II. RESPONSES TO COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

AGUIRRE OFFSHORE GASPORT PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

Responses to Comments on the Draft Environmental Impact Statement

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FEDERAL ENERGY REGULATORY COMMISSION

ORIGINAL

August 28, 2014

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

Aguirre Offshore Gas Port Project
Draft Environmental Impact Statement
Salinas, P.R.

Dear Secretary Bose:

The proposed project consists in the development, construction and operation of an offshore marine receiving facility (Offshore Gas Port), which will be receiving natural liquid gas to be obtained by the Puerto Rico Electric Power Authority (PREPA). The project is been developed in collaboration with PREPA with the purpose of receiving, storing and regasifying; connecting through subsea pipelines to the PREPA Aguirre Power Complex (Aguirre Plant). Same will be located in the southern area of PR.

AG01-01 The Department of Agriculture of Puerto Rico submits recommendations regarding the use of potential agricultural lands. Since the location does not affect any agricultural activity, the Department of Agriculture of PR has no objection with this proposed project.

Cordially,

Yolanda Flores, Director
Land Preservation Office
Department of Agriculture of PR

Ave. Fernández Juncos, Pda. 19¾, Santurce,
Apartado 10163, San Juan, PR 00908-1163
Tel (787) 721-2120 Fax (787) 7238512

Estado Libre Asociado de Puerto Rico
DEPARTAMENTO DE AGRICULTURA

AG-1

AG01-01 Comment noted.

AG02 – NOAA National Marine Fisheries Services

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

SEP 25 2014

F/SER47:PW

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426-0001

Re: Aguirre Offshore GasPort, LLC, CP13-193-000 and PF12-4-000 FERC/EIS-0253 Draft Environmental Impact Statement dated August 2014

Dear Ms. Bose:

Thank you for providing the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the Aguirre Offshore GasPort Project dated August 2014 (docket number CP13-193-000 and PF12-4-000). According to the DEIS, the project would include the construction and operation of an offshore marine liquefied natural gas (LNG) receiving facility (Offshore GasPort) and a 4.1-mile-long subsea pipeline connecting the Offshore GasPort to the Aguirre Plant in Salinas, Puerto Rico. The LNG receiving facility would be located in the Caribbean Sea, in approximately 63 feet of water, approximately three miles offshore and one mile outside of Jobos Bay near the towns of Salinas and Guayama, Puerto Rico.

These comments address issues related to the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA) and the National Environmental Policy Act (NEPA). The enclosed comments and recommendations are intended to further the consultation processes of the ESA, satisfy our commenting requirements under the MSA, and ensure a full analysis is conducted under NEPA.

If there are questions on MSA issues, please contact Dr. Pace Wilber at (843) 762-8601. For questions related to the ESA or MMPA, please contact Ms. Rachel Sweeney at (727) 551-5743.

Sincerely,

Miles M Croom

for Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosure

Cc: F/SER - Keys
F/SER2 – Steele
F/SER3 – Bernhart
F/SER4 - Fay
PPI-NEPA
NMFS HQ NEPA-Leathery

NOAA's National Marine Fisheries Service
Comments and Recommendations on
Aguirre Offshore GasPort Project Draft Environmental Impact Statement

NOAA's National Marine Fisheries Service (NMFS) offers comments on the proposed Aguirre Offshore GasPort Project pursuant to the National Environmental Policy Act (NEPA), the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the Endangered Species Act (ESA), and the Marine Mammal Protection Act (MMPA). The purpose of the Aguirre project is to provide liquefied natural gas (LNG) storage capacity and sustained delivery of natural gas directly to the Aguirre Plant, facilitating the Puerto Rico Electric Power Authority's conversion of the Aguirre Plant to a dual-fuel generation facility.
NMFS is using the *Aguirre Offshore GasPort Project Draft Environmental Impact Statement* (DEIS), dated August 2014, to (1) recommend improvements for the Final Environmental Impact Statement (FEIS), (2) provide the Federal Energy Regulatory Commission (FERC) with essential fish habitat (EFH) conservation recommendations, and (3) identify additional information needed to further the ESA consultation.

National Environmental Policy Act (40 C.F.R. §1503.2)

The National Environmental Policy Act (NEPA) directs federal agencies to comment on draft environmental impact statements when the federal agency has jurisdiction by law or special expertise with respect to any environmental impact resulting from an agency action, such as the authorization by the FERC of the Aguirre Offshore GasPort. As described below, the comments from NMFS under NEPA focus on the project description, alternatives analysis, and general adequacy of the impact estimates for larval fishes and corals.

Description of the Proposed Action

Aguirre Offshore GasPort, LLC (AOG), proposes to construct and operate an LNG port facility in the Caribbean Sea in 63 feet of water approximately three miles offshore and one mile outside of Jobos Bay near the towns of Salinas and Guayama, Puerto Rico. A floating storage and regasification unit (FSRU) vessel measuring 291 meters long with a draft of 11.6 meters would be permanently moored to the offshore platform. The FSRU vessel would only be moved during large storms when it is determined conditions would be unsafe for the FSRU vessel to remain moored to the platform or when the FSRU vessel requires dry dock maintenance, which AOG estimates to be every five years. When the FSRU vessel is in drydock, AOG anticipates another FSRU vessel would moor to the platform to maintain LNG operations. The platform would have two LNG vessel berths with fenders and mooring and breasting dolphins as well as utility platforms with docking for life boat and service vessels. LNG Carriers (LNGCs) would dock at the GasPort and deliver LNG to the FSRU vessel. The LNGCs would be present at the platform 183 days of the year (assuming 50 deliveries per year with a stay of 88 hours per delivery as presented in the DEIS).

A 4.1-mile-long, 18-inch outside diameter steel pipeline with an additional 3-inch concrete coating subsea pipeline would connect the GasPort to the Aguirre Plant. As proposed, construction of the pipeline and offshore terminal would impact approximately 116 acres of seafloor during construction. Temporary impacts associated with construction of the offshore terminal would affect 4.1 acres of coral habitat and 71.4 acres of seagrass. Temporary impacts

AG02 – NOAA National Marine Fisheries Services (cont'd)

associated with construction of the pipeline would affect 1.1 acres of coral habitat and 5.3 acres of macroalgae and seagrass. A push-pull-lay technique would be used to install the pipeline with no burial proposed, which would temporarily impact an additional 20.5 acres of macroalgae and seagrass. This installation technique would result in creation of 2-foot wide berms on either side of the pipeline, which are not accounted for in the estimates of permanent impacts to seagrass in the DEIS. Permanent impacts include 0.2 acre of coral habitat in the area of the terminal, which is likely an underestimate as it assumes shading would not affect coral health; 0.3 acre of coral habitat from the pipeline, which assumes there would be no temperature impacts from the pipeline; 22.1 acres of seagrass in the area of the terminal; and 1.6 acres of seagrass along the pipeline, which does not account for the impacts from creation of berms along the pipeline that could affect the seagrass growth.

The offshore berthing platform would be a fixed platform supporting topside facilities and two vessel berths, one on each side of the platform. The platform would be designed for long-term mooring of an FSRU vessel and for berthing LNGCs. The FSRU vessel would be moored at a berth on the northern (landward) side of the platform, and the LNGCs would temporarily dock on the southern (seaward) side of the platform while unloading LNG. LNG would be transferred from the LNGCs to the FSRU vessel for storage. AOG would utilize one of Excelerate Energy's existing Energy Bridge Regasification Vessels (EBRVs) as the FSRU vessel. EBRVs are LNG tankers with onboard equipment for the vaporization of LNG and delivery of natural gas.

AG02-01 According to information in the DEIS, only the FSRU vessel and LNGCs would have operation-related seawater withdrawals. However, the estimates in the DEIS do not take into consideration the existing seawater withdrawals and discharges currently associated with the operation of the Aguirre Plant and the cumulative impacts of these discharges on marine resources. The normal seawater use by the FSRU vessel would total approximately 56 million gallons per day (MGD), including 53 MGD to support machinery cooling through operation of the main condenser and auxiliary seawater cooling systems, 0.6 MGD to generate the vessel's water safety curtain, 2 MGD for ballast water, and 0.2 MGD for the marine growth preventative system. All seawater used to support FSRU vessel operations would be drawn through four sea chests on the sides of the vessel, located approximately 22.8 feet and 37.4 feet below the ocean surface. Under normal water use, the calculated through-screen velocity of water entering the sea chests would be approximately 0.45 feet per second, which is just below the upper velocity threshold of 0.5 feet per second recommended to minimize entrainment and impingement of aquatic organisms[1]. All of the water used for these purposes would be discharged back into the surrounding ocean. The DEIS states the FSRU vessel's seawater uptake would represent a negligible volume of seawater relative to the surrounding ocean; i.e., the 56 MGD total withdrawal volume approximately represents a section of the Caribbean Sea measuring 195 feet by 195 feet by 195 feet.

LNGCs unloading product would also require cooling water for engines to generate electrical power for the offloading pumps and other onboard systems. Ship engines would be operated while docked, so LNGCs would need cooling water during the entire time they are moored at the facility (estimated at 41 to 88 hours). LNGCs would require between 17.2 to 74.2 million gallons of seawater for ballast while offloading product at the GasPort. Total cooling water intake volume would range from approximately 13.5 to 227.8 million gallons during LNG delivery. The combined seawater intake for ballast and cooling water for each LNG delivery

[1] http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/

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AG02-01 Section 4.12.2.1 has been updated to include a statement that there will be no change in the current intake and discharge rates of the existing Aguirre Power Complex (Aguirre Plant).

AG02 – NOAA National Marine Fisheries Services (cont'd)

AG02-01 (cont'd) would range from approximately 31 to 302 million gallons. Seawater intake depths for the LNGCs were not specified in the DEIS; however, the DEIS states seawater uptake by LNGCs would represent a negligible volume of water relative to the surrounding sea; i.e., the maximum 302 million gallons required for ballast and cooling water approximately represents a section of the Caribbean Sea measuring 340 feet by 340 feet by 340 feet.

The proposed GasPort would also discharge heated water with a maximum temperature of 106.2 degrees Fahrenheit. This is in addition to the heated water already discharged to Jobos Bay from operation of the Aguirre Plant. Whether or not the seawater intake and water discharge associated with the existing plant would be altered to compensate for the thermal discharges from proposed GasPort is not discussed in the DEIS; such discussion should be included in the project description section of the FEIS.

Alternatives Analysis

Alternative Land-based Locations for the GasPort and Pipeline

AG02-02 The DEIS discussion of alternative locations for the GasPort and pipeline is incomplete, omitting reasonable alternatives. For example, the DEIS states EcoElectrica would not be a feasible alternative location for the LNG facility because approximately 31 acres would be needed to create new facilities; however, NMFS notes the EcoElectrica location already includes 36 acres identified for LNG storage. In addition, the location of the previously proposed Gasoducto del Sur pipeline has been evaluated by the federal regulatory agencies, including NMFS, and found to have minimal impacts to NOAA trust resources[2]. The project was awarded federal and local permits, suggesting it would likely be a feasible and available alternative. Use of the existing EcoElectrica facilities, with the addition of another storage tank, and construction of the Gasoducto del Sur pipeline to the Aguirre plant, with adjustments to the proposed pipeline route to address residents' concerns, would have no impacts to marine resources other than increased vessel traffic to the existing EcoElectrica pier. NMFS recommends this alternative be more fully evaluated in the FEIS.

Alternative Offshore Locations for the GasPort and Pipeline

AG02-03 Several alternate pipeline routes are presented in the DEIS, although the majority would pass through the Boca del Infierno as would the preferred route, which would result in the most temporary and permanent impacts to coral resources. Based on a review of the information in the DEIS, NMFS recommends a more thorough analysis of Terminal Site 4 and Pipeline Route 3, which would eliminate the majority of impacts to seagrass. This alternative would also reduce coral impacts because the benthic surveys indicate the pass between Cayo Morrillo and Cayos de Pajaros contain less coral and a sand channel where the pipeline could be placed between reef areas. The site of the terminal could also be moved seaward in order to address concerns related to the distance from the terminal to the cays versus the safety zone the U.S. Coast Guard will likely require. The DEIS indicates temporary impacts to coral habitat from this route would be greater; however, the DEIS also includes information suggesting a lesser extent of coral in Pipeline Route 3 and no coral in Terminal Site 4. Additionally, this alternative would

[2] NMFS acknowledges concerns were raised regarding proximity of the pipeline to local residences; however, NMFS believes these concerns may be addressed by rerouting the pipeline.

4

AG02-02 Section 3.3.1 has been updated and augmented to address the possibility of expanding the EcoEléctrica LNG (EcoEléctrica) facility to allow it to provide natural gas to the Aguirre Plant. This system alternative would not be viable due to the timing, the involvement of another commercial entity, and the indication (based on recent history) from the government of Puerto Rico and its people that construction of the pipeline would be opposed.

AG02-03 We agree that the pipeline route as proposed through the Boca del Infierno would result in impacts on federally endangered corals to a level we find to be unacceptable. Therefore, in section 3.6, we are recommending an alternative construction method or pipeline route that would substantially reduce impacts on sensitive benthic resources. Section 3.5 of the draft environmental impact statement (EIS) was revised to explain the scope that we established for reasonable offshore alternative sites. The final EIS provides additional information on the alternative terminal sites to support the analysis. Site selection criteria shows that the proposed site ranked well in meeting the site selection criteria.

AG02 – NOAA National Marine Fisheries Services (cont'd)

AG02-03 (cont'd) significantly reduce permanent impacts to coral habitat in part because there are no coral resources in the area where the terminal would be located.

Alternatives Construction Methods for the Pipeline

AG02-04 NMFS recommends the FEIS analyze in detail the alternative of using horizontal directional drilling (HDD) to pass the pipeline under the dense seagrass areas within the bay and under the coral habitat both at Boca del Infierno and at the crossing between Cayo Morrillo and Cayos de Pajaros (for the analysis of Terminal Site 4 and Pipeline Route 3). This analysis should include details of all temporary and permanent impacts to NOAA trust resources and measures that would be employed to minimize these impacts during construction and operation of the project.

AG02-05 Another construction alternative that should be considered in the FEIS is trenching the pipeline in areas with dense seagrass in order to reestablish the original site contours and eliminate the probability that the pipeline will serve as a barrier to movement of queen conch. As for the other alternative terminal sites and pipeline routes, a thorough analysis of all temporary and permanent impacts to NOAA trust resources associated with this alternative installation method should be conducted. The trenching of the pipeline in seagrass should also be analyzed in conjunction with the use of HDD in areas containing corals to determine whether the permanent impacts to essential fish habitat (EFH) and species protected under the Endangered Species Act (ESA) would be less in the long-term from installation methods other than the push-pull, direct lay currently presented as the preferred alternative.

Alternative Technologies for Regasification

AG02-06 The DEIS describes LNG vaporization alternatives to be used aboard LNGCs and FSRU vessels at the GasPort. In summary, AGO proposes use of a closed-loop vaporization system to regasify LNG prior to offloading, requiring use of 56 and 81.6 MGD of seawater for the FRSU vessel and LNGCs, respectively. From NMFS experience reviewing similar LNG deepwater ports proposed in Florida, NMFS believes anticipated seawater consumption for Aguirre GasPort's LNGCs and FSRU vessels is unnecessarily high. For example, the Calypso LNG (Calypso) project off the east coast of Florida had proposed use of a similar, closed-loop vaporization system aboard special regasification ships (SRS) moored at one of two buoys. The Calypso SRS were to include a system capable of vaporizing LNG in a closed-loop system and cooling the electricity-generating engines. The Calypso SRS also were to include an open-loop mode used when LNG is not being vaporized, and a closed-loop mode not requiring any seawater intake. Further, the Port Dolphin Deepwater Port LNG project proposed off the west coast of Florida would utilize up to two Shuttle and Regasification Vessels (SRV), each requiring 9.5 MGD of seawater for LNG regasification operations. An additional 2.3 MGD of ballast seawater would also be required during SRV off-loading, requiring approximately 21.3 MGD for regasification activities aboard the two SRVs.

NMFS recommends the FEIS include discussion and evaluation of entirely closed-loop LNG vaporization alternatives, which use a small portion of LNG to effectively heat and regasify LNG for offloading. Further, additional discussion is warranted on why the lower seawater volume regasification technologies proposed for Calypso and Port Dolphin are not suitable for the Aguirre Offshore GasPort.

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AG02-04 Section 3.6 was updated to address in more detail the potential for a horizontal directional drill (HDD) of the Boca del Infierno pass. Federal Energy Regulatory Commission's (FERC or Commission) recommendation to Aguirre Offshore GasPort, LLC (Aguirre LLC) is to further study the HDD and, if it is determined to be infeasible, we recommend the Commission direct Aguirre LLC to construct Alternative Route 6.

AG02-05 Section 4.5.2 reviews the impact of trenching and we recommend that Aguirre LLC update the Benthic Resources Mitigation Plan to include 5 years of post-construction monitoring of the areas where the pipeline and/or concrete mats are above grade to determine if the mats are preventing the migration of conch, urchins, sea cucumber, and other mobily impaired benthic organisms.

AG02-06 Section 3.8 of the final EIS provides an analysis of liquefied natural gas (LNG) vaporization alternatives.

AG02 – NOAA National Marine Fisheries Services (cont'd)

General Comments on the Adequacy of Impact Estimations for Larval Fishes and Corals

AG02-07 A primary concern of NMFS is with the estimates of impact to zooplankton populations from routine GasPort operations. Given the size, complexity, and cost of the project, the level of sampling effort invested to determine impacts on zooplankton was inadequate. This is particularly the case for fish and invertebrate larvae, an essential component of the meroplankton and a component that is highly variable in time and space. Estimates of impacts, including data used to calibrate the model which guides a more general assessment of impacts, are based upon short-term sampling efforts conducted quarterly within a single year. The likelihood of capturing event-driven zooplankton patches is low to almost non-existent under this sampling scenario. For example, if a slick of coral larvae comes within reach of an intake point, mortality could considerably exceed predictions. It is understood that sampling was conducted to specifically capture coral spawning events, but this sampling does not appear to have been particularly successful and may not be representative of the more general situation. Moreover, if the operation turns out to be located within a hydrodynamically defined transport corridor, mortality impacts could be chronic and substantial. The fact that a 300-micron-mesh net was used also creates concern, because that mesh size is too large to capture the larvae of many invertebrate species (especially molluscs) even at their most advanced stage of development. A final concern is the common misconception expressed in the DEIS that mortality rates of marine larvae are very high; this must be tempered by the understanding that many eggs are never fertilized. Although egg production rates are very high in both fish and invertebrates, implying the eggs are expendable, the reality is that once successful fertilization is accomplished, the embryo and successive stages become much more valuable contributors to future generations. Thus, the conclusions drawn regarding impacts to zooplankton, particularly larval fish and invertebrates, cannot be accepted with confidence and it remains unclear whether the impacts from entrainment truly will be minor. Because fish and invertebrates are essential components of the ecology and socio-economics of coral reef ecosystems and the human communities they support, this inadequacy in sampling and interpretation is of considerable concern.

To rectify this situation at this late date, and to ensure impacts to zooplankton are minor as claimed, a monitoring program needs to be established and continued, ideally using presently available continuous recording devices, to obtain the data necessary to fully understand the impacts within a proper environmental context. This monitoring program should be continuous for the life of the GasPort operation. An integral aspect of the monitoring program should be a mitigation requirement that provides compensation to the local communities for foregone socioeconomic opportunities. It is clear from the DEIS that such foregone opportunities will occur, so it's just a matter of ensuring those lost opportunities are properly accounted for and addressed.

AG02-08 An additional concern is the physical structure of the platform will serve to provide attractive habitat for reef fish, potentially including Nassau and goliath grouper. This is a common occurrence on oil rigs and there's no reason not to expect similar outcomes on the GasPort platform. Increased densities of these species may result in increased negative interactions with the operation, including through impingement, but it appears no consideration at all was given to assessing the possible implications of such interactions. This too needs to be addressed.

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AG02-07 To address concerns over the scientific information provided, we are recommending that Aguirre LLC consult with the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) regarding the type of screen to be used for hydrostatic test water withdrawal. In addition, we are recommending that Aguirre LLC continue to consult with NMFS, the U.S. Fish and Wildlife Service (FWS), the Puerto Rico Department of Natural Environmental Resources (DNER), and other agencies to establish and continue a monitoring program through Aguirre LLC's Benthic Resources Mitigation Plan. Also see sections 4.4.3 and 4.5.2.4 of the EIS.

AG02-08 Aguirre LLC has proposed a work plan to conduct pre-operation baseline ichthyoplankton surveys at the offshore terminal to address potential entrainment impacts on various species, including groupers. Additional analysis has been included in section 4.5.4.3 related to our recommendation to develop mitigation measures for entrainment activities.

AG02 – NOAA National Marine Fisheries Services (cont'd)

Summary of Recommendations for the Project Description and Alternatives Analysis

AG02-09 1. Additional detail is needed in the FEIS for alternative vaporization technologies, especially with respect to comparisons of environmental impacts and environmental costs from alternative closed-loop vaporization technologies.

AG02-10 2. The FEIS should include additional discussion and analysis of anticipated coral larvae and ichthyoplankton impacts potentially affected by subsea and surface current anomalies in the project area. In addition, the analysis should identify trends in abundance, distribution, and seasonal timing of coral larvae and ichthyoplankton in the project area resulting from subsea and surface currents. NMFS believes ichthyoplankton entrainment impact estimates in the DEIS are underestimated and additional ichthyoplankton sampling data are necessary to utilize correctly the methodology NMFS and the U.S. Coast Guard developed for examining entrainment[3].

AG02-11 3. The FEIS should include a breakout of the expected volumes and rates of seawater used by the number and type of diesel engine(s) specifically required for propulsion, LNG vaporization, and hotel services of LNCGs and FSRU vessels while moored at the GasPort. Seawater intake depth(s) aboard LNGCs should be specified.

Magnuson-Stevens Fishery Conservation and Management Act (16 U. S. C. SS 1801 et seq.) related comments:

In addition to informal comments during interagency meetings and public scoping meetings, NMFS, Southeast Region, Habitat Conservation Division staff participated in and provided FERC and U. S. Army Corps of Engineers (USACE) comments and recommendations on the Aguirre Offshore GasPort as follows:

1. FERC Open Houses, February 2012, September 2012, and May 2013.
2. FERC Scoping Meetings, March 2012, May 2012, September 2012, May 2013, November 2013, and June 2014.
3. FERC Notice of Intent dated February 28, 2012.
4. USACE public notice October 2013.

DEIS Appendix F is an EFH assessment describing EFH and federally managed fisheries within the area of the proposed Aguirre Offshore GasPort. The EFH descriptions (seagrass, macroalgae, coral, coral reef, sand/shell bottom, and water column) and fishery species listed are adequate for this consultation and do not require augmentation. DEIS Appendix E is an analysis of entrainment impacts to fishery species and complements the EFH assessment. On page F-25, FERC concludes the Aguirre Offshore GasPort "would result in adverse impacts on coral reef, seagrass, and benthic algae EFH, and Magnuson-Stevens Act- managed coral and queen conch species due to an anticipated reduction in the abundance and health of corals, seagrass, and algae in the immediate footprint of the proposed offshore terminal and subsea pipeline." As noted later in these comments, NMFS agrees with FERC's determination and EFH conservation recommendations are provided.

[3] NMFS generally supports AOG's evaluation of entrainment impacts using the methodology NMFS and the U.S. Coast Guard developed for evaluating the Gulf Landing deepwater port in the Gulf of Mexico (the Environmental Impact Statement for that project describes the method in detail). As noted in the comments, NMFS is concerned insufficient seasonal ichthyoplankton sampling has reduced the reliability of the model's results.

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AG02-09 Section 3.8 was prepared to address alternative vaporization technologies and provide a discussion of the seawater volume regasification technologies of the Calypso LNG Deepwater Port and Port Dolphin projects.

AG02-10 Due to the revised construction methods, subsea surface currents are not anticipated to change. Therefore, no significant impacts on coral larvae and ichthyoplankton are anticipated. Pipeline burial would ensure that the subsea and surface currents are not altered.

AG02-11 Seawater withdrawal estimates are discussed in section 4.3.1.3. Seawater intake depths are variable across the different visiting LNG carriers, but can be expected to be similar to the Floating Storage and Regasification Unit (FSRU) intake depths.

In addition to the DEIS, NMFS has reviewed the following supplemental documents and is providing comments on the adequacy of the coral larvae and ichthyoplankton field sampling activities and recommendations to more accurately quantify impact estimates, and minimize those impacts to living marine resources resulting from GasPort operations:

(1) Aguirre Offshore GasPort, LLC, CP13-193-000, *Estimation of Potential Coral Larvae Entrainment*, dated January 24, 2014
(2) Aguirre Offshore GasPort, LLC, CP13-193-000, *Entrainment and Equivalent Loss Impact Interim Report*, dated February 7, 2014
(3) Aguirre Offshore GasPort, LLC, CP13-193-000, *Fall 2013 – Baseline Entrainment Characterization Data Update*, dated March 26, 2014
(4) Aguirre Offshore GasPort, LLC, CP13-193-000, *Entrainment and Equivalent Adult Loss Impact Report, Final Report – Annual Data*, dated April 16, 2014.

Coral Larvae Entrainment Impacts

Estimation of Potential Coral Larvae Entrainment describes coral larvae presence and abundance from plankton tows conducted August 20 through 28, 2013, to coincide with the anticipated August 2013 spawning event predicted to occur following the full moon on August 21, 2013. The objective of the sampling event was to provide site specific data on coral larvae densities in the vicinity of the proposed GasPort during periods of spawning activity. Sampling was conducted using a 0.75-meter bongo net fitted with a 300-micrometer conical plankton net, flow meter, and 300-micrometer plankton bucket. Sampling targeted water depths of 23 to 36 feet to match the anticipated depth range of the FSRU vessel sea chests where larvae would be prone to entrainment. Proposed GasPort construction and operations would occur over benthic habitat consisting primarily of coarse sand and low density corals. Information in the document states a concentrated area of coral reefs supporting a variety of coral, including species protected under the ESA, is found near Boca del Infierno approximately one mile east of the proposed GasPort. The report states only coral larvae at the depth of the FSRU vessel intakes (23 feet and 36 feet) would be potentially entrained, and recently-spawned gametes at the water surface are not at risk of entrainment. As noted earlier, LNGC seawater intake depths were not specified in the DEIS and assumed to be similar to the FSRU vessel.

The DEIS states studies on the density of coral larvae in the area of the proposed GasPort could not be identified, nor could historic site-specific densities of coral larvae in the waters surrounding Puerto Rico be found. Consequently, AOG used surface coral larvae sampling activities conducted in Kaneohe Bay, Hawaii (Hodgson 1985), and six-meter-depth coral-larvae sampling studies near the inner reefs of the Great Barrier Reef (Oliver and Willis 1987, Willis and Oliver 1988, Oliver et al. 1992) for evaluating potential impacts from the Aguirre GasPort. The Hodgson study shows approximately 1,000 to 10,000 larvae per 100 cubic meters at peak spawning and 0.4 larvae per 100 cubic meters at other times. Conversely, Oliver et al. (1992) observed 10,000 to 1,000,000 larvae per 100 cubic meters during peak spawning events.

Applying the results from the Hawaii and Great Barrier Reef studies, AOG assumes larval density at the Aguirre FSRU vessel intake depths is likely to be approximately three orders of magnitude less than near surface densities. AOG further estimates coral larva densities of approximately 0.4 larvae per 100 cubic meters during non-spawning periods and 10 to 100 larvae per 100 cubic meters just after a peak spawning event.

Coral larvae entrainment impacts were estimated based on the expected seawater use of the FSRU vessel and LNGCs at the proposed GasPort. The applicant used observed minimum (daytime) and maximum (nighttime) coral larvae densities to estimate anticipated coral larvae entrainment. Assuming a continuously operating FSRU vessel and LNGCs, which utilize 55.96 MGD and a maximum 81.6 MGD of seawater daily, respectively, daily entrainment of coral larvae based on the collected data would result in daily entrainment impacts of 571,412 and 833,231 coral larvae respectively, per vessel, during the coral spawning period (Table 1). Based upon the field sampling results, DEIS Table 4.5.4-7 indicates estimated annual coral larvae entrainment losses would be 11.4 million and 10.6 million individuals for the FSRU vessel and LNGCs, respectively. A longer larval duration in the water column would increase the entrainment estimate and likewise a shorter larval duration stage would reduce these estimates. Based upon these impact estimates, information in the DEIS states entrainment of coral larvae would likely result in a permanent, moderate impact on coral populations in the region.

Table 1. Maximum Daily Entrainment Estimates for Coral Larvae at the GasPort Location based on intake volume (cubic meters, m^3) and number of coral larvae ($\#/m^3$).

Intake Water Source	Daily Operating Intake Volume (m^3)	Daytime Coral Larvae Density ($\#/m^3$)	Nighttime Coral Larvae Density ($\#/m^3$)	Maximum Daily Entrainment Estimate
FSRU vessel	211,230	0.085	5.31	571,412
LNGCs	308,890	0.085	5.31	833,231

Ichthyoplankton Entrainment Impacts

Entrainment and Equivalent Adult Loss Impact Report Final Report – Annual Data and DEIS Appendix E indicate ichthyoplankton presence and abundance was assessed using plankton tows at the proposed GasPort location by four seasonal sampling events between May 2012 and November 2013. During each season (May 2012, March 2013, August 2013 and November 2013), four transects were sampled during a single daytime event and a single nighttime event. Ichthyoplankton were sampled from all depths across the four transects using a 0.75-meter-diameter, 300-micrometer-mesh bongo net. Results were used to provide a preliminary estimate of the annual ichthyoplankton entrainment impact in terms of equivalent adult losses (EAL) using a methodology NMFS and the U.S. Coast Guard developed for evaluating impacts of ichthyoplankton at deepwater ports. The method assumes all pelagic eggs and larvae in the intake water would be entrained and suffer mortality. Potential entrainment losses to eggs and larvae for a species or group due to GasPort operational intakes (FSRU vessel continuous operation and LNGC deliveries at 12, 24, and 50 deliveries per year) were estimated by multiplying the total volume of water use by the estimated number of eggs and larvae per unit volume based on the applicant's ichthyoplankton seasonal sampling events. These egg and larval densities are thought to represent the vertical mean for the water column, as oblique

sampling tows were performed. The maximum intake volumes used to estimate entrainment for the FSRU vessels and LNGCs are 55.96 MGD and 81.6 MGD, respectively[4].

Assessments for specific species or taxa of concern that serve as indicators of the potential entrainment impacts of the project included: *Lutjanidae* (snappers), *Serranidae* (groupers and sea basses), *Carangidae* (jacks), *Haemulidae* (grunts), *Palinuridae* (spiny lobster), fish eggs (not identified to family), all unidentified and other fish larvae, and all other invertebrate larvae. Relatively high abundances of fish eggs were collected during the winter, spring, and summer sampling at the proposed GasPort, and could be a result of alongshore transport of eggs from coastal reefs and pelagic waters in and around Boca del Infierno and from adjacent seagrasses serving as spawning habitat for many fishes. The fish egg densities were particularly high during the summer sampling event, potentially as a result of the lunar spawning activities of serranids, sciaenids, and other common fish species in Puerto Rican waters (Sale 1993). The average egg densities were 169, 401, 1,475, and 96 eggs per 100 cubic meters during the winter, spring, summer, and fall samplings, respectively.

Results of the winter, spring, summer, and fall ichthyoplankton sampling activities are summarized DEIS Table 4.5.4-5 and Table 4.5.4-6. Discussion in the DEIS of entrainment impacts on commercial and recreational fisheries focuses on the Family Lutjanidae (snappers) because this group is the most commonly harvested taxa in Puerto Rico (Matos-Caraballo 2007, NOAA 2013). Commercial landings of snappers from Puerto Rico averaged 486,488 pounds annually between 2004 and 2006 (Matos-Caraballo 2007). Recreational landings of snapper from Puerto Rico averaged approximately 87,906 pounds annually between 2010 and 2012 (NOAA 2013). Total pounds per equivalent adult were calculated using the assumption that mean weight of an individual snapper at harvestable size is one pound (Migdalski and Fichter 1976). Approximately 229 pounds of snapper were estimated to have been lost to entrainment at the FSRU vessel during a year, equivalent to less than 0.05% of the total commercial annual landings and 0.26% of the total recreational annual landings in Puerto Rico. Approximately 41, 81, and 169 pounds of snapper were estimated to have been lost to entrainment at the LNGCs during a year, for the 12, 24, and 50 delivery scenarios, respectively, equivalent to less than 0.01 to 0.04% of the total commercial annual landings and 0.05 to 0.19% of the total recreational annual landings in Puerto Rico.

Based on the results of the ichthyoplankton entrainment analysis, the DEIS states calculated annual EAL fish and invertebrates would be relatively low. However, these entrainment estimates need to be used with the caveat that they are only based on four one-day seasonal sampling events to derive fish and invertebrate plankton densities. Based on the information available, the DEIS states GasPort operations would result in a permanent, minor impact on fish and shellfish populations in the region due to entrainment. The loss of planktonic fish and shellfish due to entrainment would also result in a reduction in food availability for fish and invertebrates species which prey on these species.

[4] The normal water use requirements of the FSRU vessel would be approximately 55.96 MGD of seawater intake, operated continuously and year-round. Seawater use of LNGCs is variable, depending on the actual vessel used for delivery, and is unknown at this time. However, the maximum intake volume for the LNGCs is estimated to be 81.6 MGD during offloading operations, which includes 88 hours of moorage at the berthing location.

AG02 – NOAA National Marine Fisheries Services (cont'd)

NMFS Concerns with the Coral Larvae and Ichthyoplankton Sampling

AG02-12 NMFS believes the limited plankton sampling data used to calculate entrainment impacts has resulted in underestimates of these impacts. The DEIS notes the value of the plankton density data collected is limited for use in an entrainment analyses because the sampling only occurred over the course of four days, one day to represent each season. NMFS agrees this is a significant shortcoming. NMFS believes additional coral larvae sampling activities are necessary to provide multiple, long-term presence/abundance data to be used to estimate entrainment impacts on this resource. Further, NMFS recommends a comprehensive, long-term coral larvae and ichthyoplankton monitoring program be developed as a project component designed to: (1) more accurately identify seasonal and annual variations of fish and invertebrate planktonic resources at the GasPort site, (2) determine potential cumulative impacts on these resources to identify ichthyoplankton impacts from GasPort operation, and (3) develop adaptive management mitigation options to further reduce such impacts.

AG02-13 The proposed GasPort would be constructed approximately one mile west of the Boca del Infierno coral communities and Jobos Bay; information in the DEIS states oceanic currents flow east to west along the southern coast of Puerto Rico. However, scientific literature reviews or field sampling activities documenting in situ oceanic currents at the project site were not cited in the document. NMFS recommends information detailing seasonal and annual currents at the site flow east to west, how the currents were determined, and whether the current direction and velocity is consistent throughout the water column. Furthermore, because information in the DEIS indicates coral communities exist at Boca del Infierno approximately one mile east of the proposed GasPort site and currents flow east to west, coral larval transport from those communities would be carried to the GasPort site. Information in the coral larval sampling report does not indicate whether current studies have been conducted at these sites. The presence of coral near the proposed GasPort location increases the likelihood for coral larvae entrainment impacts.

AG02-14 Further, from our review of NOAA Chart 25687, it appears the GasPort would be constructed on a slightly shallower bathymetric feature than adjacent water depths. Consequently, this feature may influence benthic currents to flow upward towards the intakes on the FSRU vessel and LNGCs and result in more coral larvae entrainment impacts than estimated by AOG. To help evaluate oceanic currents throughout the entire water column at these sites, NMFS recommends seasonal acoustic Doppler current profiler (ADCP) surveys be conducted at the proposed GasPort site to identify surface, mid-column, and benthic currents. The results of ADCP surveys may be used to provide additional information with regard to the areal extent of coral larval transport mechanisms from the Boca del Infierno (and other) coral communities.

AG02-15 Because AOG is proposing to place the GasPort into service in 2016, NMFS recommends a minimum two-year pre-project baseline ichthyoplankton survey be developed and coordinated with state and federal natural resource agencies to determine existing, site-specific, year-round characteristics of the ichthyoplankton resources present at the GasPort site. Because the GasPort may be operational in approximately two years, pre-project ichthyoplankton data collection should begin as soon as possible, be performed throughout the year, and may be conducted concurrent with GasPort and pipeline construction. Acquired data can then be used to quantitatively assess potential impacts of port operation on identified fishery resources and, if

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AG02-12 The final EIS recommends in sections 4.4.3, 4.5.2.4, and 4.5.3 that comprehensive monitoring and management mitigation be developed by Aguirre LLC in consultation with NMFS.

AG02-13 Section 4.5.2 the final EIS was expanded to provide additional information on the current environment and surveys completed.

AG02-14 Section 4.3.1.1 has been updated to include acoustic Doppler data from an existing Caribbean Coastal Ocean Observing System (CariCOOS) buoy located approximately 20 miles west of the proposed Aguirre Offshore GasPort Project (Project) location. NMFS could consider requiring areal extent of coral larval transport mechanisms through the Benthic Resources Mitigation Plan.

AG02-15 See the response to comment AG02-12.

AG02 – NOAA National Marine Fisheries Services (cont'd)

AG02-15 (cont'd) determined necessary, adaptive management mitigation options to further reduce such impacts could be implemented.

AG02-16 Mitigation for Entrainment Impacts to Coral Larvae and Ichthyoplankton

Once a thorough analysis of the recommended additional future coral larvae and ichthyoplankton entrainment impacts has been completed utilizing the two-year baseline data to be collected prior to GasPort operation, NMFS recommends mitigative measures be developed and implemented to ensure that unavoidable entrainment impacts are fully offset. The mitigation plan should be linked to an adaptive management plan for the GasPort that would identify and require operational or mechanical modifications to minimize entrainment impacts. The mitigation plan should consider using hatcheries to replace lost fishes and invertebrates, and monitoring should be done within the sea chests to determine the amount of mitigation needed.

