



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2  
290 BROADWAY  
NEW YORK, NY 10007-1866

NOV - 5 2013

Mr. Rafael Marrero Carrasquillo  
Environmental Protection and Quality Assurance Division  
Puerto Rico Electric Power Authority (PREPA)  
1110 Ponce de Leon Avenue  
NEOS Building, 7<sup>th</sup> Floor  
Santurce, Puerto Rico 00907

Mr. Mike Trammel  
Director, Environmental Affairs  
Excelerate Energy, L.P.  
1450 Lake Robbins Drive, Suite 200  
The Woodlands, Texas 77380

Re: PSD Non-Applicability Analysis for the Natural Gas Conversion Project at the PREPA Aguirre Power Complex.

Dear Messrs. Marrero Carrasquillo and Trammel:

The Region 2 Office of the U.S. Environmental Protection Agency (EPA) has reviewed the Prevention of Significant Deterioration of Air Quality (PSD) Non-Applicability Analysis submitted by PREPA's consultant, AECOM, on September 16, 2013 for the Natural Gas Conversion Project at the PREPA Aguirre Power Complex. EPA needs additional information delineated below to continue its review.

**Background**

The existing PREPA Aguirre Power Complex consists of 12 oil-fired electric generating units with a total power generating capacity of 1,540 MW. These units currently burn No. 6 and No. 2 fuel oil. The units are as follows:

- 1) The Steam Power Plant – consisting of two oil-fired steam boilers (AG1 and AG2) with a total generating capacity of 900 MW.
- 2) The Combined-Cycle Power Plant (CC1 and CC2) – consisting of eight oil-fired combustion turbines with two steam generators with a total generating capacity of 600 MW. Each combined-cycle plant consists of four turbines, one steam generator, and one steam turbine.
- 3) The Power Block – consisting of two oil-fired combustion turbines with a total generating capacity of 40 MW.

PREPA is proposing to convert only the two steam boilers and the Combined-Cycle Power Plant (eight turbines) to burn natural gas. The combined-cycle units have actually operated at relatively low annual capacity factors (ACFs), averaging 8% during the baseline period from July 1, 2009 through June 30, 2011. The two boilers (AG1 and AG2) operated at an annual capacity factor of 64% during the same period. According to PREPA, these are the typical ACFs for these units. After the natural gas conversion, PREPA proposes to limit the ACF for the boilers to 55% and for the combined-cycle units up to 35% ACF.

The Aguirre Offshore GasPort, LLC, a wholly owned subsidiary of Excelerate Energy, L.P., will construct and operate the Aguirre Offshore GasPort Project (GasPort), a liquefied natural gas (LNG) terminal approximately 6 km offshore for the purpose of receiving and storing LNG, regasifying the LNG, and delivering a supply of natural gas to the PREPA Aguirre Plant.

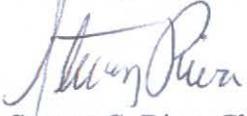
### Discussion

PREPA Aguirre and the GasPort terminal have decided to consider themselves as one single source for purposes of PSD applicability. Based on the single source treatment, PREPA and the GasPort show that they are not subject to PSD since the combined single source's potential emissions (based on the actual-to-potential applicability test) will all decrease except for VOC (with an increase of 32 tpy) and CO<sub>2</sub>e (with an increase of 36,980 tpy). Based upon EPA's review of the AECOM submittal, we have the following comments and need the information listed below to continue our review:

- 1) Page 1-2 of the AECOM submittal states that "the contract between Excelerate and PREPA will give PREPA exclusive rights to 100% of the LNG from the GasPort...the demand from the Aguirre Power Complex is necessary for the GasPort to be built, since there are no current plans to use LNG from the GasPort for any other facility." Since PREPA Aguirre and the GasPort will be separately-owned, please submit a copy of the contract agreement(s) between the two parties so that EPA can review the interdependency that will exist based upon the specific responsibilities/obligations of each entity.
- 2) Page 2-4 states that the 55% ACF for the two PREPA Aguirre boilers is equivalent to 42,178,408 MMBtu/year (natural gas) on a higher heating value basis. For the combined-cycle plant the 35% ACF is equivalent to 15,603,626 MMBtu/year (natural gas) on a higher heating value basis. Combining these two figures, it amounts to 57,782,034 MMBtu/year or approximately 56.65 Bscf of natural gas/year. This is about 36% of the 159 Bscf of natural gas/year that the GasPort will have unloaded into the fixed Floating Storage and Regasification Unit (FSRU) (7.5 million m<sup>3</sup> of LNG/year). Even if EPA includes the apparent natural gas requirements of 5.29 Bscf/year to run the GasPort itself, then both PREPA Aguirre and the GasPort will only consume about 39% of the total annual natural gas capacity that is unloaded into the FSRU, leaving much unused sendout capacity. Is the GasPort seeking or will it seek different natural gas markets to sell its unused capacity other than PREPA Aguirre?
- 3) Page 4-10 states that the FSRU is capable of a sustained natural gas sendout of 500 MMscf/day using just five out of six electric pumps which is equivalent to 183 billion standard cubic feet (Bscf) per year. The sixth pump can be used for short-term peak sendouts of up to 650 MMscf/day. However, on Page 4-8, the potential annual emissions due to the unloading of the liquefied natural gas carriers (LNGCs) were calculated based on a maximum annual unloading rate of 7.5 million m<sup>3</sup> of LNG per year or 159 Bscf per year of natural gas. In the submittal, there is no mention that this 7.5 million m<sup>3</sup> /year of LNG (or 159 Bscf per year of natural gas) will be a permit limit condition on the GasPort. Since the PTE of the GasPort was based in part on the maximum unloading of 7.5 million m<sup>3</sup> /year of LNG, EPA will require that this limit on the annual LNG throughput be included in the Excelerate EQB permit for the GasPort.

Please address these issues so that EPA can continue with its review. If you have any questions, please contact me at (212) 637-4074, or Frank Jon at (212) 637-4085.

Sincerely,

A handwritten signature in cursive script, appearing to read "Steven C. Riva".

Steven C. Riva, Chief  
Permitting Section  
Air Programs Branch

cc: Dave Shea, AECOM  
Keith Kennedy, Tetra Tech