Q. PLEASE STATE YOUR NAMES AND BUSINESS ADDRESSES.

A. We are Anna Sommer and Cathy Kunkel. We are jointly sponsoring this testimony.

Anna Sommer is President of Sommer Energy, LLC. Her business address is P.O. Box 692, Canton, NY, 13617.

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.

Anna Sommer has over 13 years of experience in the field of public utility regulation. During that time, she has provided technical assistance and expert witness testimony to clients working on a variety of electric utility issues. Her recent work has focused on utility resource planning, prudence, fraud, and gross mismanagement in the construction of a coal-fired power plant, power plant in-service requirements, and energy efficiency planning. She has submitted expert testimony in Indiana, Minnesota, North Carolina, and South Dakota. Sommer graduated from Tufts University with a B.S. in Economics and Environmental Studies and from UC Berkeley with an M.S. in Energy and Resources.

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 (CEPR-AP-2015-0002) and 2016 rate case proceeding (CEPR-AP-2015-0001).

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 ELAC, Enlace Latino de Acción Climática.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of our testimony is to argue that the Commission should not "fully approve" the AOGP project as requested by PREPA. Rather, given the many questions outstanding it would be more appropriate to require the utility to come back for additional Commission approval before issuing the Full Notice to Proceed (FNTP). We find that PREPA's assumptions about the costs for the AOGP project are not reasonable. PREPA has failed to provide the Commission with a project that will be ready for construction in the foreseeable future. It has not substantiated a financing plan with specific commitments nor supplied a plausible timeline.

I. AOGP design and construction

Q. IS PREPA FOLLOWING AN APPROACH TO DESIGN AND CONSTRUCTION OF AOGP THAT WILL MINIMIZE THE RISK TO RATEPAYERS OF COST OVERRUNS?

A. This is not clear.

During the December 2016 rate case hearings, PREPA's then-executive director Javier Quintana told the Commission that PREPA was following the "most conservative" approach for constructing AOGP[1], a process called design-bid-build (DBB) rather than a design-build (DB) approach.[2] Under a DDB project delivery system the key elements of a construction project are separate items implemented by separate entities: designing the project, bidding it out to potential contractors on the basis of that design, and then building the project. A DB project delivery system refers to one in which those tasks are lumped together and implemented by one or more contractors working under a single contract. The riskiness of the DB system, to which Dr. Quintana seemed to be alluding in his statement, is that costs can increase as the design of the project is finalized and because large infrastructure projects delivered by a DB method often engage in design and construction simultaneously, it will be too late to reevaluate commitment to the project even if costs go up. Exactly this situation has occurred with other, recent energy infrastructure projects including the Edwardsport and Kemper County IGCC projects. Edwardsport went from an initial cost estimate based on a "reference design" of approximately $2 billion to $2.35 billion because of "design modifications and growth in the scope of [Edwardsport]" even as it was under construction.[3] Once design work and equipment purchases

[1] Here, and throughout the testimony, we use "AOGP" to refer specifically to the gas port itself, not the associated natural gas plant conversions at the Aguirre site.
[2] Hearing in Case Number CEPR-AP-2015-0001, Panel E, Part 2, December 6, 2016. (https://www.youtube.com/watch?v=wugcnPQcDXo&t=17325s at approximately 4 hours, 47 minutes into hearing).
[3] Duke Energy news release. "Duke Energy Indiana Files Cost Update for Clean Coal Gasification Power Plant.", Nov 24, 2009

had finished the cost jumped again to $2.88 billion.[4] The Kemper County IGCC plant, which was originally supposed to cost $2.2 billion is now estimated at $6.6 billion in part because "[Mississippi Power Company] discovered that many of the original designs needed major changes".[5] We mention these examples not because AOGP is likely to suffer from the same scale of cost increases, but rather to illustrate that these risks are real with substantive consequences.

Q. IS PREPA PURSUING A DESIGN-BID-BUILD APPROACH TO AOGP?

A. Despite Dr. Quintana's testimony in December 2016, PREPA's choice of delivery methodology for AOGP is not clear at this time. The Gantt chart schedule for AOGP, provided in response to Commission Request of Information 01-01, shows that onshore detailed design, offshore topside design, structure design, and pipeline detailed design would begin August 28th, August 25th, September 25th, and September 25th of 2017, respectively. Fabrication has supposedly already commenced (on October 3, 2016) and installation would begin on August 28, 2017. This schedule seems to show that PREPA would employ a Design-Bid approach that even it admits is more risky for PREPA ratepayers.