AG02-17 EFH Conservation Recommendations

NMFS concludes the Aguirre Offshore GasPort, as proposed in the DEIS, would adversely impact EFH. Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH conservation recommendations when an activity is expected to adversely impact EFH. Based on this requirement, NMFS provides the following:

EFH Conservation Recommendations

AG02-18

1. Alternative vaporization technologies shall be evaluated to determine if they offer a practicable means to reduce the amount of water consumed and entrainment of fishery species.

2. Horizontal directional drilling and trenching shall be evaluated as means for installing the pipeline in areas with high densities of seagrass and corals.

3. At least two years of baseline data shall be developed to determine existing, site specific, year-round characteristics of the fish and invertebrate plankton resources present at the site of the terminal. Data collection should begin as soon as possible, be conducted concurrent with port and pipeline construction, and continue to perpetuity for the life of the LNG terminal. Acquired data can then be used to quantitatively assess potential impacts of port operations on identified fishery resources and, if determined necessary, to develop and implement adaptive management mitigation options to further reduce such impacts.

4. A compensatory mitigation plan for impacts to EFH shall be developed by AOG and approved by NMFS before FERC issues its license for the GasPort. The planned mitigation shall fully offset all permanent and temporary impacts to coral, hardbottom, microalgae beds, and seagrass. The plan also shall have intermediate and long-term success criteria and an adaptive management and monitoring program for gauging performance with respect to the success criteria. Failures to meet interim success criteria may result in additional compensatory mitigation being required.

Please be advised that the Magnuson-Stevens Act and the regulation to implement the EFH provisions (50 CFR Section 600.920) require the FERC to provide a written response to this letter. That response must be provided within 30 days and at least 10 days prior to final agency

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AG02-16 In section 4.5.4, we are recommending that a pre-operations ichthyoplankton baseline survey and monitoring plan be developed. Once this additional baseline study has been performed, we recommend that Aguirre LLC develop mitigation measures for entrainment impacts on ichthyoplankton and coral larvae associated with Project operations and water use required for construction and operation activities. This plan should include a 3- or 5-year operational study to analyze water intake impacts associated with Project operations.

AG02-17 The draft Benthic Resources Mitigation Plan includes mitigation for impacts on essential fish habitat (EFH), primarily by relocating seagrasses impacted by the pipeline and relocating corals impacted by the pipeline and offshore terminal. This Benthic Resources Mitigation Plan will assist in identifying impacts on the fisheries as well as potential mitigation measures.

AG02-18 We updated section 3.8 to include a review of water use associated with various vaporization technologies.

Alternative pipeline installation procedures are discussed in sections 3.6 and 4.5.2.4, including the use of an HDD to reduce impacts on coral reef habitat within the Boca del Infierno pass.

See the response to comment AG02-16.

Section 4.5.2.4 has been updated to summarize the draft Benthic Resources Mitigation Plan (see appendix D) provided by Aguirre LLC to address impacts on coral and seagrass resources in the Project area.

action. A preliminary response is acceptable if final action cannot be completed within 30 days. The FERC's final response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the activity. If the FERC's response is inconsistent with these EFH conservation recommendations, the FERC must provide an explanation of the reasons for not implementing the recommendation.

Endangered Species Act (16 U.S.C. §§ 1531 et seq.) and Marine Mammal Protection Act (16 U.S.C. §§ 1361 et seq.) related comments:

NMFS Protected Resources Division staff previously participated in and provided FERC and the USACE comments and recommendations on the Aguirre Offshore GasPort as follows:

1. Commented on FERC Notice of Intent dated February 28, 2012.
2. Meetings and calls with FERC September 20, 2012, March 25, 2013, and July 17, 2014.
3. Interagency meetings February 6, 2013, July 9, 2013, November 6, 2013, February 10, 2014, and August 6, 2014.
4. USACE public notices October 1, 2013, and August 15, 2014.
5. Sent comment letter regarding draft Biological Assessment (BA) October 31, 2013.
6. Received DEIS and consultation initiation request letter from FERC via email August 18, 2014.

Below are recommendations from NMFS regarding the ESA and a summary of additional information required for the ESA Section 7 consultation for the project. NMFS will be providing a formal request for additional information in response to FERC's letter of August 14, 2014, which transmitted the Biological Assessment and requested the initiation of consultation.

Although not detailed below, the NMFS Protected Resources Division also shares the concerns and echoes the recommendations provided by the Sustainable Fisheries and Habitat Conservation Divisions related to the potential project impacts of entrainment on larval forms of ESA-listed and proposed species, including corals and Nassau grouper. Because our concerns related to entrainment were adequately addressed earlier in this letter, NMFS will list below only the concerns not previously addressed and those specific to ESA-listed species.

AG02-19 The DEIS indicates direct impacts to marine mammals not listed under the ESA but protected under the MMPA are not contemplated as part of the project. However, the DEIS acknowledges that collisions with marine mammals could occur associated with the FSRU vessel when it is away from the platform or LNGCs in transit to and from the platform. If any non-ESA-listed marine mammals may be adversely affected by the proposed action, a take authorization under the MMPA may be necessary. Please contact NMFS's Protected Resources headquarters office at 301-427-8400 or visit http://www.nmfs.noaa.gov/pr/laws/mmpa/ for more information regarding MMPA requirements.

AG02-20 ESA-listed species under our purview that occur in the project area include green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), loggerhead (*Caretta caretta*), and leatherback sea turtles (*Dermochelys coriacea*). ESA-listed whale species, blue (*Balaenoptera musculus*), finback (*B. physalus*), sei (*B. borealis*), humpback (*Megaptera novaeangliae*), and sperm whales (*Physeter macrocephalus*), may be located in the area of the proposed offshore GasPort, as well as along transit corridors for vessels during both construction and operation of the facility.

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AG02-19 Section 4.5.3.3 has been updated and states that if a marine mammal not listed under the Endangered Species Act (ESA) may be adversely affected by the proposed action, a take authorization under the Marine Mammal Protection Act of 1972 (MMPA) may be necessary.

AG02-20 Aguirre LLC has committed to having Marine Mammal Observers (MMO on all construction vessels to minimize impacts on marine mammals and sea turtles. In addition, we are recommending in section 4.5.3.3 that Aguirre LLC coordinate with the NMFS, FWS, and DNER to develop an MMO training and response protocol plan for the construction and operation phases of the Project. We believe that Aguirre LLC's commitment and our recommendations would minimize impacts on these species.

AG02-20 (cont'd) NMFS previously requested that surveys to assess the presence of ESA-listed sea turtles and whales in the project area be performed, and the DEIS indicates that surveys have been completed, but our records show that these were not dedicated or targeted surveys but rather anecdotal observations of sea turtles and marine mammals during benthic surveys. The information provided in the DEIS for whale species is mainly from a 1986 report, and sea turtle information is anecdotal based on observations during benthic surveys completed for the project. Reiterating our previous request of October 31, 2013, NMFS recommends that dedicated surveys to assess the presence of ESA-listed sea turtles and whales in the project area be performed to fully inform the assessment of potential effects.

AG02-21 Reefs and hardgrounds meeting the coral critical habitat definition[5] are present in the project area, as are ESA-listed elkhorn (*Acropora palmata*) and staghorn (*Acropora cervicornis)* coral colonies. On August 27, 2014, NMFS issued a final rule responding to a petition to list an additional 82 species of corals, including seven species of Atlantic corals. As a result, five Atlantic coral species are newly listed as threatened: *Orbicella* (formerly *Montastraea*) *annularis*, *O. faveolata*, *O. franksi*, *Dendrogyra cylindris*, and *Mycetophyllia ferox*). Information in the benthic surveys completed for the preferred pipeline route and platform location indicate that all of these species are within the project area, though no estimates are provided regarding the numbers of colonies of each of these species to be impacted by the proposed project. The FEIS and Biological Assessment should be revised to reflect the change in coral listing status as well as to fully assess the potential effects of the proposed activity on all ESA resources.

AG02-22 NMFS is currently in the process of evaluating and listing other species under the ESA and recommends the FEIS be revised to include information to assess potential impacts as appropriate. NMFS published a proposed rule to list Nassau grouper (*Epinephelus striatus*) as threatened on September 2, 2014. Nassau grouper are found in the project area and, based on information in the DEIS (including information collected during ichthyoplankton sampling completed for the project), this species may be impacted by seawater intakes associated with the project through entrainment. The species may also be directly impacted by impingement should larger individuals (greater than larval size) congregate near the seawater intakes at the platform. Additional impacts to Nassau grouper may occur resulting from potential loss of food sources from reductions in plankton concentrations associated with entrainment due to operation of the facility in conjunction with the existing Aguirre plant seawater intake in the bay. NMFS

AG02-23 published a final listing rule for the scalloped hammerhead shark (*Sphyrna lewini*) on July 3, 2014, to list the Central and Southwest Atlantic Distinct Population Segment (where Puerto Rico is located) as threatened. No information regarding the presence or absence of this species in the project area was provided in the DEIS. NMFS also began a status review for queen conch (*Strombus gigas*) in response to a petition received from WildEarth Guardians in February 2012 to list this species as threatened or endangered and designate critical habitat. The DEIS notes that this species may be affected by the proposed push-pull installation technique for the pipeline, which will result in the creation of a berm around the pipeline in coarse sandy sediments such as where the dense seagrass beds and conch populations are common along the pipeline route. Queen conchs were observed in seagrass beds in the bay and at the proposed platform location during benthic surveys. NMFS recommends the document be revised to assess

[5] The essential feature of critical habitat for listed corals is substrate of suitable quality and availability, in water depths from the mean high water line to 30 m, to support successful larval settlement, recruitment, and reattachment of fragments. Substrate of suitable quality and availability means consolidated hardbottom or dead coral skeletons free from fleshy macroalgae and sediment cover.

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AG02-21 Section 4.5.2.4 of the final EIS has been updated to include the change in coral listing status and provide a revised assessment of impact.

AG02-22 Section 4.6 has been updated to reflect the change in listing status (proposed threatened) for the Nassau grouper. Aguirre LLC has proposed a work plan to conduct pre-operation baseline ichthyoplankton surveys at the offshore terminal to address potential entrainment impacts on various species, including groupers. Also see the response to comment AG02-10.

AG02-23 Section 4.6 has been updated to reflect the current threatened status of the species. Section 4.6.1.4 states "both [shark] species have the potential to occur in the Project area."

We updated the EIS to include Aguirre LLC's modified pipeline design. We state in section 4.5.2.4 that, because the majority of the pipeline would be buried at or below grade, we do not anticipate that these buried segments of pipeline would present a barrier to migration for conch. However, we are recommending that Aguirre LLC update its Benthic Resources Mitigation Plan to include 5 years of post-construction monitoring of the areas where the pipeline and/or concrete mats are above grade to determine if the mats are preventing the migration of conch.

AG02-23 (cont'd) the potential effects of the pipeline and associated berm on queen conch migration. The FEIS and Biological Assessment should be revised to reflect the change in listing status for Nassau grouper and scalloped hammerhead shark, if data for the project area indicate that this shark species could be affected by the project.

Additional Information Requested for ESA Section 7 Consultation

Based on review of the information in the DEIS and Biological Assessment included in DEIS Appendix D, NMFS believes most of the concerns expressed in its October 31, 2013, letter regarding the draft BA prepared for the project remain unaddressed. Specifically, adequate detail regarding all potential temporary and permanent project impacts during construction and operation of the project to ESA-listed species and their habitat still need to be provided, including quantification of impacts. Details of proposed avoidance and minimization measures for impacts also need to be provided in order for us to determine the extent of project impacts, both temporary and permanent, to our trust resources. There are numerous statements in the DEIS regarding the effects determinations and extent of project impacts to ESA resources that note minor, short-term impacts or moderate, long-term impacts, but the document lacks objective information (e.g., data sources, site surveys, calculations) to support those conclusions.

As described above, NMFS will be providing a formal request for additional information (RAI) in response to your letter of August 14, 2014, which transmitted the Biological Assessment and requested the initiation of consultation. Issues that will be address in that RAI include:

AG02-24 1. Sightings and stranding data for sea turtles and marine mammals, including data from recent scientific literature and other sources to provide estimates of the population of ESA-listed sea turtles and marine mammals within the action area. In October 2013, NMFS requested that surveys be conducted of the construction and operation areas for the preferred and alternative routes and that such surveys use methods approved by NMFS. The DEIS indicates that these surveys were conducted, but NMFS has no record of reviewing or approving the survey protocols or the results of the surveys.

AG02-25 2. Details of the acoustic analysis for both sea turtles and marine mammals, including methodology used to calculate potential impacts based on the number of piles, hammer strikes, size of piles, etc. There is general information regarding an acoustic analysis in the DEIS and Biological Assessment, but no details were provided, including details of the size and type of the pilings, the length of time needed to drive them, and other information that is essential for estimating the potential extent of behavioral and injurious impacts.

AG02-26 3. Vessel strike data for the project area, including from the operation of fuel barges currently used to supply the power plant and from similar LNG projects; this information is needed to estimate potential impacts on sea turtles and marine mammals during construction and operation of the project. The DEIS and Biological Assessment contain language indicating that the current barge traffic represents a threat due to vessel strikes, but no supporting data are provided regarding the number and severity of strikes

AG02-27 associated with fuel barge traffic. In addition, as part of the avoidance and minimization measures, additional information should be provided regarding implementation of NMFS's guidelines for vessel strike avoidance, reporting and in-water construction.

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AG02-24 Based on the results of the marine mammal and sea turtle surveys conducted by Aguirre LLC, the proposed mitigation measures (e.g., utilizing MMOs, reduced vessel speeds), and our recommendation in section 4.5.3.3, we concluded that additional surveys are not warranted.

AG02-25 We updated the acoustic modeling analyses in section 4.5.3.3 and are recommending that Aguirre LLC confirm that it would use bubble curtains during construction and file detailed noise mitigation protocol to address potential impacts on marine mammals and sea turtles. Further, this information will be included in the Biological Assessment (BA) that will be submitted to the FWS and NMFS.

AG02-26 Vessel strike data for large whales and sea turtles have been summarized in sections 4.5.3 and 4.6. While the risk of a vessel striking a sea turtle or marine mammal cannot be quantified, it is known to exist. Mitigation measures have been proposed to avoid and minimize the risk.

AG02-27 Sections 4.5 and 4.6 have been updated to include steps Aguirre LLC would take to implement NMFS' guidelines for vessel strike avoidance, reporting, and in-water construction. We have recommended in section 4.5.3.3 that, prior to construction, Aguirre LLC should coordinate with appropriate agencies to develop a detailed MMO training and response protocol plan for construction and operation phases of the Project. The plan should provide appropriate measures to avoid and minimize potential vessel strikes of manatees and sea turtles and incorporate the FWS's manatee conservation measure for in-water work, where applicable. In addition, Aguirre LLC should restrict the transit of crew boats to daytime trips during construction and operation to allow for the observation of marine mammals and decrease the potential for vessel strikes. The plan should also require that travel speeds for Project construction-related vessels be reduced to no-wake (5 miles per hour [4.3 knots]) levels, especially in waters shallower than 10 feet.

AG02 – NOAA National Marine Fisheries Services (cont'd)

AG02-27 (cont'd) Finally, information regarding sighting logs, environmental monitoring, and other management measures should be provided.

AG02-28 4. The DEIS refers to the need to develop a lighting plan. A detailed lighting plan for the offshore terminal and any nearshore areas of the existing plant that may require additional lighting are required to inform a complete assessment to ESA-listed species. The plan should consider photopollution impacts to various life stages of sea turtles. Hawksbill turtles have been reported to nest on pocket beaches in Jobos Bay, and Nassau grouper may congregate around the offshore platform to feed and be susceptible to impacts from impingement or contaminant discharge.

5. A thorough alternatives analysis as detailed previously in this letter.

AG02-29 6. A thorough analysis of thermal effects, both hot (from the discharge of process water) and cold (from the pipeline) on ESA-listed species and their habitat. The DEIS mentions and dismisses these effects, but doesn't provide detailed analyses to support the stated conclusions. Specifically, the Biological Assessment should assess potential impacts to corals immediately adjacent to the pipeline (cooling effects) as well as potential impacts of warm water discharge on coral colonies in the immediate vicinity of the platform.

AG02-30 7. Information regarding the cumulative impacts of the continued operation of the seawater intake and outfall of the existing Aguirre plant, combined with the proposed project, should be presented. Because effects of the existing operation will add to the effects associated with entrainment and impingement on coral and Nassau grouper larvae, and possibly queen conch larvae, a discussion of all the cumulative impacts of the project, including the continued operation of the plan, needs to be included.

AG02-31 8. A detailed analysis, including quantification, of impingement and entrainment impacts to corals, sea turtles, and Nassau grouper life stages, should be included in the DEIS and BA. This information should be provided for all intakes to be in operation during the construction and operation phases of the project.

AG02-32 9. The analysis of effects to ESA-listed species and their habitat should include consideration of potential impacts to navigation and the potential for increases in accidental groundings of project vessels and recreational vessels as these try to avoid any safety or warning zones. The number, size, and draft of vessels to be used during the construction of the project should be included. The potential for displacement of recreational vessels due to the project is noted in several sections of the DEIS, but no estimates are provided regarding the number and size of vessels that typically utilize the project area. This information should be provided, along with typically navigation routes and sites visited in the project area, in order to assess the potential for changes in navigation routes and associated increases in the potential for accidental groundings.

AG02-33 10. The details of sediment and erosion control and stormwater management measures both in-water and on land should be included in the FEIS and Biological Assessment. This information is necessary to assess potential sediment and stormwater impacts to ESA resources and the adequacy of proposed minimization measures. The DEIS refers to the need for a National Pollutant Discharge Elimination System permit (NPDES) from the

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AG02-28 As stated in section 4.5.3.3, we are recommending that, prior to construction, Aguirre LLC develop a lighting plan that identifies specific measures that would be implemented to minimize or avoid impacts associated with the Project's operational nighttime lighting on avian species, fish species, marine mammals, various life stages of sea turtles, and people on the shoreline. The plan should also analyze if the Project could artificially induce biological aggregations. The analysis should provide empirical evidence of how those potential aggregations could affect local fisheries and ecotourism.

AG02-29 Section 4.6.2 was updated to provide additional information on potential thermal effects on ESA-listed species.

AG02-30 Aguirre LLC has proposed a work plan to conduct pre-operation baseline ichthyoplankton surveys at the offshore terminal to address potential entrainment impacts on various species, including groupers. In addition, we are recommending in section 4.5.4.3 that Aguirre LLC develop mitigation measures for entrainment impacts of ichthyoplankton and coral larvae associated with Project operations.

AG02-31 The potential for sea turtle impingement has been summarized in section 4.6.2. Coral and Nassau grouper life stage entrainment and impingement impacts will be analyzed after the pre-operation coral larvae and ichthyoplankton surveys have been completed and the results are analyzed in collaboration with NMFS.

AG02-32 The U.S. Coast Guard (USCG) and U.S. Army Corps of Engineers (COE) are responsible for navigation and safety of the Project area. Each agency has standards with which the Project would be required to comply that should provide sufficient warnings to people about the presence of the pipeline and the facility. In addition, we are recommending the preparation of a construction access plan that would minimize the disruption to mariners from the construction and operation of the facility.

AG02-33 As discussed in section 4.3.1.3, Aguirre LLC would implement the mitigation measures in the National Pollutant Discharge Elimination System (NPDES) construction stormwater discharge permit and Stormwater Pollution Prevention Plan (SWPPP) developed for the Project to avoid or minimize water quality impacts on shore and in the bay.

AG02 – NOAA National Marine Fisheries Services (cont'd)

AG02-33 (cont'd) U.S. Environmental Protection Agency (EPA) for stormwater management, construction on a terrestrial area that is greater than 1.0 acre, and seawater intake and discharges. It is not adequate for our analysis of effects to rely on future NPDES permit decisions to protect ESA resources from sediment, stormwater, and seawater intakes and outfalls.

AG02-34 11. An estimated construction time line for each alternative is necessary. The time line should include details of the duration of temporary impacts associated with each alternative NMFS recommend be considered further, as well as the total time required for each stage of the project.

AG02-35 12. NMFS continues to believe that the use of sediment data from NOAA's National Status and Trends Program is not sufficient on its own, given that any of the in-water installation methodologies will result in sediment resuspension and transport. NMFS recommends that sediment sampling specific to the project and the preferred alternative and preferred routes be conducted. The sampling can target the constituents of concern that were found in elevated concentrations in NOAA's samples, as identified in the DEIS. Depending on the results, the construction design of the project should include specific measures to minimize potential impacts of sediment resuspension and transport to ESA resources.

AG02-36 13. An analysis of the impacts to ESA resources of various water quality constituents that will be released into the marine water column during construction or operation of the project should be part of the effects analysis in the Biological Assessment including:

a. Nitrogen used to purge and inert the offshore facility in start and stop.
b. Sodium hypochlorite that will be used as a biocide for the system at the platform, especially considering that the in-system residual chlorine will exceed EPA standards for marine waters.
c. Sanitary discharges or excess chlorine from treatment of wastewater.
d. Ballast water and blowdown water.
e. Brine discharge from FSRU vessels.

AG02-37 14. An environmental sampling plan should be designed and implemented for the construction and operation phases of the project and should include contingency measures should impacts to ESA resources be observed or should minimization and mitigation measures prove inadequate to reduce the extent of impacts to ESA resources. The details of this plan should be part of the minimization and mitigation measures included in the DEIS and Biological Assessment to reduce potential impacts to ESA resources associated with the final location, design, and construction methods selected for the project.

AG02-38 15. An analysis of water quality sampling data, including turbidity levels, from the project area should be included in the DEIS and Biological Assessment. These data should be used to set a threshold for the monitoring program to be implemented during construction of the pipeline and platform to ensure all terrestrial and in-water sediment control measures are adequate and functioning properly.

Please be aware that, due to the lack of quantification of potential project impacts to ESA-listed species and their habitat in the DEIS and Biological Assessment, NMFS is unable to proceed

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AG02-34 Each alternative would require a similar period of construction due to similarity of pipeline length for each alternative. The final EIS discusses the revised construction period required to bury the pipeline.

AG02-35 As discussed in section 4.2.3.2, FERC commissioned a study to predict the suspended sediment concentrations and subsequent transport and deposition resulting from hand-jetting/suction activities during the burial of the pipeline. Based on the results of these surveys, we determined that impacts on ESA species would be limited to the construction workspace as described in sections 4.5 and 4.6.

AG02-36 Sections 4.5 and 4.6 have been updated, where applicable, to include impacts on ESA resources associated with the mentioned water quality constituents that would be released into the water column during Project construction and/or operation. All operational discharges would be subject to the requirements of the NPDES permit for the Project. See the response to comment AG08-04 describing the proposed use of a copper-anode system as the anti-fouling agent. See the responses to comments AG08-21 and CO01-15 related to bilge water and ballast water associated with the Project, respectively.

AG02-37 See the responses to comments AG02-10 and AG02-18.

AG02-38 A summary of existing water conditions from the National Estuarine Research Reserve System-Wide Monitoring Program is included in section 4.3.1.1, including a range of existing turbidity levels. All operational discharges would be subject to the requirements of the NPDES permit for the Project.

AG02 – NOAA National Marine Fisheries Services (cont'd)

with ESA Section 7 consultation for the project at this time. In several sections of the DEIS, it is stated that details of some aspects of project design will be included in the final EIS document and that the mitigation plan and other minimization measures will be developed in cooperation with NMFS and other agencies by the September 29, 2014, deadline to submit comments regarding the DEIS. This is because FERC wants to finalize the EIS by December 2014. Please note that this is not in keeping with ESA consultation requirements and the time requirements for formal consultation. At this time, because of the preferred alternative and the direct impacts to ESA-listed corals and their designated critical habitat, NMFS has determined that formal consultation is necessary, which is also what FERC requested in their letter dated August 14, 2014. Section 7 allows NMFS up to 90 days to conclude formal consultation with your agency and an additional 45 days to prepare our biological opinion once NMFS receives all the information necessary to initiate consultation. The ESA requires that, after initiation of formal consultation, the federal action agency must make no irreversible or irretrievable commitment of resources that limits future options. This practice ensures agency actions do not preclude the formulation and implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species, or destroying or modifying their critical habitats.

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AG03 – USDA Rural Utilities Service

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USDA
United States Department of Agriculture

Rural Development

Rural Utilities Service

1400 Independence Ave SW, Room 0221
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Voice 202.720.0848
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September 26, 2014

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Dear Ms. Bose,

AG03-01 The Rural Utilities Service (RUS) may receive an application for long-term, financial assistance from the Puerto Rico Electric Power Authority (PREPA) for the proposed Aguirre Offshore GasPort Project Creek Station Project. A potential RUS funding decision must consider potential environmental impacts under the National Environmental Policy Act (NEPA) and other laws and regulations and in accordance with 7 CFR 1794, as amended, RUS Environmental Policies and Procedures. Given FERC's involvement, we wish to formally request that your agency allow for RUS to become a cooperating agency in the preparation of the Final Environmental Impact Statement (EIS) for this proposal. Based on your response, we can discuss the need to execute a Memorandum of Understanding (MOU) between our agencies to define our respective roles and responsibilities.

Should you have questions or require further information, please contact Ms. Lauren McGee Rayburn at: (202) 695-2540 or via e-mail at: lauren.mcgee@wdc.usda.gov.

Sincerely,

Mark S. Plank

MARK S. PLANK
Director
Engineering and Environmental Staff
USDA Rural Utilities Service

cc: Lauren McGee Rayburn, RUS

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If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at http://www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at program.intake@usda.gov.

AG03-01 As indicated in section 1.0 of the EIS, the U.S. Department of Agriculture became a cooperating agency in the preparation of the EIS.

AG04 – U.S. Department of Interior, Office of Environmental Policy and Compliance

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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Richard B. Russell Federal Building
75 Spring Street, S.W.
Atlanta, Georgia 30303

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September 26, 2014

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Comments on the Draft Environmental Impact Statement (DEIS) for the Proposed Aguirre Offshore Gasport Project, FERC No. CP13-193-00 – Puerto Rico

Dear Ms Bose:

The United States Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the Proposed Aguirre Offshore Gasport Project.
AG04-01 We have no comments at this time.

If you have questions or concerns, I can be reached at (404) 331-4524 or via email at joyce_stanley@ios.doi.gov.

Sincerely,

Joyce Stanley, MPA
Regional Environmental Protection Specialist

cc:
Christine Willis – FWS
Gary Lecain - USGS
Anita Barnett – NPS
Robin Ferguson – OSMRE
Christina Stringer – BIA
Tommy Broussard – BOEM
OEPC WASH

AG04-01 Comment noted.

AG05 – U.S. Army Corps of Engineers

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DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
ANTILLES OFFICE
400 FERNANDEZ JUNCOS AVENUE
SAN JUAN, PUERTO RICO 00901-3299

REPLY TO ATTENTION OF

ORIGINAL

FILED
SECRETARY OF THE COMMISSION

2014 SEP 29 A 11: 44

FEDERAL ENERGY REGULATORY COMMISSION

September 19, 2014

Antilles Regulatory Section
SAJ-2012-00353(IP-CGR)
FERC Docket No. CP13-193-000

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

CP13-193-000

Dear Ms. Bose:

This letter is in reference to your request for comments to the Draft Environmental Impact Statement (DEIS) issued on August 7, 2014 for the proposed Aguirre Offshore GasPort Project. The proposed project is located at Aguirre Ward, Municipalities of Salinas and Guayama, Puerto Rico. This project has been assigned numbers CP13-193-000 and SAJ-2012-00353(IP-CGR) at the Federal Energy Regulatory Commission and the U.S. Army Corps of Engineers, respectively.

After reviewing the DEIS, we found that necessary information is still missing to assess the probable impacts of the proposed project and to evaluate whether mitigation measures to be proposed would compensate unavoidable impacts. Our major concerns are that the DEIS still have pending issues, which are necessary to be addressed to evaluate the probable impacts of the proposed project to the public interest. These pending issues are necessary to make a regulatory compliance determination regarding this project. Among the public interest factors the Corps must consider are: fish and wildlife values, navigation, recreation, general environmental concerns, historical properties, conservation, the needs and welfare of the people, land use, water quality, safety and recreation.

The following issues are still missing and must be fully addressed to make a complete evaluation of probable impacts of this project prior to issue a permit determination.

AG05-01 1. Alternative Analysis: We consider that the alternative analysis is still incomplete. The alternatives considered for pipeline routing and offshore site 3 where located at or near the linear reef and close to the cays. As a result, these alternatives are already limited by the linear reef existing along the cays and the exclusion zone established by the US Coast Guard which impede recreational and fishing activities along the shore near the cays. However, it is not clear why these alternatives were evaluated at the route considered and not farther to the south to avoid linear reefs and provide space for recreational and fishing

AG05-01 We disagree. The proposed site and the site selection criteria included seafloor stability, minimization of impact on marine resources, and distance to shore to determine a valid range of alternatives. As stated in section 3.5, no other terminal site evaluated offered a reasonable environmental alternative to the proposed site. In accordance with the Council on Environmental Quality's (CEQ) regulations, we determined that the proposed site was feasible and would not result in a significant environmental impact. To make this determination, we considered Aguirre LLC's mitigation plans, agency comments received, and our recommendations within this EIS. Based on our analysis of the proposed site and the alternative sites, we found no compelling reason to review additional alternative sites.

AG05 – U.S. Army Corps of Engineers (cont'd)

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AG05-01 (cont'd) activities between the cays and the exclusion zone for offshore platform site 3. Therefore, the factors considered to place the alternate pipeline routings and offshore platform site 3 at or very close to the linear reef and cays shall be discussed and explain why moving to the south the alternate pipeline routes and Site 3 are not practicable alternatives. Based on table 3.5-2, the permanent impacts and most of the temporary impacts for the terminal site 3 and pipeline route 5 alternative are less than the proposed project. If pipeline routes and site 3 are moved farther to the south, they would eliminate the impacts on linear reef and the shore area along the cays. As a result, the exclusion zone would not be a limitation for recreation and fishing activities.

AG05-02 In addition, the horizontal directional drilling (HDD) method shall be assessed to avoid and minimize impacts on corals and their designated critical habitat. We agree with FERC that if this method results as a feasible alternative, then an assessment and quantification of impacts on resources for each alternative considered shall be provided. Table 3.5-2 on page 3-22 shall be revised including a comparison with the HDD method.

AG05-03 2. Mitigation: A mitigation plan to compensate for the proposed impacts on sea grasses and corals, and the designated critical habitat for corals shall be submitted for the proposed project following the Final Rule of Compensatory Mitigation for losses of Aquatic Resources 40 CFR Part 230, specifically part 332.4(c) and Regulatory Guidance Letter No. 08-03 dated October 10, 2008, as applicable.

3. Conservation measures: Provide measures to minimize impacts on species, and individuals during the construction and operation of the project, specifically: measures to restore temporary impacts; type of screening that would be used for water withdrawals to avoid impacts to small marine species; a lighting plan to be implemented during construction and operation of the project; measures to minimize noise impacts during night construction due to the use of a hammer method and measure to control sediment transport during construction.

AG05-04 4. Noise impacts: Conduct a noise modeling to determine impacts of subsea and environmental noise on wildlife in the area and assess noise impacts on resting and nesting birds, and underwater marine species during construction due to pile driving using the hammer method, the transit of vessels and HDD method.

AG05-05 5. Socioeconomic impacts during construction: Provide an assessment of impacts to socioeconomic and likelihoods to Jobos Bay coastal communities, including temporary exclusion and/or working zones during the construction of the project. Provide a description of available maritime access and vessel traffic routes to guarantee that recreational and fishing activities and the maritime access to existing piers and marina during construction will be maintained. Submit a diagram showing vessels routes, fishing

AG05-02 For our comparison of impacts in the EIS, because the success of an HDD is unknown for the Boca del Infierno pass, our analysis assumes a direct lay through coral areas of the proposed route and each of the alternative routes, though we do note where we believe important impacts would be reduced if the HDD method or Alternate Route 6 is adopted by Aguirre LLC or authorized by the Commission.

AG05-03 We are recommending in section 4.4.3 that, prior to construction, Aguirre LLC should, among other requirements, comply with the standard requirements found in the COE's Compensatory Mitigation Rule under the Clean Water Act section 404 regulatory program to finalize the Benthic Resources Mitigation Plan. In addition, FERC has recommended environmental conditions for Commission consideration to address mitigation measures for seagrass, coral, entrainment, lighting, and construction noise. In addition, the EIS has been revised where appropriate to further develop our analysis of the impacts.

AG05-04 Sections 4.5 and 4.6 discuss potential impacts on wildlife from noise associated with construction and operation of the Project and provide an analysis of noise mitigation options, primarily using bubble curtain technology and ramp-up methods to be performed by Aguirre LLC. We have recommended that, prior to construction, Aguirre LLC should verify that it would use confined bubble curtains when conducting vibratory and hammer pile activities and should develop a detailed noise mitigation protocol for the safety exclusion zone (0.3 mile) that identifies when the noise mitigation protocol would be implemented during construction.

AG05-05 Section 4.7.7 was updated with an additional recommendation that would require Aguirre LLC to develop a construction access plan to minimize the impacts on the community during construction of the facilities.

AG05 – U.S. Army Corps of Engineers (cont'd)

AG05-05 (cont'd) sites and access that will be available, and working zones during the construction period. It is not clear whether there are authorized or no authorized uses and their boundaries during construction of the project that affect the maritime access to and from Jobos Bay, and vessel traffic for recreational and fishing activities at Jobos Bay during the construction period, which is estimated for a year.

AG05-06 6. Other environmental concerns: Complete additional analysis to further assess liquefaction potential of pipeline and provide mitigation measures; provide seismic specifications used in conjunction with procuring equipment; update the offshore wave analysis with detailed design and conduct sediment transport modeling that support the applicant's statement where redeposition of sediments during construction would be limited to 100 feet from platform and 10 feet from centerline pipeline.

AG05-07 7. FERC's consultation completion with Section 7 of Endangered Species Act: Concurrence determination from by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service are required for the proposed project through FERC's consultation prior to issue the Final EIS.

8. FERC's consultation completion with the Magnuson-Stevens Fishery Conservation and Management Act 1996: Concurrence determination from National Marine Fisheries Service is required for the proposed project through FERC's consultation prior to issue the Final EIS.

9. FERC's completion with Section 106 of the National Historic Preservation Act: Concurrence determination from SHPO is required for the proposed project through FERC's consultation prior to issue the Final EIS.

AG05-08 The Corps have concerns that the DEIS included various recommendations made by FERC to Aguirre LLC (the applicant) to be addressed prior to the end of the public comment period for the DEIS or prior to construction. Attached is Table 1 which listed these recommendations. As expressed in our electronic message dated April 16, 2014, we requested that those recommendations which are required actions for the permit review be included before releasing the DEIS. As mentioned above, most of these recommendations are critical in the assessment of the probable impacts that this project would have on endangered species, historic properties, water quality, and others public interest factors. Since there are various required actions to be accomplished prior to construction, we have concerns that FERC would make a determination on this project without the evaluation of required documented information and completion of consultations. As previously expressed, the Corps believe all FERC's recommendations must be furnished prior to the end of public comments period of DEIS and the recommendations mentioned above to be furnished prior to construction, are necessary information to assess the probable impacts of the project and the measures to mitigate

AG05-06 Section 4.1.3.1 has been updated to require a revised Seismic Hazard Analysis Report that includes both the Great Southern Puerto Rico Fault Zone and Salinas Faults, which would be consistent with the location and seismic characterization of these faults provided in the May 2014 Bureau of Reclamation reports.

AG05-07 The statement that FERC must complete its consultations prior to issuing the final EIS is incorrect. FERC routinely completes Section 7 and EFH (and Section 106) consultations between Commission approval and authorization to begin project construction. Due to recent revisions in construction methods, FERC will recommence its Section 7 ESA and EFH consultations with the FWS and NMFS. As detailed in section 4.9.4, FERC has completed its Section 106 consultation with the State Historic Preservation Office (SHPO).

AG05-08 This EIS provides sufficient detail to enable the reader to understand and consider the issues raised by the proposed Project and address a reasonable range of alternatives. Provided that the Commission adopts the recommendations as required actions in any authorization for the Project, the FERC staff's conclusions as to the level of impact on the resources are valid. Part of FERC's permitting process requires that an applicant comply with such mandatory conditions prior to requesting authorization for construction.

AG05 – U.S. Army Corps of Engineers (cont'd)

AG05-08 (cont'd) these impacts and therefore, needs to be addressed prior to make a complete and final permit determination on this project.

Furthermore, additional comments of the DEIS for necessary information that must be addressed prior to make a permit determination on this project follows:

Executive Summary:

As mentioned above various recommendations were presented by FERC to the applicant. FERC indicated that some of the recommendations shall be submitted to FERC prior to the end of the public comment period for the DEIS.

USACE comments: Most of the recommended actions are related to pending issues (such as: impacts to aquatic resources due to sediment transport, lighting and noise impacts, compensation for sea grasses and corals impacts, impacts/consultations on endangered species and cultural resources) that need to be addressed as part of the public interest review process of the permit application. If the applicant does not follow subject recommendations then the permit application review process will take additional time, and delays in the permit evaluation would occur due to lack of information to assess project impacts.

AG05-09 Page ES-6 - Marine Use: "The subsea pipeline may prevent deep draft vessels from entering Jobos Bay through the Boca del Infierno pass".
"The USCG proposed safety zone located around the FSRU and LNG carriers would have direct impacts on boating, fishing and other marine uses in the area, as it would prohibit transiting or using an area within 500 yards (457 m) from the facility" .

USACE Comments: The document shall specify size of draft vessels not allowed from entering Jobos Bay (i.e. appropriate draft vessel). As previously requested, the document needs to assess the exclusion zone and boundaries during construction of the project: specifically access and vessel transit allowed and available recreational and fishing sites during project construction. A description of authorized or unauthorized uses near the project site during project construction to ensure an evaluation of probable impacts of the project during construction to recreational and fishing vessels, and recreational and fishing areas. No diagrams or plans were included illustrating temporary exclusion zones or boundaries and authorized/unauthorized activities during construction of the project.

