UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

SEP 2 6 2014

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, D.C. 20426

Reference Docket No. CP13-193-000 and PF12-4-000

Dear Ms. Bose:

The U.S. Environmental Protection Agency has reviewed the draft environmental impact statement (DEIS) for the Aguirre Offshore GasPort Project (CEQ #20140224). Our review of the DEIS is presented below with detailed technical comments in the enclosure.

The proposed project would include the construction and operation of an offshore marine liquid natural gas (LNG) receiving terminal and a 4.1-mile-long subsea pipeline connecting the offshore terminal to the Puerto Rico Electric Power Authority's (PREPA) Aguirre Power Complex, in Aguirre, Puerto Rico. The offshore terminal, proposed to be located approximately a mile outside of Jobos Bay, Puerto Rico, would semi-permanently moor a Floating Storage and Regasification Unit (FSRU) that would supply gas to the pipeline. Other LNG carriers would dock at the terminal, and transfer LNG to the FSRU for storage and regasification. The purpose of the Project is to provide LNG storage capacity and sustained deliverability of natural gas directly to the PREPA Aguirre Power Plant to facilitate conversion of the Aguirre Plant from using fuel oil only to a dual-fuel generation facility. This review was conducted in accordance with Section 309 of the Clean Air Act, as amended (42 U.S.C 7609, PL 91-604 12 (a), 84 Stat. 1709) and the National Environmental Policy Act (NEPA).

The proposed pipeline would traverse Jobos Bay, a tropical estuary with five distinct habitat types (coral reefs, seagrass beds, mangrove forests, mud flats, and a littoral forest). This area is part of a National Estuarine Research Reserve established in 1981 and administered jointly by Department of Natural and Environmental Resources (DNER) and the National Oceanographic and Atmospheric Administration (NOAA). The reserve serves as habitat for a number of federally listed endangered and protected species, which may be adversely affected by the proposed project. While the open water area of Jobos Bay is not included as part of the reserve, it is closely connected to its ecosystems and supports healthy seagrass beds, macroalgae and corals.

The EPA recognizes that converting a portion of PREPA's electric generating capacity from oil to natural gas will reduce the emissions from the Aguirre Plant and facilitate compliance with the EPA's Mercury Air Toxics Standards. In addition, the switch from oil to natural gas is likely to reduce greenhouse gas emission rates from the Aguirre Power Complex. Given the potential for air quality,

public health, and socio-economic benefits, the EPA understands the potential benefits of this project. It is also important that FERC and the project developers make every effort to avoid, minimize and mitigate any impacts on aquatic life and the marine environment during construction and operation.

Regarding the placement of the pipeline through a coral reef area, on August 27, NOAA listed 20 new species of coral as threatened on the endangered species list (information on the listing is available at http://www.fisheries.noaa.gov/stories/2014/08/corals_listing.html), five of which are found in the project area (Dendrogyra cylindrus, Orbicella annularis, Orbicella faveolata, Orbicella franksi, and Mycetophyllia feroxsome). The Final EIS should provide information on the extent to which the project would affect these newly listed threatened species and also consider whether these new listings would change the relative significance of the impacts of the pipeline routing alternatives and thus the avoidance, minimization, and mitigation measures to be taken.

The DEIS does not contain a seagrass mitigation and monitoring plan. The EPA is aware that FERC has recommended that the applicant file a draft of this plan prior to the end of the DEIS public comment period. We look forward to reviewing the plan and will provide comments separately. In addition, further information is needed regarding whether horizontal directional drilling is feasible for construction of the pipeline. Based on this feasibility, the impacts of the pipeline construction techniques will need to be clarified.

On more than one occasion, the DEIS states that additional information should be prepared by the applicant prior to the close of the public comment period. In addition to the seagrass mitigation and monitoring plan, are sediment modeling and horizontal directional drilling feasibility. FERC should ensure that this information is available for review.

Information provided in Excelerate's November 4, 2013 submittal to FERC is accurate with regard to applicability of New Source Performance Standards; however, a different and inaccurate discussion appears in the DEIS. This inconsistency should be resolved as part of the NEPA record. In addition, the modeling analysis was not provided in the DEIS and therefore the input and output files could not be reviewed.

Information presented in the DEIS does not reflect the applicant's August 22, 2014 supplement to the National Pollutant Discharge Elimination System (NPDES) permit application. This information should be updated in the Final EIS. In addition, thermodynamic calculations related to heat transfer should be included; as should an explanation that a Storm Water Pollution Prevention Plan is required and will be prepared as part of the NPDES permit.

It has come to our attention that the Pipeline and Hazardous Materials Safety Administration (PHMSA) has not received an application for a waiver to place the natural gas pipeline on the sediments in Jobos Bay. Were a PHMSA decision or waiver to result in significant changes in the placement or construction of the pipeline, the EPA would recommend that additional NEPA documentation be prepared and made available for review.