Q. IS THERE ANYTHING ELSE YOU'D LIKE TO ADD ABOUT THE DELIVERY METHODOLOGY FOR AOGP?

A. Yes. The primary construction-related agreement in place is PREPA's agreement with a subsidiary of Excelerate Energy (Aguirre Offshore Gasport, LLC or "AOG") for construction of

[4] See Duke Energy 8-K filed April 16, 2010 at http://services.corporate-ir.net/SEC/Document.Service?id=P3VybD1hSFIwY0RvdkwyRndhUzUwWlc1cmQybDZZWEprTG1OdmJTOWtiM2R1Ykc5aFpDNXdhSEEvWVdOMGFXOXVQVkJFUmlacGNHRm5aVDAyT0Rrek56YzJKbk4xWW5OcFpEMDFOdz09JnR5cGU9MiZmbj02ODkzNzc2LnBkZg==

[5] http://www.powermag.com/kemper-county-igcc-costs-rise-and-delays-loom-again/

the LNG terminal. In that agreement, Clause 15.1, regarding "Procurement of Design and Engineering Services" of the Infrastructure Agreement, states

> "Notwithstanding any provision in this Agreement to the contrary, PREPA hereby acknowledges and agrees that (i) AOG is not licensed to practice engineering in Puerto Rico and (ii) nothing contained herein shall be construed as (A) an offer or agreement by AOG to itself practice engineering within Puerto Rico or to itself render such engineering services or (B) requiring or allowing AOG to perform any Design and Engineering Services nor as requiring or allowing any Engineer to perform any construction services or other Works. Therefore, AOG shall evaluate and select, following the same process used to execute Supermajor Subcontracts under Clause 14, the Engineers that shall be retained to perform the Design and Engineering Services. Promptly upon selection by AOG, PREPA and each Engineer shall execute an Engineers Agreement…"

PREPA has executed a contract for engineering services in the past with Alpha Engineering Group, but that contract appears to have expired on June 10, 2016.[6] Therefore it does not appear that there is currently an engineering and design consultant in place.

Schedule 2, Part 3 of the Infrastructure Agreement also states that AOG or an affiliate will provide a Front End Engineering Design (FEED) Study (see page 8). It is not clear whether that FEED Study has been conducted or not and if it was conducted, who performed the study and what cost estimate they arrived at. We don't, for example, know whether the current cost estimate of $380 million has any relation to the FEED study. When asked in ELAC ROI 9, to provide the basis for that estimate, PREPA simply gave us a one-page breakdown of AOGP's cost with no attribution to the source of that information.

Q. DOES PREPA'S APPARENT LACK OF A DESIGN AND ENGINEERING CONSULTANT FOR AOGP RAISE ADDITIONAL CONCERNS?

[6] ELAC ROI DRR 1 10_Attach 5.

A. Yes. The two above-mentioned provisions of the Infrastructure Agreement, and the apparent expiration of the contract with Alpha Engineering Group, raise another question for which we have no answers because the schedule in this case did not permit further discovery. Given the apparent absence of an agreement between PREPA and an engineering firm for design services, is it realistic to expect that a firm with both the necessary credentials and the bandwidth to work on such a project will be available in August 2017?

Q. HOW DOES THE INFRASTRUCTURE AGREEMENT PROPOSE TO TREAT COST INCREASES BETWEEN PREPA AND AOG?

A. Cost increases, to the extent they do not arise from any default of AOG, appear likely to become the responsibility of PREPA, and hence be passed to PREPA's ratepayers. Already it appears that the cost of AOGP exceeds what was originally contemplated by the Infrastructure Agreement between AOG and PREPA. The "contract price" outlined in the agreement is $295 million. But PREPA's current cost estimate puts the cost of AOGP at $380 million including $339 million just for the engineering and construction of the offshore portion of the project.[7] This raises the following questions:

1. The infrastructure agreement provides for changes in cost, particularly since Limited Notice to Proceed (LNTP) was not issued by July 1, 2014 (see Clause 3.2(e)). However, the contract doesn't seem to document this new cost and it's not clear why the current cost estimate would not be a part of the contract in some fashion.

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[7] ELAC ROI DRR 1 09_Attach 1.xlsx

2. Did PREPA ever request and/or receive a Lump Sum Turnkey (LSTK) estimate? If so, from whom and what was the estimate? An LSTK contract would fix the total cost of the project and can indicate how risky the contractor feels the project might be.

Additionally, the relationship between AOG and its parent company Excelerate is unclear. Schedule 11 of the Infrastructure Agreement[8] will tie AOG to its parent company guarantor, Excelerate Energy. That schedule will presumably be executed once the LNTP is issued (see Clause 32 of the Infrastructure Agreement). However, damages payable by Excelerate Energy are not to exceed \$60 million (see Clause 2(d) of Schedule 11) and it's not clear why that would be an acceptable limit on Excelerate's liability for a \$380 million project.