AG05-10 Pages ES-6 and ES-7: Threatened and Endangered Species and Cultural Resources
FERC recommends the applicant not to begin construction activities until they have completed formal consultation with the FWS and NMFS, and until SHPO's comments

AG05-09 The existing vessel traffic through the Boca del Infierno pass would not change due to the presence of the pipeline because we are recommending that the pipeline be either constructed by HDD through the Boca del Infierno pass or rerouted, primarily to avoid impacts on coral resources in this area. Further, we are recommending in section 4.7.7 that Aguirre LLC develop a construction access plan to minimize the impacts on the community (e.g., boating, fishing) during construction of the facilities.

AG05-10 Due to recent revisions to construction methods, FERC will recommence its consultations with the FWS and NMFS. As detailed in section 4.9.4, FERC has completed its Section 106 consultation with the SHPO. The FERC understands that the COE may wait until the FERC completes any outstanding consultations before issuing any COE-related permits for the Project.

AG05 – U.S. Army Corps of Engineers (cont'd)

AG05-10 (cont'd) are filed and the Office of Energy Projects notified the applicant that construction may proceed.

USACE Comments: The completion of these consultations is part of the Corps permit review process for the proposed project. An assessment of the impacts that the proposed project may have on these resources is required and is necessary to make a permit evaluation determination on this project. These consultations shall be completed prior to the FEIS and a final permit determination. Since FERC recommends the applicant not to begin the project until these consultations are completed, it is not clear whether FERC would consider these consultations prior to its final EIS determination or would proceed with a conditioninging determination. Please clarify. Completion of these consultations are part of the COE permit evaluation review process and are necessary to make a final permit determination on the project.

AG05-11 Page ES-8, FERC stated: "Aguirre proposes to consult with EQB to develop the appropriate mitigation measures should actual sound levels measured during construction activities exceed the night time EQB noise levels".

USACE Comments: The applicant shall include appropriate mitigation measures required above prior to the end of the DEIS comment period. Mitigation measures are required as part of the Corps permit evaluation process and shall be reviewed and approved prior to make a final permit determination.

Section 1 Introduction:

AG05-12 Page: I-6 and Table 1.5.1 on Page I-14: "US Coast Guard will coordinate with the COE to ensure that Private Aids to Navigation are installed and maintained" and "Permission to establish private aids to navigation"

USACE comments: Private Aids to navigation were not included on the COE permit application neither in the DEIS. The number of navigation aids and location is unknown. Potential impacts to the maritime floor and endangered species are not addressed in the DEIS neither on the joint permit application (JPA). Recommend the applicant to include these structures in the DEIS and the JPA to consider all project components and assess impacts of the project proposed in one permit application and in the DEIS.

Section 2 Description of Proposed Action:

AG05-13 Page 2-11: Subsea Interconnecting Pipeline: "Aguirre would follow Wetland and Waterbody Construction and Mitigation Procedures for construction of the small portion of onshore pipeline (Appendix C)".

AG05-11 We have recommended that, prior to construction, Aguirre LLC should verify that it would use confined bubble curtains when conducting vibratory and hammer pile activities and should develop a detailed noise mitigation protocol for the safety exclusion zone (0.3 mile) that identifies when the noise mitigation protocol would be implemented during construction.

AG05-12 In a filing dated November 14, 2014, Aguirre LLC stated that, due to additional consultations with the USCG and its intent to bury the pipeline, it would not be required to place "Aids to Navigation" on the pipeline. Section 1.2.4 has been revised to remove this permit.

AG05-13 We clarify here that Aguirre LLC would comply with the requirements in our *Wetland and Waterbody Construction and Mitigation Procedures* to minimize impacts along the shore from onshore construction of the proposed pipeline within the Aguirre Plant.

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AG05-13 (cont'd) **USACE comments:** This statement is not clear. Based on page 1-11 of the DEIS: "the construction would not affect any waterbodies: the nearest waterbody is the Caribbean Sea, National Wetlands Inventory mapping identifies portions of the Aguirre plant as wetlands, it has been previously filled and developed for industrial use…" On this section and previous section 1, a description of the construction of the small portion of onshore pipeline, including a description of the type of habitat to be impacted due to this construction were not included. Potential impacts to additional waters of the U.S., including wetlands, which are necessary to operate the proposed project shall be described at this time, and prior to the issuance of the FEIS. The extent of impacts of wetlands, if any, due to construction of facilities in land that are necessary to achieve *the proposed project shall be part of this evaluation and therefore, shall be included in* the permit application.

AG05-14 **Page 2-11:** Restoration: "Aguirre would implement measures, develop in consultation with appropriate agency staff to restore areas to temporarily disturbed by construction activities".

USACE comments: The measures to be implemented to restore areas temporarily disturbed must be provided by the applicant for the Corps review prior to end the DEIS.

Section 3. Alternatives

AG05-15 Page 3-13: First paragragh:
"Impacts due to construction activities for proposed project are:

Temporary impacts 71.4 acres on seagrasses & macroalgae and 4.1 acres on corals."

"Permanent impacts: 22.1 acres on seagrasses & macroalgae and 1.1 acres on corals."

USACE comments: Discrepancies found for temporary and permanent impacts on seagrasses and macroalgae and corals included on page 3-13 and ES-4 - ES-5. Recommendation: Review and correct accordingly.

Page ES-4: Temporary impacts included on page ES-4, last paragraph: 97.2 acres on seagrasses & macroalgae vs. 71.4 acres on page 3-13; and 5.2 acres corals vs. 4.1 acres on page 3-13.
Page ES-5: Permanent impacts included on page ES-5, second paragraph: 23.7 acres on seagrasses & macroalgae vs. 22.1 acres on page 3-13; and 0.5 acres on corals vs. 1.1 acres on corals on page 3-13.

AG05-16 Page 3-15 Site 3 **USACE comments**: One of the reasons that FERC used to discard site 3 as a viable alternative is because it would cause greater impacts on recreational

AG05-14 Comment noted.

AG05-15 The final EIS has been revised to clarify estimated impact numbers to facilitate the reader's understanding of the Project.

AG05-16 See the response to comment AG05-01.

AG05 – U.S. Army Corps of Engineers (cont'd)

AG05-16 (cont'd) boating and fishing resources based on the U.S. Coast Guard recommendation of the 457 m safety zone, which will limit the navigation of vessels through this area unless authorized. Have concerns that the alternative analysis did not consider other practicable alternatives such as to shift terminal site 3 to the south of the site 3 considered, and moving it farther from Cayos de Barca or Cayo de Pajaros in order to prevent that USCG safety zone be a limiting factor for recreational boating and fishing. The offshore terminal site as proposed is located farther from the cays. Therefore, I will expect that site 3 or potential pipeline route will shift farther from the cays to avoid coral reefs near the cays. In addition, there is no explanation included in the DEIS that states why the alternative routes selected (Fig. 3.5.-1 on page 3-17) were considered near the south side of the cays (Cayos La Barca, Cayos Pájaros) and no farther as occurred with the proposed project where the offshore platform will be placed to a greater distance from Cayos La Barca. Can the pipeline route and alternate site terminal site 3 be moved to the south to avoid corals in front of the Cays? Therefore, as part of the alternative analysis, still recommend to assess the possibility to shift the pipeline routes and site 3 southern from the alternatives considered and include a discussion explaining why this is not a practicable alternative.

AG05-17 Page 3-16: Major Pipeline Route Alternatives
"Following recommendation from EPA, NMFS and PR regulatory agencies, Aguirre LLC completed additional review of Alternatives, Site 4..."

USACE comments: Corps was not included on this statement. As included on page 3-19, recommend to include the Corps because comments were submitted on the alternative analysis.

AG05-18 Page 3-18 Pipeline Installation Methods

FERC recommends the applicant to consider HDD method to minimize impacts on corals. "FERC stated that if the geotechnical studies show that the HDD construction method is feasible for the proposed route, it is likely that an HDD could be successful through the cays along any of proposed routes..."

USACE comments: Have concerns that HDD method was not considered by the applicant at the beginning of the planning phase of the project. Therefore, the alternative analysis is incomplete. As stated by FERC above, if HDD is feasible for the proposed route then it may be used in the other alternative routes. Therefore, impacts using this method for each alternative route shall also be re-assessed.

Page 3-18: FERC mentioned that in Section 4.5.2.4, FERC is recommending using HDD.

AG05-17 The sentence in section 3.6 has been updated to include the COE.

AG05-18 An HDD is recommended for the Boca del Infierno pass in order to avoid specifically identified sensitive benthic resources, including federally listed corals. It is not intended to merely avoid the benthos in general. Further, because the other pipeline route alternatives were dismissed for reasons other than potential impacts on federally listed species, there is no need to evaluate an HDD for these routes. Also see the response to comment AG02-04.

AG05 – U.S. Army Corps of Engineers (cont'd)

AG05-18 (cont'd) **USACE comments**: This section did not discuss the FERC's recommendation to assess the HDD method as stated on page 3-18. Provide a discussion on HDD method.

AG05-19 Page 3-23: **USACE Comments:** Temporary impacts on environmental resources affected are the ones discussed on each one of the alternatives considered and they are used to compare with the proposed project. Permanent impacts were not included in the discussion but were included in the table 3.5.2. In some alternatives, the *permanent impacts as well as temporary impacts are less than in the proposed project.* Recommend, that DEIS indicates the impacts mentioned are temporary impacts and also include in the discussion the permanent impacts for each alternative.

Chapter 4 Environmental Analysis

USACE General Comments: As stated on previous comments for executive summary, FERC made several recommendations, which must be required actions, to the applicant requesting additional information such as to assess potential impacts of the project that are still pending to be reviewed, and to mitigate short term and permanent impacts through mitigation measures to be proposed.

AG05-20 After reviewing these recommendations, and information on the DEIS, we have concerns that there is still necessary information to assess the impacts of the proposed project as well as to determine whether the project as proposed is the best practicable alternative. The HDD alternate method assessment is still needed and if it is appropriate, then it would also be considered with the other alternatives, and a revised alternative analysis shall be submitted. Have concerns on the time frame presented by FERC for the applicant to complete subject recommendations. The Corps is concerned that the recommendations marked with an asterisk on the attached table be left for prior to project construction as the DEIS indicates. These recommendations are part of the public interest review and shall be completed during the DEIS.

AG05-21 Page 4-106 and 4-107 General Impact and Mitigation
Page 4-118 Section 4.8 Socio economics

The last paragraph on page 4-106 states that construction activities would limit subsistence fishing near the construction areas and vessels in transit to fishing sites due to exclusion from active construction sites.
First Paragraph on page 4-118 states construction activities would have the potential to interfere with some commercial fishing sites and vessels in transit to fishing sites due to safety zone exclusions for active construction site.

USACE comments: Although the exclusion zone during the operation of the project was discussed in the DEIS, there is no information that describes exclusion zones

AG05-19 Section 3.5 has been updated to include a discussion of permanent impacts, where applicable.

AG05-20 The National Environmental Policy Act (NEPA) does not require the FERC to determine if the proposed action is the "best" practical alternative. The FERC criteria for evaluating alternatives are clearly described in section 3.0. We did, however, conclude that the proposed action (specifically, the proposed pipe lay through the Boca del Infierno pass) was not environmentally acceptable. As such, we have included recommended alternatives that would reduce impacts to an acceptable level.

AG05-21 Text has been inserted where necessary to discuss the impact of the temporary exclusion zones during construction. We have recommended that Aguirre LLC prepare and submit a Construction Access Plan for review and approval.

AG05 – U.S. Army Corps of Engineers (cont'd)

AG05-21 (cont'd) during the construction of the project that would limit the access to recreational and fishing vessels to the existing facilities (i.e. marina, fishing village and piers) to Jobos Bay and the subsistence fishing near the construction areas and vessels in transit to fishing sites. A figure showing: temporary exclusion zones during the construction of the project, maritime access and fishing zones that can be used during the construction of the project shall be included to assess potential impacts on recreational and fishing vessels and fishing sites during the 12 months of construction of the project. As previously requested, the type of activities that can be and cannot be permitted within temporary exclusion zones during the construction of the project shall be included with dimensions or boundaries of each zone for both the pipeline installation and construction of the platform. This information is necessary to verify that recreational and fishing vessels at Jobos Bay still have maritime access to the existing marinas, piers, and fishing village and to fishing sites during the construction of the project.

AG05-22 Page 4-78 Section 4.6 Threatened and Endangered Species
FERC recommends the applicant not to begin construction of the Project until FERC completes formal consultation with the FWS and NMFS.
Page 4-121 Section 4.9.5 General Impact and Mitigation
FERC recommends the applicant not to begin construction of facilities until Aguirre LLC files with FERC the SHPO's comments on the evaluated testing report.

USACE Comments: Compliance with Endangered Species Act and Historic Resources consultations is a component of the permit review process of project impacts on these species and resources. We have concerns that FERC takes a determination on this project without completion of these consultations and without an evaluation of whether mitigation measures proposed will compensate for the impacts. The Corps permit review process requires completion of these consultations prior to take a final determination on the permit application. An assessment of potential project impacts and mitigation measures to compensate for impacts that could not be avoided and/or minimize are part of a project review process and therefore, part of the components to determine whether a permit is authorize or not. These components cannot be left prior to project construction and must be part of the FEIS.

AG05-23 Page 4-194: 1st paragraph and last sentence: "Therefore, no excess LNG would be provided to other users or markets and there would be no emissions other than these estimated for the plant".

USACE comments: This sentence was written twice. Recommend deletion.

AG05-24 Page 5-1 Chapter 5 Conclusions and Recommendations
FERC recommends mitigation measures be attached as conditions to any authorization issued by the Commission.

AG05-22 See the response to comment AG05-07.

AG05-23 The duplicate sentence in section 4.12.2.2 has been removed.

AG05-24 See the response to comment AG05-07.

AG05 – U.S. Army Corps of Engineers (cont'd)

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AG05-24 (cont'd) **USACE Comments**: As previously stated, most of the recommendations stated by FERC on the DEIS and summarized on this chapter must be addressed during the review process of the DEIS and not prior to project construction because these are necessary to be assessed prior to make a permit determination or authorize this project.

Based on the above, the Corps does not recommend FERC to issue a conditioning authorization until the above concerns have been fully addressed, evaluated and properly documented. The above mentioned information is necessary for our permit review process of the permit application submitted by Aguirre LLC.

If you have any questions on this matter, please do not hesitate to contact the Project Manager, Ms. Carmen Gisela Román at telephone number 787-729-6905, extension 3062 or electronic mail: carmen.g.roman@usace.army.mil.

Sincerely,

Sindulfo Castillo
Chief, Antilles Regulatory Section

Enclosure

AG05 – U.S. Army Corps of Engineers (cont'd)

The attachments to this letter are too voluminous to include in this EIS. They are available for viewing on the FERC website at http://www.ferc.gov. Using the "eLibrary" link, select "General Search" from the eLibrary menu, enter the selected date range and "Docket No." excluding the last three digits (i.e., CP13-193), and follow the instructions. For assistance please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll free at 1-866-208-3676, or for TTY, contact 202-502-8659. The Category/Accession number for this submittal is 20140929-0014.

AG06 – U.S. Environmental Protection Agency

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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,

AG06 – U.S. Environmental Protection Agency (cont'd)

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.

AG06-01 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.

AG06-02 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.

AG06-03 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.

AG06-04 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.

AG06-05 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

AG06-01 Section 4.6 has been updated to reflect the newly listed ESA coral species. Additional avoidance, minimization, and mitigation measures have been summarized.

AG06-02 A summary of the draft Benthic Resources Mitigation Plan has been added to section 4.5.2.4 and included as appendix D. This EIS provides sufficient detail to enable the reader to understand and consider the issues raised by the proposed Project and address a reasonable range of alternatives. While some information is still pending at this time, the lack of this final information does not deprive the public of a meaningful opportunity to comment on the Project. Further, we are recommending in section 4.5.2.4 that Aguirre LLC provide a determination on whether the HDD is a viable construction method. Lastly, all of the information filed by Aguirre LLC, in accordance with the recommendations in the EIS, is available for the public to review on the FERC's eLibrary website.

AG06-03 During the environmental review of the Project, we requested information regarding the applicability of the New Source Performance Standards (NSPS). In subsequent filings, Aguirre LLC's interpretation of the applicability of these requirements changed on several occasions. We will defer to the U.S. Environmental Protection Agency's (EPA) authority on the applicable requirements and the actual air quality permit issued by the EPA for this Project.

AG06-04 Section 4.3.1.3 has been updated to reflect changes in the applicant's NPDES permit. The thermodynamic calculations were not added to the final EIS but were submitted in Aguirre LLC's response to our August 23, 2013 data request as attachment 3-1 (Pipe Heat Loss Calculations) in attachment B (Accession Number 20130912-5100). Section 4.3.2.3 was also updated to clarify that the Stormwater Pollution Prevention Plan would be developed as part of the NPDES application.

AG06-05 The final EIS has been updated to reflect all changes to the proposed action. See section 2.3.4 for a description of the new construction methods.

AG06 – U.S. Environmental Protection Agency (cont'd)

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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

AG06 – U.S. Environmental Protection Agency (cont'd)

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

Alternatives Analysis:

AG06-06 • 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.

AG06-07 • 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.

AG06-08 • 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):

AG06-09 • 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.

AG06-10 • 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.

AG06-11 • 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.

AG06-12 • 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.

AG06-13 • 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

AG06-06 The distances to each populated area have been added to section 3.5.

AG06-07 Table 3.5-1 (formerly 3.4-1) has been corrected to be consistent with Resource Report 10, stating that the seafloor condition at site 4 is "favorable."

AG06-08 There are limited data available on beachgoers on the cays except for anecdotal information. The area provides alternative options for beachgoers and fisherman.

AG06-09 See the response to comment AG06-04.

AG06-10 Section 4.3.1.3 has been updated to include the information in Aguirre LLC's August 22, 2014 NPDES application. All of the discharge sources are discussed in the EIS; however, they are not listed in the same order as found in the NPDES application.

AG06-11 Section 4.3.1.3 has been updated to include a citation for the interim mixing zone application.

AG06-12 See the response to comment AG06-04.

AG06-13 Section 4.2.3.2 has been updated with the results of the sedimentation analysis provided by Aguirre LLC on September 29, 2014 (Accession number: 20140929-5220) and the results of our own analysis.

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AG06-13 (cont'd) 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.

AG06-14 • 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:

AG06-15 • 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:

AG06-14 See the response to comment AG06-04.

AG06-15 See the response to comment AG06-03.

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AG06-15 (cont'd)

(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:

AG06-16 ○ 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.

AG06-17 ○ 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.

AG06-18 ○ 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.)

AG06-19 ○ 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

AG06-16 Although not required by Prevention of Significant Deterioration of Air Quality (PSD) permit regulations, FERC requested that Aguirre LLC perform an Offshore and Coastal Dispersion Model (OCD) modeling analysis to study the impacts from both the offshore and onshore stationary sources. The EPA requested data concerning this OCD modeling analysis, as well as several questions on how the modeling was performed. A copy of the OCD modeling analysis was provided to the EPA.

AG06-17 See the response to comment AG06-16.

AG06-18 See the response to comment AG06-16.

AG06-19 See the response to comment AG06-16.

AG06 – U.S. Environmental Protection Agency (cont'd)

AG06-19 (cont'd) (SILs modification) or increment expansion scenario if applicable and not a NAAQS analysis.

AG06-20 ○ 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.

AG06-21 ○ 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?

AG06-22 ○ 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?

AG06-23 ○ Please include a discussion regarding the mixing height used in the modeling in this case.

AG06-24 ○ 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:

AG06-25 • 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).

AG06-20 See the response to comment AG06-16.

AG06-21 See the response to comment AG06-16.

AG06-22 See the response to comment AG06-16.

AG06-23 See the response to comment AG06-16.

AG06-24 Tables have been updated per Aguirre LLC's response to the EPA's data request.

AG06-25 Section 4.5.2.4 has been revised to clarify that pipeline scouring was included in the permanent impacts analysis.

AG06 – U.S. Environmental Protection Agency (cont'd)

AG06-26 • 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?

AG06-27 • 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.

AG06-28 • 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.

AG06-29 • 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:

AG06-30 • 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:

AG06-31 • 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,

AG06-26 Aguirre LLC intends to keep construction and support vessels within the construction right-of-way width. The use of the spud-leg anchoring system would minimize seafloor disturbance. The EIS reflects impacts associated with Project construction activities, including the use of support vessels.

AG06-27 Section 4.5.2.4 has been updated to summarize the draft Benthic Resources Mitigation Plan (appendix D) provided by Aguirre LLC to address impacts on coral and seagrass resources in the Project area. We are also recommending that Aguirre LLC finalize this plan in consultation with the appropriate agencies, as well as recommending that an HDD be used across the Boca del Infierno pass, if feasible.

AG06-28 Section 4.5.2 has been updated to describe where Aguirre LLC would place the pipeline at or below grade and where concrete mats would be used for pipeline safety. Potential impacts on Queen conch using the newly proposed construction measures have been summarized. We have recommended that, prior to the start of construction, Aguirre LLC should update the Benthic Resources Mitigation Plan to include 5 years of post-construction monitoring of the areas where the pipeline and/or concrete mats are above grade to determine if the mats are preventing the migration of conch, urchins, sea cucumber, and other mobily impaired benthic organisms.

AG06-29 In section 4.4.3, we are recommending that Aguirre LLC expand the draft Benthic Resources Mitigation Plan to include mitigation measures for the shading impacts on seagrasses at the offshore berthing platform.

AG06-30 There are no established thresholds of significance criteria for Project greenhouse gas (GHG) emissions by Puerto Rico Environmental Quality Board (EQB) or the EPA. Therefore, absent any significance thresholds, we compared the Project's GHG emissions to the Puerto Rico GHG emissions inventory.

AG06-31 Operation of Aguirre LLC's FSRU is under the authority of the USCG, and FERC has jurisdiction over operation of the offshore berthing platform. However, we would expect that the EPA would impose any best management practices to reduce methane emissions in its air quality permit issued to Aguirre LLC and the Aguirre Plant.

AG06 – U.S. Environmental Protection Agency (cont'd)

AG06-31 (cont'd) including information regarding emission reduction options for Liquefied Natural Gas storage, import and export facilities.[1]

Noise:

AG06-32 • 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:

AG06-33 • 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?

AG06-34 • 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.)

AG06-35 • 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

AG06-32 See the response to comment AG05-04.

AG06-33 The USCG Water Suitability Assessment noted that pipeline marking may be required. However, because the pipeline installation method has been modified, the pipeline marking requirements will change. Aguirre LLC is working with the USCG, as well as NOAA, to ensure that the pipeline is marked accordingly.

AG06-34 While some information was still pending at the time of issuance of the draft EIS, the lack of this final information does not deprive the public of a meaningful opportunity to comment on potential adverse environmental effects of the Project or to suggest a feasible way to mitigate or avoid such effect. The EIS includes sufficient detail to enable the reader to understand and consider the issues raised by the proposed Project and addresses a reasonable range of alternatives. The final EIS has been updated with new information where it is available. Any information filed after issuance of the final EIS will be in the FERC public reading room and available for people or organizations to comment on.

AG06-35 Aguirre LLC updated its proposed action to incorporate pipeline burial. The final EIS has been updated to reflect the construction method change.

AG07 – U.S. Geological Survey

20140930-0052 FERC PDF (Unofficial) 09/30/2014

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FEDERAL ENERGY
REGULATORY COMMISSION

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Caribbean Water Science Center
GSA Center, Suite 400-15
651 Federal Drive
Guaynabo, Puerto Rico 00965-5703

September 8, 2014

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

Re: Aguirre Offshore GasPort Project- Docket No. CP13-193-000

Dear Ms. Bose:

As requested by the Federal Energy Regulatory Commission the subject document was reviewed by the US Geological Survey (USGS) Caribbean-Florida Water Science Center (CFWSC). The review by the USGS was limited to the sections 4.1.1 thru 4.1.3.4 that deal with geologic hazards such as seismic activity and associated land rupture and deformation, seismic-induced liquefaction and volcanic activity.

AG07-01 The USGS main comment is aimed to the importance that must be given in this section on geologic hazards to the possibility that faulting might have occurred during the Holocene, within the last 10,000-12,000 years, in the general area of the proposed construction site. Work during 2012 by geologists Sarah Derouin, Ralph Klinger, Lucy Piety, and Joanna Redwine from the Seismotectonics and Geophysiscs Group of the Bureau of Reclamation (oral commun., 2013) have, preliminarily, suggested the possibility that coastal geomorphological features at certain places in the South Coast might be surface expressions of Holocene faulting. Furthermore, discontinuities or offsets in subsurface layers of gravel, sand, and clay observed in trenches especially dug to study the possibility of recent faulting, tend to confirm that this might had been the case. However, the study group had recommended additional field work before a conclusion is reached. This study was made for the Puerto Rico Electric Power Authority (PREPA) as part of an assessment of the safety and physical integrity of dams.

Cordially,

Jesus Rodríguez-Martínez, PG
Hydrologist
USGS Caribbean-Florida Water Science Center
Telephone: (787) 749-7413
Fax: (787) 749-4301, (787)749-7401
Email: jrodr@usgs.gov

AG07-01 Section 4.1.3.1 has been updated to require a revised Seismic Hazard Analysis Report that includes both the Great Southern Puerto Rico Fault Zone and Salinas Faults, which would be consistent with the location and seismic characterization of these faults provided in the May 2014 Bureau of Reclamation reports.

AG08 – Puerto Rico Department of Natural and Environmental Resource

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PUERTO RICO
Departamento de Recursos Naturales y Ambientales

9 de septiembre de 2014

Mrs. Kimberly D. Bose
Secretary
Federal Energy Regulation Commission (FERC)
888 First Street NE, Room 1A
Washington, DC 20426

Estimada señora Bose:

2014-287982-REA-22461
COMENTARIOS FINALES
BORRADOR DE LA DECLARACIÓN DE IMPACTO AMBIENTAL
TERMINAL MARÍTIMO DE AGUIRRE, MUNICIPIO DE SALINAS
(AGUIRRE OFFSHORE GASPORT)

La Autoridad de Energía Eléctrica (AEE) propone la construcción de un terminal marítimo (AOGP, siglas en inglés) para la gasificación del complejo de producción de energía eléctrica de Aguirre (Central Aguirre, en lo sucesivo). La Comisión Reguladora Federal de Energía (FERC, por sus siglas en inglés) ha preparado el documento preliminar (borrador) de la Declaración de Impacto Ambiental del AOGP, el cual fue referido al Departamento de Recursos Naturales y Ambientales (DRNA) para su evaluación y comentarios.

El DRNA sirvió de agencia colaboradora de la FERC desde el inicio de la preparación del borrador de la DIA y nuestra agencia revisó los estudios y documentos que sirvieron de base para la preparación del documento ambiental objeto de estos comentarios. Durante este proceso, el DRNA ofreció comentarios y recomendaciones para evitar y minimizar los impactos a los arrecifes de coral, comunidades bénticas asociadas, especies amenazadas y en peligro de extinción (por ejemplo, el manatí antillano) dentro de la Reserva Nacional de Investigación Estuarina de la Bahía de Jobos y el área que ocuparía el proyecto. El DRNA también participó en las reuniones públicas y comunitarias, tomó nota de los comentarios presentados en estas reuniones y formuló recomendaciones a FERC de cómo atenderlos y comunicar la información con efectividad.

Adjunto encontrarán los comentarios finales de nuestra agencia al documento final presentado por los proponentes.

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DRNA

AG08 – Puerto Rico Department of Natural and Environmental Resource (cont'd)

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El DRNA es responsable de la administración de los recursos terrestres, acuáticos y marinos dentro de la jurisdicción del Estado Libre Asociado de Puerto Rico, según establecido en su Ley Orgánica (Ley 23 de 1972, según enmendada) y otras leyes especiales bajo su administración. . Además, del ámbito terrestre de su jurisdicción, el DRNA es custodio del espacio marítimo y de los terrenos sumergidos bajo las aguas territoriales de Puerto Rico que se extienden hasta las nueve (9) millas náuticas y que forman parte de los bienes del dominio público marítimo terrestre.

El Programa de Manejo de la Zona Costanera (PMZC), por su parte, es administrado por el DRNA y su ámbito de aplicación consiste de una franja terrestre de *…mil metros (1,000 m) o distancias adicionales necesarias para proteger recursos clave de la costa, así como nueve millas naúticas (10.35 millas terrestres) y los terrenos sumergidos bajo éstas.*

Los principios rectores del PMZC son:

1. Desarrollar guías para el desarrollo público y privado en la zona costanera.
2. Manejo activo de los recursos costeros.
3. Promover la investigación científica, la educación ambiental y la participación ciudadana como elementos fundamentales para el desarrollo sostenible de las áreas y recursos costeros.

El proyecto propuesto se ubica aproximadamente 4 millas al sur de la línea costera del Municipio de Salinas. El terminal marino se conectará a la Central Aguirre mediante tubería submarina. El terminal permitiría el anclaje de un barco de almacén y regasificación de la Compañía Excelerate, el cual operaría a través de todo el año. Este proyecto permitirá que la Autoridad de Energía Eléctrica sustituya el combustible pesado por gas natural y reduciendo así los costos de la energía eléctrica, así como, las emisiones de óxidos de azufre, óxidos de nitrógeno y de particulado, con lo cual se podrá cumplir con la nueva reglamentación y estándares de la Agencia Federal de Protección Ambiental. Es importante destacar que la Central Aguirre genera cerca de 40% del total de energía eléctrica producida en el país.

A continuación, presentamos un resumen de los comentarios generales al borrador del documento ambiental del proyecto:

AG08-01
- El documento analiza los riesgos sísmicos, meteorológicos, costeros y marinos, incluyendo los posibles impactos a la Reserva Nacional de Investigación Estuarina de la Bahía de Jobos.
- La posibilidad de resuspensión en las fases de construcción y de operación ha sido considerada y atendida adecuadamente en el documento.
- El tratamiento de los aspectos oceanográficos, las corrientes y el potencial de la formación de oleaje puede ser mejorado mediante la integración de información

AG08-01 Comments noted.
Also see the response to comment AG02-14.

AG08 – Puerto Rico Department of Natural and Environmental Resource (cont'd)

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AG08-01 (cont'd) de agencias como la *National Oceanic and Atmospheric Administration*, CariCOOS, y el Departamento de Ciencias Marinas de la Universidad de Puerto Rico, particularmente para conducir las actividades de construcción y de operación seguras.

- EL DRNA participó en la evaluación de las cuatro alternativas y en la discusión de posibles impactos asociados a cada una de las alternativas. Al eliminarse la alternativa de la no acción, los gasoductos propuestos anteriormente (Sur y Vía Verde) y opciones de uso, ampliación de muelles existentes (Ej. Eco Eléctrica) o la construcción de nuevos muelles y terminales, las opciones evaluadas dependen de la construcción de un terminal fuera de la bahía "offshore" y tuberías. La evaluación de las alternativas de emplazamiento "offshore" y de la tubería que conecta al terminal marítimo con la Central Aguirre ha sido una de las secciones de mayor estudio y evaluación. La alternativa preferida es la de menor impacto a corales, yerbas marinas y comunidades bénticas asociadas, de todas las evaluadas. La alternativa ha sido presentada a las comunidades y ampliamente discutida con representantes de agencias federales, miembros de la comunidad científica y diferentes científicos del DRNA.
- El DRNA sometió múltiples recomendaciones para evitar y minimizar posibles efectos e impactos del proyecto a los sistemas y recursos naturales marinos y costeros, los cuales fueron integrados efectivamente en el documento objeto de este análisis. Específicamente, el DRNA sugirió que se lleve a cabo un monitoreo de los arrecifes de coral y los sistemas de praderas marinas durante la fase de instalación de la tubería de gas natural y luego de emplazada. De manera particular se formularon recomendaciones para evitar impactos a especies amenazadas como colonias de corales cuerno de alce (*Acropora palmata*). Las recomendaciones específicas del DRNA fueron atendidas y la alineación crea distancia entre la huella del emplazamiento y las colonias de *A. palmata*.

AG08-02
- En el caso de las praderas de yerbas marinas, los posibles efectos e impactos no son discutidos suficientemente en el documento preparado por FERC, a pesar de que los estudios y discusiones específicas que se han realizado entre consultores y agencias federales y el DRNA durante los pasados meses han avanzado hasta un punto de identificación de oportunidades de evitar, minimizar y posiblemente transplantar yerbas marinas a lugares adyacentes, empleando en algunos casos material para rellenar depresiones o aumentar el nivel del fondo marino empleando sedimentos generados por el proyecto de instalación de la tubería. Recomendamos fortalecer la descripción de los efectos e impactos a praderas de yerbas marinas y las medidas para minimizar y mitigar estos impactos en el documento ambiental final.

AG08-02 Section 4.5 has been updated to discuss impacts on seagrass resources and summarizes the draft Benthic Resources Mitigation Plan (see appendix D). Further, we are recommending that Aguirre LLC finalize this plan in consultation with the appropriate agencies and include further detail as discussed in section 4.5.2.4.

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PÁGINA 4

AG08-03 ○ La posibilidad de impactos a los mamíferos marinos y otras especies ha sido considerada y atendida adecuadamente. El DRNA recomienda la observación de mamíferos marinos como una acción obligatoria durante todas las fases del proyecto. El DRNA condicionará varias etapas del proyecto a estos monitoreos y a la observación de mamíferos marinos.

○ El DRNA ha participado en discusiones sobre posibles opciones de mitigación y compensación por posibles efectos e impactos asociados al proyecto que no puedan ser evitados o minimizados para cumplir con las leyes y reglamentos locales y federales. Los posibles impactos han sido documentados adecuadamente, al igual que las acciones para evitar y minimizarlos. Los impactos inevitables deben ser mitigados y compensados según discusiones ya iniciadas junto a las agencias federales y el DRNA.

○ Los riesgos de contaminación térmica y por derrames han sido discutidos suficientemente en el documento. Este impacto fue señalado como una posible perturbación a las poblaciones de manatíes en la bahía y la vida acuática marina.

AG08-04 ○ El DRNA recomienda que la selección de los agentes anti-incrustantes debe ser discutida con mayor profundidad en el documento, aunque las condiciones para su uso se determinen en los procesos de permisos que seguirían al cumplimiento con la política pública ambiental.

AG08-05 ○ Las pesquerías y los posibles impactos a las poblaciones y operaciones de pescadores comerciales y recreativos han sido suficientemente discutidas en el documento. Recomendamos que el documento ambiental final discuta adecuadamente las preocupaciones presentadas por los representantes de las villas pesqueras, pescadores comerciales y comunidades.

NVR

AG08-06 ○ El US Coast Guard recomendó que en el sitio del terminal propuesto se establezca una zona de protección de 500 yardas (457 m). La zona de protección prohibiría todo tráfico de embarcaciones que entren o transiten esta zona sin permiso del capitán del puerto. En las reuniones con las comunidades y pescadores, los técnicos del DRNA comentaron que el terminal marino se convertiría en un gran "Fish Attracting Device" (FAD) y que la zona de protección sería una zona de no pesca. Sería importante y de gran interés para los pescadores del área que se crearan "stepping stones" o pequeñas estructuras fuera de la zona de protección para que se conviertan en corredores marinos en los cuales los pescadores puedan aprovechar los peces que salgan de la zona de protección del terminal ("spill over"). Recomendamos que el documento ambiental final incluya información sobre esta propuesta para atender las necesidades de los pescadores.

AG08-03 Comments noted. See the responses to comments AG02-27 and AG08-02.

AG08-04 Section 4.5.2.4 has been updated to include a discussion of the newly proposed copper anode marine growth prevention system; this will be subject to conditions of the NPDES permit.

AG08-05 Sections 4.7.4 and 4.8.3 have been revised to incorporate these comments.

AG08-06 As discussed in section 4.7.7, based on the limited footprint of the Project, the availability of adjacent fishing areas, and our recommendation to provide a Construction Access Plan, we concluded that construction and operation of the Project is not likely to cause a significant impact on boating and fishing in the area.

AG08 – Puerto Rico Department of Natural and Environmental Resource (cont'd)

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PÁGINA 5

AG08-07 ○ El documento (página ES-3, Cuarto Párrafo, Primera Línea) debe aclarar que el área estimada de impacto es de 158.2 acres (162.9 cuerdas), la mayoría en el ámbito marino y terrenos sumergidos y 1.5 acres (1.5 cuerdas) en tierra dentro de la propiedad de la Planta Aguirre.

○ El documento (página 4-79) habla sobre la pesca del caracol reina. Esta es una traducción incorrecta y no es el nombre común que se utiliza en Puerto Rico. El nombre correcto es el carrucho (*Strombus gigas*).

○ El documento (página 4-110) hace referencia al "Programa de gestión de la zona costera". En Puerto Rico, este programa se conoce formalmente como el "Programa de Manejo de la Zona Costanera".

○ En general, los comentarios del DRNA en la sección 4 fueron muy bien atendidos. No obstante, es importante destacar que la discusión sobre la mitigación por los daños a las praderas de yerbas marinas y los corales son los asuntos de mayor relevancia que el documento ambiental final debe fortalecer, incluyendo los efectos del movimiento del sustrato del lecho por donde discurrirá la tubería. Recomendamos que el plan de restauración de arrecifes de coral y praderas de yerbas marinas se prepare e implante mediante la coordinación del National Marine Fisheries Service, el Fish and WIldlife Service y el DRNA ya que existen responsabilidades compartidas entre las tres agencias. (página 4-51)

AG08-08 ○ Es de suma importancia que el rango de temperatura del agua en el "outfall" de PREPA en la Bahía de Jobos se mencione en el documento ambiental. El mismo no es resaltado en el documento (p. 4-18)

AG08-09 ○ Es importante que la propuesta de mitigación por impacto al proyecto en los manatíes sea concluyente (sección 4.3.2.3).

AG08-10 ○ Recomendamos que el documento resalte la importancia de las hierbas marinas para los manatíes y las tortugas marinas. También se debe identificar la especie "Florida Keys seagrass", y añadir el "widgeon grass" a la lista de especies que incluye el documento ambiental final (sección 4.4.2.2).

AG08-11 ○ El documento establece que la temperatura del agua cerca de la tubería aumentará. Este punto necesita ser aclarado ya que si la temperatura del gas dentro del tubo sería de 39°F, esto implicaría una reducción en la temperatura del agua y por consiguiente afectaría la colonización normal en el área.