The EPA has rated the DEIS as EC-2. This rating means that our review has identified environmental impacts that should be avoided in order to fully protect the environment and it is a common rating for a DEIS. This rating and comments associated with it are not unusual at the DEIS stage and provide an opportunity for project improvements. Corrective measures may require changes to the preferred

alternative or application of mitigation measures that can reduce the environmental impact. In addition, the draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment. The identified additional information, data, analyses, or discussion should be included in the final EIS. Given the potential benefits of this project mentioned above, the EPA recommends that comments to the DEIS be addressed in a timely fashion to avoid delays in the project.

Thank you for the opportunity to comment. If you have any questions regarding this review or our comments, please contact John Filippelli, Director of the Clean Air and Sustainability Division at (212) 637-3736 or filippelli.john@epa.gov.

Sincerely,

Judith A. Enck

Judith A. Enck
Regional Administrator

Enclosure

EPA Technical Comments on the Federal Energy Regulatory Commission's Aguirre GasPort Project Draft Environmental Impact Statement dated August 2014

Alternatives Analysis:

- EPA has reviewed Aguirre GasPort LLC's January 17, 2014, report comparing the preferred pipeline alternative with an alternative that would go through the barge channel and information found in the DEIS. The report used the preferred offshore terminal site in both cases. Site 4, the westernmost alternative for the offshore platform and closest to the barge channel, was not chosen for the offshore terminal because Aguirre GasPort "identified other suitable sites that are located further from populated areas." Please specify in the FEIS, the populated areas being considered and enumerate the distances.

- Table 3.4-1 states that the seafloor condition at Site 4 is "Not determined;" however, Resource Report 10 states that "Based on existing data Alternative Site 4 would be suitable for placement of the proposed Offshore Gasport." This should be reconciled in the FEIS.

- The DEIS assumed correctly that the Coast Guard would require a 500-yard safety zone around the offshore terminal, and then points out that such a safety zone around Site 4 would encompass part of Cayos de Pájaros, preventing its use by recreational fishermen and beachgoers. Please provide data on use by beachgoers and on the use of the Cayo and nearby waters by fishermen.

Water Quality and National Pollutant Discharge Elimination System (NPDES):

- On August 22, 2014 the Aguirre Offshore GasPort submitted a supplement to its original NPDES permit application. This supplemental information includes an alternative technology to address biofouling in the Marine Growth Protection System. This technology uses a copper-aluminum anode system in place of chlorine injection. Various sections in the DEIS discuss the chlorination process in comparison with the water quality standards. These sections, and in particular Sections 4.3.1.3, and 4.5.2.4, should be updated to reflect this change in biofouling technology.

- The August 22, 2014 supplement to the NPDES application includes ten outfalls. The discussion in the DEIS of operation related water discharges (4.3.1.3) includes outfalls 001 – 006, and a general discussion of other waste streams. This discussion should include Outfalls 007, 008, 009, and 010.

- Aguirre GasPort LLC has applied for a thermal mixing zone from the Puerto Rico Environmental Quality Board (EQB). EQB would set a prescribed area, in the vicinity of discharge points 001 and 002, in which the thermal discharge could dissipate before meeting the 90° F temperature standard. The mixing zone application should be noted in Section 4.3.1.

- In the discussion of Outfall 006 in Section 4.3.1, the DEIS references a Storm Water Pollution Prevention Plan for the facility. It should be noted that this plan has not yet been developed. It would be required as part of the NPDES permit. This should be clarified in the DEIS.

- FERC is recommending that Aguirre GasPort LLC conduct sediment transport modeling, prior to the end of the public comment period on the DEIS to support its determination that the redeposition of sediments disturbed during construction activities would be limited to within 100

feet of the pile foundations at the offshore berthing platform footprint and within 10 feet of the pipeline centerline. This sedimentation information is important to understand as part of the impacts analysis of the project and should have been included in the DEIS.

- Section 4.5.2.4 states that Aguirre GasPort LLC provided thermodynamic calculations related to the heat transfer from the subsea pipeline and riser. Please provide that information as part of the NEPA record.