Q. WHAT ARE THE IMPLICATIONS OF THESE AMBIGUITIES IN PREPA'S DESIGN AND CONSTRUCTION PLAN FOR AOGP?

A. Based on the information available to us, it appears that PREPA's design and construction plan is likely to result in delays and cost overruns that will raise the cost of AOGP to PREPA customers.

If PREPA attempts to construct the project according to the timeline provided in the Gantt chart, it will be effectively pursuing a Design-Build approach which, as described above, limits PREPA's ability to re-evaluate its commitment to the project as the design evolves and costs increase. On the other hand, if PREPA does not pursue a Design-Build approach, we do not see

[8] ELAC ROI DRR 1 10_Attach 12.pdf

how it will meet its timeline of beginning installation in late August 2017. In either case, PREPA may experience delays from the apparent lack of an engineering and design consultant.

II. Financing for AOGP

Q. HAS FINANCING BEEN ARRANGED FOR THE AOGP PROJECT?

A. No. Given PREPA's current financial situation, lack of access to credit markets, and the uncertainty of approval of the Restructuring Support Agreement pending before the PROMESA Board, financing is one of the least certain aspects of the AOGP project.

PREPA's most recent fiscal plan indicates that PREPA does not expect to re-enter the capital markets until the end of 2022.[9] According to the fiscal plan, "Financing for the 80% debt funded portion of the [AOGP] project has not been arranged."[10]

Q. GIVEN THAT NO FINANCING HAS BEEN ARRANGED, WHAT ASSUMPTIONS HAVE BEEN MADE BY PREPA AND WHAT IS THE BASIS FOR THOSE ASSUMPTIONS?

A. PREPA's modeling makes the following assumptions for the cost and financing of AOGP: 80%/20% debt/equity capital structure; 6.86% real interest rate; 2% financing cost during construction; and $408 million capital cost. Some of the financing assumptions have changed

[9] PREPA Fiscal Plan, April 28, 2017, p. 44.
[10] Ibid. p. 2.

since the 2016 rate case (which assumed 5% financing cost[11], a 5% interest rate and a DOE loan guarantee for AOGP[12]) with no explanation provided.

In general, PREPA has been extremely evasive in answering intervenor questions pertaining to the financing of this project. As of the date this testimony is due, PREPA has not provided any information regarding (a) potential third-party ownership of AOGP; (b) which entity (PREPA, the PREPA Revitalization Corporation, or a third party) PREPA expects to issue the debt that is assumed to finance 80% of the project; (c) the source and schedule for paying in PREPA's 20% equity contribution to the project; (d) the status of negotiations with the Department of Energy for a loan guarantee; and other key details. We sought this information because such details have real implications for the cost that ratepayers will be expected to bear if the Commission grants approval for AOGP. Questions about the financing for the project relate to when ratepayers will be expected to bear which costs; ratepayers could potentially be asked to fund the entire project as a pass-through expense if PREPA cannot access financing. Additionally, how the financing is structured has implications for the legal structure of the project; for example, if PREPA pursues third-party ownership and financing of the project, this would raise additional questions about project governance and cost control.

While we appreciate that PREPA cannot provide details about financing that does not exist, PREPA could have provided greater transparency around the timeline, costs and risks of different options.

Q. WHAT OPTIONS DOES PREPA HAVE FOR SECURING FINANCING FOR AOGP?

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[11] Expert Report of Jeremy Fisher and Ariel Horowitz, Case No. CEPR-AP-2015-0001, November 23, 2016, p. 118.
[12] Response to CEPR-RS-01-04 in Case No. CEPR-AP-2015-0001

A. To our knowledge, PREPA's current inability to access the credit market leaves PREPA with four options for constructing AOGP before 2023: (1) securing a DOE loan guarantee that will enable financing of the port; (2) financing AOGP through the issuance of Restructuring Bonds, pursuant to Act 4-2016; (3) entering into a public-private partnership whereby a third party takes ownership of the project and arranges the financing; and (4) paying for AOGP directly through rates by treating capital expenditures as a pass-through expense.

Q. REGARDING THE FIRST OPTION, WHAT IS THE STATUS OF PREPA'S ATTEMPTS TO SECURE A DOE LOAN GUARANTEE FOR THE PROJECT?

A. This is not clear, although PREPA seems less certain of its ability to secure a loan guarantee than it did in the rate case proceeding.