AG08-12 ○ El documento ambiental sólo discute y calcula la mortandad del ictioplankton por el efecto del "entrainment". Recomendamos que el documento final discuta la mortandad potencial asociada a efectos termales, bióxidos y derrames accidentales.

AG08-07 The Executive Summary and other references have been updated accordingly.

Sections 4.5 and 4.6 have been updated to discuss sedimentation impacts from construction on seagrass and coral habitats. In addition, we are recommending that Aguirre LLC finalize its Benthic Resources Mitigation Plan in consultation with the FWS, NMFS, DNER, and other appropriate agencies.

AG08-08 The temperature range from the Puerto Rico Electric Power Authority (PREPA) outfall is noted in section 4.12.2.1; however, no change to the discharge rate or temperature would result from the Project.

AG08-09 Comment noted.

AG08-10 Section 4.4.2.2 has been updated to include manatees and sea turtles in the sentence describing the importance of seagrass species.

AG08-11 The statement in section 4.5.2.4 has been corrected to state that the temperature near the pipeline would "decrease" slightly before returning to ambient temperature.

AG08-12 Section 4.5.4 has been updated to discuss potential impacts on ichthyoplankton due to thermal plumes, use of biocides, and inadvertent hydrocarbon spills.

AG08 – Puerto Rico Department of Natural and Environmental Resource (cont'd)

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COMENTARIOS DRNA
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PÁGINA 6

AG08-13 ○ Existe una incongruencia en los datos de captura de peces recreativos presentados en la tabla 4.5.5-1 con los presentados por el DRNA (p. 4-73). Recomendamos revisar esta tablal

AG08-14 ○ Un dato a tomar en consideración es que las estructuras artificiales y áreas con sombra son hábitats favorecidos por la especie del pez león. El FSRU podría ser un refugio para esta especie dentro de la zona de exclusión. Se recomienda la inspección periódica y remoción de ejemplares encontrados de esta especie invasiva. (p. 4-77)

AG08-15 ○ El documento sólo considera los impactos a corales protegidos a nivel federal. Es necesario que el documento también incluya las consideraciones de los corales protegidos a nivel estatal.

AG08-16 ○ El documento ambiental reconoce el potencial del tubo de ser una barrera para la migración de carruchos y otras especies. El documento ambiental final debe abundar más en la forma que se mitigarán estos asuntos (p. 4-93).

AG08-17 ○ La Tabla 4.6.3-1 no incluye el mero Goliat entre las especies protegidas a nivel federal. Recomendamos añadirla en el documento ambiental.

AG08-18 ○ Recomendamos que el documento ambiental evalúe y analice la contaminación por ruido que va a generar la construcción.

AG08-19 ○ La extracción de agua relacionada al funcionamiento de los equipos de la transportadora GNL es significante para este sistema estuarino. El realizar la comparación con el Mar Caribe no es del todo correcto. (página 4-30)

NVR
AG08-20 ○ Se reconoce que habrá una descarga en exceso de cloro al permitido en los estándares de agua de la JCA. Aunque se indica que no deberá tener impacto en la calidad de agua del área, el documento ambiental debe abundar si el mismo tendrá implicaciones en la vida marina (página 4-32).

AG08-21 ○ Es importante que el documento ambiental establezca cómo será transportada el agua aceitosa que no cumple con las normas de tratamiento indicadas e identificar el lugar para su disposición (página 4-35).

Los comentarios generales y específicos presentados por el DRNA, particularmente su División de Zona Costanera, no constituyen un endoso o certificación de compatibilidad con el Programa de Manejo de Zona Costanera (PMZC) de Puerto Rico. Esta certificación de compatibilidad debe solicitarse ante la Junta de Planificación. La determinación de compatibilidad con el PMZC se realizará en función del documento ambiental una vez este sea aprobado en cumplimiento con la política pública ambiental de Puerto Rico.

AG08-13 Comment noted. Table 4.5.5-1 discusses annual fish landings while tables 4.5.4-5 and 4.5.4-6 discuss annual population impacts associated with entrainment; therefore, values within the tables are not comparable.

AG08-14 Lionfish are habitat generalists found in most marine habitat types in warm tropical waters. The habitat below the proposed FSRU and berthing platform could provide habitat for lionfish, both pre- and post-construction, because lionfish are found in a variety of habitat types, including both shaded and non-shaded areas. Literature was not found that evaluated preferred habitat of lionfish species in the Caribbean or other waters where they occur naturally and/or as an invasive exotic species. Therefore, additional measures to conduct periodic post-construction inspections and removal of the invasive species are not warranted.

AG08-15 Section 4.6 states that, in addition to the ESA, the Commonwealth of Puerto Rico conserves species under the Regulation to Govern the Threatened and Endangered Species (Regulation No. 6766), and protects all corals under Law 147 of July 15, 1999. Section 4.6.1.5 has been updated to state that additional non-federally listed coral species are found within the Project area. The potential impacts on those species would be similar to those discussed for the federally listed species.

AG08-16 See the response to comment AG06-28.

AG08-17 The Goliath grouper is not a federally listed ESA species; it was removed from the ESA candidate list in 2006. Table 4.6.3-1 summarized potential impacts on ESA listed species only. The Goliath grouper does appear on table 4.6-1 because it is listed as critically endangered by the DNER.

AG08-18 Construction noise impact and mitigation are discussed in section 4.10.2.4.

AG08-19 The water intake for the LNG carriers would take place within the Caribbean Sea at the facility. Due to the current and flow in the Caribbean Sea, the discussion of the impact needs to take into account where it occurs. To base the discussion on an area immediately surrounding the offshore platform does not reflect the environment in which the water intake would occur.

AG08-20 See the response to comment AG08-04.

AG08-21 Section 4.3.1.3 states that "Aguirre LLC has indicated that bilge water collected from the FSRU bilge sump pumps, together with comingled bottom blowdown water from the main and auxiliary boilers would be pumped off the FSRU for onshore disposal at a Puerto Rico government approved facility." The appropriate Puerto Rico agency would have authority over how and where the bilge water would be disposed.

AG08 – Puerto Rico Department of Natural and Environmental Resource (cont'd)

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AG08-22 Luego de nuestro análisis, solicitamos que se integren nuestros comentarios y sugerencias para fortalecer el documento ambiental final sobre la construcción del terminal marítimo para la gasificación del complejo de producción de energía eléctrica de Aguirre. Estamos disponibles para reunirnos para asegurar que el documento ambiental final incluye estos comentarios.

Cualquier pregunta sobre nuestros comentarios, no dude en comunicarse con nosotros al 787-999-2200 (ext. 2847) o a nvelazquez@drna.gobierno.pr.

Atentamente,

Nelson Velázquez Reyes
Secretario Auxiliar
Secretaría Auxiliar de Permisos

AG08-22 Comment noted.

AG09 – Municipal of Salinas, Mayor Karilyn Bonilla Colon

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Estado Libre Asociado de Puerto Rico
MUNICIPIO DE SALINAS

Oficina de la Alcaldesa

PONENCIA DEL MUNICIPIO DE SALINAS ANTE LOS MIEMBROS DE LA COMISIÓN FEDERAL REGULADORA DE ENERGÍA SOBRE EL PROYECTO DEL TERMINAL MARÍTIMO DE GAS NATURAL LICUADO DE AGUIRRE EXPEDIENTE CP13-193-000

AG09-01 Comparece ante ustedes Karilyn Bonilla Colón, Alcaldesa del Municipio de Salinas, Capital del Mar Caribe, para deponer ante los Miembros de la Comisión Federal Reguladora de Energía sobre el Proyecto del Terminal Marítimo de Gas Natural Licuado de Aguirre (Expediente CP13-193-000). Antes de comenzar nuestra exposición queremos darles la bienvenida a nuestro Municipio a los miembros de la Comisión y los funcionarios que le acompañan. Igualmente le damos una cordial bienvenida a los funcionarios de la Oficina de Gerencia de Permisos (OGPE) presentes. A todos los ciudadanos de Salinas presentes le agradecemos su interés en el proyecto y su compromiso con el desarrollo de nuestro pueblo y los exhortamos a expresarse sobre el proyecto de manera firme y respetuosa.

Comenzamos aclarando que nuestros comentarios sólo van dirigidos a los miembros de la Comisión Federal Reguladora de Energía y giran alrededor de la adecuacidad de la Declaración de Impacto Ambiental del Proyecto (DIA).

El proyecto propuesto que conocemos como la conversión a gas natural de Aguirre, será una facilidad flotante de regasificación, ubicado a 4 millas de la costa de Aguirre, el cual tiene como objetivo principal cumplir con la nueva reglamentación federal de reducir la contaminación emitida por las plantas generatrices de energía. Además tienen la finalidad de diversificar las fuentes de generación de energía, ayudar a estabilizar el costo de la energía para los ciudadanos y servir para una mayor integración de fuentes de energía renovable en el futuro inmediato. Estos son objetivos importantes para Puerto Rico y para Salinas. Cumplir con estas metas ayudará a mejorar la calidad de vida de nuestros ciudadanos.

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Salinas
HON. KARILYN BONILLA COLÓN, ALCALDESA

AG09-01 Comments noted. Section 4.8.5 has been updated.

AG09 – Municipal of Salinas, Mayor Karilyn Bonilla Colon (cont'd)

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AG09-01 (cont'd) Por los pasados meses el Municipio ha participado en lo que denominamos la mesa técnica del proyecto. En esta mesa técnica han participado activamente miembros del Comité de Dialogo Ambiental, funcionarios de la Autoridad de Energía y un representante de la Oficina del Gobernador. En la mesa de trabajo se compartió información técnica sobre el proyecto y se discutieron ampliamente los impactos ambientales que puede generar el proyecto. En muchas ocasiones se unieron a la discusión representantes de pescadores, funcionarios de agencias gubernamentales en especial el Departamento de Recursos Naturales y la Junta de Calidad Ambiental. Además la mesa técnica llevó información a los residentes mediante la realización de reuniones comunitarias en los sectores de Aguirre, Mareas, Coquí y Playa. El trabajo realizado por la mesa técnica ciertamente ha redundado en que los ciudadanos de Salinas tengan un mejor conocimiento sobre la importancia del proyecto y sus impactos al medio ambiente y al desarrollo económico de Salinas. En la historia de Salinas, y posiblemente de Puerto Rico, es la primera vez que se da este tipo de comunicación durante las etapas iniciales de un proyecto de esta categoría. Como representante de los residentes de Salinas agradezco el esfuerzo de todos los participantes y de manera especial a los funcionarios de la Autoridad de Energía Eléctrica y a los miembros del Comité de Dialogo Ambiental.

La punta de lanza del programa de Desarrollo Económico del Municipio de Salinas es el turismo. Elemento esencial del turismo es nuestro acceso directo al mar y la existencia de los cayos a corta distancia de la costa. Como dato importante la costa de Salinas no tiene una playa adecuada para bañistas. Nuestra playa está en los cayos, lugar que visitan cientos de turistas semanalmente para disfrutar de aguas cristalinas con temperatura agradable. La evaluación de un proyecto de esta naturaleza es una excelente oportunidad para estudiar el estado actual del uso turístico de la zona de los cayos y el potencial que tiene para desarrollarse.

Respetuosamente solicitamos a los miembros de la Comisión que amplíen los estudios sobre el impacto del ruido y de la iluminación sobre la actividad turística presente y tome en consideración que la política pública de nuestra administración incluye el maximizar la actividad turística en los cayos. Los estudios deben tomar en consideración que la

AG09 – Municipal of Salinas, Mayor Karilyn Bonilla Colon (cont'd)

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AG09-01 (cont'd) navegación recreativa pasará cerca de la plataforma propuesta y que Cayo Barca, el más cercano a la plataforma, es visitado por cientos de turistas. Es nuestra opinión que Cayo Barca debe ser considerado como una zona susceptible a ruido en los estudios que se realicen.

AG09-02 Además, solicitamos que se estudie el impacto del ruido y la iluminación sobre la pesca que, casi siempre comienza a tempranas horas de la madrugada, hora en la que el sol no ha salido. Esta evaluación del impacto sobre la pesca debe asumir como punto crítico el margen de la zona de exclusión que es el lugar más cercano a la plataforma en que los pescadores pueden anclar sus botes. También solicitamos se profundice el análisis en otros aspectos de la DIA como los estudios del impacto a los arrecifes de coral y yerbas marinas, y el estudio para establecer la base de emisiones de contaminantes entre otros de naturaleza técnica y científica.

AG09-03 Consideramos importante recalcar que el Complejo generatriz de Aguirre, construido a mediados de los años 70, ha tenido para nuestro pueblo un impacto negativo social y económico. Solicitamos que la DIA evalúe el impacto socio económico del terminal tomado en consideración que esos impactos se suman a los impactos negativos que se han sufrido por 4 décadas.

Ciertamente este proyecto es una oportunidad para hacerle justicia a Salinas y comenzar a mitigar el impacto negativo de la Central generatriz, que con este proyecto de conversión a gas natural aumenta su vida útil y lo tendremos operando por lo menos 35 años adicionales. Respetuosamente le solicitamos a esta Comisión que tome en consideración los impactos acumulados sobre el desarrollo social y económico de Salinas y recomiende medidas de mitigación que garanticen mejorar la calidad de vida de los ciudadanos de Salinas.

AG09-02 Cayos de Barca is approximately 3,000 feet from the FSRU. It is unlikely at this distance that the Project would cause an exceedance of the FERC's 55 decibels on the A-weighted scale (dBA) threshold or the EQB's 50 dBA nighttime noise limit. As per FERC's recommendation, Aguirre LLC would be required to submit a noise survey no later than 60 days after placing the Project in service. Additional noise controls would be required if it is determined that there is an exceedance of the threshold. Section 4.5 and our recommendations adequately address the impacts of the Project and mitigation for wildlife in the Project area.

AG09-03 Section 4.12 adequately addresses the cumulative impacts associated with the Project. Further, the EIS concludes that the Project would improve the regional air quality.

AG09 – Municipal of Salinas, Mayor Karilyn Bonilla Colon (cont'd)

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AG09-04 Estoy confiada en que la comparecencia ante esta Comisión de científicos de alto prestigio profesional y de los miembros del Comité de Dialogo Ambiental cubrirán mucho mejor que esta servidora estos aspectos de la D!A. Igualmente nuestros expertos pescadores que conocen las características de la zona como la palma de sus manos comparecerán ante ustedes a manifestarle sus dudas e inquietudes.

Nuevamente agradecemos la cortesía de concedernos el primer turno y la oportunidad de expresarnos ante ustedes sobre tan importante proyecto para Salinas y para Puerto Rico.

Cordialmente,

KARILYN BONILLA COLÓN
Alcaldesa

AG09-04 Comment noted.

AG10 – U.S. Fish and Wildlife Service

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ORIGINAL

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services
Field Office
P.O. Box 491
Boqueron, PR 00622

OCT 20 2014

In Reply Refer to:
FWS/R4/CESFO/72123-035

CP13-193

Mr. Dave Swearingen
Chief, Environmental Gas Branch 4
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Re: Aguirre Offshore Gas Port Section 7 Consultation, OEP/DG2E/Gas Branch 4 Aguirre Offshore GasPort, LLC, Jobos Bay, Salinas, Puerto Rico, ER 14/0509, FERC Docket No. CP13-193-000, FERC/EIS-0253, SAJ-2012-00353 (SP-CGR)

Dear Mr. Swearingen:

Thank you for your letter dated August 14, 2014, received in our office on August 21, 2014, to initiate consultation under Section 7 of the Endangered Species Act for the above-referenced project. At the same time, we received a notice of availability on the draft Environmental Impact Statement (EIS) and Biological Assessment (BA) for the Aguirre Offshore GasPort (AOGP) project. Our comments are provided under the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 United States Code 1531 et seq.), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), and the Marine Mammal Protection Act of 1972 (MMPA) (16 U.S.C. 1361 et seq.).

The applicant seeks authorization to construct an offshore liquefied natural gas (LNG) terminal and the installation of a 4.1 mile long subsea pipeline to connect the AOGP to the Puerto Rico Power Authority Aguirre Power Plant (Aguirre PP). The proposed project will consist of an offshore berthing platform, an Offshore GasPort, and a subsea pipeline. According to the draft EIS, construction activities such as vessel anchoring, pipe laying, and pile driving would result in direct impacts on approximately 19.8 acres of seagrass, 77.4 acres of macroalgae, 5.2 acres of coral reef and 14.5 acres of soft bottom habitat. Permanent impacts on marine wildlife habitats include 3.6 acres of seagrass, 20.1 acres of macroalgae, 0.5 acres of coral reef and 1.1 acres of soft bottom habitat. Further specific details on the proposed AOGP project are provided within the submitted draft EIS.

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The U.S. Fish and Wildlife Service (the Service) provided previous comments regarding the AOGP project via letters dated March 23, 2012; October 3, 2012; and May 24, 2013. According to the information provided in the BA, the Federal Energy Regulatory Commission (FERC) identified seven federally listed species under the Service's jurisdiction and one species proposed for listing under the ESA as potentially occurring in the proposed project area. FERC is requesting concurrence with their determination of effects for the following species:

Common name	Scientific name	Status	Determination
Green sea turtle	*Chelonia mydas*	Threatened	Not likely to adversely affect (NLAA)
Hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	NLAA
Leatherback sea turtle	*Dermochelys coriacea*	Endangered	NLAA
Loggerhead sea turtle	*Caretta caretta*	Endangered	NLAA
Piping plover	*Charadrius melodus*	Threatened	NLAA
Yellow-shouldered black-bird	*Agelaius xanthomus*	Endangered	NLAA
Rufa red knot	*Calidris canutus rufa*	Proposed	NLAA

In addition, FERC determined that the proposed project may affect, likely to adversely affect the federally endangered Antillean manatee (*Trichechus manatus manatus*) and requested to initiate formal consultation with the Service.

The Service has the following responses to the effect determinations:

AG10-01 Sea turtles

The Service concurs with the effects determination of not likely to adversely affect for the hawksbill sea turtle. Although the Service does not have information on the amount of nests in pocket beaches in the project area, there is anecdotal information that this species does nest within some of the small beach areas on the coast, and on some offshore cays within the project area. However, based on the habitat characteristics, we believe that hawksbill nesting activity within the area of the proposed project is low when compared to other beaches in Puerto Rico (e.g., Maunabo, Vieques, Humacao). Furthermore, no direct effects to these small beach areas are expected from the proposed AOGP.

Regarding other sea turtle species, there are no nesting records for the green, loggerhead or leatherback sea turtle within the project area. Thus, we believe that the proposed project would not affect nesting habitats for these three sea turtle species.

The BA does include potential effects to sea turtles in the water and its foraging habitat. Please note that sea turtles in the water (i.e., when not nesting), fall under the jurisdiction of NOAA's National Marine Fisheries Services-Protected Resources Division (NMFS-PRD). The BA proposes mitigation measures that would avoid/minimize potential effects on sea turtles in the water. For example, the presence of certified observers within all project related vessels and the development of seagrass mitigation and monitoring plan, and a lighting plan. We recommend

AG10-01 Comment noted. See the response to comment AG02-28.

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AG10-01 (cont'd) that the lighting plan includes sea turtle friendly lighting techniques in order to minimize potential effects on both adults and hatchlings sea turtles while in water and on the beach.

Birds

AG10-02 Both the Rufa red knot and the Piping plover are considered uncommon migrants in Puerto Rico. In addition, neither of the species is reported as occurring within the Jobos Bay National Estuarine Research Reserve (JBNERR) (Field et al. 2003). Because their uncommon reports and habitat characteristics, the Service does not anticipate effects to these species. Therefore, the Service does not concur with the may affect, not likely to adversely affect determination. We believe that the project would not affect the Rufa red knot or the Piping plover.

AG10-03 The Yellow-shouldered blackbird (YSBB) has been documented within the Aguirre PP and the JBNERR. The proposed project will not impact coastal or offshore cay mangrove forest, a preferred roosting, feeding, and nesting habitat for the YSBB. The BA specifies potential noise and lighting impacts. Although there are no mitigation measures specific to the YSBB, the lighting plan proposed in the BA should include appropriate measures to minimize potential lighting impacts to coastal areas. Noise impacts are considered temporary. Based on the above, we believe potential effects on the YSBB would be minimal, thus we concur with your initial effects determination of not likely to adversely affect for this species.

Based on the above, we concur with your determination that the project is not likely to adversely affect the hawksbill sea turtle and the YSBB. Thus, no further consultation is needed for these two species. Should additional information on the listed species or proposed species becomes available, this determination may be reconsidered.

Antillean manatee

AG10-04 The BA determines that the project is likely to adversely affect the Antillean manatee. Although the BA and draft EIS provide sufficient information for the Service to concur at this time with your effects determinations for other listed and proposed species (or that "no effect" is an appropriate determination), we do not have all the information necessary to initiate formal consultation for the Antillean manatee. Specifically, the Service needs additional information about the manner in which the action may affect this species (50 CFR §402.14(c)(4)). According to FERC's response to September 5, 2014, Environmental Information Request, FERC is currently revising construction methods for a section of the pipeline and thus revising the project description for the final EIS. This information is also necessary in order for Aguirre LCC to develop appropriate mitigation measures for incidental impacts to trust resources. Revised construction methods in this portion of the project and corresponding additional or revised mitigation measures are relevant to formulating a biological opinion about the project's effects on the Antillean manatee; therefore, we cannot initiate formal consultation at this time.

AG10-02 We updated section 4.6 to reflect that the Project would not affect the rufa red knot or the piping plover.

AG10-03 Comment noted. See the response to comment AG02-28.

AG10-04 Section 4.6 has been revised to reflect Aguirre LLC's currently proposed action. As noted in section 4.6, the FERC will submit a BA to the FWS and NMFS outlining impacts on the Antillean manatee and all other ESA-listed species once the final pipeline design or route is determined.

AG10 – U.S. Fish and Wildlife Service (cont'd)

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AG10-05 Please be aware that the ESA requires compliance with the MMPA when actions involve marine mammals. Activities which lead to incidental take of Antillean manatees are not authorized under the MMPA and, therefore, cannot be authorized under the ESA. Therefore, any activity that has the potential to result in incidental take should be modified to the extent that take is no longer reasonably certain to occur.

The Service has evaluated the information provided in the draft EIS and BA in regards to the Antillean manatee. Please review our comments and recommendations below that should be included in the final EIS and BA accordingly.

The waters within the AOGP and the JBNERR harbor one of the most important habitats for the Antillean manatee in Puerto Rico. Past and present manatee aerial survey counts are usually highest for the Guayama-Salinas area. Field survey reports referenced in the draft EIS and BA specify that manatees were observed over seagrass near and offshore to the *Boca del Infierno* passage.

Potential effects to the Antillean manatee discussed in the BA include: vessel strike, impedance of normal behaviors, impacts to seagrass habitat, thermal plume and sodium hypochlorite discharges, spills, and noise. The BA also provides mitigation measures that include: safer speeds, presence of certified observers within all project related vessels; general response when a manatee is observed within certain project related activities; preparation of site-specific spill prevention and control plan; and development of a seagrass mitigation and monitoring plan.

AG10-06 The Service believes that the greatest concern from all project related potential threats to the Antillean manatee are vessel strikes, possible harassment by construction activities (e.g., noise), and the possibility of a spill. The 12-month proposed duration of AOGP construction and the magnitude of the project impacts to seagrass beds are also a major concern. Construction activity and noise may displace manatees from important habitats such as foraging or resting areas within the Jobos Bay, altering their normal behavior within a high manatee use area. As a result, manatees may be forced to use other areas that may be less suitable or be exposed to greater threats such as areas with higher boat traffic.

After reviewing the information provided, we anticipate the following effects to the Antillean manatee and provide further recommendations:

1. Vessel strikes:

AG10-07 • Inappropriate (e.g., high speeds, chasing, groundings, etc.) use of vessels within high manatee use areas like JBNERR, may injure, kill, and/or harass manatees and degrade seagrass feeding habitat, and may also cause manatee mother/calf pairs to separate, making calves even more susceptible to threats and stranding. According to the draft EIS, project related vessel traffic would consist of approximately six to eight construction and support vessels working within and/or traveling to and from the construction sites. During operation, there is also vulnerability for collisions with the

AG10-05 We updated section 4.6.2 to clarify that incidental take of Antillean manatees cannot be authorized under the ESA.

AG10-06 Anticipated Project impacts on the Antillean manatee are summarized in section 4.6. Also see response to comment AG10-04.

AG10-07 Comment noted. Anticipated Project impacts on the Antillean manatee are summarized in section 4.6.

AG10 – U.S. Fish and Wildlife Service (cont'd)

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AG10-07 (cont'd) LNG carriers and associated tug boats. AOGP LNG carriers are assumed to make 46 deliveries per year (one every 8 days).

- According to the information provided in the BA, Aguirre LLC would operate vessels at safe speeds in order to avoid collisions with manatees and other marine species. Aguirre LCC will also have one qualified and certified marine mammal observer (MMO) assigned to each construction vessel and lay barge at all times, with the exclusive responsibility to watch for marine mammals to allow for mitigating response.

  The BA specifies that MMOs will implement a response protocol whenever a marine mammal sighting is made. The MMO will radio call the lead MMO who will disseminate the information to the other vessel MMOs working. General response to a sighting is to maintain a distance of 50 yards (46 m or 150 ft) or more for one individual or to reduce vessel speed to 10 knots (11.5 mph) or less, and a minimum distance of 100 yards (91 m or 300 ft) when mother/calf pairs or larger groups are observed near and underway vessel, when safety permits. All sightings will be recorded. The Service concurs with the presence of MMOs and the implementation of a response protocol in order to avoid and minimize potential vessel strike effects on the manatee.

- Recommendations for the vessel strike threat:

AG10-08 i. Reduced vessel speeds be defined as no-wake (5 mph) for all project related vessels whenever possible, especially in waters shallower than 10 feet and all vessels operating after nightfall (sunset) should exclusively maintain a no-wake speed when possible.

AG10-09 ii. Please review the Service's manatee conservation measures for in-water work available online at: http://www.fws.gov/caribbean/ES/documents/USFWSAntilleanManateeConservationMeasuresJanuary2012.pdf. These recommendations should be incorporated into the BA as additional conservation measures for the Aguirre LCC.

AG10-10 iii. Marine mammal observation and response protocols should be included separately as an Appendix to the draft EIS or BA and with as much detail as possible. Protocols should be available for review before the final version of the BA is completed. For example, in order to maximize detection of species, MMOs should coordinate and plan how much observation areas will each MMO cover. In addition, two separate observation protocols should be developed, one for construction and one for operation of the AOGP. Observation protocols should provide appropriate measures to avoid and minimize potential vessel strikes to manatees and sea turtles.

AG10-08 See the response to comment AG02-27.

AG10-09 See the response to comment AG02-27.

AG10-10 See the response to comment AG02-27.

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2. Noise impacts from general construction and pile driving activities:

- According to the draft EIS and BA, the highest levels of noise expected from the vibratory pile driving would exceed the 180 dB threshold within 33 feet (10 m) of the sound source and exceed the 160 dB threshold within 213 to 738 feet (65 to 225 m). Noise associated with the construction and support vessels would also exceed the 160 dB threshold within 33 feet (10 m) of the source and exceed the 120 dB threshold within 2.1 to 2.2 miles (3.4 to 3.5 km) in the offshore terminal area, and within 0.4 to 1.4 miles (0.5 to 2.3 km) in Jobos Bay. Transiting LNG carrier's noise would exceed the 120 dB limit within 1.0 to 1.1 miles (1.6 to 1.8 km) of the source and if thrusters are used, the sound is predicted to exceed the 160 dB limit within 164 feet (50 m) of the source and the 120 dB limit within the 5.3 miles (8.5 km) of the source.

- According to the draft EIS and BA, nine structural jackets and four tri/quad pile structures at the offshore berthing platform site may require impact hammers for their installation. Estimated sound levels from the hammer pile driving were not provided by Aguirre LCC. FERC is recommending Aguirre LCC to determine noise impacts (i.e. acoustic modeling) associated with hammer pile driving at the offshore berthing platform and other areas where it may be used.

- Aguirre LCC will employ measures to minimize noise impacts on marine wildlife species. During construction, MMOs will monitor a safety exclusion zone of 0.3 miles (0.5 km). If a marine mammal or sea turtle is observed within the exclusion zone, pile driving activities will be suspended until the animal moves out of the area. Exclusion zone is based on the modeling of noise attenuation completed by Aguirre LCC.

- The MMPA defines levels of harassment due to noise levels. However, noise threshold levels have not been developed for manatees. Based on the information available for the possible effects of sound levels on manatees, and measures that have been taken for similar projects, the Service believes the proposed exclusion zone and associated measures for vibratory pile driving and construction are appropriate to avoid and minimize noise impacts on manatees. The highest levels of noise (i.e., pile driving) are expected to occur offshore, where manatee occurrence is less frequent. In addition, permanent noise impacts according to the BA would be generated during operation of the AOGP within the immediate vicinity of the offshore berthing platform location, and thus are considered minimal to the manatee.

- Recommendations for the noise threat:

AG10-11 i. The noise mitigation protocol for the safety exclusion zone should also be included as an Appendix to the draft EIS or BA with as much detail as possible. For example, it should be noted how many observers will be present to cover

AG10-11 See the response to comment AG02-25.

AG10 – U.S. Fish and Wildlife Service (cont'd)

AG10-11 (cont'd) the 0.3 miles in each direction from where vibratory pile driving will occur and how much time is necessary for pile driving activities to finalize.

AG10-12 ii. Noise mitigation protocol should also specify when during construction will the protocol be implemented.

AG10-13 iii. Please further explain the 0.3 miles exclusion zone, as it is not clear on how each MMO would identify the limits of the exclusion zone.

AG10-14 iv. As recommended by FERC, Aguirre LCC should also complete acoustic modeling for hammer pile driving in order to determine if the proposed safety exclusion zone is appropriate. This information should be available for the final EIS and BA.

3. Impacts to sea grass: According to the information provided, the proposed AOGP project would result in direct impacts to approximately 19.8 acres of seagrass, including permanent impacts to 3.6 acres of seagrass.

AG10-15 • The Service considers the magnitude of seagrass impacts within the AOGP area as high because such impacts may result in the degradation of one of the most important foraging areas for the manatee in Puerto Rico.

AG10-16 • According to Table 3.5-2 of the draft EIS, Terminal Site 4 and Pipeline Routes 3 and 4 would affect less seagrass resources than the proposed terminal and pipeline route. According to the draft EIS (Page 3-26), terminal Site 4 with Alternative Pipeline Route 3 could be a reasonable alternative.

• As specified in the draft EIS and BA, Aguirre LCC has agreed to prepare a seagrass mitigation and monitoring plan to offset short-term and/or permanent impacts on seagrass communities. The plan would include seagrass planting and pos-construction monitoring to determine the AOGP effects and/or mitigation success.

• Recommendations for seagrass impacts:

AG10-17 i. As recommended by FERC, please finalize seagrass specific mitigation plan for review prior to submitting the final EIS.

AG10-18 ii. We recommend that AOGP continue exploring potential alternatives to further minimize impacts to sea grasses (e.g., moving terminal site 4 seaward from recreational and commercial use areas; a combination of terminal site and pipeline route to further minimize effects on submerged aquatic vegetation; and alternative methods of construction and installation).

AG10-12 See the response to comment AG02-25.

AG10-13 See the response to comment AG02-25.

AG10-14 See the response to comment AG02-25.

AG10-15 Comment noted. This information has been included in section 4.6.

AG10-16 Comment noted. Sections 3.5 and 3.6 describe the impacts on seagrass from the alternatives.

AG10-17 A draft Benthic Resources Mitigation Plan has been filed (appendix D). We are recommending that Aguirre LLC work with appropriate federal and state agencies to finalize the plan. Aguirre LLC would be required to provide the plan to the FERC staff for review and approval prior to construction.

AG10-18 The draft and final EISs reviewed multiple routes from the proposed terminal and alternative terminal sites. Avoidance of seagrass areas was one of the criteria used in our comparison of alternatives.

AG10 – U.S. Fish and Wildlife Service (cont'd)

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4. Possible contaminants spill:

- The information provided specifies that minor releases of hydrocarbons during construction could result in short-term, minor to moderate adverse impacts on benthic resources. Spills can originate from multiple sources and the potential impacts would depend in part on the magnitude and components of the spill. The AOGP is required to comply with all laws and regulations related to avoiding and handling of fuels and lubricants, and Aguirre LCC will prepare a site-specific spill prevention and control plan for construction and operation. FERC is recommending that Aguirre LCC submit this plan for review and approval prior to construction.

- Recommendations for possible contaminants spill:

AG10-19 i. The spill prevention and control plan should include a wildlife response plan that includes federally listed species and migratory birds.

ii. For more information you may review the Caribbean Area Contingency Plan, available online at: http://ocean.floridamarine.org/ACP/SJACP/.

5. Potential impacts of the thermal plume and sodium hypochlorite (chlorine) discharges on the Antillean manatee:

AG10-20 • Based on the information provided, low residual chlorine concentration (0.1 to 0.15 ppm or mg/L) discharges are anticipated. We believe that the anticipated concentrations are low impact and are not expected to cause harm to the manatee. Chlorine is used in manatee rehabilitation pools at similar levels and manatees have been seen drinking chlorinated tap water from anthropogenic sources.

AG10-21 • Thermal plume discharges will result from the offshore berthing platform and LNG carriers. Maximum temperature thermal tolerance of manatees has not been studied and may deter them from using areas if temperatures are too high for them. An additional thermal discharge may result in cumulative thermal effects on possible feeding resources for the manatee in the area. Since thermal plume from the AOGP will occur at the offshore berthing platform were manatees are less common, the Service agrees that thermal discharges effects on the manatee would be low.

AG10-22 6. The Service recommends Aguirre LCC to consider manatee specific mitigation measures. For example, a manatee radio-tracking project within Jobos Bay will help obtain more detailed information on manatee how manatees respond to the AOGP short and long-term potential effects. In addition, aerial surveys may be used to complement MMOs during construction and also help to better assess AOGP related effects on the manatees behavior.

AG10-19 We are recommending in section 4.5.3 that Aguirre LLC file, as part of its site-specific Spill Prevention, Control, and Countermeasure Plan, response measures that would be implemented if wildlife, including federally listed species or migratory birds, are impacted by an inadvertent hydrocarbon spill.

AG10-20 Since issuance of the draft EIS, Aguirre LLC proposed a copper-anode system as an anti-fouling mechanism. We updated section 4.6 accordingly.

AG10-21 Comment noted. This information has been summarized in section 4.6.2.

AG10-22 We are recommending in section 4.5.3.3 the use of aerial surveys during construction. Based on this recommendation and others in section 4.5.3.3 related to the MMOs, vessel traffic, noise, lighting, and inadvertent hydrocarbon spills; the mitigation measures proposed by Aguirre LLC; and the temporary nature of the Project impacts, we concluded that the impacts on manatees and other marine mammals would be reduced to acceptable levels in compliance with federal requirements. Impacts on manatees and related mitigation measures will also be a part of our Section 7 consultation for this species.

AG10 – U.S. Fish and Wildlife Service (cont'd)

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The Service provides the following additional comments to the draft EIS and BA.

AG10-23 • Aguirre LCC and FERC should refer and cite the 2012 document for Antillean manatee in Puerto Rico titled: *Science Summary in Support of Manatee Protection Area (MPA) Design in Puerto Rico*, available on line at: http://digitalmedia.fws.gov/cdm/ref/collection/document/id/1907

AG10-24 • There are two Puerto Rico Antillean manatee Stock Assessment Reports cited. Only the most recent (2014) should be referenced, as these documents are updated and the most recent one is the most appropriate, available at: http://www.fws.gov/caribbean/ES/documents/201401_FinalSARWIMPuertoRicoStock.pdf

The formal consultation process will not begin until we receive the additional information described in this letter, or a statement explaining why that information cannot be made available. We will notify you when we receive this additional information; our notification letter will also outline the time frame for formal consultation and provide a date for delivering the biological opinion on the project.

Thank you for the opportunity to comment on this project. If you have any questions or require additional information, please contact Jan P. Zegarra at 787-851-7297 extension 220 or Marelisa Rivera at extension 206. You may also visit our website http://www.fws.gov/caribbean/ES for additional information on threatened and endangered species under jurisdiction and the Section 7 consultation process.

Sincerely yours,

Edwin E. Muñiz
Field Supervisor

Jpz/mtr/jcb
cc:
USFWS, RO, Jerry Ziewitz
DNER, San Juan
COE, San Juan
NOAA Fisheries, Cabo Rojo
EPA, Guaynabo
USCG, San Juan
PRPB, San Juan
EQB, San Juan
PREPA, San Juan
Aguirre LCC

AG10-23 We reviewed the supplied reference and added a citation in section 4.6.

AG10-24 We revised section 4.6 to only include the 2014 citation for the Puerto Rico Antillean Manatee Stock Assessment Report.

AG11 – U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration

20141104-4002 FERC PDF (Unofficial) 11/04/2014

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration

400 Seventh Street, S.W.
Washington, D.C. 20590

OCT 3 1 2014

Mr. Jeff C. Wright
Director
Office of Energy Projects
Federal Energy Regulatory Commission
888 First ST NE
Washington, DC 20426

RE: FERC Docket No. CP13-193-000
Aguirre Offshore GasPort LLC

Dear Mr. Wright:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has reviewed the Aguirre Offshore GasPort LLC (Aguirre) response to the Federal Energy Regulatory Commission (FERC) data request. PHMSA has the following comments on Appendix E of Aguirre's October 20, 2014 response to the FERC concerning the 18-inch offshore pipeline.

Aguirre's submittal drawings, Appendix E, show pipeline sections to be buried as follows:

- Stations 20051 to 21351 (1300 feet) – 3 feet burial cover with Submar mats and pipe without concrete coating for buoyancy;
- Stations 12103 to 13973 (1870 feet) – 3 feet of burial cover; and
- Stations 11178 to 11582 (404 feet) – 3 feet of burial cover.