Air Quality and Modeling:

- New Source Performance Standards (NSPS): The Subpart Db discussion (one paragraph) from Page 4-127 of the DEIS should be replaced with the Subpart Db discussion (four paragraphs) from Page 3-7 of the Excelerate November 4, 2013 submittal to FERC.
  The NSPS Subpart Db applicability discussion in Page 4-127 of the draft EIS states that the "main boilers and auxiliary boiler on the FSRU would have a heat input capacity of at least 100 MMBTU/hour; however, when each boiler was constructed, it met the definition of a "temporary boiler" ("…designed to, and…capable of being carried or moved from one location to another…"), which is not subject to Subpart Db (per 40 CFR 60.40b(m)). Since NSPS applies to stationary sources at the time of construction, reconstruction, or modification, and anchoring or docking the marine vessel that the boilers are installed on does not constitute an act of construction, reconstruction, or modification, the NSPS in Subpart Db do not apply to the boilers on the FSRU." This is not correct. As stated in Page 2 of EPA's April 11, 2013 letter to Excelerate Energy:

> …all non-RICE [reciprocating internal combustion engines] ancillary equipment located on the FSRU must meet the applicable NSPS based on the commenced construction date, i.e., manufactured date on the name plate of the individual equipment. The fact that this equipment was originally designed to be operated on a marine vessel when the equipment was constructed is immaterial for purposes of NSPS applicability. The fact that the equipment will be used at a stationary source combined with the individual manufactured date of the equipment (commenced construction date) is what triggers the NSPS on the existing equipment. For example, 40 CFR Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, applies to an affected unit that commenced construction, was modified, or was reconstructed after June 19, 1984. Since the LNGCs were delivered between 2005 and 2010, EPA assumes that the boilers were manufactured after the 1984 applicability date and, therefore, NSPS Subpart Db applies to the boilers, and so on.

The Excelerate NSPS Subpart Db discussion contained in the November 4, 2013 submittal to FERC is accurate with respect to the NSPS Subpart Db applicability. Contrary to what is stated in the draft EIS, these boilers located on the Floating Storage and Regasification Unit (FSRU) and once moored to the Aguirre GasPort do not meet the definition of temporary boilers under 40 CFR §60.41b: *Temporary boiler* means any gaseous or liquid fuel-fired steam generating unit that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.
(2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.
(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Therefore, based on the above, these boilers in the FSRU are subject to the NSPS Subpart Db.

- The EPA Offshore Coastal Dispersion Model (OCD), is an acceptable model in this case given that the facility is near the shoreline and the model is able to simulate the coastal effects. One year of meteorological data was obtained from nearby overwater buoys, and land base meteorological stations. It is stated that since only 1 year of meteorological data was used that the maximum impact rather than the design concentration would be used to show compliance with the National Ambient Air Quality Standards (NAAQS). Our comments on the modeling analysis are below:

    - A copy of the modeling analysis should be provided so that we may review the input and output files. This may be submitted on a DVD or CD but with a clearly labeled readme file that describes each run.

    - In some cases, the annual average emission rates were used in order to show compliance with the short term standards. This is not acceptable since it is not protective of short term NAAQS.

    - In order to assess the NO2 NAAQS, the Ozone Limiting Method (OLM) was employed that converts the NOx emissions to NO2 impacts. The OLM is a third tier screening technique in EPA's Guideline on Air Quality Models. However, OLM is not directly part of the OCD model. It is unclear how the calculations were done using this method with OCD or whether it would even be appropriate to use it in this case. Further justification and clarification of the method needs to be provided for approval. It may be simpler to use the second tier screening technique which uses an ambient ratio method to convert the NOx to NO2 (i.e., 0.80 and 0.75 for the 1 hour and annual NO2 NAAQS respectively.)

    - The NO2 NAAQS analysis appears to take emission credit for emission reductions that occurred at the Aguirre power plant. If so, the modeling analysis may not use negative emissions for assessing impact credits of the NO2 since all three of the tiers are considered screening levels and a negative emission would over compensate the credit. We recommend modeling the future project at their allowable emission limit as is without any credit. For other pollutants, credit may only be given in a significant impact levels

(SILs modification) or increment expansion scenario if applicable and not a NAAQS analysis.

- Information should be provided on how the meteorological data was assembled from the various stations as well as on the level of data capture in order to obtain the complete data set.

- Ambient monitored data was obtained for the criteria pollutants and presented in Table 4.10.1-3. However, this Table states that there is no data available for NO2. Later, Table 4.12.2-4 includes a modeled plus monitored value for each pollutant including NO2. How was the NO2 ambient concentration determined for the NAAQS analysis?

- EPA understands that the NAAQS analysis comprises the modeled impacts of the new source and that the background concentrations are either modeled or accounted for through the measured ambient background. Which sources are explicitly modeled in this case?

- Please include a discussion regarding the mixing height used in the modeling in this case.

- Comments on the Tables:

  - Table 4.10.1-9 does not match the values in Table 4.12.2-4 even though the titles are the same.
  - Table 4.10.1-3: the 1 hour NO2 should be based on the 3 year average of the 98th percentile rather than a 2nd high.
  - The PM10 should be based on the 99th percentile over the 3 year period, the 1 hour SO2 is a 3 year average of the 99th percentile. It is helpful to provide the concentrations in ug/m3 since this is what is added to the modeled impacts.
  - Table 4.12.2-4: the footnote regarding PM2.5 should be based on the 8th highest rather than the H-fifth-H.
  - Please clarify what is meant by the stack angle in Table 4.10.1-8.