PREPA has provided essentially no clarity regarding the status of negotiations with the Department of Energy for a loan guarantee or the timeline of this process. In response to a Commission request for information, PREPA stated, "PREPA remains in constant communication with the Department of Energy and continues pursuing other financing alternatives subject to issues related to the Restructuring Support Agreement and ongoing debt negotiations."[13] It is not possible for us to evaluate the likelihood of PREPA receiving a DOE loan guarantee without more information, but we note that PREPA appears to be less certain about the possibility of a DOE loan guarantee than it was in the rate case, wherein PREPA stated, "Currently, PREPA is assumed to issue debt [for AOGP] under the DOE loan guarantee program at the end of FY 2017, beginning of FY 2018."[14] From the information presented in this case, it no longer appears that PREPA is on track to issue debt under the DOE program at the

[13] Response to Commission Request of Information 01-03.
[14] Response to CEPR-AH-01-04 in Case No. CEPR-AP-2015-0001.

end of FY 2017 (i.e. June 30, 2017). We further note that PREPA's Fiscal Plan presented to the PROMESA Board does not reference the possibility of a DOE loan guarantee for AOGP.

Q. REGARDING THE SECOND OPTION, ACT 4-2016 GIVES PREPA THE AUTHORITY TO FINANCE "COSTS RELATED TO THE AGUIRRE OFFSHORE GASPORT" WITH RESTRUCTURING BONDS SUBJECT TO THE COMMISSION'S APPROVAL. IS PREPA PURSUING THIS OPTION?

A. PREPA has not clearly stated an intention to pursue this financing option. In hearings during the rate case proceeding, Dr. Quintana stated that securitization "might be another path" to financing.[15] However, the PREPA Fiscal Plan does not include financing for AOGP as part of its Restructuring transaction assumptions.[16]

If PREPA were to pursue this path, it appears unlikely that PREPA would be able to secure financing by March 2, 2018, the date by which PREPA wants to issue the Final Notice to Proceed (which requires financial close as a condition precedent). The Restructuring Support Agreement, which will allow PREPA to issue Restructuring Bonds, has not yet been approved by the PROMESA Board and may be transferred to a court under Title III[17]. Our understanding is that financing AOGP with Restructuring Bonds would require amending the Restructuring Support Agreement, which could not occur without the approval of the PROMESA Board and

[15] Hearing in Case No. CEPR-AP-2015-0001, Panel E, Part 1, December 5, 2016. (https://www.youtube.com/watch?v=C6hM9-azo6s at 3 hours and 32 minutes)
[16] PREPA Fiscal Plan, April 28, 2017, p. 34.
[17] R. Slavin, "Puerto Rico Court Case Gets Underway," *Bond Buyer*, May 17, 2017.

the bondholders.[18] Given the many delays in approving the current RSA it appears likely to us that an amendment to the RSA would also be delayed.

Q. REGARDING THE THIRD OPTION, HAS PREPA PURSUED A PUBLIC-PRIVATE PARTNERSHIP STRUCTURE TO ARRANGE FINANCING FOR AOGP?

A. A third possibility for financing AOGP would be to pursue AOGP as a public-private partnership whereby a private third party would own and finance the project. PREPA has not provided any evidence that it is pursuing this option[19], but PREPA's Fiscal Plan does refer to AOGP as a possible public-private partnership.[20] We do not know what negotiations are currently underway to construct AOGP through a public-private partnership – but, if such negotiations are occurring, as of April 2017 no private partner has been found to finance the project.[21]

Q. REGARDING THE FOURTH OPTION, WHAT WOULD BE THE IMPACT OF PAYING FOR AOGP DIRECTLY THROUGH RATES AS A PASS-THROUGH EXPENSE?

A. PREPA is currently funding its FY 2017 capital expenditures, including the $15 million that the Commission allocated for AOGP, as pass-through expenses in rates because of its inability to

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[18] In testimony before Congress, the CEO of Excelerant Energy stated that AOG may have to suspend activities if the approval of the RSA is further delayed. Similarly the company is looking for PROMESA to move forward with the critical projects process. (Testimony of Robert Bryngelson, House Natural Resources Subcommittee on Indian, Insular and Alaska Native Affairs, March 22, 2017).

[19] Excelerant Energy offered no indication in its recent testimony to Congress that it is involved in any partnership financing efforts. The company appears to place considerable emphasis on the approvals for the RSA as the financial signal of moving forward.