AG11-01 There are no details or specifications of the Submar mats and how the pipeline would maintain stability/negative buoyancy with no concrete coating. All other footages of the offshore pipeline do not show any burial cover, which does not meet the requirements of 49 C.F.R. § 192.327(f). Section 192.327(f) would require burial below the natural sea bottom or an alternative equivalent protection system from hazards.

Aguirre's submittal drawings, Appendix E, do not indicate:

AG11-02
- How pipeline offshore areas with water depths 12 feet or greater would be buried below the natural sea bottom or protected by an equivalent means.
  - Protected by equivalent means is not defined or referenced in Appendix E or other submittals by Aguirre, and if used, specifications or procedures need to be furnished that support usage as an equivalent protection method from hazards in accordance with 49 C.F.R. § 192.317.

AG11-01 As discussed in subsequent meetings and in the final EIS, Aguirre LLC has revised its proposed action to include appropriate pipeline burial and protection requirements.

AG11-02 See the response to comment AG11-01.

AG11 – U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (cont'd)

20141104-4002 FERC PDF (Unofficial) 11/04/2014

AG11-03 • How the pipeline will be supported at the reef and elevation change span areas, Station 5722 to 6028, shown in Appendix E.
  - ➢ Pipe supports need to be of a design to withstand sea conditions and limit movement and pipe stresses over the lifetime of the pipeline.

AG11-04 • How the pipeline will be buried below the natural bottom in all offshore areas, including in the reef area, or what equivalent means of burying will be used to protect the pipeline.
  - ➢ Pipeline concrete coating for negative buoyancy such as 3-inches of concrete around the pipe is not an equivalent means of protecting the pipeline.

AG11-05 • What the area in Appendix E titled "Hazardous Boundary" from Station 5233 to 9963 means and how the pipeline would need to be mitigated from any hazards in this area?

Further, PHMSA interprets 49 C.F.R. Part 192 to require offshore pipelines not located in the Gulf of Mexico offshore areas to meet the following soil cover requirements to protect the pipeline from abnormal loads and hazards:

AG11-06 • In water depths below 12 feet deep the pipeline must be buried 3 feet deep;
- In water depths over 12 feet deep, the pipeline must be buried so that the top of the pipe is below the natural bottom, unless the pipe is supported by stanchions, held in place by anchors, or concrete coating or protected by equivalent means;
  - ➢ Additional steps are required to protect the pipeline from abnormal loads such as from ships, barges, and boats, whether commercial or private vessels.
- Concrete coating used on the pipeline for negative buoyancy would not be an acceptable method of protecting the pipeline from abnormal vessel loads, possible denting, or other offshore hazards to the pipeline.
  - ➢ Burying or any other alternative equivalent protection measures from offshore hazards must be in-place prior to the pipeline being placed into service.

The applicable 49 C.F.R. Part 192 sections for offshore pipeline cover and protection from hazards are 49 C.F.R. §§ 192.3, 192.317 and 192.327.

If you have any questions concerning PHMSA's comments on the Aguirre Pipeline, please do not hesitate to contact me at 202-366-5124 or Steve Nanney at 713-272-2855.

Sincerely,

Alan K. Mayberry
Deputy Associate Administrator
for Pipeline Safety

cc: Mr. J. Rich McGuire, Acting Director, Division of Gas-Environment and Engineering, Office of Energy Projects, Federal Energy Regulatory Commission, 888 First ST NE, Washington, DC 20426

AG11-03 See the response to comment AG11-01.

AG11-04 See the response to comment AG11-01.

AG11-05 See the response to comment AG11-01.

AG11-06 See the response to comment AG11-01.

COMPANIES AND ORGANIZATIONS

CO01 – Center for Biological Diversity

20140929-5073 FERC PDF (Unofficial) 9/29/2014 8:35:16 AM

Jaclyn Lopez, St. Petersburg, FL.
Sent Electronically Using eComment

September 29, 2014

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

Re: Aguirre Offshore GasPort, LLC Docket No. CP13-193-000

On behalf of the Center for Biological Diversity, and our 775,000 supporters, many who live and recreate in Puerto Rico, please accept the following comments on the proposed Aguirre Offshore GasPort ("Project").

The Center is concerned about the potential impacts that the Project might have on the ecology of the area surrounding the Project by introducing a major source of air and water pollution, by threatening the habitat of endangered species, and by threatening migrating whale populations, among other potential impacts.

In addition, the proposed Project will have global implications by creating a new source of greenhouse gas emissions at a time when it is critical for the international community to reduce its carbon output in order to avert catastrophic impacts from climate change. Liquefied Natural Gas ("LNG") is a fossil fuel whose extraction, transport and combustion would result in a significant addition to global greenhouse gas emissions, including carbon dioxide (CO2).

Due to these and other impacts, as discussed in more detail below, the Environmental Impact Statement ("EIS") must fully evaluate and disclose all potential impacts and provide a full range of alternatives for the public and decision-makers to consider. Moreover, the EIS must disclose the potential impacts from the entire lifecycle of the Project, from construction, to operation, to decommissioning activities. The EIS must also disclose not only the local impacts of the Project to the nearby ecology, but also the global ramifications of the Project caused by the extraction of LNG in foreign territories and the transportation of LNG through international waters, as well as the Project's contribution to greenhouse gas emissions.

I. SPECIFIC IMPACTS TO BE ADDRESSED BY THE EIS

A. Need for and Alternatives to the Project.

CO01-01 The EIS should also evaluate clean energy alternatives to the Project, such as conservation, efficiency, and renewable energy sources. The EIS must also evaluate whether there exists a need for the Project. In evaluating the need for the Project, and LNG in general, the EIS should include information regarding the Puerto Rico's current and projected energy demand, as well as its current and projected supplies.

CO-1

CO01-01 We provided a more detailed analysis of the energy alternatives in section 3.2. As described in section 1.1 of the EIS, Aguirre LLC developed the Project in response to PREPA's demand and then filed an application with the FERC for authorization to construct and operate the proposed facilities. The EIS is limited to assessing the potential environmental impacts of the proposed Project. Although the EIS does consider whether alternative actions might meet the customers' demands, the EIS does not consider or reach a conclusion on whether there is a need for the proposed Project. Section 1502.13 of the Council on Environmental Quality (CEQ) regulations implementing NEPA requires that an EIS "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." In other words, the EIS states the purpose of and need for a proposed project in order to define the range of alternative actions that the agency can legitimately consider. The determination of whether there is a "need" for the proposed facilities for the purpose of issuing an authorization under section 3 of the Natural Gas Act (NGA) will be made in the subsequent Commission Order granting or denying the applicant's request for findings of public interest and authorization and is based on a balancing of the benefits of the Project against any adverse impacts.

CO01 – Center for Biological Diversity (cont'd)

B. Baseline Information.

CO01-02 In order for the public and decision-makers to understand the full impact of the Project, the EIS must set forth the specific locations of all potentially affected sensitive species' habitats and plant communities through proper surveying and delineation techniques. Results of surveying and habitat delineations must be presented in maps to inform the public and decision-makers of the extent and location of at-risk biological resources. Potentially affected species habitats include species and areas directly and indirectly affected, such as species and habitats near pipeline and transportation corridors and in downstream waterways, and species and habitats impacted indirectly by the Project and the source(s) of gas production.

C. Environmental Impacts Overview.

CO01-03 Under the National Environmental Policy Act ("NEPA"), the EIS must evaluate the direct and indirect effects of the Project, which includes impacts from the full life cycle of the Project, including exploration, drilling, extraction, production, and processing impacts, as well as the transportation, reprocessing and consumption impacts. All of these impacts must be included in the EIS.

D. Air Quality.

CO01-04 The EIS must evaluate the impacts to air quality onshore from the Project's offshore air pollutant emissions. The EIS must evaluate the potential emissions from the transportation of the Project's natural gas through existing and Project infrastructure. The transportation emissions that must be evaluated include emissions from energy consumption needed to transport natural gas through existing and Project pipelines, as well as emissions from the construction of additional pipelines or capacity to the existing pipeline infrastructure that may be required as a result of the Project transporting additional natural gas through the existing pipeline infrastructure, or from the retrofitting of existing pipelines.

Emissions from residential and industrial use of Project natural gas must be evaluated. According to the South Coast Air Quality Management District ("SCAQMD"), imported LNG burns hotter than domestic natural gas and produces high NOx emissions. This so-called "hot gas" and the resulting air quality impacts must be evaluated in the EIS. There is a direct causal relationship between the quality of imported natural gas and the potential for increased NOx emissions. These increased emissions could significantly impact ozone non-attainment areas. Increased emissions from residential and industrial end users of Project natural gas are therefore reasonably foreseeable, indirect Project impacts that must be disclosed and evaluated in the EIS.

E. Climate Change and Greenhouse Gases.

CO01-05 Greenhouse Gas Emissions must be addressed under NEPA. An EIS must contain a "detailed statement" of all significant effects on the

CO01-02 Figures provided in the draft EIS identify the location of coral reef, seagrass, benthic, critical habitat for staghorn and elkhorn corals, and recreational use areas. These maps are also included in the final EIS. To further assist the reader, an additional map of seagrass habitat was added and named figure 4.4.2-2. In addition, all of the environmental information incorporated or referenced in the EIS is public and can be found on our eLibrary website.

CO01-03 FERC cannot estimate exactly where the natural gas volumes would come from because the volumes could be sourced internationally, and how much, if any, would be new production "attributable" to the Project. Sources that could produce gas that might ultimately flow to this Project might be developed in any part of the world. Therefore, it is impossible and speculative to calculate any GHG emissions or impacts associated with production of the natural gas that would eventually flow through the Project. Sections 4.10.1.4, 4.10.1.5, and 4.12.2.2 discuss GHGs associated with construction and operation of the Project and the Aguirre Plant.

CO01-04 The end user of the natural gas would be the Aguirre Plant, and the air quality impacts are discussed in section 4.12.2.2. The impacts of the offshore and onshore emissions were evaluated through the OCD analysis with no adverse impact results. Therefore, there is no need to evaluate the emissions from residential and commercial use of the natural gas transported by the Project.

CO01-05 There are no thresholds of significance criteria established by PREPA or the EPA for Project GHG emissions. There is no legal precedent to make a damage claim for stationary source or Project GHG emissions causing local climate change impacts. Climate change is caused by global impacts and effects. However, the GHG emissions from the Project and the effects of climate change are properly discussed in sections 4.10.1 and 4.12.2.3 of the final EIS, which includes the most recent information from the U.S. Global Change Research Program. Section 4.12.2.2 further discloses the GHG emissions from the Project combined with the Aguirre Plant operations. Finally, we provide a comparison of the future potential GHG emissions for the Project and the Aguirre Plant to Puerto Rico's reported GHG emissions for 2011 (see section 4.10.1.5).

CO01 – Center for Biological Diversity (cont'd)

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CO01-05 (cont'd) environment from the proposed project. In addition, an EIS must analyze and disclose any irreversible effects. The emission of greenhouse gasses and resulting climate change will cause irreversible harm on a global scale, effecting not only Puerto Rico, but the entire planet. As a result, the EIS must address the global climate change impacts that will result from the Project. Because the effects of global climate change will be felt worldwide, the EIS must describe and inventory all the greenhouse gas emissions resulting from the full life cycle of the Project, from extraction, to transportation, to consumption. The EIS must also disclose spec

CO01 – Center for Biological Diversity (cont'd)

CO01-05 (cont'd) Jaclyn Lopez, St. Petersburg, FL.
part 2 of comments: The EIS must also disclose specific impacts from the Project's contribution to global climate change, including rising temperatures, increased droughts, shifting habitats, loss of species and biodiversity, increased severity and frequency of storms and extreme whether events, famine, increases in pests and diseases, rising sea levels, flooding, etc.

The EIS must also disclose specific impacts to Puerto Rico resulting from climate change, including sea level rise, changes in precipitation, increase in heat waves and heat-related deaths, reduction of forest yields, drought, ozone formation, and wildfires. The EIS must also disclose specific impacts to the Project resulting from climate change, including disruption and damage caused by sea level rise and increased severity of storms.

CO01-06 Finally, the EIS must evaluate the impacts to climate change as a consequence of the Project in comparison to other alternatives. For example, the EIS must quantify and evaluate the additional greenhouse gas emissions that will result from the importation of LNG rather than using domestic natural gas. These additional greenhouse gas emissions result from the need to liquefy, transport, and regasify the gas. The EIS should also compare the greenhouse gas emissions from LNG to the emissions from clean energy alternatives, such as conservation, efficiency and renewable resources.

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of Puerto Rico. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in precipitation, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

According to a multitude of reports by the Intergovernmental Panel on Climate Change ("IPCC") and other scientific institutions, current trends of climate change will reach catastrophic proportions unless existing levels of greenhouse gas emissions are significantly reduced. Solving our climate crisis requires action on many fronts and pursuant to many different laws and policies.

In order to properly analyze a project's climate change impacts, an EIS should: 1) provide a regulatory and scientific background on global warming; 2) assess the project's contribution to climate change through an emissions inventory; 3) assess the effect of climate change on the project and its impacts; 4) make a significance determination; 5) evaluate alternatives; and 6) adopt feasible mitigation measures.

II. The Science on Global Warming

CO01-06 The GHG emissions from the Project and the effects of climate change are properly discussed in sections 4.10.1 and 4.12.2.3 of the final EIS, which include the most recent information from the U.S. Global Change Research Program. Section 4.12.2.2 further discloses the GHG emissions from the Project combined with the Aguirre Plant operations, and we find that our scope of emission sources is appropriate for our environmental review of the Project. As to the comment regarding using imported LNG rather than domestic natural gas, Puerto Rico does not have a source of natural gas on the island; therefore, any natural gas consumed in Puerto Rico must be imported. Further, section 3 of the final EIS thoroughly discusses other energy alternatives and provides a determination on their applicability for the Project.

CO01 – Center for Biological Diversity (cont'd)

20140929-5074 FERC PDF (Unofficial) 9/29/2014 8:37:28 AM

CO01-06 (cont'd) Climate change poses enormous risks to Puerto Rico. In order to provide the necessary context for an assessment of the Project's impacts on global warming, the EIS should first discuss the impact of global warming on Puerto Rio by providing an accurate summary of the scientific literature on climate change. Scientific literature on the impact of greenhouse gas emissions on Puerto Rico (and the world) is well developed and can provide the context for this discussion. The summary should make a good faith effort at full disclosure and avoid minimizing or discounting the severity of global warming's impacts.

A. Assessing the Project's Impact on Global Warming

To assess the Project's impact on global warming, the EIS should complete an inventory of all of the Project's emission sources.

Sources to consider include the following:

- Construction vehicles and machinery;
- Manufacture and transport of building materials;
- Electricity and natural gas usage in buildings;
- Water supply and transportation to the project;
- Vehicle and shipping trips generated by the project;
- Process emissions, such as from the production of cement, adipic acid, ammonia, or the refining of LNG:
- Fugitive emissions, such as methane leaks from pipeline systems and leaks of HFCs from air conditioning systems; and
- Waste disposal, including transport of solid waste and methane emissions from organics decomposition.

Where applicable, an emissions inventory should also account for alternation of greenhouse gas sinks and changes in land albedo (reflectivity). For example, because trees sequester carbon, cutting down a forest to produce natural gas would remove a sink for greenhouse gas gases, thereby compounding a project's contribution to global warming.

B. Assessing the Effect of Global Warming on the Project and its Impacts

The EIS should also discuss how climate change will affect the Project and its impacts. For example, the Project may be subject to flooding based on predicted rises in sea level or due to extreme weather events worsened by climate change. In addition, global warming will increase or change a proposed project's impacts. Higher air temperatures will lead to more ground level ozone formation in the future; and species at risk from temperature increases and changes in precipitation will be more sensitive to project impacts to their habitats. In sum, global warming may exacerbate a project's impacts or reduce the effectiveness of mitigation measures to reduce those impacts. The EIS should include a discussion of these dynamics.

C. Making a Significance Determination

CO01 – Center for Biological Diversity (cont'd)

CO01-06 (cont'd) After disclosing and analyzing the Project's greenhouse gas emissions, the agency must determine whether the impacts from those emissions are significant. A lead agency must determine not only whether a project's impacts will be significant in and of themselves, but also whether the impacts will be significant on a cumulative basis.

Climate change is a classic example of a cumulative effects problem; emissions from numerous sources combine to create the most pressing environmental and social problem of our time. These sources may "appear insignificant when considered individual

CO01 – Center for Biological Diversity (cont'd)

CO01-06 (cont'd) jaclyn lopez, st petersurg, FL.
part 3 of comments: These sources may "appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact." The solution to climate change lies not in any one single action, but in systematically reducing emissions from all possible sources.

III. Water Quality.

CO01-07 The EIS must address water quality impacts from discharges resulting from Project construction, operation and decommissioning activities. The EIS must analyze impacts from accidental releases into the ocean or mainland watersheds of all substances associated with the Project, including fuels (from transportation activities or from spills resulting from vessel collisions or accidents), sewage, oil (from Project or vessel components or damage to pipelines in the area), industrial chemicals (such as solvents or paints), adhesives, grey water, LNG, etc.

The EIS must address the risk of permitted or accidental discharges entering and harming the water quality of nearby marine protected areas, and should include thorough disclosure of the potential extent of environmental harm from such spills, as well as detailed spill prevention and cleanup plans for agency and public review and comment.

CO01-08 The EIS must also assess the potential impacts to mainland watersheds and ocean water quality from runoff and/or stormwater discharges associated with all aspects of Project construction and operation. Finally, the EIS must disclose and address all potential water quality impacts from Project vessels, such as construction and maintenance vessels, LNG tankers and tugs.

A. Thermal Discharge Causing Widespread Adverse Habitat Modification

CO01-09 The EIS must present the Services with readily available data about the extent to which existing cooling water intakes discharge thermal loads that adversely modify the habitats of hundreds of listed species.

The Union of Concerned Scientists and independent scientists from a number of governmental and academic laboratories have formed a collaboration called "Energy and Water in a Warming World" (EW3), which has also closely examined existing water withdrawal and thermal discharge data. EW3 identified 350 power plants that discharge wastewater at peak summer temperatures exceeding 90 degrees Fahrenheit, and singled out power plants in the upper Dan River of North Carolina and Virginia for peak summertime discharges exceeding 110 degrees Fahrenheit, a temperature that is generally lethal to wildlife and far in excess of most state standards. See EW3 at 27-29.

In its 2011 publication, "Freshwater Use by U.S. Power Plants; Electricity's Thirst for a Precious Resource," EW3 compiled a record of thermal discharges from power plants that have caused and have potential to cause significant harm to aquatic organisms. Until Georgia Power

CO01-07 As described in section 4.3.3.3, construction contractors and port operations personnel would be required to comply with all laws and regulations related to handling of fuels and lubricants, and Aguirre LLC would prepare a site-specific Spill Prevention and Control Plan for construction and operation to minimize the potential for inadvertent release. We are recommending in section 4.3.3.3 that Aguirre LLC file this plan for our review and approval prior to construction.

CO01-08 See the responses to comments AG02-33 and CO01-07.

CO01-09 Our analysis in sections 4.3.1.3, 4.5.2.4, and 4.6.2 provides a thorough discussion of thermal plumes and the effects on wildlife resources. This analysis will be included in our BA that will be submitted to the FWS and NMFS and will address specific impacts on federally listed species.

CO01 – Center for Biological Diversity (cont'd)

20140929-5075 FERC PDF (Unofficial) 9/29/2014 8:42:07 AM

CO01-09 (cont'd) retrofitted the Plant Harllee Branch coal-fired power plant on the Lake Sinclair reservoir on Georgia's Oconee River with a cooling tower in 2002, extensive fish die-offs had been common.

To overcome the gaps in current temperature data sets, scientists have also developed thermal exchange models for evaluating the interactions between power plant discharges and the environment that allow for a more systematic assessment of the effects of EPA's decision to allow continued operations of once-through cooling systems. Miara et al. (2013) describe "a simulation model of power plant operations, the Thermoelectric Power and Thermal Pollution Model (TP2M)" that "simulates the operations of contemporary and emerging power plants according to climate and hydrology conditions, engineering requirements, electricity demand and environmental regulation," and is "coupled to a regional biogeophysical model, the Framework for Aquatic Modeling in the Earth System (FrAMES) . . . a spatially distributed hydrology model with gridded river networks (3 min) that simulate transport, mixing and re-equilibration of water temperatures along river reaches at a daily time step" in order to "quantify, in high-resolution, regional patterns of thermal pollution, electricity generation on a single power plant and regional scale, river temperatures and power plant efficiency losses associated with changes in available cooling water that incorporates climate, hydrology, river network dynamics and multi-plant impacts."

This kind of modeling analysis could assist the Services in trying to quantify and estimate the effects on various aquatic habitats of the thermal discharges from hundreds of once-through cooling systems.

The Miara et al. study also examines the cumulative effects of a scenario in which the current cooling configuration in the Northeast remains in place and thermal pollution load remains similar to current conditions, combined with the anticipated climate change in the Northeast. The anticipated impacts of climate change over the coming decades include "increases in ambient temperatures and precipitation" and "higher seasonal fluctuation of stream flow" leading to "reduced river discharge in mid-northern latitudes (i.e. Northeastern US) despite an increase in precipitation. Combined low flow and rising temperatures will result in a warming of rivers." Id.at 8. The model indicates a greater than 100% increase "in unsuitable habitat for fishes with maximum average weekly temperature thresholds of 24 C (cold) and 29 C (cool) [in the Northeast]." Id. The study also indicates a similar increase in unsuitable habitat "for fishes with 34 C (warm) thresholds," but this could be mitigated by heightened efficiency and enforcing otherwise applicable water quality standards on thermal discharges (i.e. ending the use of CWA Section 316(a) variances). Id.

B. Invasive Species in Thermal Plumes

CO01-10 The EIS must also provide the best available data to the Services is with respect to the role of these thermal plumes in sheltering and promoting the growth of invasive species that harm threatened and endangered n

CO01-10 Sections 4.5 and 4.6 have been updated to summarize the role of thermal plumes in sheltering and promoting the growth of invasive species that harm threatened and endangered species. In general, there is a lack of data related to the role of thermal plumes sheltering and promoting the growth of invasive species in sub-tropical marine environments.

CO01 – Center for Biological Diversity (cont'd)

CO01-10 (cont'd) Jaclyn Lopez, St. Petersburg, FL.
part 4 of comments: For example, in recent years, scientists have documented the role of thermal plumes as protective niches for Asian clams (Corbicula fluminea) and quagga mussels (Dreissena bugensis), two highly invasive species that threaten dozens of listed freshwater bivalves in waterbodies already affected by large, regulated cooling water intakes (including waterbodies designated as critical habitat for bivalves). More than a decade ago, Mitchell et al. (1996) found that quagga mussels are present in abnormally high concentrations in areas affected by the thermal discharge plume of a power station and posited that, by decreasing the severity of wintertime low temperatures, thermal plumes create an opening for these invasives to establish and spread. Thermal plumes were also the launching point for an Asian clam invasion of the Connecticut River.

Last year, Simard et al. (2012) found that the thermal plume of the Gentilly-2 nuclear power plant in Quebec, on the north short of the St. Lawrence River, now provides a stable winter home for a population of invasive Asian clams. With this discovery, the Asian clam has extended its northern boundary to include the entire United States.

These scientific studies, and others like them, are readily available to the Services. Their findings should be reviewed and considered in the EIS and by the Services as they evaluate the Project.

IV. Impacts to Species

CO01-11 The EIS must address the Project's potential impacts to marine mammals, reptiles, birds, invertebrates, and fish, their habitats, and the ecological systems that link them throughout the entire marine area under U.S. federal jurisdiction in which Project activities are to take place. Similarly, the EIS must identify all federal and Puerto Rico-listed endangered, threatened and rare species that are known to reside within, or migrate through, areas that will be affected by the Project, as well as any other species subject to special protections, such as marine mammals, certain rock fish species, and migratory birds (protected by the Marine Mammal Protection Act ("MMPA"), the Magnusson-Stevens Fisheries Conservation Act, and the Migratory Bird Treaty Act, respectively).

A. Shipstrikes to Whales

CO01-12 Whales, and, in particular, baleen whale species, are known to be hurt or killed by large vessels around the world. Since any anthropogenic mortality is illegal under the MMPA and, for most baleen whale species, also illegal under the Endangered Species Act ("ESA"), the EIS must assess and mitigate the potential for LNG tanker collisions with large whales throughout the entire transoceanic route.

In a NOAA Fisheries' critique of a preliminary environmental impact analysis of the Cabrillo Port LNG terminal proposal, which also involved trans-Pacific shipping of LNG, the agency stated its rationale for the necessity of such an analysis as follows:

CO01-11 The commentor is requesting a Programmatic EIS be prepared. There may be merit for the FWS or the EPA to prepare a Policy or Programmatic EIS on the marine area around Puerto Rico to assist in the overall conservation and development of this area. However, this is beyond the scope of this EIS. We have identified a range of reasonable alternatives, selected relevant comparisons of the alternatives, and determined that the proposed action would be an environmentally acceptable action, provided our recommendations are included as mandatory requirements in any authorization the Commission may issue.

CO01-12 We updated sections 4.5.3 and 4.6.2 to discuss the potential for vessel collisions with whales within the Project area; reviewing these impacts throughout the transoceanic route is beyond the scope of this EIS. Mitigation measures have been summarized to reduce and prevent vessel strikes to marine mammals and sea turtles.

CO01 – Center for Biological Diversity (cont'd)

CO01-12 (cont'd) [V]essel traffic has the potential to affect listed species (e.g. ESA listed marine mammals and sea turtles) and non-ESA listed marine mammals found in nearshore and offshore waters. Adverse reactions by whales to vessel activity have been recorded, and all are vulnerable to collisions with vessels (Laist et al. 2001). The potential LNG vessel routes and species that may be affected should be included in a vessel strike analysis.

In addition to the EIS assessing the potential for LNG tanker collisions with whales through the transoceanic route, the EIS must also evaluate the likelihood of LNG tankers colliding with any of the numerous whale species that are documented to inhabit the waters off Puerto Rico and along the LNG tanker travel route at various times throughout the year. The EIS must propose demonstrably effective mitigation measures to minimize the likelihood of harmful or fatal LNG tanker collisions with whales.

B. Underwater Noise and Vibration

CO01-13 The EIS must address impacts to marine biological resources from the Project's underwater noise and vibration, including noise and vibration from construction, operation, LNG transport, and facility decommissioning. Marine mammals, fishes, reptiles, birds, invertebrates, and other ocean wildlife are likely to be affected, and thus must each be considered and analyzed.

Because Project noise and vibration is likely to cause significant impact on these resources, noise impacts from the Project must be included in the EIS. For example, a significant body of scientific research demonstrates that pile driving noise can harm or kill proximate fish. In addition, the high intensity, low frequency noise caused by large vessels can result in a threshold shift, masking, harassment and habitat avoidance in marine wildlife. Although significant vessel traffic already exists near the Project site, discrete and significant additional quantities of underwater noise and vibration will be added to the marine environment by the proposed Project. The effects of this additional industrial activity must be rigorously analyzed and mitigated.

C. Artificial Lighting

CO01-14 Because artificial lights are well understood as causing persistent, ongoing harmful and fatal effects to sea birds, migratory song birds and marine life, the EIS must include detailed, enumerated lighting plans that include a catalog of lights proposed for construction vessels and LNG carriers that are to be docked at the Project site. The EIS must include a detailed plan of how artificial lighting will be minimized to prevent bird and marine life attraction, and how all the adverse effects from lighting will be mitigated.

D. Seawater Intake and Discharge

CO01-15 The EIS should analyze all impacts to marine biology and marine ecosystems from intake and discharge or exchange of ballast water,

CO01-13 We updated sections 4.5 and 4.6 to address potential impacts on marine resources associated with the anticipated Project's noise levels. Noise associated with facility decommissioning is not within the scope of our environmental analysis. Approval for decommissioning the facilities would require additional FERC authorization, at which time we would address any associated potential impacts on marine resources.

CO01-14 See the response to comment AG02-28.

CO01-15 Section 4.3.1.3 describes ballast water systems and how water for the FSRU would be taken and withdrawn from the same body of water, decreasing the possibility of invasive species being introduced through the release of ballast water. During dry-dock maintenance discharge of ballast water may occur in an offsite location; however, this would be infrequent. Discharge would need to comply with the USCG's ballast water discharge requirements. Impacts on marine ecosystems associated with the intake of water for the proposed Project operations have been described in sections 4.5 and 4.6.

CO01 – Center for Biological Diversity (cont'd)

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CO01-15 (cont'd) including the potential for introduction of invasive exotic species through shipping and ballast water exchange.

E. Ocean Acidification

Because increasing anthropogenic carbon dioxide emissions are known to exacerbate ocean acidity, the EIS sho

CO01 – Center for Biological Diversity (cont'd)

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Jaclyn Lopez, St. Petersburg, FL.
part 5 of comments: F. Hydrocarbon Spills

CO01-16 The EIS must detail the potential effects of LNG spills, pool fires, vapor cloud fires, and any other potential accidents involving liquefied or vaporized natural gas. The EIS must also evaluate the risks and potential impacts to marine biological resources from spills of any diesel or bunker fuels that are to be used in association with the Project, including spills that occur as a result of accidental damage to existing oil and gas pipelines in the Project area due to Project construction or vessel anchoring activities.

G. Terrestrial and Freshwater Biology.

The EIS should analyze potential impacts to nearshore and coastal habitats. The EIS must evaluate direct and indirect impacts from the Project, including those from construction, operation, and decommissioning. Impacts to terrestrial and freshwater biology from combustion of the imported gas must also be analyzed in the EIS, including impacts from the Project's contribution to global warming on terrestrial and freshwater biological resources.

The EIS must assess effects on terrestrial and freshwater habitats and species resulting from the installation, maintenance, repair, operation, replacement and ultimate removal of all existing and planned pipelines and other facilities that will be used as part of the Project's onshore gas distribution system. The EIS should describe effects on specific areas of plant communities and sensitive species' habitats. In addition, erosion, sedimentation, down-slope and downstream water quality impacts, and invasion by non-native plant species should be addressed.

V. Geological Impacts.

CO01-17 The EIS should analyze the geologic impacts resulting from the Project, including the risk of erosion and subsidence. The EIS should also analyze potential hazards to the seafloor that will result from construction of the project and installation, maintenance and repair of the pipelines. Finally, the EIS should evaluate the risk to the Project and pipelines from seismic activity.

VI. Marine Transportation.

CO01-18 The EIS should evaluate the impacts from construction of the port and the offshore pipeline on commercial and recreational vessel traffic, including commercial fishing vessels, charter vessels, private recreational vessels, governmental and research vessels, and large vessels transiting via the coastal shipping lanes.

CO01-19 As the pipeline is projected to traverse the coastal shipping lanes, the EIS must address the potential interruption of marine transportation within the coastal shipping lanes due to damage to the pipeline, or from accidents at the port or on an LNG carrier. The EIS should explain how

CO01-16 Section 4.11.7.1 of the final EIS discusses the three Zones of Concern and the hazard severity from each zone to the public from an LNG spill, pool fire, or vapor clouds. Specifically, the highest potential for impacts on public safety and property exists within approximately 500 meters (m) of a spill, due to thermal hazards from fires, with lower public health and safety impacts at distances beyond approximately 1600 m. If an unignited LNG spill were to occur from the LNG ship, given that LNG is lighter than water, the LNG would float on the water until it has vaporized. The LNG from any release would rapidly cool water within the LNG pool. The temperature change would be greatest at the surface, with decreasing effects as depth is increased within the water column. Any biological resource that comes within contact of the released LNG could be injured or killed. If an associated fire were to occur with the release of LNG, impacts on would be limited to biological resources on or near the water's surface in the vicinity of the fire.

CO01-17 The potential erosion of the sea floor in the area of the proposed facilities, as well as proposed mitigation measures, are discussed in sections 4.2.3.1 and 4.2.3.2 of the final EIS. Section 4.1.3.5 indicates that the risk of subsidence associated with sinkholes and caverns is considered small. The effect of local subsidence of the sea floor under the pipeline is discussed in section 4.2.3.2. The facility would be designed for all plausible geologic hazards including earthquakes and related effects, and hurricane winds and associated storm waves and tsunamis. In addition, we are recommending in section 4.1.3.1 that the Seismic Hazard Analysis Report be revised to include both the Great Southern Puerto Rico Fault Zone and Salinas Faults, which would be consistent with the location and seismic characterization of these faults provided in the May 2014 Bureau of Reclamation reports.

CO01-18 We updated section 4.7.7 and acknowledge that restrictions on boating during construction would occur around the construction equipment, but this restriction would be short in duration in any one area as the construction activities move through the Jobos Bay area. However, to ensure that impacts on boating and fishing are minimized during construction, we are recommending that Aguirre LLC prepare a Construction Access Plan that demonstrates areas that would be required to be avoided by marine users, duration and restrictions, and methods of communication of restrictions to the general public.

CO01-19 As stated in section 4.11.8 of the final EIS, for emergencies that may affect the public, the USCG regulations contain requirements for notification, coordination, and cooperation with local officials, hospitals, fire departments, police departments, and other emergency response organizations. To address these types of impacts, this section of the final EIS also contains a recommendation that would require Aguirre LLC to develop an Emergency Response Plan in coordination with the USCG and local responders.

CO01 – Center for Biological Diversity (cont'd)

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CO01-19 (cont'd) vessels would be rerouted safely should a major LNG spill or fire occur, and the environmental and economic impacts associated with a major rerouting of vessel traffic.

The EIS must also address the safety risks to other commercial and recreational vessels resulting from additional LNG tanker traffic due to the Project, including the risk of collision, spills and fires, and also the impact to the Project resulting from the expected increase in commercial vessel traffic to and from Puerto Rico.

VII. Hazards and Risks.

CO01-20 LNG is a highly flammable substance and a potentially attractive target for a terrorist attack. LNG terminals, tankers and pipelines are susceptible to a number of potential release events, including: accidental collision with another vessel or offshore platform; a collision between the terminal and an offloading tanker; terrorist attacks; airplane strikes; operating error; equipment malfunction; seismic activity; and extreme weather events. The EIS must analyze the full range of impacts, including worst case scenarios, from these events.

CONCLUSION

In all, we submitted these comment via 5 different uploads to the eComment website. Thank you for the opportunity to comment on the draft EIS for the Project. We urge the relevant agencies to provide a comprehensive, thorough review of the potential impacts of this proposed Project, and to fully analyze alternatives that would supply the energy needs of Puerto Rico without the significant adverse impacts that may result from the Project. Please place the Center for Biological Diversity on the list for any future notices regarding the Project.

Sincerely,

Jaclyn Lopez, Staff Attorney
Center for Biological Diversity

CO01-20 These release events have been thoroughly reviewed in the Sandia Reports. The conclusions from the Sandia Reports have resulted in the three Zones of Concern that are described in section 4.11.7.1 of the EIS. Each zone is based on the potential severity of impacts on the public and property.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc.

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Comments of Comite Dialogo Ambiental, Inc. to Draft Environmental Impact Statement, Aguirre Offshore GasPort Project, FERC /OEP/DG2E/ Gas 4, Aguirre Offshore GasPort, LLC, Docket No. CP13-193-000; Puerto Rico Permits Management Office, 2014-287982-REA-22461.
Contact: Ruth Santiago, J.D., LL.M., P.O. Box 518, Salinas, Puerto Rico 00751, rstgo2@gmail.com, 787-312-2223
September 28, 2014

I. Introduction

Comite Dialogo Ambiental, Inc. (Dialogo) submits comments to the Draft Environmental Impact Statement (Draft EIS or DEIS) for the Project known as Aguirre Offshore GasPort (the Project or AOGP). The Project is a large industrial infrastructure installation to be sited in Jobos Bay, Jobos Bay National Estuarine Research Reserve (the Reserve) and in waters in the Caribbean Sea, contiguous to a chain of small mangrove islands or cays that form the southern border of Jobos Bay. The purpose of the Project is to supply liquefied natural gas via Liquefied Natural Gas (LNG) carriers, regasify and store it on a Floating Storage and Regasification unit (FSRU), permanently anchored to a berth and terminal to be built approximately one mile south of Cayos de Barca and provide via subsea pipeline natural gas as fuel for the Aguirre Power Complex, Puerto Rico's largest capacity electric power generation facility located in the Aguirre Community in the Municipality of Salinas. The Project applicant is Aguirre Offshore GasPort, Limited Liability Company (Aguirre, LLC or the Applicant).

Dialogo is a community environmental group composed of residents of the municipalities of Salinas and Guayama and organized as a nonprofit corporation under the laws of the Commonwealth of Puerto Rico in 1997. Dialogo is part of an umbrella organization called Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc (IDEBAJO), which brings together community groups and fishing associations. For eight consecutive years, Dialogo has organized a summer workshop program, known as "Convivencia Ambiental" (Environmental Cohabitation) centered on the resources in the Jobos Bay watershed and Reserve which involves promoting consciousness among local youth, ages 12 to 18 about the unique natural resources within Jobos Bay, the municipality of Salinas and the Guayama Region. Dialogo's education work group plans the promotional, financial and logistical aspects of each of the one week long intensive workshops which are conducted in different Reserve facilities, including the offshore mangrove cays. The Dialogo youth group and other members do water monitoring and participate in coastal training program workshops, cleanups in the Reserve and nearby communities. Dialogo is currently working on issues related to the AES coal combustion plant located in the Jobos Bay watershed. The Coal Ash Campaign is a collaborative effort with various groups in Puerto Rico and in the continental United States on issues related to the indiscriminate use of coal ash as fill material at construction sites in flood prone areas, over sole source aquifers and in proximity to marginalized communities and sensitive environmental resources such as the Jobos Bay National Estuarine Research Reserve. As a result of this campaign, the use of coal ash as fill material has

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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been banned in Puerto Rico and AES was fined by the Environmental Protection Agency (EPA) for long term illegal discharges of water contaminated with coal ash into Las Mares Bay, which is technically considered part of Jobos Bay. (Administrative Compliance Order, CWA-02-2012-3100)(Resource Report 6).Dialogo participated in the joint effort with EPA, the University of Puerto Rico (UPR) Graduate School of Public Health on a project known as the Puerto Rico Electric Power Authority (PREPA) Environmental Review Contractor from 2003 to 2007 to achieve better air quality in the Region. Other projects include South Coast Aquifer protection from garbage dump contamination, sprawling construction over Aquifer recharge areas and a large tire fire that contaminated Jobos Bay.(Aldarondo., et als,).These issues are all related to the current matter. Thus, Dialogo has a clear and direct interest in this proceeding that no other party can adequately represent and which forms the basis of its status as an intervenor in this matter.