Resources Impacts:

- The document states the proposed project's construction activities would result in direct impacts on approximately 19.8 acres of seagrass and 77.4 acres of macroalgal habitat. Operation of the offshore terminal would result in additional impacts to approximately 2.9 acres of seagrass and 19.2 acres of algae. It is not clear whether these impacts include estimates of impacts related to the laying of the pipeline directly on the seafloor, including scouring. However, in the same section the applicant states that impacts could be greatly minimized if horizontal directional drilling (HDD) can be used under the Boca del Infierno pass. We strongly agree with FERC's recommendation and encourage Aguirre LLC to consider HDD in order to minimize impacts to the protected aquatic resources in the area (p. 4-38).

- The DEIS is also unclear as to whether the impacts from the construction and support vessels laying the pipeline are included in the impacts to the benthos and sediment. The dive support vessel is a spud barge and the shallow water lay barge will use temporary piles for stability. Were the areas of pile and spud placement included in the temporary impacts to benthic habitat?

- Mitigation plans to replace or relocate coral and seagrasses should be included in the DEIS to ensure that the public and agencies are accorded an appropriate level of review and opportunity to comment. Such plans should include an analysis of the cost and success rate of coral and seagrass mitigation, which have been attempted in the past within this area with limited success. It is possible that such analysis may yield results that justify the use of HDD over the cost of transplanting seagrass and corals, plus their long term monitoring.

- The pipeline burial analysis conducted by Aguirre GasPort LLC estimated that the pipeline would penetrate the fine sediments within the inner part of Jobos Bay about 7 to 12 inches and would penetrate less than 1 inch in the course sediments and hardground along the remainder of the route, but over time hydrodynamic forces along the pipeline would result in some level of scouring (Page 4-47). FERC states on Page 4-46 that this would have a permanent, but moderate impact on mobility-impaired benthic organisms. The DEIS should provide the data used to validate that statement. We understand from staff at NOAA that Queen Conch, an important commercial species, is unable to traverse pipelines of this size. As such, the pipeline may have a significant impact on Queen Conch in Jobos Bay.

- The applicant states that the berthing platform would result in permanent impacts due to shading on approximately 2.9 acres of seagrass and 0.2 acre of reef, including live coral. EPA disagrees that these impacts are moderate in nature. Seagrass beds are amongst the most productive ecosystems in the Caribbean. Shading will rapidly result in reductions to the seagrass cover in the area. Without a conceptual mitigation plan, it is difficult to assess how these impacts would be addressed (p. 4-46).

Greenhouse Gas Emissions:

- In discussing greenhouse gas emissions, the DEIS compares the project's operating emissions to total reported emissions from Puerto Rico under EPA's Greenhouse Gas Reporting Program to conclude "the relative impact and potential significance of the Project's potential GHG emissions is very small in comparison to other existing emissions sources." Because global climate change is a result of disparate sources any of which may appear insignificant when compared to overall emissions, we recommend against comparing GHG emissions associated with a single project to those associated with the entire Commonwealth.

Methane Leakage Prevention:

- We recommend that FERC consider potential best management practices to reduce leakage of methane associated with operation of the Aguirre facility; EPA has compiled useful information on technologies and practices that can help reduce methane emissions from natural gas systems,

including information regarding emission reduction options for Liquefied Natural Gas storage, import and export facilities.[1]

Noise:

- Modeling of noise attenuation completed by Aguirre Gasport LLC indicates that vibratory pipeline driving would exceed the 180db threshold of the National Marine Fisheries Level A harassment. EPA recommends that Aguirre Gasport LLC research noise mitigation on tools used on other construction projects across the country.

General:

- The Coast Guard Waterways Suitability Assessment states that the pipeline should be properly marked to warn any vessel transiting in close proximity of the pipeline. What would that marking entail?

- FERC made recommendations that the applicant submit information "at the end of the DEIS comment period." NEPA practice would indicate that this information should have been included in the DEIS. Much of this pending information will inform the public and resource agencies about the environmental impacts of the project. Examples include: sediment transport analysis to support the redeposition distances indicated (Section 4.2.3.2) and the seagrass mitigation and monitoring plan as well as the coral reef restoration and/or mitigation plan along with the requisite agency consultation letters. (Sections 4.4.3 and 4.5.2.4.)

- It has come to our attention that the Pipeline and Hazardous Materials Safety Administration (PHMSA) has not received an application for a waiver to place the natural gas pipeline on the sediments in Jobos Bay. Were a PHMSA decision or waiver to result in significant changes in the placement or construction of the pipeline, EPA would recommend that additional NEPA documentation be prepared and made available for review.

---

[1] http://www.epa.gov/gasstar/methaneemissions/storage_import_export.html