[20] p.5 of the Fiscal Plan refers to "modernization of infrastructure through Public Private Partnerships (including the AOGP project)", although p. 71 does not appear to consider AOGP as a potential P3, stating "Fiscal Plan assumes PAYGO for T&D maintenance and currently uncommitted financing or investment for AOGP and executive of public-private partnerships for development of new generation"

[21] Puerto Rico Public Private Partnerships Authority, "Energy Projects", presentation at P3 Summit Puerto Rico, April 20, 2017. http://p3summitpr.com/wp-content/uploads/2017/04/P3-SUMMIT-Energy-FINAL.pdf

access the credit markets. If PREPA funds AOGP and the related gas plant conversions as a pass-through cost in rates, it will result in significant near-term rate shock. We estimate that a direct pass-through of the capital costs for AOGP and the gas plant conversions in FY 2019 (totaling approximately $530 million) would result in an increase in rates of 3 cents/kWh, relative to a scenario without AOGP. We estimate that this will result in a total rate of approximately 27 cents/kWh in FY 2019, or about 35% higher than the current rate.[22]

Q. PLEASE SUMMARIZE PREPA'S FINANCING OPTIONS FOR AOGP.

A. As stated previously, PREPA has provided virtually no detail on the status or likelihood of the various financing options for AOGP. Our conclusion is that, unless PREPA can secure financing via a loan guarantee or a public-private partnership – neither of which option it has had success with to date – the only remaining options are Restructuring Bonds or ratepayer-funded capital expenditures. Pursuing financing via Restructuring Bonds could well result in further project delays.[23] Delays in AOGP will result in higher project costs and possibly higher MATS compliance penalties (because PREPA will be out of compliance with MATS for a longer period). Funding the project through ratepayer funded capital expenditures, on the other hand, would result in excessively high rates for Fiscal Year 2019.

III. Short-term costs in AOGP vs. "no AOGP" scenarios

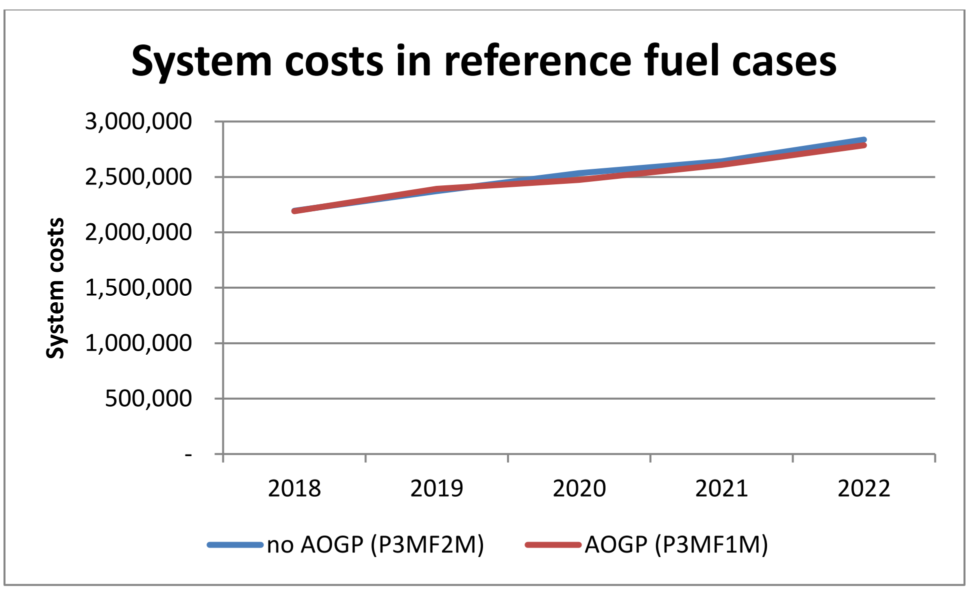
[22] PREPA Fiscal Plan, April 28, 2017, p. 17.

[23] The current project timeline has already been delayed multiple times. The project was approved by FERC in 2015 with a projected in-service date of the second quarter of 2017: http://excelerateenergy.com/ferc-issues-order-authorizing-excelerates-aguirre-offshore-gasport-project/

Q. ACCORDING TO PREPA'S MODELING, WHEN DO RATEPAYERS BEGIN TO REALIZE THE BENEFITS OF THE AOGP PROJECT RELATIVE TO THE "NO AOGP" SCENARIO?

A. Over the long term (20 years), PREPA's modeling shows that the higher capital cost of the AOGP scenario is outweighed by the longer term fuel savings. However, the benefits of the AOGP scenario do not become significant until more than five years into the analysis.

As shown in Figure 1, the system costs of the two scenarios are almost identical for the first five years of PREPA's modeling analysis.[24] The net present value of the AOGP scenario (P3MF1M) over the first five years is $9.59 billion, whereas the net present value of the "no AOGP" scenario (P3MF2M) over the first five years is $9.68 billion, a difference of just under 1%.[25]



[24] PREPA's modeling analysis in the P3MF1M scenario (tab AG_Base) was modified to include the Ag 1&2 Steam Unit Gas Fuel Conversions and Ag 1&2 CC Unit Dual Fuel Conversions in the Capital Costs Amortization Schedule. It is unclear to us why they were not included in PREPA's original modeling.

