in NY, __________, this 30 day of Oct 2016.

Arleen M Schenck

Public Notary

ARLEEN M. SCHENCK
Notary Public, State of New York
Reg. #01SC4799906
Qualified in Ulster County
Commission Expires September 30, 2017