II. Procedural Issues

For the past two and one half years (since March 20, 2012) Dialogo has participated in multiple activities concerning the Project, including the Federal Energy Regulatory Commission (FERC) scoping meetings and meetings with different stakeholders, a multisector group that has come to be known as the Sustainability Table, consultations with agencies and independent experts. Many meetings have focused on how the Applicant can incorporate community suggestions and changes to the Project to prevent, minimize and mitigate impacts of the AOGP, Puerto Rico's largest pending infrastructure project. Dialogo and other community groups are currently awaiting the submission by the Applicant of the changes to the Project. The Federal Energy Regulatory Commission, the Puerto Rico Electric Power Authority (PREPA) and the Puerto Rico Department of Natural and Environmental Resources (DNER) have provided access to information that has facilitated public participation on this very important issue. Excelerate Energy Limited Liability Partnership (LLP) has provided some information requested by Dialogo and recently provided copies of two long awaited studies (Forristall 2013, Golder 2013 b,) that an independent expert, Aurelio Mercado, PhD, oceanographer and professor at the University of Puerto Rico, Mayaguez Campus has requested in order to advise on the areas
CO02-01 within his expertise. Similarly, Dialogo has been consulting with the United States Coast Guard, Division San Juan which shares jurisdiction with the FERC on this case. Dialogo has requested that the USCG provide a copy of the Water Suitability Analysis (WSA) Follow On as well as any other relevant documents in order to facilitate public participation by local stakeholders, particularly fishers in this very important matter with environmental justice implications. However, if the documents are not provided, we would ask the FERC consider these comments as a request under the Freedom of Information Act (FOIA).

This proceeding was announced as a joint effort with the Puerto Rico Permits Management Office (PMO or OGPe). On September 24, 2013, Dialogo wrote to the PMO to request a meeting and documents relating to the Project in anticipation of the agency's role related to the Project. Follow up was provided to the request for access to information. Dialogo received a copy of the

CO02-01 Specific requests under the Freedom of Information Act must be filed in accordance with 18 Code of Federal Regulations (CFR) 388.108.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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documents in the PMO file on this case on the second day of the hearing. These comments are addressed to both the FERC and PMO although PMO's official notice of the hearing did not provide an email address for electronic submission. Similarly, Dialogo has not received any information from the Puerto Rico Environmental Quality Board (EQB), the Puerto Rico Planning Board or the Puerto Rico Department of Health in spite of requests and follow up. With respect to EQB and the Puerto Rico Department of Health, the requests also include baseline information on air quality and health data in the Jobos Bay airshed.

CO02-02 The Draft EIS indicates that the Applicant should file certain additional documents prior to the end of the public comment period. Dialogo respectfully requests an extension of the comment period in order to have an opportunity to review and consult pending documentation and studies to be submitted by the Applicant with community residents and collaborating professionals and submit comments to competent agencies.

III. Applicable Regulatory Framework

As provided in the regulations of the Council on Environmental Quality on environmental impact statements, 40 C.F.R. §1502.1:

> The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act (National Environmental Policy Act) are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. Agencies shall focus on significant environmental issues and alternatives... Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

Environmental impact statements are a means of assessing the environmental impact of proposed agency actions not merely justifying decisions already made.§1502.2(g).Environmental impact statements must use an inter-disciplinary approach to insure integration of the natural and social sciences (section 102(2)(A) of the Act). The drafters of the EIS must have the appropriate preparation in accordance with the scope and issues identified in the scoping process (§1501.7). §1502.6 Environmental consequences (especially sections 102(2)(C)(i), (ii), (iv), and (v) of the Act).1502.10.are to be adequately discussed in the EIS. The alternatives section is said to be the heart of the EIS. "Based on the information and analysis presented in the sections on the Affected Environment (§1502.15) and the Environmental Consequences (§1502.16), the EIS should present the environmental impacts of the proposal and the alternatives in comparative form, sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. Agencies must: (a) Rigorously explore and objectively evaluate all

CO02-02 While some information was still pending at the time of issuance of the draft EIS, the lack of this final information does not deprive the public of a meaningful opportunity to comment on a substantial adverse environmental effect of the Project or a feasible way to mitigate or avoid such effect. The EIS includes sufficient detail to enable the reader to understand and consider the issues raised by the proposed Project and addresses a reasonable range of alternatives. The final EIS has been updated with new information where it is available.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated and (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.§1502.14 The section on environmental consequences, should form the scientific and analytic basis for the comparisons under §1502.14." It shall consolidate the discussions of those elements required by sections 102(2)(C)(i), (ii), (iv), and (v) of NEPA which are within the scope of the statement and as much of section 102(2)(C)(iii) as is necessary to support the comparisons. The discussion will include the environmental impacts of the alternatives including the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented… It shall include discussions of:

(a) Direct effects and their significance (§1508.8).

(b) Indirect effects and their significance (§1508.8).

(c) Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local… land use plans, policies and controls for the area concerned. (See §1506.2(d).)

(d) The environmental effects of alternatives including the proposed action. The comparisons under §1502.14 will be based on this discussion.

(e) Energy requirements and conservation potential of various alternatives and mitigation measures.

(f) Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures"§1502.16.

Similarly, the FERC Regulations Implementing NEPA set certain requirements for applicants that subsequently form the foundation for the EIS. The FERC regulations provide among other things, that the that the Applicant must: (2) Identify significant environmental effects expected to occur as a result of the project;…(3) Identify the effects of construction, operation (including maintenance and malfunctions), and termination of the project, as well as cumulative effects resulting from existing or reasonably foreseeable projects;…(4) Identify measures proposed to enhance the environment or to avoid, mitigate, or compensate for adverse effects of the project;…(8) Describe reasonably foreseeable plans for future expansion of facilities, including additional land requirements and the compatibility of those plans with the current proposal. Section 380.12 (b)(c). Section 380.7 (e) indicates that the EIS should include: (e) References to any pending, completed, or recommended studies that might provide baseline data or additional data on the proposed action. The Applicant must describe the existing air quality, including background levels of nitrogen dioxide and other criteria pollutants that may be emitted above EPA-identified significance levels.(§ 380.12(k)(1)). The Applicant must identify all facilities that would be within designated coastal zone management areas; Describe the effects of

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

construction and operation procedures on the fishery resources and proposed mitigation measures. (§380.12(e)(4)). Identify alternative sites considered for the location of major new aboveground facilities and provide sufficient comparative data to justify the selection of the proposed site. (§380.12(l)(2)(ii)).The Applicant must describe socioeconomic conditions within the project area. (§ 380.12(g)(1); Conduct a fiscal impact analysis evaluating incremental local government expenditures in relation to incremental local government revenues that would result from construction of the project. Incremental expenditures include, but are not limited to, public safety, and public utility costs. (§ 380.12(g)(6)) .

Environmental impact statements should consider climate change and greenhouse gases in their environmental analysis. The Council on Environmental Quality published draft Guidance on the effects of climate change and greenhouse gas emissions which indicates as follows:

In the agency's analysis of direct effects, it would be appropriate to: (1) quantify cumulative emissions over the life of the project; (2) discuss measures to reduce GHG emissions, including consideration of reasonable alternatives; and (3) qualitatively discuss the link between such GHG emissions and climate change.[3] Daniel R. Mandelker, NEPA Law and Litigation, 2d, July 2014,§10:33.30.

In Border Power Plant Working Group v. Department of Energy, 260 F. Supp. 2d 997 (S.D. Cal. 2003), the Federal District Court determined that an environmental assessment; must consider analysis of greenhouse gases from power turbines.

The of Puerto Rico Environmental Public Policy Act, Act No. 416 of 22 September 2004 | 12 LPRA § 8001] , Article 2 indicates the following purposes: (1) establish a public policy that encourages a desirable and convenient harmony between humans and their environment , (2) encourage the efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity [...] (4) [...]. The Environmental Public Policy Act incorporates the precautionary principle (Environmental Public Policy Act, 12 Laws of Puerto Rico Annotated § 8001 *).

Executive Order 2013-39 provides that the energy policy of Puerto Rico is a continuous process of planning, consultation, implementation, evaluation and improvement of all energy matters. As part of this process, the Governor has ordered that the energy policy incorporate alternatives for a consultative civic space, with a constant dialogue with various stakeholders to enable transparency and encourage participation especially with potentially affected sectors.

The Puerto Rico Permitting Process Reform Act, as amended by Act 151-2013 adopts public participation requirements (Article 60).In Soto v. Srio. de Justicia, 112 D.P.R. 477 (1982), the Puerto Rico Supreme Court determined that Access to information is a constitutional right.

As detailed below, Dialogo contends that the Draft EIS falls short of complying with the above cited provisions.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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IV. Substantive Comments

1. Air Quality and Impacts in the Jobos Bay Airshed

The Draft EIS notes that; "The area in the vicinity of the Project has been designated as "unclassifiable" as or better than national standards for all criteria pollutants. Table 4.10.1-2 lists the attainment status for each designated area in the vicinity of the Project" (4-123).
The airshed in the vicinity of the Project receives emissions from AES Puerto Rico Limited Liability Company (AES LLC) in Guayama which has been included among the dirtiest power plants in the United States as a whole, that "continue to generate a disproportionate amount of toxic pollutants – including arsenic, chromium, hydrochloric acid, lead, mercury, nickel, and selenium," pursuant to an analysis by the Environmental Integrity Project (EIP) based on Toxic Release Inventory (TRI) data the plant, which burns coal to produce energy, ranked sixth among the hundreds of plants named in the report released jointly by EIP, Earthjustice, and the Sierra Club. The AES coal-fired power plant in Guayama emits NOx (nitrogen oxides), CO (carbon monoxide), VOCs (volatile organic compounds), particulate matter, SO2 (sulfur dioxide), sulfuric acid, various metals, and GHGs (greenhouse gas) emissions (4-193).

With respect to the existing Aguirre Power Complex, the Draft EIS indicates that, "Conversion of the Aguirre Plant from fuel oil to natural gas as its primary fuel would change the contribution of emissions from the plant, mostly in beneficial ways. As discussed in section 4.10.1, the existing Aguirre Plant is currently a PSD (Prevention of Significant Deterioration) major source for every regulated NSR (New Source Review) pollutant except VOC. The use of natural gas at the Aguirre Plant would result in substantial reductions in particulate matter, SO2, NOx, CO, and sulfuric acid mist" (4-193). With respect to the Aguirre Offshore GasPort, the Draft EIS states; "Aguirre LLC is proposing to install new units at the Offshore GasPort that would introduce
CO02-03 emissions increases. "(4-126) Dialogo contends that all increases in air emissions from the Project and the Aguirre Power Complex should be clearly presented, discussed and mitigated. The Draft EIS adopts many of the arguments in the PSD Nonapplicability Analysis, however this approach does not adequately protect human health and the environment of the Jobos Bay coastal and nearby communities and the varied and unique ecosystems of Jobos Bay and the Reserve. Emissions from the Project are for some purposes being considered as stemming from a single stationary source and for other purposes which might render less regulation as nonstationary. However, the actual emissions do not disappear but rather impact the air quality of the coastal and nearby communities and the unique environmental resources of Jobos Bay and the Reserve. FERC staff has noted the unorthodox nature of the selective interpretation of air emission regulations. For purposes of some legal provisions, it is argued that the Project is part of the Aguirre Power Complex (4-126) but for other purposes such as including the emissions from the boilers on the FSRU and sources onboard the LNG carriers delivering cargo are exempt from applicability under New Source Performance Standards (NSPS) because they are not being considered as stationary sources.(4-127). Similarly, the tanks on board the FSRU and the LNG carriers are deemed "permanently attached to mobile vehicles "and emissions from the tanks are also exempted" (4-128). Emissions from the duel-fuel diesel electric (DFDE) and other engines (e.g., emergency generator, lifeboat engines, etc.) onboard the FSRU and visiting LNG carriers are also exempted because they are not being considered as stationary internal combustion

CO02-03 The discussion in section 4.10.1 provides all of the operating emissions from the Project (even those not applicable for certain federal and state air quality permitting requirements), including the non-FERC-jurisdictional Aguirre Plant, and describes the applicability of these emissions in the context of the federal and state regulatory requirements. Notwithstanding, the air quality impacts of the Project demonstrated by air dispersion modeling were not required under PSD regulations. However, to assess the impacts, we required Aguirre LLC to perform an OCD model of the impacts from the offshore stationary sources as well as the non-stationary sources even though federal and state regulations do not consider the non-stationary sources. In addition, we required Aguirre LLC to model the Project and the Aguirre Plant, and we disclose the air quality impacts in section 4.12.2.2. The model results showed no adverse impacts. Note on commentor's suggestion that volatile organic compounds (VOC) and ozone be modeled: There are no stationary source modeling requirements or protocols for VOC and ozone modeling. Lastly, in the absence of EPA-defined significance criteria for ozone, these modeling results for the ozone precursor, nitrogen dioxide (NO_2), were presented in the EIS, demonstrating no new violations and no increases in the severity or frequency of violations of the National Ambient Air Quality Standards (NAAQS), which the EPA established to protect human health and public welfare for criteria pollutants, including ozone.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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CO02-03 (cont'd) engines (4-128). The emissions of VOCs and SO2 from the Project tanks are also considered exempt (4-129). The offshore component of the Project is a major source of Hazardous Air Pollutants (HAPs) because it has the potential to emit 10 tpy (9 mtpy) of any single HAP or 25 tpy (23 mtpy) of HAPs in aggregate and must implement Maximum Achievable Control Technology standards. The engines on the FSRU are also being exempted because they are not being deemed "stationary reciprocating internal combustion engines". (4-130). The LNG carrier boilers are being considered "temporary boilers" and are also exempted (4-130) although LNG carriers will be making weekly deliveries of LNG that will take up to three days each. LNG carriers docked at the terminal are expected to be moored approximately 183 days each year (50 deliveries per year at 88 hours each) (D-25). If the FSRU needs to operate on oil only, AP-42 emission factors indicate that emissions of hydrogen chloride could potentially exceed the applicable limits (4-131). Sulfur emissions from the propulsion boilers on the Project FSRU and LNG carriers will exceed the 0.1 percent sulfur standard until January 1, 2020 (4-133). Emissions from hoteling and other functions of the Project such as the incinerator, emergency generator engines, and lifeboat engines emissions are not considered part of the permitted stationary source under the PSD program (4-138). Emissions from the support vessel and the four tugboats that would accompany each LNG carrier are not included as part of the facility's emission total for PSD permitting (4-139). "Estimated emission reductions at the Aguirre Plant along with federally enforceable permit conditions for all Project equipment have been proposed at an emissions level that would render a PSD review inapplicable." The Draft EIS indicates that it is not assessing all Project emissions because; "The proposed Project is subject to Title V operating permit requirements (including the Title V portion of the EPA's (Environmental Protection Agency) Greenhouse Gas Tailoring Rule) and because the Offshore GasPort and the Aguirre Power Complex would be permitted as one stationary source, the modification to the Aguirre Plant's current Title V operating permit is considered a 'significant modification.'" (PFE-TV-4911-63-0796-0005) (4-126). "The FSRU would be subject to a Title V Operating Permit, each FSRU boiler would have uncontrolled nitrogen oxides (NOx) emissions in excess of the major source threshold (100 tons per year [tpy]) (91 metric tons per year [mtpy]), and each FSRU boiler would be using add-on control equipment to comply with a NOx emissions limit. Therefore, the boilers would be subject to the Compliance Assurance Monitoring requirements of 40 CFR 64 unless the Title V permit specifies a continuous compliance method" (4-127). The National Environmental Policy Act (NEPA) and implementing regulations require an adequate
CO02-04 discussion of all significant Project impacts. Principles of environmental justice enshrined in Executive Order 12, 898 require that the FERC clearly establish all additional emissions that the environmental justice communities impacted by the Project will be exposed to and require mitigation for those additional burdens to human health and the environment.

Construction and operation of the Project would generate emissions from construction equipment, equipment on the FSRU, the terminal platform, LNG carriers, support vessels, and tugs (ES-7, 8).

CO02-05 In addition to the mitigation measures proposed by the FERC staff that Aguirre LLC should implement to reduce the environmental impacts resulting from construction and operation of the Project (ES-10), Dialogo posits that mitigation measures for increased carbon dioxide equivalents (CO2e), Volatile Organic Compounds (VOCs) and any other emissions from construction and operation of the Project should be required.

CO02-04 Aguirre LLC performed an air quality impact analysis both for the new sources offshore and the cumulative air quality impacts of the combined onshore and offshore sources, at the request of FERC staff. Both analyses demonstrated no new violation and no increases in the severity or frequency of violations of the (NAAQS, which the EPA established to protect human health and public welfare for criteria pollutants. In addition and as shown in the EIS, PREPA is reducing the emissions at the onshore power plant, switching to less polluting natural gas instead of fuel oil, which would be a benefit to the air quality for receptors near the onshore power plant. Therefore, we do not believe that the environmental justice communities in the Project area would be exposed to additional emissions.

CO02-05 See the responses to comments CO01-05 and CO02-02. Our analysis discloses the air quality impacts associated with the Project. We do note that the EPA and EQB are the appropriate agencies with particular technical expertise over air quality to account for all the pertinent factors and to use its permitting processes to appropriately enforce all mitigation measures in compliance with the NAAQS and the Clean Air Act (CAA) of 1970.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

In their comments to the DEIS, the Pediatric Environmental Health Specialty Unit (PEHSU) at The Mount Sinai Hospital notes that; "Children are especially vulnerable to outdoor air pollution – particularly ozone which can be formed from Volatile Organic Compounds (VOCs)… With the Aguirre Offshore GasPort Project, the types of VOCs that will be released include chemicals such as formaldehyde, benzene, toluene, hexane, and styrene. Many of these VOCs are known to have both short term and long term effects. These effects include irritation of the eyes, nose, throat and skin; headache, nausea and dizziness; fatigue and shortness of breath; and worsening of respiratory conditions such as asthma. Long term effects resulting from chronic exposure include increased risks of some types of cancers or other diseases such as kidney failure."pgs. 1-2. PEHSU's specific comments provide the following observations and recommendations:

CO02-06 1. There is a lack of location specific data regarding current ambient VOCs and ozone. No ambient VOC levels are provided and the ambient levels provided for ozone are measured in Juncos County which is approximately 30 miles from the proposed project site. While a number of air pollutants are expected to decrease, volatile organic compounds (VOCs) are projected to increase by 32 tons per year. VOCs are precursors to ozone.

CO02-07 2. When considering the increase in VOCs, special consideration for vulnerable populations is important. These include the up to 60% of the families living below the poverty line who have children under 5 years of age. Simple adherence to NAAQS is likely not sufficient to be health protective for these vulnerable subgroups.

CO02-08 3. Ozone projections should be modeled. The expected impact of the proposed GasPort on ozone concentrations is not modeled whereas a number of other criteria air pollutant projections are provided.

CO02-09 4. Lastly, to reduce potential toxic exposures for the large proportion of the population who are vulnerable, we would encourage precautionary air pollution mitigation options such as use of additional operating restrictions and emission reduction technologies.pg. 2.

The cumulative CO2e emissions from the AES coal burning power plant, the Project and other air pollution emission sources in the air shed, such as the pharmaceutical companies in Guayama, the Salinas and Guayama landfills and other industries also impact Jobos Bay and the waters of the Caribbean Sea through ocean acidification.

CO02-10 In spite of the fact that AES Ilumina operates a 24-MW photovoltaic power facility in Guayama, about 4.5 miles (7.2 km) east of the Aguirre Power Complex (3-3), operation of the AES coal burning power plant adjacent to it, emissions from the coal plant and the Aguirre Power Complex have not been reduced. Furthermore, it is not anticipated that operation of the Salinas Solar Park, a 16-MW photovoltaic power plant under construction in Salinas, about 2.5 miles (4.0 km) north of the Aguirre Complex will reduce operation and emissions from AES coal burning power plant or the Aguirre Complex because the Project proposes to increase the Annual Capacity Factor (ACF) of the Combined Cycle Units to 35% while the ACF for the AG 1 and 2 units would be 55% resulting in a substantial increase in operations at the Aguirre

CO02-06 See the response to comment CO02-02. Also the ambient air data were provided using the best available data from the closest monitoring stations.

CO02-07 See the response to comment CO02-02. Further, we disagree with the last sentence in the statement. The NAAQS were established by the EPA in compliance with the CAA, and intended to protect human health.

CO02-08 In the absence of EPA-defined significance criteria for ozone, the cumulative modeling results for the ozone precursor, nitrogen dioxide, were presented in the EIS, demonstrating no new violation and no increases in the severity or frequency of violations of the NAAQS.

CO02-09 Our analysis of air quality impacts and emissions associated with the proposed Project and the Aguirre Plant includes a disclosure of the estimated emissions and mitigation measures both proposed by Aguirre LLC and PREPA. However, in regard to specific mitigation technology, we defer to the agencies with particular technical expertise over the resource. In this case, the EPA and the EQB have the authority to enforce the CAA and ensure that emission sources, such as the Aguirre Offshore GasPort and the Aguirre Plant, comply with the CAA, including requiring technically, economically, and reasonable emissions control technologies.

CO02-10 Regional planning for electricity generation and consumption in Puerto Rico is outside of the scope of this EIS. Per a request from the EPA on November 5, 2013, concerning annual LNG throughput from the GasPort, Aguirre LLC responded to the request on February 26, 2014 in relation to the natural gas throughput and future plans to increase that throughput. This response was incorporated into our Cumulative Impacts section (Air Quality) in the EIS stating that the Project was appropriately sized, that the LNG delivered onshore would be exclusively used by the onshore plant, no excess LNG would be provided to other users or markets, and that there would be no other emissions other than those estimated for the plant. The EPA mentioned in its comment letter that the Title V operating permit would have restrictions on the LNG throughputs (see section 4.12.2.2).

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CO02-10 (cont'd) Complex. Contrary to the assumptions in the Draft EIS, the AES Ilumina and Salinas Solar Park facilities do not displace demand for service from the Aguirre Plant (4-193). The PSD Nonapplicability Analysis indicates that the ACF of the AG 1 and 2 will be 55% and the combined cycle units annual ACF will be 35% once the Project is operational. This is up from the current baseline of 63% for AG 1 and 2 and 8% for the combined cycle units. (PSD ES-2). There is some confusion that should be clarified concerning the quantity of natural gas that the Project will require and the possibility of future use of excess amounts of natural gas that the FSRU can generate.

CO02-11 Although EPA (2013) estimates of average air emissions from coal-fired generation compared to natural gas combustion indicate that natural gas related emissions are half the amount of carbon dioxide (CO2), less than a third as much nitrogen oxides, and one percent as much sulfur oxides, the benefits of natural gas combustion are reduced when regasification emissions are considered. This is patently clear in this case where CO2e emissions are actually increasing with the Project. The alternatives section of the Draft EIS should include an analysis of a compressed natural gas option to supply natural gas to the Aguirre Complex. The use of natural gas as a "bridge fuel;" to transition between the dominant use of fossil fuels and the greater use of renewable energy sources (3-3), conservation, efficiency and other sustainable options should be one of the conditions of any Project approval determination. The project should facilitate the transition from coal and oil combustion power generation to rooftop solar and other renewable energy projects in previously impacted areas such as closed landfills.

CO02-12 The Draft EIS provides that, " the Project would result in improved air quality for the local citizens as emissions from burning fuel oil at the Aguirre Plant would be reduced" (5-7) This statement should clarify the full impacts from construction and operation of the Project and all offshore gasport emissions.

CO02-13 Dialogo contends that the FERC cannot delegate its duty to analyze the significant cumulative operational air quality impacts associated with the Aguirre Power Complex and the proposed offshore component of the Project to EQB and EPA when they process the applicable air quality permits (4-194).Dialogo contends that the wind rose in the area shows that prevailing winds are east-southeast 68.40% of the time. See EIS file in case number JCA 02-043 (PR). New emissions from the offshore portion would disperse towards local communities. The meteorological data in the Draft EIS is partially based on second and third level data sources (4-198,9). More precise meteorological and dispersion analysis is necessary for the Project.

CO02-14 The climate change analysis in the Draft EIS (4-201) fails to consider effects of more frequent and intense tropical storms and hurricanes in the Project areas. Fossil fuel contributions from the Project to ocean acidification are not mentioned in the Draft EIS. Even with the currently proposed operational controls, the Project would increase CO2e emissions from the Aguirre Power Complex baseline GHG emissions and contribute incrementally to climate change. The potential Project emissions of CO2e are 321,773 tpy, which is well in excess of the PSD significant threshold of 75,000 tpy. The incremental CO2e emissions from the GasPort are 36,980 tpy (4-196) and contribute incrementally to climate change. The Draft EIS states that, "it cannot be determined whether or not the Project's contribution to cumulative impacts on climate change would be significant" (4-196). Dialogo contends that an increase in GHG emissions of

CO02-11 The purpose and need of this proposed action is focused on the use of natural gas as a fuel to replace the diesel fuel being used by the facility. We expanded our review of renewable energies in section 3.2 and determined them to not be a reasonable alternative to the proposed action. The commentor is requesting an energy policy shift within Puerto Rico, which could occur; however, this policy shift is beyond the scope of this EIS.

CO02-12 The EIS does in fact disclose the emissions associated with construction and operation of the Project, including those not considered stationary and permitted sources under federal and state air quality regulations. Also, see the response to comment CO02-02.

CO02-13 We disagree with the first statement. Rather than delegating its duty to analyze the cumulative operational air quality impacts associated with the Project and the Aguirre Plant, we fully disclosed these cumulative air quality impacts, which in fact were not required by the EQB and EPA. We do reiterate here that the EQB and EPA are the appropriate agencies with jurisdiction over air quality permitting and enforcing all mitigation measures in compliance with the NAAQS and the CAA. Also, the locations of monitoring stations are established by the appropriate air quality planning authorities and it is a general fact that not all monitoring stations provide all of the background information for the purposes of air dispersion modeling. Therefore, data are acquired from the best available monitoring stations, in this case from those locations described in section 4.12.2.2. We believe that the air dispersion modeling provided in the EIS accurately depicts the air quality impacts from the Project and the Aguirre Plant.

CO02-14 See the response to comment CO01-05. The commentor suggests reductions in emissions at the AES Coal Combustion Plant as a possible mitigation measure for cumulative impacts on climate change. However, we reiterate that regional planning for electricity generation and consumption in Puerto Rico and mitigation on non-FERC-jurisdictional facilities is outside of the scope of this EIS.

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CO02-14 (cont'd) 36,980 tpy is significant. Therefore, the Project's contribution to cumulative impacts on climate change can and should be mitigated, particularly but not exclusively as to ocean acidification. One possible mitigation measure that would have beneficial effects on the local fisheries is to achieve reductions in the emissions from the AES Coal Combustion Plant. PREPA is AES' sole customer under a Power Purchase Agreement and AES has incurred in multiple violations of environmental regulations that provide a basis for breach of contract claims.

2. Impacts to Jobos Bay and Surrounding Waters

CO02-15 A list of anthropogenic contaminants in Jobos Bay and the tissues of marine organisms in the bay was compiled in a study titled, Heavy Metals and Biomarker Toxicity Assays in Jobos Bay National Estuarine Research Reserve by Aldarondo,J.X. et als. (Sea Grant College Program, University of Puerto Rico, Mayaguez, 2005-7). These include high levels of mercury and arsenic, PAH,s from incomplete combustion of a tire fire (also zinc) and the Aguirre Power Complex (pg 59, 70-1). The study notes the negative effects of these contaminants and copper and selenium on fish (pg 1, 38-9). The Draft EIS cites Zitello et al. (2008) which indicates that; "in addition to run-off from high intensity developed areas and agricultural fields, additional sources of waterborne constituent inputs from the Central Aguirre subwatershed could include the Central Aguirre Golf Club, located 0.3 mile (0.5 km) from the Jobos Bay shoreline, along with a municipal landfill and dredge spoils from the Aguirre Navigation Channel (4-34). Local stresses to Jobos Bay include thermal discharges from the existing Aguirre Power Complex, sewage inputs, agricultural runoff, sedimentation, and mangrove deforestation (4-41). The documented sources of pollution in PRSC34 include major industrial point sources, agricultural and, urban runoff, wastewater systems, and upstream impoundments (EQB, 2010a) (4-23).Lacking from the DEIS list of water contamination in Jobos Bay are PAHs resulting from a large tire in Central Aguirre and other contaminants documented by Aldarondo, et als. and untreated sewage water from various communities that have not been connected to the Guayama Sanitation Plant. Information concerning Aquifer contamination from a nitrate plume stemming from agricultural activities (USGS) is relevant because the Aquifer provides fresh water to the Bay and the cays. The extent of the impacts of leachates from the Salinas Municipal Landfill are currently under documented because the monitoring wells that detected selenium and vocs in these discharges were shuttered and new well sites were located by Browning Ferris Industries/ Allied Waste in conjunction with EQB (See EIS file in case number JCA 02-043 (PR)). A more accurate depiction of the status of water bodies adjacent to the coastal communities would include the discharges of contaminated water from the AES coal burning power plant for many years although the coal burning power plant was designed and touted to be a zero discharge facility. (See Administrative Compliance Order, CWA-02-2012-3100) and study commissioned by EPA to Vanderbilt University entitled, "Leaching Behavior of "Agremax" Collected From a Coal-Fired Power Plant in Puerto Rico, EPA 600 R 12-724, Dec. 2012).

The Aguirre Power Complex discharges large amounts, possibly up to 600mgd of cooling water through an approximately 0.8-mile-long (1.3 km) pipe to a point at the western edge of the bay just offshore of Punto Colchones. Operation of the FSRU and visiting LNG carriers at the offshore berthing platform would involve thermal water discharges (4-192). One estimate

CO02-15 Table 4.2.2-1 summarizes all known contaminants found within Jobos Bay. All concentrations are below the effects range median established by NOAA.

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indicates that the Project's subsea pipeline would be about 0.6 mile (1.0 km) east of the cooling water discharge. Another indicates that the offshore berthing platform would be approximately 2.2 miles (3.5 km) from the Aguirre Power Complex cooling water discharge (4-193). In any event, approximately, 30 mgd of sea water enters Jobos Bay through the channels between the

CO02-16 mangrove islands. There is evidence of the interconnectedness of water flows from the offshore areas where the project would be located and the inner Jobos Bay. The thermal plume discharges from the existing Aguirre Power Complex pipe and the thermal discharge from the Project would have a cumulative impact on the fisheries because of their proximity. Both thermal water discharge areas are part of local fishing grounds.

Additional existing sources of water quality impacts within the Project area include sediment disturbance from barges and recreational vessels in shallow waters, the potential for spills from barges and recreational vessels using Jobos Bay, and non-point source runoff from the land surrounding Jobos Bay (4-193). There is some indication of expansion work planned for facilities at Las Mareas Bay which may also generate cumulative impacts to water quality and the fisheries.

CO02-17 Dialogo coincides with the recommendation that Aguirre LLC file a site-specific spill prevention and control plan for the construction and operation phases of the Project (onshore and offshore) (ES-4) and requests opportunity to submit the information to technical collaborators and time in which to comment on the site-specific spill prevention and control plan.

CO02-18 The air emissions from AES, including mercury and other toxins and the air emissions from the Aguirre Complex are also contaminating the coastal waters. A more accurate depiction of impacts to coastal waters would include the air deposition from the three power plants (two within the Aguirre Power Complex) currently operating in the air shed, the pharmaceutical and other industries, in addition to land based sources. Dr. Braulio Jimenez of the UPR Graduate School of Public Health issued a report entitled, Evaluating Heavy Metal Concentrations in Airborne PM10 from Jobos Bay National Estuary, Salinas, Puerto Rico Jimenez, et als. 2003.) which documented the mercury emissions from the AES coal combustion plant. Although the Project would involve reductions in some of the contaminants currently emitted by the Aguirre Complex, it is no less true that the Project would emit greater amounts of CO2e that contribute to ocean acidification.

CO02-19 Dialogo coincides with National Marine Fisheries (NMFS) recommendation that, " the FEIS include discussion and evaluation of entirely closed-loop LNG vaporization alternatives, which use a small portion of LNG to effectively heat and regasify LNG for offloading. Further, additional discussion is warranted on why the lower seawater volume regasification technologies proposed for Calypso and Port Dolphin are not suitable for the Aguirre Offshore GasPort." (NMFS, Sept. 2014, pg.5). DNER coincides that the Project water extraction estimates are significant (DNER, Aug. 20, 2014).

Dialogo agrees that a determination of consistency with the Coastal Zone Management Program issued by the Puerto Rico Planning Board would be required prior to beginning construction of the Project (ES-7).

CO02-16 Section 4.3 of the EIS discusses the water flows from the offshore area and inner Jobos Bay. In addition, section 4.3.1.3 reviews the thermal plume discharge of the Project and its potential to impact the local water quality. Modeling was completed on the anticipated thermal plume from the LNG carriers as well as from the facility. The modeling indicates that the plume would not significantly affect water quality.

CO02-17 The commentor is requesting the opportunity to comment on the Spill Prevention and Control Plan. This document will be available to the public in our eLibrary system. Anyone is able to comment on a document in the FERC record.

CO02-18 There are no thresholds of significance criteria established by the EQB or EPA for Project GHG emissions.

CO02-19 We updated section 3.8 to address alternative vaporization technologies; our discussion presents a comparison of the seawater volume regasification technologies of the Calypso LNG Deepwater Port and Port Dolphin projects and the vaporization technology proposed by Aguirre LLC. We concluded that changing the vaporization method of the FSRU was not reasonable considering the location of the facility. Further, because the FSRU is a non-FERC-jurisdictional facility, the use of an alternative shell and tube vaporization method that uses the water/glycol closed-loop system is out of the scope of this EIS.

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CO02-20 The reference in the Draft EIS to the Rio Salinas (4-1) is incorrect; this probably refers to the Nigua River, not to be confused with the Nigua River in Arroyo. See Jobos Bay Management Pan.

CO02-21 Public water supply in Salinas is sourced virtually entirely from the South Coast Aquifer rather than from surface water and groundwater (4-35). This is important and relevant in this case because the aquifer supplies fresh water to Jobos Bay and the cays. It also follows that the sprawling construction in aquifer recharge areas and the Jobos Bay watershed leads to more urban runoff and less aquifer water to the Bay's ecosystems.

3. Fisheries

Over the last few decades, local fisheries have had declining landings due to multiple causes, not the least of which is contamination, in the case of Jobos Bay, multiple types of pollution from the AES coal burning power plant and the Aguirre Power Complex and other sources. See Garcia Quijano 2006, Aldarondo 2005 and Jimenez 2003 studies.

CO02-22 Construction of the proposed Project would result in direct and indirect impacts on fisheries that Dialogo contends would have long lasting effects. As noted in the Draft EIS direct impacts include entrainment of fish larvae, loss or alteration of habitat, and direct mortality of species resulting from construction activities (4-73). Indirect impacts from turbidity, noise, water, and lighting pollution would be persistent. Dialogo contends that the impacts to fisheries from the operation of the Project would result in permanent, significant cumulative impacts on fishery resources from underestimated impacts of entrainment, shading, anti-fouling agents, thermal plume discharge, scouring, noise, and lighting and habitat alteration/loss associated with construction and operation of the Project as well as increased CO2e and VOC emissions, all of which require substantial mitigation.

According to the DEIS, the proposed terminal site would encompass about 75.5 acres (77.7 cuerdas), of which 22.3 acres (23.0 cuerdas) would be permanently impacted. Construction activities would temporarily disturb 71.4 acres (73.5 cuerdas) of submerged aquatic vegetation (SAV) (e.g., seagrasses, macroalgae) and 4.1 acres (4.2 cuerdas) of coral reef habitat. Of these SAV and coral reef impacts, permanent habitat losses impact 22.1 and 1.1 acres (22.8 and 1.1 cuerdas), respectively.

The maximum intake volume for LNG carriers is estimated to be 81.6 MGD during offloading operations that include 88 hours of moorage at the berthing location (E-3).The entrainment impacts associated with the LNG carriers should be considered as part of the Project impacts (E-3).

CO02-23 The Draft EIS provides that, "the pipeline could also result in persistent siltation and turbidity from scour and sediment deposition around the pipeline, reducing light penetration and lowering photosynthesis rates and primary productivity in the area. Thus, impacts may vary depending on

CO02-20 Section 4.1.1 has been updated to change "Rio Salinas" to "Rio Nigua."

CO02-21 Section 4.3.3.2 has been updated to show that public water supply in Salinas is drawn from the South Coast Aquifer.

CO02-22 See the responses to comments AG02-08 and AG02-16.

CO02-23 Since issuance of the draft EIS, Aguirre LLC revised its proposed action to include pipeline burial. See section 2.3.4 for a discussion of the new construction methods.

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CO02-23 (cont'd) the degree to which the pipeline self-buries." (4-44). This statement contradicts the allegation that by not burying the pipe, there would be less sediment disturbance and associated water quality impacts (4-43)."Operation of the Project would result in permanent, minor adverse impacts on benthic resources from shading, scour, and thermal plume discharge from the FSRU and LNG vessels; and permanent, moderate adverse impacts from habitat alteration/loss (e.g., pipeline barrier) and inadvertent hydrocarbon spills" (4-43).