[25] The nominal system costs produced by PREPA's spreadsheet model were discounted using a 9% nominal discount rate.

Q. WHY IS THIS SIGNIFICANT?

A. PREPA's long-term modeling result shows a cost advantage to the AOGP scenario.

However, a near-term comparison of the costs of the AOGP and "no AOGP" scenarios is sensitive to potential cost overruns. For example, a doubling of the upfront cost of AOGP would result in the AOGP scenario being the more expensive scenario in the first five years under PREPA's modeling.

We believe that this case demands a balancing of the long-term ratepayer impact with the short-term impact, and the Commission should not discount the possibility that, in the short term, the AOGP scenario could be more expensive than the "no AOGP" scenario.

Note that we have not had the ability to probe PREPA's econometric modeling of fuel prices, so we cannot offer an opinion as to their reasonableness.[26]

Q. WHY SHOULD THE COMMISSION BALANCE SHORT-TERM AND LONG-TERM RATEPAYER IMPACTS IN EVALUATING AOGP?

A. In addition to the fact that future financial benefits are inherently more speculative, we believe that PREPA's current situation makes focusing on near-term rate impacts especially important for two reasons.

[26] We are concerned, however, by PREPA's apparent decision (according to PREPA ROI_04_07 Attach 4, provided in response to Commission discovery) to base its regression forecasts on only 5 historical data points. This is too small of a sample size to produce reliable results.

First, the next five years are critical for PREPA to execute its restructuring plan and re-gain entry to the capital markets by the end of 2022. PREPA's ability to control costs will receive enhanced scrutiny as it attempts to achieve renewed access to the capital markets. A major construction project that is plagued by delays and cost increases will weaken investor confidence.

Secondly, The long-term vision for PREPA beyond the next few years is not clear. Whichever path is chosen could have significant implications for the amount of renewable energy generated on PREPA's system.

Q. WHY DO YOU BELIEVE THAT RENEWABLE ENERGY COULD PLAY A GREATER ROLE IN PUERTO RICO'S FUTURE THAN CONSIDERED IN PREPA'S ANALYSIS?

A. In its credit-constrained condition, PREPA has had more success in adding third-party renewable energy projects to its system in recent years. PREPA has not had access to capital markets since 2014 and, as described above, has not been successful in finding financing for AOGP in that time. By contrast, PREPA was able to renegotiate 18 renewable power purchase agreements in 2014 and since then four of those projects have become operational or are nearly operational.[27]

Over the long term, PREPA's Fiscal Plan appears to lay out a very different vision for the future of PREPA than that described in the current proceeding. PREPA's analysis in this proceeding, similar to the IRP case, presents a long-term vision of PREPA as a vertically integrated utility heavily reliant on central station generation for the next twenty years or more. However, PREPA's fiscal plan calls for significant private investment in the island's electricity system via

[27] Puerto Rico Public Private Partnerships Authority, "Energy Projects", presentation at P3 Summit Puerto Rico, April 20, 2017. http://p3summitpr.com/wp-content/uploads/2017/04/P3-SUMMIT-Energy-FINAL.pdf

public-private partnerships and states that PREPA is beginning a "pivot from a generation owner and operator to a Distribution System Operator (DSO) model."[28] PREPA is reportedly also looking at third-party contracts for energy storage.[29]

The vision laid out in the Fiscal Plan calls for PREPA increasing its renewable energy generation from 3% of total generation in FY 2018 to 18% in FY 2026. By contrast, the AOGP scenario in this case shows renewable energy generation increasing from 3% in FY 2018 to only 8% in FY 2026.[30] We believe that the long-term conversion of PREPA to a distribution-only utility could result in significantly higher penetration of renewable energy than PREPA has assumed in its base case scenario in this case.[31] Higher penetration of renewables would result in lower fossil fuel consumption than PREPA has assumed in either its "AOGP" or "No AOGP" scenarios in this case, thereby making the long-term fuel cost benefits of its AOGP scenario more speculative.

IV. Fuel delivery options to Puerto Rico

Q. PREPA PROVIDED A REPORT AUTHORED BY SIEMENS THAT EXPLORES ALTERNATE METHODS OF PROVIDING NATURAL GAS TO PUERTO RICO OTHER THAN THE AOGP PROJECT. DO YOU HAVE ANY COMMENTS ON THAT REPORT?

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[28] PREPA Fiscal Plan, April 28, 2017, p. 53.