Dialogo coincides with the assertion in the DEIS that, "Water discharges from the LNG carriers could also cause sediment resuspension at the offshore berthing platform during operation" (4-44)."Construction activities, including the installation of the subsea pipeline, temporary piles, and permanent structures at the offshore berthing platform, would result in the resuspension of seafloor sediment into the water column. Relatively rapid settling rates for coarse sand found in the offshore terminal area, coupled with the local current speeds, suggest that resuspended sediments would not persist in the water column beyond the actual time of construction. However, the most widespread sediment type found along the pipeline route is a sandy mud that consists of coarse shell debris mixed with carbonate mud and fine-grained terrigenous mud. When suspended during construction, the fine silt particles that characterize this material would descend through the water column relatively slowly and could travel hundreds of yards (hundreds of meters) under mean current speeds due to the spatial and temporal asymmetry of the tidal currents" (5-2). "Aguirre LLC's estimated impacts do not take into account the spatial variability in sediment type or vegetative cover. To ensure that impacts associated with the resuspension, transport, and redeposition of sediments disturbed during construction activities are addressed, we are recommending in section 4.2.3.2 that Aguirre LLC conduct sediment transport modeling" (ES-4).The Jobos Bay Management Plans (2000 and 2010) and Jobos Bay Profile indicate the environmental harm to the coral habitats and the ecosystem from

CO02-24 sedimentation. Dialogo agrees with the recommendation in the Draft EIS that Aguirre LLC conduct sediment transport modeling (ES-4) to support its determination that the redeposition of sediments disturbed during the construction activities would be limited to within 100 feet (30 m) of the pile foundations at the offshore berthing platform footprint and within 10 feet (3 m) of the pipeline centerline. The FERC staff is recommending that this information be provided to it prior to the end of the public comment period on the draft EIS. Dialogo requests opportunity to submit the sediment transport modeling information to technical collaborators and time in which to comment on this very crucial issue.

CO02-25 The fact that the effects range low (ERL) for sediments in the Project areas was exceeded for total PAHs, total DDT, arsenic, copper, and nickel at multiple locations, some of which are within 1 mile (1.6 km) of the Project area (4-13) makes sedimentation analysis critical. The Draft EIS indicates that the ERL for copper was exceeded in 9 sample locations, 5 of which were within 1 mile (1.6 km) of the Project area. This should be considered in light of the fact that the newly proposed biofouling system for the Project is copper aluminum anode and may have a cumulative impact with the multiple copper laden sediments.

As noted in the Draft EIS, the LNG carriers thermal water discharges, "elevated flow rate is projected to impact the seafloor across all discharge depths and under both current scenarios, with consequent implications for sediment resuspension"(4-32).

CO02-24 See the response to comment AG06-13.

CO02-25 See the response to comment AG08-04.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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CO02-26 The significant cumulative impacts of the Aguirre Power Complex on fisheries requires further consideration. The Draft EIS notes that; "The PREPA 2003–2004 316 Demonstration Study within Jobos Bay reported a bimonthly pattern of fish egg abundance, which suggests continuous reproduction of fishes that spawn planktonic eggs (Washington Engineers PSC, 2005). There was a relatively high abundance of fish eggs entrained possibly due to the in-situ production of resident shoreline fishes and the alongshore transport from nearby reef and seagrass habitat sources" (4-5). This indicates that planktonic eggs from fish species in the nearby reefs, where the Project would be located are transported by the prevailing currents and a high abundance of these are entrained and impacted by the intake structures and thermal discharges of the Aguirre Power Complex. This situation would be compounded by the fact that the intake structures for the Project are located between 23 and 36 feet (7 to 11 m) and there would be a considerable overlap in space where many larval fish and shellfish are found and "abundances in different depth zones change throughout the day as larvae come to the surface to feed at night and return to deeper depths during the day to avoid predation."(4-59). A possible mitigation measure for these impacts to the fisheries would be a mariculture or hatchery facility. The need for mitigation measures for the fisheries is further bolstered by the results of the ichthyoplankton study. Although the ichthyoplankton study has serious data limitations; "these entrainment estimates need to be used with the caveat that they are only based on four one-day seasonal sampling events": it concludes that, "The loss of planktonic fish and shellfish due to entrainment would also result in a reduction in food availability for fish and invertebrates species that prey on these items" (4-66).

CO02-27 A similar or even more serious data shortfall occurred with the coral larvae. The entrainment estimates for coral larvae are based on one day of sampling within a nine day sampling event in August 2013: "which may not represent typical post-spawning larval densities. During spawning periods, there is potential for entrainment of coral larvae with the highest risk occurring near the depth of the intake of the FSRU. Entrainment of coral larvae would likely result in a permanent, moderate impact on coral populations in the region" (4-68). These coral larvae entrainment impacts, not just physical impacts to corals require mitigation.

CO02-28 Dialogo questions whether the elevation in water temperature of 21.6 °F (12.0 °C) above ambient (85.3 °F [29.6 °C]) used to model the proposed mixing zone5 for Outfall 001 and other outfall structures of the FSRU based on operating records for the Northeast Gateway Energy Bridge Project (EPA, 2007) (4-28) is appropriate for a tropical environment such as the Project areas. There is no indication on why Aguirre LLC made the assumption that this temperature differential (delta–t) for a facility located in the northern Atlantic Ocean would be appropriate with respect to the cooling water discharge from the Project's FSRU. Applying a delta-t of 21.6° F (12.0 °C), the maximum discharge temperature at Outfall 001 was estimated at 106.9 °F (41.6 °C). This maximum temperature is the same maximum discharge temperature as the Aguirre Power Complex that has had significant impacts within Jobos Bay.

CO02-29 Seagrass provides food for commercial and recreational fishery species as well as invertebrates and birds present in the Project areas and improve water clarity and quality. As provided in the Draft EIS, Dialogo and coastal communities of Jobos Bay are also interested in ensuring that impacts on seagrass are minimized and/or adequately mitigated. The recommendation that

CO02-26 See the response to comment AG02-08.

CO02-27 Comment noted. See the response to comment AG02-08.

CO02-28 Section 4.3.1.3 has been updated to clarify that the change in ambient temperature for this Project was based on, but differed from, the Northeast Gateway Energy Bridge Project.

CO02-29 See the response to comment AG06-27. We do note that the public can review any public filings by Aguirre LLC and submit comments as they deem necessary.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-29 (cont'd) Aguirre LLC consult with NMFS, FWS, DNER, and other appropriate agencies in developing the sea grass mitigation and monitoring plan should include representation of local stakeholders.

CO02-30 The queen conch fishery is important in Puerto Rican waters. Queen conch were observed in the seagrass habitats along the pipeline route and at the offshore terminal location during the benthic habitat surveys conducted by Aguirre LLC (4-91). DNER staff noted that an existing water pipeline between Isla Culebra and Isla Vieques has proven to be a serious barrier to queen conch movements (Lilyestrom, 2014). Fishers have informed that they frequently observe queen conch moving from the area just north of Cayo Barca to Cayo Caribe which would be dissected by the proposed pipeline route. The Draft EIS indicates that the pipeline would likely present a barrier to migration for queen conch, representing a permanent, moderate impact for the species (4-93). Empirical data is required to show that conch, urchins, sea cucumber, and other mobily impaired benthic organisms will able to traverse voids or hills along the substrate within Jobos Bay such that the pipeline would not present a barrier to migration for these species (4-46).

CO02-31 As noted in the Draft EIS, "small organisms are often attracted to lights, which in turn attracts larger predators to feed on the biological aggregations. Lights could cause artificially induced biological aggregations. Generally, impacts on marine wildlife species would be minor as these species may change their feeding habits based on these aggregations" (4-56). These larger predators would then be exposed to biofouling agents and thermal discharges stemming from the Project. The larger predators include commercial fish species. There is evidence that fish species that are subjected to thermal discharges can suffer sterilization. The impacts of these new aggregations resulting from the Project to the local fisheries and ecotourism activities needs to be discussed and empirical evidence provided on the impacts to larger fish species.

CO02-32 As noted in the DEIS;"Cumulative impacts may result from the incremental effects associated with an action when added to temporary or permanent impacts associated with past, present, and reasonably foreseeable future actions. The cumulative effects of multiple projects may be significant even if each individual action is not. The synergistic impacts from all actions could be significant if mitigative or other measures are not implemented"(4-189). The cumulative impacts of fishing restrictions in Jobos Bay along with environmental degradation due to point and nonpoint sources of contamination in the fisheries require an environmental justice assessment of livelihood alternatives to local artisanal and subsistence fishers.

CO02-33 As noted in the Draft EIS, the lengthy recovery time for corals to return to pre-disturbed conditions may result in a noticeable reduction of managed reef fish and coral stocks in the Project area (F-26).This reduction in managed reef fish and coral stocks even with the coral reef restoration and/or mitigation plan requires analysis of socioeconomic impacts to residents of the coastal communities, particularly fishers.

Dialogo coincides with the following NMFS statements:

CO02-34 "the limited plankton sampling data used to calculate entrainment impacts has resulted in underestimates of these impacts. The DEIS notes the value of the plankton density data collected is limited for use in an entrainment analyses because the sampling only occurred over the course

CO02-30 See the response to comment AG06-28.

CO02-31 See the response to comment AG02-28.

CO02-32 Environmental Justice analysis is required when it is determined that an action results in disproportionately high and adverse effects on minority and low-income populations. Our research has not demonstrated that this Project would result in adverse effect on any one community.

CO02-33 Formal consultation with NMFS should result in no reduction of managed reef fish/coral stocks. Section 4.7.7 addresses this issue.

CO02-34 Comment noted. See the response to comment AG02-08.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-34 (cont'd) of four days, one day to represent each season. NMFS agrees this is a significant shortcoming. NMFS believes additional coral larvae sampling activities are necessary to provide multiple, long-term presence/abundance data to be used to estimate entrainment impacts on this resource. Further, NMFS recommends a comprehensive, long-term coral larvae and ichthyoplankton monitoring program be developed as a project component designed to: (1) more accurately identify seasonal and annual variations of fish and invertebrate planktonic resources at the GasPort site, (2) determine potential cumulative impacts on these resources to identify ichthyoplankton impacts from GasPort operation, and (3) develop adaptive management mitigation options to further reduce such impacts."

CO02-35 "The proposed GasPort would be constructed approximately one mile west of the Boca del Infierno coral communities and Jobos Bay; information in the DEIS states oceanic currents flow east to west along the southern coast of Puerto Rico. However, scientific literature reviews or field sampling activities documenting in situ oceanic currents at the project site were not cited in the document. NMFS recommends information detailing seasonal and annual currents at the site flow east to west, how the currents were determined, and whether the current direction and velocity is consistent throughout the water column. Furthermore, because information in the DEIS indicates coral communities exist at Boca del Infierno approximately one mile east of the proposed GasPort site and currents flow east to west, coral larval transport from those communities would be carried to the GasPort site. Information in the coral larval sampling report does not indicate whether current studies have been conducted at these sites. The presence of coral near the proposed GasPort location increases the likelihood for coral larvae entrainment impacts."

CO02-36 "Further, from our review of NOAA Chart 25687, it appears the GasPort would be constructed on
a slightly shallower bathymetric feature than adjacent water depths. Consequently, this feature may influence benthic currents to flow upward towards the intakes on the FSRU vessel and LNGCs and result in more coral larvae entrainment impacts than estimated by AOG. To help evaluate oceanic currents throughout the entire water column at these sites, NMFS recommends seasonal acoustic Doppler current profiler (ADCP) surveys be conducted at the proposed GasPort site to identify surface, mid-column, and benthic currents. The results of ADCP surveys may be used to provide additional information with regard to the areal extent of coral larval transport mechanisms from the Boca del Infierno (and other) coral communities." (NMFS Sept. 2014, pg. 11).

CO02-37 "Nassau grouper are found in the project area and, based on information in the DEIS (including information collected during ichthyoplankton sampling completed for the project), this species may be impacted by seawater intakes associated with the project through entrainment. The species may also be directly impacted by impingement should larger individuals (greater than larval size) congregate near the seawater intakes at the platform. Additional impacts to Nassau grouper may occur resulting from potential loss of food sources from reductions in plankton concentrations associated with entrainment due to operation of the facility in conjunction with the existing Aguirre plant seawater intake in the bay." (NMFS Sept. 2014, pg. 14).

CO02-35 Comment noted. See the responses to comments AG02-08 and AG02-16.

CO02-36 Comment noted. See the responses to comments AG02-08 and AG02-16.

CO02-37 Comment noted. See the responses to comments AG02-08 and AG02-16.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-38 Dialogo also coincides with the NMFS comments that; "the conclusions drawn regarding impacts to zooplankton, particularly larval fish and invertebrates (in the DEIS and Appendices), cannot be accepted with confidence and it remains unclear whether the impacts from entrainment truly will be minor. Because fish and invertebrates are essential components of the ecology and socio-economics of coral reef ecosystems and the human communities they support, this inadequacy in sampling and interpretation is of considerable concern.
To rectify this situation at this late date and to ensure impacts to zooplankton are minor as claimed, a monitoring program needs to be established and continued, ideally using presently available continuous recording devices, to obtain the data necessary to fully understand the impacts within a proper environmental context. This monitoring program should be continuous for the life of the GasPort operation. An integral aspect of the monitoring program should be a mitigation requirement that provides compensation to the local communities for foregone socioeconomic opportunities. It is clear from the DEIS that such foregone opportunities will occur, so it's just a matter of ensuring those lost opportunities are properly accounted for and addressed." (NMFS Sept. 2014, pg. 6). See also DNER Comments dated August 12 and 20, 2014.

4. Environmental Justice Assessment and Mitigation

The Executive Order on Federal Actions to Address Environmental Justice[1], instructs federal agencies, in general terms to make environmental justice "part of their mission, by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low income populations in the United States and its territories and possessions"… and specifically mentions Puerto Rico.[2] The goal of environmental justice can be achieved by ensuring that "(1) people of all races, colors, and income levels are treated fairly with respect to the development and enforcement of protective environmental laws, regulations, and policies; and (2) potentially affected community residents are meaningfully involved in the decisions that will affect their environment and/or their health."[3]

CO02-39 The Draft EIS includes certain data on unemployment and poverty in the communities in the Project area (Central Aguirre has a higher unemployment rate than Salinas and Guayama, as well as having the lowest mean household income; the mean household income and the per capita personal income are lower in Salinas than in Aguirre and Guayama, while Guayama had the highest mean household and per capita income levels (U.S. Census Bureau, 2010a)) (4-112).

[1] Exec. Order 12,898, Section 1-1, 59 Fed. Reg. 7629(Feb. 14,1994)

[2] Id

[3] OFFICE OF ENVIRONMENTAL JUSTICE, U.S. ENVIRONMENTAL PROTECTION AGENCY, EPA 300-R-04-002, TOOLKIT FOR ASSESSING POTENTIAL ALLEGATIONS OF ENVIRONMENTAL INJUSTICE (TOOLKIT), 19 (2004), http://www.epa.gov/ compliance/ej/resources/policy/ej-toolkit.pdf.

Toolkit, *supra* note 1

CO02-38 See the response to comment AG02-08.

CO02-39 The final EIS has been prepared in accordance with the guidelines and requirements of NEPA. In section 4.8.5, we conclude that U.S. Census data are sufficient to analyze the socioeconomic impacts. The proposed action replaces fuel oil with natural gas at an existing power plant, thus improving air quality in accordance with the EPA Mercury and Air Toxics Standard Rule. Current employees of the power plant will remain employed. It is not anticipated that this Project would result in an increase in the poverty rate of the area.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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CO02-39 (cont'd) However, the Draft EIS does not contain environmental justice analysis or assessment resulting from the impacts of the Project to subsistence, small scale and traditional artisan fishing activities and related economic activities. The coastal communities in the Project area meet the environmental justice criteria in that the percentage of low-income populations within that area is substantially greater than the state low-income percentage and the percentage of persons in low-income populations within the area is greater than 50 percent. The socioeconomic region (Central Aguirre and Salinas) has substantially lower mean household and per capita income, and substantially higher percentages of families below the poverty line. Unemployment within Central Aguirre and Salinas is more than double that of the average in Puerto Rico. In addition, all other poverty data in Central Aguirre and Salinas were substantially higher than in Puerto Rico as a whole. Poverty indicators in Guayama are similar to those of Puerto Rico as a whole; however, the unemployment rate is substantially higher and mean household income is substantially lower in Guayama than overall in Puerto Rico.) (4-115).

The Draft EIS does not discuss fewer educational opportunities and other poverty indicators of the Jobos Bay coastal communities. Sociologits and economists consulted by Dialogo point out that the Draft EIS does not include an adequate discussion of the socioeconomic and environmental justice issues raised by the Project. As noted by economist Edwin Irizarry Mora, PhD the socioeconomic studyfor the Project should have included a field study, current socioeconomic data and used other primary data sources in addition to the Census and other secondary sources.

With such high poverty and unemployment rates, fishing and water dependent activities often provide sustenance and income to many local families. (Garcia Quijano, The Coast's Bailout: Coastal Resource Use, Quality of Life, and Resilience in Southeastern, Puerto Rico, UPRSG Final Report, Garciaetal2013_Tech Report_SharingVersion 2013.https://app.box.com/s/65t6moiyoxebzr7r68k0). The recent study concerning coastal and marine resource use by local communities in southeastern Puerto Rico provides in pertinent part as follows:

This document reports on the final results of a three year-long, University of Puerto Rico Sea Grant-funded research project investigating the relationships between the use of Coastal Resources (CR) and the well-being and quality of life (QoL/WB) of people living along the coast of Southeastern Puerto Rico (SE PR).SE PR comprises some of the most rural coastal regions of Puerto Rico and has a rich history of intensive and extensive reliance on local coastal environments, which range from offshore reefs and seamounts to extensive estuaries and inshore coastal forests. Residents of this region have been using local coastal resources for generations:CR-based activities form integral part of many SE PR household economies, but the extent and shape of these are not precisely known.
CR use refers to the small-scale harvesting, processing, and exchange of coastal resources like commercial small-scale fishing, subsistence fishing, commercial and subsistence land crabbing, mangrove oyster and clam harvesting, and non-timber coastal forest resource uses such as picking coconuts. However, a considerable part of the value derived from small-scale CR use is manifested outside the scope of officially reported, formal economic activity. However, this information is usually not available for coastal policy makers as they

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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make decisions about the future of the coast. The main goal of this research is to scientifically document the contribution of the coast (productive coastal communities and the physical environment they depend on) to QoL/WB and to make that information available to policy makers and the public as they evaluate alternative uses of coastal environments.

...

Links between the coast and QoL/WB are evident in practically all realms of SE PR residents' lives: in commercial and household economies, risk reduction and resilience strategies, food security, family and community relationships, social problem (poverty and crime) avoidance, life and job satisfaction, and aesthetic enjoyment. Many of these links (including those related to production and exchange of coastal products) are manifested outside of formally reported economic activity: assessments of policy trade-offs that only take into account formally reported economic exchanges will undoubtedly underestimate most benefits of CR use and engagement and thus risk policy failure.

This research shows that the quality of life and well-being of a large proportion of SE PR coastal residents of all walks of life is inextricably linked to the use of -and access to- the coast and its resources. It also provides a methodological blueprint to engage mixed qualitative and quantitative methods to provide policy makers with critical information for fulfilling the true objective of public policy: to enhance people's total quality of life and well-being. These methods can be applied in other locales on the coast of Puerto Rico and beyond.

...

Some of the conclusions of the study are as follows:

- 92% of households routinely consume local CRs. 92% of the fish, 98% of the land crabs, and 97% of the bivalves consumed by interviewed households are locally-harvested.
- All CR harvesters interviewed have household and/or extended family members who participate in the processing, value-adding and marketing of the CRs they harvest. These family members can benefit by earning money or by receiving part of the catch as payment.
- In our sample of randomly-chosen local households, the most important ways they accessed CRs for consumption was 1) by being captured and brought home by a household member or 2) by a community CR harvester giving CR products to them as gifts. Even when CRs were bought with money, CRs were bought at either the harvester' or the buyer's home, which indicate relatively close social relationships. All of these exchanges are very unlikely to be recorded in official expenditure records, which leads to underestimating the real value of CR use.
- In a randomly selected sample of 47 coastal resident households in the study region, 17 (36%) engaged in CR harvesting as a source of income. In some communities, like Barrancas in Guayama, virtually all randomly chosen households were CR users.
- 95.7% of surveyed CR users report routinely giving away as a gift an average of 7% of the products of their harvest to people in their communities including family, friends, or those in need.
- 45% of surveyed residents report routinely receiving products of local CR harvesters as gifts.
- In seafood restaurants throughout the Coast, CRs sold are overwhelmingly local (95% routinely sell local CRs, which constitute a mean income of 59.8% (not adjusted for beverages). Seafood-based restaurants that sell local CRs report employing more than 250 people in the study region.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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- Seafood restaurant operators have developed mutually beneficial relationships over time with particular CR harvesters that rely on dependability and quality of harvest products in exchange for guaranteed purchase of total harvest. The most important ways that seafood establishments get the CRs they sell is by close, contractual relationships with local CR users and by personal, local, non-contractual relationships. pgs. 4-5

The background of the study is described as follows:

The passing of Magnuson-Stevens Act's National Standard 8 requiring research to… "account (for) the importance of fishery resources to fishing communities" (NMFS 1996) has been one of the most important events in the development of applied coastal social sciences and thus in the increased understanding of how people in U.S. Coasts depend on coastal resources and how CR dependent social groups might be affected by regulating or curtailing access to these resources.pg.9
Estuaries occur throughout the region, including the second-largest estuary in Puerto Rico, the Bay of Jobos. The estuarine zones of the region are important sources of nutrients for local marine life and are important nurseries and refuges for marine fish, mollusks, crustaceans, reptiles, birds, and mammals. Fringing reefs, patch reefs, and small barrier reefs occur at varied distances from the shore and throughout the area (JOBANERR 2002). These coral reefs, along with the Cayos, or mangrove islands, Thallassia sp. and Syrygodium sp. seagrass prairies, sand flats and muddy bottom areas make up a complex and productive underwater environment. The continental shelf (where most small-scale fishing in Puerto Rico occurs) is fairly wide by Puerto Rico standards (between 11-13 miles) south of Santa Isabel, Salinas, and Guayama, narrowing down from West to East until it gets as close as 1 mile to the shore near the coast of Patillas (Morelock 1978). pg. 23

Structured Questionnaire Interviews with Coastal Resource Users and with Coastal Residents revealed the following information:
Income from all CRS contributed to an average of 55.7% (St.Dev. 29.15) of our respondents' household incomes. pg 39
Managerial staff (owners, managers, or cooks) in 22 out of 27 seafood-based restuarants identified in the region during cultural mapping drive-throughs. These establishments range from small, roadside food stands to sit down restaurants, but the modal category was "bar and restaurant"
-21 of the 22 restaurants regularly sells local CRs
- 21 out of the 22 (95%) indicated that local CRs were Very Important or Essential to their business.
-The reported mean percentage of the restaurant's income from selling local CRs was 59.8% (Std.Dev. 23.87). This income is not beverage-adjusted, and most restaurants in this region sell alcohol. This means the percentage of the income from FOOD attributed to local CRs will be much higher. Not only that, but also while a significant income comes from alcoholic beverages, most clients who consume these beverages come to the restaurant because of the local CRs, so the alcoholic beverages income is dependent on local CRS as well.
- Respondents reported that practically all of the local clientele and an average of 80% of the clientele that comes from outside of the region comes to their restaurant looking specifically for

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

local coastal CRS.pg.49.

CO02-40 As noted in the Draft EIS, "Jobos Bay and the Caribbean Sea support a number of valuable commercial and recreational fisheries. Commercial fishing in Puerto Rico is generally small scale and limited to coastal areas. Recreational fishing occurs within Jobos Bay and in offshore waters." (4-71)
Many commercial fishers in Guayama and Salinas use homemade boats with outboard motors, called yolas,which typically range between 10 and 25 feet (3 to 8 m) in length (Garcia-Quijano, 2009).
The Draft EIS notes that there are six fishing centers within 5 miles (3 km) of the Project area including the Playa, Playita, Las Mareas, and Aguirre fishing villages in Salinas and Puerto de Jobos, and Pozuelo fishing villages in Guayama (see figure 4.7.5-1). The numbers of commercial fishers in the Draft EIS do not coincide with the numbers provided by DNER and the accounting by local organizations (4-104) (DNER, Felix Ortiz, 2014, Garcia Quijano, 2013, pg.17) Recreational and subsistence fishing also occur in these areas. Fishers are scattered around Jobos Bay (Ortiz et al., 2012). The Pozuelo residents fish near the barrier islands for a variety of species, including grouper,snapper, mojarras, grunts, croakers, white mullet, dolphin fish, and wahoo, depending on the weather and the season. Local fishers are constrained by the fact that fishing within part of the preservation, limited use, and conservation sectors of the Jobos Bay Reserve is prohibited or severely limited.

Local fishers use small vessels and concentrate their activities in waters adjacent to their respective municipalities in areas of the ocean shelf where they cast nets, fish traps or dive for queen conch, lobsters and other fish stock. They are artisanal fishers and do not have sophisticated fishing equipment. Local fishers stay close to shore and do not venture very frequently beyond theocean shelf, lest they wind up in Colombia or Venezuela or even worse, lose their lives at sea as has happened on various occasions. (See ENDI July 20, 2014, pg. 30, endi.com). So that the area between the cays and the ocean shelf is a prime fishing area, especially in light of restrictions for fishing in Jobos Bay that are part of the Jobos Bay National Estuarine Research Reserve Management Plan. The impact areas of the Project are within these fishing grounds. Although the Project impact areas (approximately 156.7 acres (161.3 cuerdas)) (ES-3) are a small part of the Caribbean Sea as a whole, local fishers do not have the resources to venture much beyond the ocean shelf area. The Project proponents interviewed 10 individuals, some of which are fishers. One of the individuals, who is not a fisher apparently provided information on fishing areas. The fishing grounds of the artisanal fishers of Salinas and Guayama is the area of the ocean shelf and waters adjacent to their respective municipalities. Furthermore, with ocean acidification, pollution and industrial fleet overfishing, the opportunities for larger scale fishing in distant waters by local fishers are limited. Opportunities for local coastal communities seem more likely in ecotourism and value added activities such as seafood processing and/ or restaurants as all local fishing groups have started to implement. The DEIS acknowledges and limits Project impacts to construction activities that would have the potential to interfere with some commercial fishing sites and vessels in transit to fishing sites due to safety zone exclusions from active construction sites.

CO02-40 Sections 4.7.5 and 4.8.3 acknowledge that the number of fishers in the area are estimates and may vary based upon who is providing the count of total fishers. However, we maintain that our analysis of impacts on recreational and commercial fishing is valid. Given that there are alternative fishing areas that could be accessed during construction, there is a relatively small construction and operational footprint of the pipeline in and around Jobos Bay, and we are recommending in section 4.7.7 that access through the Boca de Infierno and within Jobos Bay be maintained throughout the construction process, we anticipate that these effects would be minor and short term.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-41 The allegation that, consultations with commercial fishermen in Salinas and Guayama provided by Aguirre LLC state that commercial fishing does not occur in most of the Project area (Ortiz, et al., 2012). (4-118) is not supported by the number of the fishers contacted and the fact that the information supplied on fishing areas was incomplete.

CO02-42 The fact that, "Information regarding the total landings located specifically within the municipalities of Guayama and Salinas was not readily available" and "The total number of commercial fishermen
within the Project area since 2008 is not available" (4-116) is indicative of the need for an analysis of Project impacts to fishers and their families. Leisure and hospitality labor statistics specifically for Central Aguirre are also not available. In this case, the FERC had also requested the following information which was not provided by the Applicant: Provide an estimate for the number of jobs and expected annual income for those jobs that would be added to the local
CO02-43 economy from construction and operation of the project. In addition, evaluate whether local jobs would be lost as a result of construction activities. Provide the following economic data and references for where the data were obtained for Central Aguirre, Salinas, and Guayama: a) annual dollar value generated by and total number of people who work in commercial fishing; b) annual dollar value generated by and total number of people who work in tourism; and c) annual tax revenue information for each municipality and how the proposed
project would affect tax revenues.

CO02-44 The conclusion in the Draft EIS that implementation of the Project would not result in any disproportionately high and adverse human health or environmental effects on minority or low-income communities does not account for impacts to small scale, subsistence and traditional artsan
fishing and other related livelihood alternatives discussed below, neither does it consider the impacts of increased CO2e and other emissions from the Project on the fisheries. Although the Project would result in improved air quality by converting the fuel for the Aguirre Power Complex to natural gas, there would also be increased emissions related to the Project. Therefore, without further information, analysis and mitigation, it cannot be categorically stated the construction and operation of the Project would benefit the host communities (4-117).

The Draft EIS indicates that; "Coastal recreation in Salinas and Guayama includes boating, fishing, wildlife viewing, kayaking, diving, golf, and swimming/sunbathing at beaches (see section 4.7.4). It is estimated that approximately 120,000 residents and between 20,000 and 40,000 non-residents participate in marine recreational fishing each year in Puerto Rico which contributed over $72,400,000 into the Puerto Rico economy in 2011 in direct purchases alone (Lovell et al.,2011) (4-117).

The Draft EIS erroneously indicates that; " DNER staff monitoring land use in the area noted that Cayo Morrillo (an island 1.13 nautical miles to the west of Cayos de Pájaros) is intensively used by recreational boaters year round (Lilyestrom, 2014). Cayos de Pájaros is used for "spill-over" boats when Cayo Morrillo is overcrowded. The proximity of Site 4 to this community recreational resource makes it less environmentally preferable than the proposed site" (3-15).

CO02-41 Section 4.7.5 was updated to show that the entire Project area and surrounding area may be used for commercial fishing.

CO02-42 Section 4.7.5 concludes that qualitative impacts on fishing would be minor; therefore, the impacts on fishers would be minor even if the quantity of fishers in the area is higher than originally estimated.

CO02-43 Section 4.8.5 addresses the sources used for socioeconomic data and confirms that the best available information was used. Given the scope of in-water construction and our recommendation for a construction access plan, we determined that these additional economic indicators were not necessary to properly analyze the impacts.

CO02-44 As discussed in section 4.8.5, we disagree with this claim of disproportionate impacts. Also see the response to comment CO02-01.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-45 There seems to be confusion with respect to which cays are visited and used by tourists and coastal residents. Cayo Morillo is very small and does not have much beach area; fishers describe it as a rock. It is rarely visited or used by tourists and coastal residents. One of the cays known as Caracoles, also identified as Caño Matias because of the water passage that provides access is a favorite beach spot for visitors from all over Puerto Rico and beyond as well as coastal residents. Cayo Pajaro is also visited by tourists and local residents but not nearly as much as Caracoles. One of the cays in Cayos de Barca considered by some as Guayama's beach although it is actually part of the Municipality of Salinas is also favorite beach spot for visitors from all over Puerto Rico and beyond as well as coastal residents. The Draft EIS acknowledges that, "a high volume of recreational boating and fishing activity takes place near Cayos de Barca."(3-25). The proposed terminal site would be directly south of Cayos de Barca and would have significant impacts to tourism activities and livelihood alternatives of residents of coastal communitities who provide transportation, food and services to the visitors. In addition, "the only location where the Zones of Concern encompass any land area is directly to the north and northeast of the Offshore Terminal site."… " Cayos de Barca would be within Zone 2 directly to the north of the Offshore GasPort site. Zone 3 would encompass areas of Cayos de Barca, Cayo Puerca, and portions of Punta Colchones to the north and Cayos Caribes to the northeast."(3-25 and 4-177). Cayos Caribe has a dock, trails, an observation tower and other Jobos Bay Reserve facilities and typically receives visitors interested in environmental education, conservation and research such as the Dialogo Convivencia Ambiental group. The Project pipeline would pass close to Cayos Caribe within the Jobos Bay Reserve conservation area. (4-97).

The DEIS indicates that Cayos de Pájaros (likely referring to Caracoles) includes recreational areas for swimming, hiking, diving, and contains a public boat ramp. The DNER reports that the area is used by divers collecting the West Indian topshell for recreational and commercial use (Lilyestrom, 2014). The West Indian topshell is collected as a food source, fishing bait, and a unique black and white striped shell.

CO02-46 Dialogo contends that the FERC should assess the environmental justice impacts to the coastal communities in the Draft EIS of the determination that, " Operation of the Project would permanently alter the existing visual resources as well as impact boating, fishing, and other marine uses near the offshore facility." (ES-6). The presence of the FSRU and offshore berthing platform would impact tourism that generates income and livelihood alternatives for Jobos Bay coastal communities because of the visual, noise and other effects that extend beyond wildlife viewing from the Cayos Caribe lookout tower and other places within the Jobos Bay National Estuarine Research Reserve that have views of the ocean (ES-7). These communities rely heavily on local tourism centered on visits to the cays that generate different types of livelihood alternatives related to transport of visitors, boat care and repairs, restaurants, kiosks and many other associated activities. The information in the Draft EIS falls short of an analysis of the socioeconomic aspects of water dependent activities in the Jobos Bay and nearby coastal communities. The cays are a natural attraction in the municipalities of Salinas and Guayama and they are linked to economic activity in both municipalities. In Salinas, in particular the main commercial activity is closely linked to coastal resource use. Surprisingly, the Draft EIS does not mention the multiple seafood restaurants, kiosks and seafood processing and value added activities, linked to access to the bay, the cays and nearby waters and how these would be

CO02-45 We corrected section 3.5 and replaced Cayo Morrillo with Cayo Matias. We also updated section 4.8.5 to include analysis of visual impacts on tourism and the potential impacts on the local economy.

CO02-46 Section 4.7.4 has been updated to explain that the list provided is a sample and may not list all water-dependent activities within Jobos Bay. The EIS was based on the most current federal and local agency information sources, although these sources may not provide a comprehensive list of the water-dependent activities, most of which are likely small-scale. We maintain that the associated impacts of construction and operation of the Project on the coastal communities, in conjunction with our recommendations, would result in less than significant impacts on the livelihood of the host coastal communities.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-46 (cont'd) impacted by another industrial installation amongst the cays, much less mitigation measures for these impacts. An inventory of water dependent activities is necessary. Although, the Draft EIS includes a partial list of boating facilities, various boat storage, sales and care facilities as well as all the restaurants are missing.

CO02-47 The Draft EIS states that, "A number of boating facilities are located near Jobos Bay, including but not limited to public and private marinas, public docks and boat launches, fishing clubs, and water taxis. The largest boating facilities in the area are the Salinas Marina and the Guayama Nautical Club. The Salinas Marina is west of the Project area (see figure 4.7.4-1) and has capacity to accommodate 103 vessels (Puerto Rico Encyclopedia, 2010). The Guayama Nautical Club is east of the Project area (see figure 4.7.4-1) and has capacity to accommodate 200 vessels including slips and dry storage (Puerto Rico Encyclopedia, 2010). In addition to these private marinas, public boat ramps are available in Playita de Salinas, Puerto de Jobos, and three locations in Pozuelo in Guayama (see figure 4.7.4-1). Private boat ramps are also located at a number of residences near the Project area. The public and private boats that enter water from the boat ramps near Jobos Bay east of the Project area likely cross over the proposed pipeline route in order to exit or enter Jobos Bay (4-103)." It should also be noted that although the local marinas have limited vessel space many vessels are transported over land and sea by tourists from different parts of Puerto Rico and beyond. A summary inspection of the areas off the Salinas Marina reveals boats anchored in the nearby waters. The number of members of the Guayama Nautical Club far exceeds, likely doubles the spaces available at the Club. These represent important economic activities in the municipalities of Salinas and Guayama and livelihood alternatives for coastal communities that have not been adequately assessed in the Draft EIS. .

CO02-48 As noted in the Draft EIS, the subsea pipeline may prevent deep draft vessels from entering Jobos Bay through the Boca Del Inferno pass (ES-6). Sailboats are deep draft vessels that are common in Jobos Bay. According to the USCG LOR(Letter of recommendation Analysis), extreme care would be required in the pipeline route area. Therefore, Dialogo contends that operation of the Project would have significant impacts on marine use throughout the pipeline route within the bay for commercial, educational, scientific, recreational or other activities that might be avoided or minimized with pipeline relocation and alternate placement methods discussed below.

Operation of the Project would permanently alter the existing visual resources as well as impact boating, fishing, and other marine uses near the offshore facility (5-5). Most of the seafood restaurants in Pozuelo face north. The Project would have permanent significant visual impacts on visitors who patronize the seafood restaurants and visit Pozuelo. The socioeconomic impacts of these Project impacts need to be assessed.

The Draft EIS indicates that, "it cannot be determined whether or not the Project's contribution to cumulative impacts on climate change would be significant (4-201). It follows that it cannot be categorically affirmed that; "The implementation of the Project would not result in any

CO02-47 See the response to comment CO02-43.

CO02-48 The existing vessel traffic through the Boca del Infierno would not change due to the presence of the pipeline because we are recommending that the pipeline be constructed either by HDD through the Boca del Infierno pass or be rerouted, primarily to avoid impacts on coral resources in this area. Further, we are recommending in section 4.7.7 that Aguirre LLC develop a Construction Access Plan to minimize the impacts on the community during construction of the facilities.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

disproportionately high and adverse human health or environmental impacts on minority or low-income communities. (5-7) Rather, an assessment of how increased CO2e emissions and other Project induced impacts to local fisheries and water quality is necessary.

CO02-49 The Gasport would be located approximately 3 miles offshore and the LNG carriers would approach the Offshore GasPort via open water transits. The absence of a defined waterway that would be used by LNG carriers en route or departing from the Offshore GasPort (4-176) is a source of concern for local fishers who indicate that if the flotilla of LNG carriers and four accompanying tugboats approach the offshore terminal from east or west they run the risk of damaging cast fishing nets as opposed to a straight approach from the south which would present less interference with fishing.

CO02-50 As noted by USCG, "Aguirre LLC should provide necessary data pertaining to the depth and keel clearance of the underwater pipeline. Most significantly at any area that the pipeline approaches the vicinity of the keys, entrance to Boca del Infierno pass or any other shoal areas. These areas are frequently used by local fishermen and recreational boaters. To mitigate the risk of an unintentionally grounding or anchoring, the pipeline should be mark and updated with NOAA so that is updated with the appropriate nautical charts. Areas where the keel clearance is less than 10 feet should also be properly marked to warn any vessel transiting in close proximity of the pipeline" (4-179).

Although the Draft EIS notes that the, "USCG LOR Analysis (appendix B, section 1) advises posting the subsea pipeline area on NOAA navigational charts to inform mariners of the submerged pipeline and noting it as a risk for anchoring as well as a risk with vessels with a deep draft"(4-107)' there is no analysis of the environmental justice or socioeconomic impacts of limitations on sailboat tourism and use in the area of vessels which typically have deep drafts.