[29] Puerto Rico Public Private Partnerships Authority, "Energy Projects", presentation at P3 Summit Puerto Rico, April 20, 2017. http://p3summitpr.com/wp-content/uploads/2017/04/P3-SUMMIT-Energy-FINAL.pdf

[30] P3MF1M Final Reference Case Spreadsheet ("Generation Costs" tab)

[31] Already, we note that the Governor's Fiscal Plan calls for $115 million in renewable energy investment in 2017 that is not included in PREPA's modeling in this case.

A. Yes. That report, "PREPA Ex 1 04 PREPA Fuel delivery Option Assessment" (hereafter referred to as the "Fuel Assessment") contains Siemens' feasibility analysis of containerized delivery of LNG to Aguirre, San Juan, and Palo Seco, and CNG delivery to Aguirre, San Juan, and Palo Seco. Siemens summarizes its recommendation with respect to LNG delivery as follows:

- "LNG delivery in ISO containers to Aguirre absent AOGP is not practical due to the expected gas demand and the amount of container handling required on a daily basis and vessel deliveries required on an annual basis. In addition, dredging will be required at the Aguirre port, which could be a fatal flaw."
- "The costs and operational risks for LNG delivery in ISO containers to San Juan are prohibitively high."[32]

We address each of these points in turn. Siemens claims that the volume of 193 ISO containers of LNG per day for a total of 47 vessel deliveries per year "makes it impractical from a logistic point of view."[33] However, PREPA states in its response to ELAC Request No. 79 that current vessel deliveries at Aguirre already number 3 – 4 a week, meaning there are 156 to 208 vessel deliveries per year already occurring at Aguirre. This means that the switch to containerized LNG would actually reduce vessel deliveries to Aguirre. In the case in which dredging at the Aguirre port would be necessary, Siemens fails to consider the possibility of doing exactly what it earlier describes as occurring in Jamaica:[34]

> *For the Bogue plant deliveries, New Fortress later dropped the idea of delivery via LNG ISO containers in favor of ship-to-ship transfers of bulk LNG. At present, the*

[32] Page 6 of PREPA Ex 1 04 PREPA Fuel delivery Option Assessment.
[33] Page 14 of PREPA Ex 1 04 PREPA Fuel delivery Option Assessment.
[34] Page 10 of PREPA Ex 1 04 PREPA Fuel delivery Option Assessment.

Athena Vender , a small LNG vessel, is loaded at sea from larger scale LNG carriers and brings LNG into Montego Bay. These deliveries are ongoing.

Siemens never considers the feasibility of deploying a similar arrangement of ship-to-ship transfer of LNG in order to avoid dredging the port at Aguirre.

With regards to the delivery of LNG to San Juan, Siemens argues that the cost is prohibitively high – an estimated $521 million in capital including contingency. However, this includes $187 million for a "special purpose vessel" to transport the LNG. This alone makes the comparison to AOGP "apples to oranges" because the LNG transportation costs for AOGP are treated as O&M since that function would be contracted out. Indeed AOGP O&M costs are estimated by PREPA at $77 million per year. On top of that, Siemens assumes a 20 percent contingency whereas as the contingency in the AOGP estimate is 15 percent. And since more of the containerized LNG to San Juan costs are assumed to be capital than they are in the AOGP case (contingency is not applied to AOGP's O&M cost estimate), that amplifies that the apparent cost difference between San Juan LNG deliveries and deliveries to Aguirre. Thus, the claim that delivery of LNG to San Juan is "prohibitively high" should be viewed as dubious.

Additionally, Siemens only considered the delivery of LNG to San Juan via ISO containers in its Fuel Assessment. In the conclusions of the Fuel Assessment report, Siemens recommends that PREPA "evaluate the feasibility of bulk LNG delivery and onsite tank storage to improve the cost competitiveness of LNG to San Juan and Palo Seco. Said option was the most favorable of the ones studied in the Galway report."[35] It is unclear why PREPA would not have already

[35] Page 26 of PREPA Ex 1 04 PREPA Fuel delivery Option Assessment.

directed Siemens to evaluate an alternative that was considered the most favorable option in a 2015 report on fuel delivery options for PREPA's northern power plants.

In addition, Siemens never considered the feasibility and cost of the SeaOne compressed gas liquids (CGL) development as an alternative. We understand that development may already be underway and to the extent that energy supply can be located in the northern part of the island including through the delivery of natural gas to San Juan instead of Aguirre, there is a much better chance of being able to reduce some of the billions of dollars PREPA says will need to be invested into transmission lines in Puerto Rico.

V. PREPA's commitment to transparency and cost control at AOGP

Q. IF APPROVED BY THE COMMISSION IS PREPA PREPARED TO MOVE FORWARD WITH THIS PROJECT?

A. In approving a major infrastructure project, the Commission should have confidence in PREPA's ability and willingness to provide information transparently and responsively and to put in place effective cost control mechanisms.

Based on this case, and prior cases that we have been involved in, we do not have confidence in PREPA's ability to do this. This case has been characterized by incomplete and inconsistent information from PREPA, lack of attention to Commission directives[36] and evasive and/or missing answers to discovery questions.

[36] For instance, the Commission's February 10, 2017 order required that PREPA "highlight specific risk factors for each fueling option that may lead to delays, cost increases, or any combination thereof. PREPA's report shall also include the results of its market research, including the price quotes received and PREPA's evaluation of its market

There is also nothing in this case to indicate any improvement in PREPA's historic failure to control costs generally. As noted in the Kunkel/Sanzillo rate case testimony, "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. 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] To minimize future imprudent expenditures, the Commission is now attempting to establish a process of reviewing and approving PREPA's costs before they are incurred; PREPA recently requested a stay of this Commission order, a gesture which does not inspire confidence in PREPA's budgeting process.[38] Nothing that PREPA has provided in this case indicates any change in corporate culture in PREPA that would give us confidence that PREPA has improved its ability to control costs in the AOGP project.

VI. Conclusions

Q. WHAT IS THE COMMISSION BEING ASKED TO APPROVE IN THIS PROCEEDING?

position with regards to fuel purchases and any important factors affecting PREPA's ability to purchase fuel at market prices." While PREPA provided an analysis of the risks of alternative natural gas fueling options (delivery of LNG or CNG by shipping containers), it did not provide any analysis of specific risk factors for the AOGP project itself.

[37] Case No. CEPR-AP-2015-0001, Testimony of Kunkel and Sanzillo on behalf of ICSE-PR, p. 15 (references omitted).
[38] Case Nos. CEPR-AP-2015-0001, CEPR-AP-2017-0001, CEPR-IN-2016-0002, "Resolution on Motions for Stay," May 26, 2017.

In this proceeding, PREPA is requesting the Commission "fully approve and proceed with AOGP and the associated natural gas conversions at Aguirre"[39]. By contrast, the Commission's initial February 10, 2017 order in this case appears to contemplate only that the Commission might increase the spending cap on AOGP-related expenditures (currently $15 million).[40]

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

We are concerned by PREPA's failure to produce basic information about a proposed $400 million investment. While we are sympathetic to the fact that there are many moving pieces to PREPA's current restructuring efforts and that the timeline for some of those processes is outside of PREPA's control, PREPA still has not provided a complete or coherent picture of the status of its various financing options. PREPA's lack of transparency, which has been a pattern in this case, the rate case and the prior IRP docket, does not inspire confidence that ratepayers will be protected from cost overruns or that PREPA has set realistic goals and expectations regarding this project. In short PREPA has not presented the quality of analysis that would allow us to recommend Commission approval of this project.

More specifically, we believe PREPA's proposed timeline is overly aggressive given that key pieces of the project plan have not been finalized, and that these uncertainties expose ratepayers to the risk of delays and cost overruns. PREPA's timeline indicating simultaneous design and construction of the project represents an approach that PREPA has previously acknowledged to be riskier for ratepayers because of the greater potential for cost overruns. Ratepayers may also be exposed to delays, leading to cost overruns, as a result of PREPA's lack of engineering

[39] Direct testimony of Rivera-Chico p. 2 lines 32-34.
[40] February 10, 2017 Commission order at p. 3.

contractor and lack of financing for the project (especially if the Commission does not allow PREPA to fund the project through rate-payer funded capital expenditures).

Finally, even if the Commission endorses the notion that natural gas must be acquired in greater quantities, we don't believe PREPA has adequately demonstrated the superiority of AOGP from the perspectives of logistics, environmental impact, or cost.

Q. WHAT ARE YOUR RECOMMENDATIONS?

We strongly disagree with PREPA's recommendation that the Commission "fully approve" AOGP and allow PREPA to proceed with AOGP and AOGP-related projects. While the Commission intends to review and approve PREPA's annual budgets moving forward, there should not be a presumption that AOGP-related expenditures are prudent as long as they accord with the unknown financing plan PREPA ultimately develops for AOGP.

Instead, we do not offer an opinion on whether the Commission should lift the current spending cap on AOGP (because we were unable to evaluate PREPA's fuel cost modeling). However, we do recommend that the Commission explicitly prohibit PREPA from issuing a Final Notice to Proceed on AOGP without future Commission approval, and that such approval not be granted without Commission approval of a financing plan and rate impact analysis for the project. We further recommend that the Commission not allow any further expenditures on the natural gas plant conversions unless or until AOGP is approved.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

Yes, but we reserve the right to supplemental our testimony if additional discovery responses are provided.