CO02-51 Unless the Project proponents undertake a concerted effort to mitigate Project impacts to water dependent activities, there will be no appreciable socioeconomic benefit from the project to local residents beyond a small number (10%) of short term construction jobs and 10 % of 13 permanent positions (4-113). However, this is not likely because the Time Charter Party Agreement between PREPA and Excelerate Energy Puerto Rico Limited Liability Company provides that PREPA would be required to pay for U.S. citizen personnel increase in crewing costs.

5. Safety and Security

Dialogo has consulted with experts, such as Aurelio Mercado, PhD, an oceanographer and professor at the University of Puerto Rico, Mayaguez Campus that has expressed concern about the inaccurate and dated information that has been superseded by more recent studies but form the basis of the studies submitted by the Applicant. The summarized comments are provided are as follows:

AOGP_RR6_Appendix6A_Desktop Geotechnical Study Report, dated July 13, 2012:

CO02-49 Section 4.7.7 was updated and states that navigation of incoming LNG carriers would be coordinated with the USCG and broadcast to local boaters (e.g., Notice to Mariners).

CO02-50 We are recommending in the EIS that any installation of the pipeline through the Boca del Infierno pass be completed using the HDD construction method. This construction method would result in a buried pipeline through the area and would address the concerns raised in this comment.

CO02-51 Section 4.8.1.2 addresses the local temporary and permanent employment plans for the Project. It is noted that Aguirre LLC has signed an affidavit stating its application materials are known to be true. The socioeconomic impacts on the local community are presented in the final EIS.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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CO02-52 1. Page 9: Although Figure 4 was changed in order to not show an arrow symbolizing the presence of the North Equatorial Current, they (Applicant) still insist that the North Equatorial Current is "created" by the local topography just south of Jobos Bay, as they state that: "As the easterly waves approach and make contact with the sea bottom, they refract and turn towards shore, creating a westward longshore current (the North Equatorial Current)." This is a monumental mistake. The North Equatorial Current is generated/created in the equatorial Atlantic by the curl of the large scale winds. Another explanation is the convergences and divergences of the Ekman drift induced in the surface layers of the equatorial Atlantic.

AOGP_RR6_Appendix6B_Geohazard Study Report, dated March 2012, by C&C Technologies:

CO02-53 1. Page 5: "From the terminal to the shelf break, some 20 km due south, the offshore platform is featureless, and no submarine landslides have been recorded on the steep slope to the Muertos Trough south of the island."

I must mention that the statement that "no submarine landslides have been recorded on the steep slope to the Muertos Trough south of the island" should be qualified by adding "in historical times". As the images shown below (A. Lopez, J. Horrillo, V. Huerfano and A. Mercado – Modeling tsunamis from potential submarine landslides in the Puerto Rico region; 2013) there is some evidence of submarine landslides along the south coast of Puerto Rico. But whether they generated a tsunami is being evaluated. And Spanish scientists have documented a submarine landslide scenario closer to the Muertos Trough. Dr. Victor Huerfano, Director of the PR Seismic Network told me that a PhD dissertation has been written about this.

CO02-54 2. Page 5: "Although tsunamis with high run-ups may flood the lower areas within the Aguirre power station, the proposed terminal and the pipelines are unlikely to be affected." The statement "are unlikely to be affected" is too general. Has modeling been done to backup this statement? It should be mentioned that even though a tsunami might not present a big threat in terms of wave runup/inundation, its induced currents can certainly do damage, as it has been documented elsewhere.

Applicant Respones to questions submitted by Dialogo:

CO02-55 The use of the concept of return periods is very tricky, and confusing to the layman. A good question to ask is: What category of hurricane, passing directly over the port site, will the port terminal be able to withstand? Or, against what hurricane category has the terminal been designed? Assuming a direct hit. Another good question would be: Your 100-year and 500-years return periods are approximately equivalent to what hurricane category? Does your 100- and 500-years hurricanes agree with FEMA's estimates for the same return periods for the study site?

CO02-56 Page 4: Next to last paragraph, last sentence: They offer the following reply: With regards to wave propagation towards the site, note that the more important tropical storm criteria are based on the hindcast at a position in deeper water than the site. As a result, the tropical storm criteria are conservative."This is not necessarily true.

CO02-52 We concur with the commentor that the North Equatorial Current and longshore current are not the same thing as implied in Resource Report 6 appendix 6A. We have independently reviewed the information provided in the resource reports and our Project analysis has been based upon that review.

CO02-53 We concur with the commentor that the statement that no landslides have be recorded in the Muertos Trough should have been qualified by adding "in historical times." We have independently reviewed the information provided in the resource reports and have determined that the wave height generated by potential storm surge (section 4.1.4) at the offshore terminal location is substantially greater than the potential tsunami wave height generated from both earthquake fault offsets and marine landslide-triggered tsunami sources for the same design return periods. Hence, the wave height generated from storm surge governs the design of the offshore terminal.

CO02-54 Potential hurricane-generated storm surge elevation at the offshore terminal location is substantially greater than estimated tsunami wave elevation. We do not state that tsunamis are insignificant but, because the predicted storm surge wave height (section 4.1.4) is greater than the predicted tsunami wave height, the storm surge height governs the design of the offshore terminal. The effects of current scour on the offshore terminal piling and pipeline will also be considered in the design. We have independently reviewed the information provided in the resource reports, and our Project analysis has been based upon that review.

CO02-55 Comment noted. We have independently reviewed the information provided in the resource reports regarding design and wave loadings, and our Project analysis has been based upon that review.

CO02-56 We recognize that further work needs to be performed in defining the design wave loading for the offshore terminal and are recommending in section 4.1.4 of the EIS that Aguirre LLC update its offshore wave analysis prior to construction.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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CO02-57 The water depth in Table 1.1 for GP50476 is wrong, and that in reality it is not 5 meters but 28 meters. And then they state that "*the study used 5 m depth in the calculations of wave heights*". If I am not understanding wrong this reply, that is not the way to do wave height hindcasts for the very simple reason that the shallower the water depth, the smaller the significant wave height will come. By limiting the hindcast to 5 meters depth they are avoiding the real possibility of much larger waves that could occur if the water depth were 28 meters. And, consequently, the design parameters will come out artificially much less stringent. The above reply has to be clarified. The design wave height should use water depths at the port location, and possibly in the deeper waters close to the port.

CO02-58 Page 6: They state: "*No additional upland investigations were conducted or are planned because the facility design takes into account the largest waves ever recorded in the area, placing the main deck of the GasPort more than 40 feet above the water surface.*"

They should be asked of the piles supporting the main deck more than 40 ft above the water surface are being designed to withstand the impact of a 30+ ft high wave load, and the resulting bottom scouring.

CO02-59 The big San Felipe was in 1928, not 1876. Again, their reply is based on the tricky concept of return periods. But it is much clearer if the community could know the hurricane category that a 100 year event implies at that location.

Other Study Data:

CO02-60 The Executive Summary, in the 2nd paragraph it is stated that: "Tsunami runups were caused by the occurrence of offshore earthquakes, including two damaging events in 1868 and 1918, when runups of up to 100 m were recorded." A runup of 100 meters would be about 3 times the runup of the 2004 Indian Ocean and 2011 Japan tsunamis. Impossible. Also, the year was 1867, not 1868.

CO02-61 Page 10, Section 2.2.2, the citation should be Mercado-Irizarry, A. and Justiniano-Sepulveda, H. , not Irizarry and Sepulveda. As for this study, it should be stated that it has been superseded by a more recent one (circa 2012), with more detailed and accurate (Lidar based) bathymetry and topography, and at a resolution of 30 m, instead of 90 m as used in the 2003 maps. And in the recent study the official NOAA tsunami model was used (MOST). The recent tsunami mapping study also evaluated tsunami-induced current velocities, which could be an important source of scouring of gasport piles. And this can happen even if the tsunami wave height is not large. In addition, new large intensity potential sources have been added originating just north of Venezuela and Panama, based on USGS sources given to the Tsunami Research Center of PMEL/NOAA.

CO02-62 Page 11: The referenced Hurricane Storm Tide Atlas for Puerto Rico has also been superseded by a recent one, not yet public, again using Lidar based bathymetry and topography,

CO02-57 We recognize that further work needs to be performed in defining the design wave loading for the offshore terminal and are recommending in section 4.1.4 of the EIS that Aguirre LLC update its offshore wave analysis prior to construction.

CO02-58 In section 4.1.4 of the EIS, we state that the offshore marine terminal, including pilings, would be designed for a greater than 40-foot wave loading. See also the response to comment CO02-51.

CO02-59 We agree that the San Felipe Seguendo Hurricane occurred in 1928 and not 1876. However, that difference does not affect the hurricane design wave loading analysis.

CO02-60 See the response to comment CO02-56.

CO02-61 See the response to comment CO02-50.

CO02-62 Comment noted.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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CO02-62 (cont'd) a much more sophisticated model, and much, much, higher resolution in the computational grid. The computational cell resolution was increased from the order of 2 miles by 2 miles computational cells in the Atlas prepared in the early 1990'sa up to 30-50 m computational cells. This allows much more accurate results.

On the basis of Dr. Mercado's comments and other information, Dialogo agrees with the following recommendations and statements in the Draft EIS in addition to the information requested by Dr. Mercado:

CO02-63 Aguirre LLC should file updated offshore wave analysis and other information (ES-3) to ensure that the terminal and pipeline design incorporate the specifications so that the structures will withstand the actual storm, hurricane and tsunamis events occurring or predicted to occur in the project area. As noted in the Draft EIS, seagrasses reduce wave and current action (ES-4). To the extent that seagrasses are present and will be eliminated in the project areas, wave analysis should include this input.

CO02-64 More information is necessary in the EIS on the "other seismic sources in the region" that lead to the determination that the Project is considered to be in an area of "moderately high seismicity". (4-3) and high seismicity (4-8).

CO02-65 Aguirre LLC should file for review additional studies on the pipeline route seafloor slope angles and the liquefaction potential along the alignment and provide mitigation measures for these conditions (4-7) and that a special inspector be contracted by Aguirre LLC to observe the work performed to ensure the quality and performance of the seismic resisting systems pursuant to 18 CFR 380.12(h)(5).DNER has also indicated the need for further liquefaction data along the pipeline route (DNER, Aug. 20, 2014).

Although the Applicant acknowledges; "Hazards such as seismic ground motion, liquefaction events, wind and wave loadings, and tsunamis could impact the Project during construction and operation. The FSRU would leave the Offshore GasPort before the wind speed reaches 68.2 mph (109 km/hr). The design wind velocity for hurricanes on the platforms, superstructures, and equipment after the FSRU departs the Offshore GasPort would be 150 mph (241 km/hr) (sustained) and 179 mph (288 km/hr) (3-second gust), the estimates of waves and currents needs review in light of Dr. Mercado's comments. For example, the assertion that; "The current estimate of the 500 year wave crest height at the marine terminal site is 44.8 feet (13.7 m) above mean sea level. We also examined the seismic and structural design of the facility and provided recommendations to mitigate issues identified as detailed in sections 4.1.3 and 4.1.4" (4-159).

CO02-66 Aguirre LLC should provide more information on the design, installation, and commissioning of hazard detection, hazard control, and firewater systems. Review of this information to confirm that the final design, installation, and capabilities of the hazard detection and control equipment would be consistent with the equipment proposed in the application is required (4-160).

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CO02-63 Section 4.1.4 of the EIS recommends a condition that an updated offshore wave analysis be performed that should include all pertinent factors necessary to establish design wave loads and effects. The results of this analysis would be used as the basis for design of facilities structures, systems, and components.

CO02-64 We are recommending in section 4.1.3.1 that the Seismic Hazard Analysis Report be revised to include both the Great Southern Puerto Rico Fault Zone and Salinas Faults, which would be consistent with the location and seismic characterization of these faults provided in the May 2014 Bureau of Reclamation reports, which were prepared to evaluate the seismic hazards on dams in southern Puerto Rico.

CO02-65 We are recommending in section 4.1.3.2 that the pipeline route and seafloor angles and liquefaction potential of the alignment be provided prior to construction. We are also recommending in section 4.1.4 that a special inspector be employed by Aguirre LLC to observe the work performed to assure the quality of the performance of the seismic resisting systems.

CO02-66 Information on the design, installation, and commissioning of the proposed systems was provided in Resource Report 13, as filed in the initial application and supplemented in data responses. This engineering information includes descriptions of the facility equipment, the design basis, process systems, safety instrumentation, security systems, plant layout drawings, piping and instrumentation diagrams, spill containment, fire protection measures, hazard detection and control equipment, firewater systems, and electrical systems. This information has been reviewed and verified by staff and is summarized in the EIS. As stated in section 4.11.3 of the final EIS, information regarding the development of the final design would need to be reviewed by FERC staff before equipment construction at the site would be authorized. To ensure the final design would be consistent with the safety and operability characteristics identified in the Front End Engineering Design (FEED), we have included numerous recommendations in the section. If authorization is granted by the Commission, the next phase of the Project would include development of the final design, including final selection of equipment manufacturers, process conditions, some safety-related issues, and satisfying our recommendations (which at this point would be mandatory conditions). It is unlikely that the detailed design information to be developed would result in changes to the basis of design, operating conditions, major equipment selections, equipment design conditions, or safety system designs that were presented as part of Aguirre LLC's FEED.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-67 The FEED (front end engineering design) and specifications submitted for the proposed facilities to date are preliminary (4-161) and should incorporate consideration of Dr. Mercado's comments.

CO02-68 The Draft EIS notes that the vessel Suez Matthew grounded on the reef off Cayo Maria Langa, near Guayanilla, Puerto Rico on December 19, 2009 (4-172). The presence of considerably more coral reefs in and cays in the Project area warrants including more information on this recent grounding incident and precautionary measures such as establishing a defined waterway.

CO02-69 Dialogo coincides with the following recommendations of the United States Coast Guard:
"As described in the Follow-On WSA, marine firefighting capabilities are limited in this region. In order to improve firefighting capabilities able to respond to Aguirre LLC and LNG carriers, it is highly recommended to retrofit another commercial tug boat with FiFi 1 equipment, which would provide a third viable resource to combat at sea fire emergencies. As stated in Section 8.2.B. of the LOR Analysis, the COTP would require at least one tug in service to any LNG carriers, or the FSRU, to have FiFi 1 capability at all times. Additionally, the Commonwealth should assess the availability of marine
firefighting resources in this region and develop a strategic plan in cooperation with Aguirre LLC that addresses all potential resource shortfalls"(4-179).

CO02-70 The USCG recommended that additional measures beyond those proposed by Aguirre LLC in the WSA would be needed to responsibly manage the maritime safety and security risks associated with LNG marine traffic. (4-180)

As noted in the Draft EIS, the project operator must establish and maintain liaison with appropriate fire, police, and public officials to identify the resources and responsibilities of each organization that may respond to a gas pipeline emergency and to coordinate mutual assistance in responding to emergencies. (2-19) specifies that the ERP shall include a Cost-Sharing Plan that contains a description of any direct cost reimbursements the applicants agree to provide to any Commonwealth and local agencies with
responsibility for security and safety at the LNG terminal and in proximity to LNG vessels that serve the
facility (4-180).

6. Noise and Lighting Impacts

CO02-71 The measured baseline noise levels ranged from 47 dBA at noise sensitive area (NSA) 1 to 70 dBA at NSA 2. NSA 2 is adjacent to the existing Aguirre Power Complex; therefore, the higher measured sound levels during daytime and nighttime are due to the prominent noise generating equipment at the Aguirre Power Complex location (4-149). Noise generated by the Aguirre Power Complex is extremely high. This is compounded by the fact that the Complex shares direct and proximate borders with the Aguirre community of Montesoria. For many years, Aguirre residents and Dialogo have attempted to achieve agency action on this issue. Noise pollution has serious implications for public health and for wildlife. A vast array of bird species, manatees, sea turtles and other wildlife constitute some of the major attributes of the Jobos Bay

CO02-67 See the response to comment CO02-63.

CO02-68 See section 4.11.7.1, under "Hazards": Although the Project does not have a defined waterway, LNG carriers would be boarded by a pilot in the open ocean about 2 nautical miles due south of the offloading facility. The pilot would board the LNG carriers to supervise safe transit to the offloading facility and coordinate use of tug boats as necessary.

CO02-69 As stated in section 4.11.7.1 of the final EIS, if the Project is approved and the appropriate resources recommended by either FERC or the USCG are not put into place, then neither the FERC nor the USCG would allow the Project to commence service.

CO02-70 As stated in section 4.11.7.1 of the final EIS, if the Project is approved and the appropriate resources recommended by either FERC or the USCG are not put into place, then neither the FERC nor the USCG would allow the Project to commence service.

CO02-71 Comment noted. We agree.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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CO02-71 (cont'd) Reserve. Dialogo agrees that additional acoustic modeling, consultations and mitigation measures to reduce noise levels from construction and operation of the Project (ES-5) and a noise survey no later than 60 days after placing the facilities into service to ensure that the noise levels are at or below the federal criteria of 55 decibels at the nearest NSAs (ES-8, 1-11) are necessary for both human communities and wildlife such as resting and nesting birds and marine animals.

CO02-72 The offshore mangrove cays and the Project areas, with the exception of the Aguirre Complex are currently not exposed to excessive light. As noted in the Draft EIS, during operations, the FSRU and offshore berthing platform would be lit 24 hours per day by security lighting, navigation lights, and Federal Aviation Administration warning lights.(ES-5) The recommendation that Aguirre LLC develop and file a lighting plan identifying specific measures to avoid or minimize impacts associated with the Project's operational nighttime lighting on avian species, fish, marine mammals, and coastal communities is appropriate. There is evidence of queen conch, Nassau grouper, and many coral species using the full moon to time spawning events. "If species are not successful in synchronizing spawning events, there is the possibility for reduced fecundity and genetic recombination, and the ultimate degradation of genetic diversity" (4-94). Therefore mitigation of light impacts is necessary.

7. Endangered, Threatened and Proposed ESA Listed Species

CO02-73 Jobos Bay provides all three elements of manatee preferred habitats of protected shallow waters, fresh water sources, and seagrass beds.

The fact that the sightings of both manatees and sea turles documented in the Draft EIS all took place in Boca del Infierno is indicative of the importance of this area as habitat for these endangered species. (Three Antillean manatees were observed over seagrass beds near Boca del Infierno pass during
Aguirre LLC's marine mammal surveys in April/May 2012 (Tetra Tech, 2013d). One Antillean manatee
was observed offshore of Boca del Infierno pass during Aguirre LLC's coral mapping in November 2013
(Tetra Tech, 2014d)) (4-81). Two loggerhead sea turtle were observed offshore of Boca del Infierno pass during Aguirre LLC's coral mapping in November 2013 (Tetra Tech, 2014d).Five green sea turtles were sighted in the Project area during the marine mammal and sea turtle survey completed by Aguirre LLC (Tetra Tech, 2013d) (4-83). Although the remaining species were not observed, the surveys only occurred in late April through early May, which is again a data limitation problem in the studies submitted by the Applicant. In fact, a Jobos Bay study depicts a sea turtle on the beach in the cays. The Project sea turtle survey was too limited to document the presence and activities of these species in the Project areas. Not surprisingly, no hawksbill sea turtles were observed during the sea turtle surveys conducted for the Project. (D-15). Dialogo would urge a more thorough sea turtle survey and mitigation measures as may be warranted by comprehensive survey results.

CO02-72 Comment noted. See the response to comment AG02-28.

CO02-73 Comment noted. Sea turtle survey and mitigation measures would be determined in consultation with NMFS. Local employment of marine observers could be noted in the mitigation plan if determined necessary.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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CO02-73 (cont'd) Residents of the Jobos Bay coastal communities, particularly fishers have experience identifying marine species present in coastal waters. Dialogo proposes that fishers and other qualified residents be considered to participate as marine mammal observers as part of the recommended

CO02-74 mitigation techniques to protect manatees (ES-6). It is not clear how a 0.3-mile (0.5 km) zone of exclusion around vibratory pile driving activities would be implemented to minimize construction impacts on manatees and this information should be specified. DNER also notes that the mitigation measures to protect manatees are not clear (DNER, Aug. 20, 2014).

Dialogo coincides with the following NMFS comments:

CO02-75 NMFS previously requested that surveys to assess the presence of ESA-listed sea turtles and whales in the project area be performed, and the DEIS indicates that surveys have been completed, but our records show that these were not dedicated or targeted surveys but rather anecdotal observations of sea turtles and marine mammals during benthic surveys. The information provided in the DEIS for whale species is mainly from a 1986 report, and sea turtle information is anecdotal based on observations during benthic surveys completed for the project. Reiterating our previous request of October 31, 2013, NMFS recommends that dedicated surveys to assess the presence of ESA-listed sea turtles and whales in the project area be performed to fully inform the assessment of potential effects.
Reefs and hardgrounds meeting the coral critical habitat definition are present in the project area, as are ESA-listed elkhorn (Acropora palmata) and staghorn (Acropora cervicornis) coral colonies. On August 27, 2014, NMFS issued a final rule responding to a petition to list an additional 82 species of corals, including seven species of Atlantic corals. As a result, five Atlantic coral species are newly listed as threatened: Orbicella (formerly Montastraea) annularis, 0. faveolata, 0. franksi, Dendrogyra cylindris, and Mycetophylliaferox). Information in the benthic surveys completed for the preferred pipeline route and platform location indicate that all of these species are within the project area, though no estimates are provided regarding the numbers of colonies of each of these species to be impacted by the proposed project. The FEIS and Biological Assessment should be revised to reflect the change in coral listing status as well as to fully assess the potential effects of the proposed activity on all ESA resources. (NMFS, Sept. 2014, pg 14).

CO02-76 Coral reef habitat surveys for the alternative terminal sites were not conducted (3-13) and constitutes a serious deficiency in the requisite consideration of reasonable alternatives to the preferred pipeline route. These surveys should be done for both federally listed and Puerto Rico protected corals (DNER, Aug. 20,2014).

As noted in the Draft EIS;"Temperature is an important variable to the survival of coral. Increases in temperature can lead to bleaching events. An increase in temperature as little as 2 to 4 °F (1.1 to 2.2 °C) can put a population at risk (Acropora BRT 2005), and an increase in 5 to 7 °F (2.8 to 3.9 °C) can cause thermal stress leading to death (Brainard et al., 2011). This is most important during warmer summer months and during El Nino-Southern Oscillation periods when temperatures are already elevated." (4-88)

31

CO02-74 Sections 4.5.3 and 4.6 summarize steps that would be taken to establish the 0.3-mile zone of exclusion around general construction activities if a marine mammal or sea turtle is observed in the area; however, see responses to comments AG02-25, AG05-04, and AG05-11.

CO02-75 We updated section 4.6 to reflect the coral listing status and the potential effects of the proposed activity on all ESA resources.

CO02-76 Offshore surveys were conducted after consultation with federal agencies. State agencies may continue to request additional surveys prior to the issuance of state permits if necessary.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-77 According to the DEIS, Aguirre LLC has agreed to prepare a coral reef restoration and/or mitigation plan in coordination with NMFS and the FWS to offset impacts from construction and operation of the Project. The plan should include all of the following measures: monitoring of the reef community prior to, during, and after construction; installation and monitoring of an artificial reef; coral cache and relocation to adjacent natural and/or artificial reef; development of a reef awareness/outreach program; and funding to support existing and ongoing reef community programs, a management plan that involves an educational program for construction personnel and work practices occurring near sensitive resources, the use of an integrated global positioning system to track vessel movement during construction activities (4-46).

CO02-78 Mitigation for certain coral species present in the Project areas requires more detailed analysis, for example, the Draft EIS notes that; "Star coral potential for recovery is low due to slow growth and low recruitment. These species are hermaphroditic broadcast spawners, and post-settlement growth rates are slow. Rough cactus coral is at risk due to rarity and disease.(4-90)… Lamarck's sheet coral is at risk for extinction due to general degradation of conditions in the Caribbean and the susceptibility of this species to disease."(4-91). Impacts to these coaral species will likely be irreversible.

CO02-79 The recommendation that Aguirre LLC consult with NMFS, FWS, DNER, and other appropriate agencies in developing a coral reef mitigation and monitoring plan and conduct a feasibility analysis on the possibility of the use of horizontal directional drill (HDD) crossing under Boca del Infierno pass prior to the end of the draft EIS comment period that would allow FERC to assess the potential for facilitating recovery of impacted benthic resources and substantially reduce impacts on coral reef habitat (ES-5) should include local stakeholders.

CO02-80 Dialogo agrees that in order to ensure that impacts on ESA-listed species are addressed, Aguirre LLC not begin construction activities until there is a completed formal consultation with the FWS and NMFS (ES-6).

CO02-81 The Project coral larvae sampling was too limited to adequately determine the range of density in reef aggregate water or perimeter areas and apply only to planktonic coral densities (D-28,29) such as where the Project would be located. Therefore, potential entrainment of coral larvae from the FSRU and LNG carriers was estimated based on insufficient data to adequately reflect entrainment impacts (D-29).

Aguirre LLC proposes to relocate viable stony corals from the pipeline corridor and offshore terminal area prior to construction to minimize permanent shading and mortality impacts (D-31).The coral reef restoration and/or mitigation plan should be results oriented such that success would be measured on the basis of the reproduction of as least as many corals as the Project would impact. Considering that the Project *is likely to adversely affect* boulder star, elkhorn, elliptical, lamarck's sheet, mountainous star, pillar, rough cactus, staghorn, and star corals as well as moderate and permanent critical habitat for elkhorn and staghorn corals (D-31), coral reef restoration and/or mitigation plan would need to provide adequate mitigation for coral species that are less susceptible to relocation.

CO02-77 Section 4.5.2 provides a summary of the draft Benthic Resources Mitigation Plan (see appendix D) that includes mitigation for permanent impacts on coral reef resources. The mitigation plan will be finalized after consultation with the appropriate regulatory and local authorities.

CO02-78 Section 4.5.2 provides a summary of the draft Benthic Resources Mitigation Plan (appendix D) that includes mitigation for permanent impacts on coral reef resources. We are also recommending that Aguirre LLC finalize this plan in consultation with the appropriate agencies, as well as recommending that an HDD be used across the Boca del Infierno, if feasible.

CO02-79 Aguirre LLC will file all required plans, which will be available to the public for comment on the FERC's eLibrary system.

CO02-80 Comment noted. Appropriate consultation with NMFS will be completed prior to commencing construction, as summarized in section 4.6.

CO02-81 See the response to comment AG02-08.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

With respect to ichthyoplankton, the entrainment impacts should include data on the water intakes during construction of the Project. (E-1). Detailed life history information for the taxa is necessary to adequately determine the equivalent losses due to entrainment (E-1).Data limitations exist with the density data provided by the Applicant, the primary of which is that the sampling only occurred over the course of four days, one day to represent each season. More sampling is typically needed to obtain an accurate depiction of the density of eggs and fish and invertebrate larvae in the area of the Project. These data limitations are compounded by the fact that ichthyoplankton abundance and distribution are highly variable and patchy. This patchiness derives from the natural variability of environmental influences such as water temperature, hydrographic features, spawning events and migration patterns. Additionally, the natural mortality of fish is also highly variable and depends on factors such as predation, starvation, weather, and location E-8

CO02-82 Aguirre LLC should conduct surveys for the dwarf seahorse (D-21) in the shallow areas of Boca del Infierno Pass and other shallow areas along the pipeline route.

CO02-83 Empirical evidence is required to show that predators of small organisms attracted to Project lights, such as the scalloped hammerhead shark may change their feeding habits based on these aggregations (D-23) and presumably not be exposed to continuous doses of biofouling agents. Information and analysis is necessary on the impacts to small organisms that are often attracted

CO02-84 to lights in addition to their predators (D-23). The disruptive light effects to coral reproduction and the fact that "current research is very limited and effects of lighting on corals are still largely unknown" (D-30). If there is a void in information on how widespread the light disruptive impacts are on coral reproduction application of the precautionary principle is warranted particularly under the Puerto Rico Environmental Public Policy Act. .

CO02-85 8. Alternative Pipeline Route and Terminal Location

Dialogo contracted James Goodman, PhD, an expert in remote sensing of coastal ecosystems who prepared comments on the Draft EIS and other relevant documents that indicate the following:

Given the identified project impacts, the proposed pipeline routes and offshore terminal locations, as well as the proposed alternatives, do not appear to fully consider other legitimate variations or alternatives. While it is acknowledged that it is infeasible to explore every possible alternative for such a project, a preliminary analysis using currently available environmental data illustrates that other legitimate alternatives for the pipeline route and terminal location are feasible, which appear to reduce environmental impacts while still meeting the project design criteria.

This overall conclusion echoes the comments presented in the recent NOAA NMFS Comments and Recommendations on Aguirre Offshore GasPort Project Draft Environmental Impact Statement dated 25-September-2014:

"*Several alternate pipeline routes are presented in the DEIS, although the majority would pass through the Boca del Infierno as would the preferred route, which would result in the most*

CO02-82 Our recommendation to install the pipeline via the HDD construction method or reroute it within the Boca del Infierno pass, primarily to avoid impacts on coral resources in this area, addresses this concern.

CO02-83 Comment noted. See the response to comment AG02-28.

CO02-84 Comment noted. See the response to comment AG02-28.

CO02-85 We revised section 3.5 to explain the scope that we established for reasonable offshore alternative sites. The final EIS provides additional information on the alternative terminal sites to support the analysis. Site selection criteria show that the proposed site ranked well in meeting the site selection criteria. We are recommending an alternative construction method or pipeline route that would substantially reduce impacts on sensitive benthic resources.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

CO02-85 (cont'd)

temporary and permanent impacts to coral resources. Based on a review of the information in the DEIS, NMFS recommends a more thorough analysis of Terminal Site 4 and Pipeline Route 3, which would eliminate the majority of impacts to seagrass. This alternative would also reduce coral impacts because the benthic surveys indicate the pass between Cayo Morrillo and Cayos de Pajaros contain less coral and a sand channel where the pipeline could be placed between reef areas. The site of the terminal could also be moved seaward in order to address concerns related to the distance from the terminal to the cays versus the safety zone the U.S. Coast Guard will likely require. The DEIS indicates temporary impacts to coral habitat from this route would be greater; however, the DEIS also includes information suggesting a lesser extent of coral in Pipeline Route 3 and no coral in Terminal Site 4. Additionally, this alternative would significantly reduce permanent impacts to coral habitat in part because there are no coral resources in the area where the terminal would be located."

Dr. Goodman's comments are being filed together with Dialogo's comments.

The location of the preferred pipeline route through the shallow Boca del Infierno Pass, rich in coral and other marine species, resources, diversity and habitats and crossing the center of Jobos Bay is not a reasonable alternative. It hinders navigation by tourists and residents alike. Variations of Pipeline Route 3 that more closely follows the existing and already impacted navigation channel would avoid sensitive benthic habitat areas as well as meet the Project purpose of providing a natural gas supply route to the Aguirre Power Complex. Similarly, the preferred location of the terminal would also impact sensitive benthic habitat areas and hinders use of the offshore cays, especially Cayos de Barca. The alternative of moving Terminal Site 4 further offshore would avoid impacts to corals and seagrass beds. Coral reef habitat surveys for the alternative terminal sites were not conducted (3-13) and constitutes a serious deficiency in the requisite consideration of reasonable alternatives to the preferred pipeline route.

The plowing method of pipeline installation would be the most reasonable alternative in waters with a depth of at least 23 feet.

Certificate of Service

I hereby certify having sent a true copy of these Comments by email on this same date to: Aguirre Offshore GasPort, LLC , Mike Trammel, Senior Director – Government and Environmental Affairs, Excelerate Energy L.P., 1450 Lake Robbins, Suite 200, The Woodlands, Texas 77380,mike.trammel@excelerateenergy.com; Ilia Levitine, Duane Morris LLP, Counsel for Aguirre Offshore GasPort, LLC 505 9th St. NW; Ste. 1000, Washington, DC 20004-2166, ilevitine@duanemorris.com; Mark Kalpin, Wilmer Hale,mark.kalpin@wilmerhale.com.

CO02 – Comite Dialogo Ambiental, Inc. part of Iniciativa de Ecodesarrollo de Bahia de Jobos, Inc. (cont'd)

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In Salinas, Puerto Rico, September 28, 2014.

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COMPANIES AND ORGANIZATIONS (cont'd)

CO03 – James Goodman, PhD

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Review Comments

Aguirre Offshore GasPort Project

Draft Environmental Impact Statement

Prepared for:
Iniciativa de Ecodesarrollo de Bahía de Jobos, Inc.
&
Comite Dialogo Ambiental, Inc.
&
The Puerto Rico Community Foundation

Prepared by:
James Goodman, PhD
PO Box 431824, Miami, FL 33243

September 2014

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1. Summary

The following presents a series of review comments, as well as excerpts from supporting documentation, related to the proposed Aguirre Offshore GasPort Project as described in the Draft Environmental Impact Statement dated August 2014 (hereinafter referred to as Draft EIS). The review focuses on three primary areas of concern: (1) pipeline installation methods; (2) pipeline route selection; and (3) offshore terminal location.

Within these focus areas there is particular concern regarding impacts of the proposed project on sensitive habitat areas that contain Endangered Species Act (ESA) listed species, particularly corals.

Given the identified project impacts, the proposed pipeline routes and offshore terminal locations, as well as the proposed alternatives, do not appear to fully consider other legitimate variations or alternatives. While it is acknowledged that it is infeasible to explore every possible alternative for such a project, a preliminary analysis using currently available environmental data illustrates that other legitimate alternatives for the pipeline route and terminal location are feasible, which appear to reduce environmental impacts while still meeting the project design criteria.

This overall conclusion echoes the comments presented in the recent NOAA NMFS Comments and Recommendations on Aguirre Offshore GasPort Project Draft Environmental Impact Statement dated 25-September-2014:

"Several alternate pipeline routes are presented in the DEIS, although the majority would pass through the Boca del Infierno as would the preferred route, which would result in the most temporary and permanent impacts to coral resources. Based on a review of the information in the DEIS, NMFS recommends a more thorough analysis of Terminal Site 4 and Pipeline Route 3, which would eliminate the majority of impacts to seagrass. This alternative would also reduce coral impacts because the benthic surveys indicate the pass between Cayo Morrillo and Cayos de Pajaros contain less coral and a sand channel where the pipeline could be placed between reef areas. The site of the terminal could also be moved seaward in order to address concerns related to the distance from the terminal to the cays versus the safety zone the U.S. Coast Guard will likely require. The DEIS indicates temporary impacts to coral habitat from this route would be greater; however, the DEIS also includes information suggesting a lesser extent of coral in Pipeline Route 3 and no coral in Terminal Site 4. Additionally, this alternative would significantly reduce permanent impacts to coral habitat in part because there are no coral resources in the area where the terminal would be located."

2. Documents Reviewed

Aguirre Offshore GasPort Project, Draft Environmental Impact Statement, August 2014, Federal Energy Regulatory Commission, Docket Nos. CP13-193-000 and PF12-4-000, FERC/EIS-0253.

Aguirre Offshore GasPort Project, Alternative Pass Baseline Benthic Characterization, Revision 1, March 2014, Tetra Tech, Inc.

Aguirre Offshore GasPort Project, Alternative Pass Baseline Benthic Characterization, March 2014, Tetra Tech, Inc.

CO03 – James Goodman, PhD (cont'd)

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Aguirre Offshore GasPort Project, Barge Channel Alternative Benthic Mapping, Memo, 3 February 2014, Tetra Tech, Inc.

Aguirre Offshore GasPort Project, Jobos Bay Barge Channel Alternative, 17 January 2014, Tetra Tech, Inc.

Aguirre Offshore GasPort Project, ESA Coral Mapping and Demography, January 2014, Tetra Tech, Inc.

Aguirre Offshore GasPort Project, Draft Biological Assessment, August 2013, Tetra Tech, Inc.

Aguirre Offshore GasPort Project, Baseline Benthic Characterization, June 2012, Tetra Tech, Inc.

Environmental Information Request, Letter, Gertrude Johnson, 5 September 2014, Office of Energy Projects.

NOAA NMFS Comments and Recommendations on Aguirre Offshore GasPort Project Draft Environmental Impact Statement, 25 September 2014.

NOAA NMFS Letter, David Bernhart, 31 October 2013, Protected Resources Division.

NOAA Nautical Chart #25687, Bahía de Jobos and Bahía de Rincon.

PHMSA Special Permit Meeting, Comments, 22 August 2014.

Whitall, D.R., Costa, B.M., Bauer, L.J., Dieppa, A. and Hile, S.D. (eds.), A Baseline Assessment of the Ecological Resources of Jobos Bay, Puerto Rico, 2011, NOAA Technical Memorandum NOS NCCOS 133.

3. Pipeline Installation Methods

CO03-01 The proposed pipeline installation methods were selected prior to the feasibility review of horizontal directional drilling (HDD), prior to sediment transport modeling, and without addressing alternative route variations to explicitly follow the barge channel.

- As stated in the Draft EIS, the feasibility of utilizing HDD would facilitate decreased impact along the proposed pipeline route and its alternatives, and thus its inclusion in the project would necessitate modification of the EIS to describe HDD pipeline installation methods and impacts.
- The sediment transport modeling study is needed to assess the impacts of sediment resuspension, transport and redeposition, not just for the proposed pipeline installation and operation methods, but also for any applicable alternative pipeline installation methods, including HDD.
- Jobos Bay exhibits low Secchi disk measurements, indicating "relatively high levels of suspended sediment and plankton" (Draft EIS, p. 4-22). As such, the sediment transport modeling study is needed to help assess impacts of the proposed pipeline on sediment resuspension, transport and redeposition given the context of these existing environmental conditions.
- It appears that a short section, or sections, of the proposed alternative pipeline routes are located in water depths shallower than the minimum requirements for utilizing the plowing pipeline installation option (as stated in the Draft EIS, p. 3-19); however, based on NOAA nautical chart #25687 (Bahía de Jobos and Bahía de Rincon) and data from the recent acoustic survey conducted in Jobos Bay by NOAA (Fig. 2; NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011) it appears that consideration of alternative pipeline route variations may alleviate this limitation (Fig. 1). This would allow the option to consider plowing as an alternative to dredging for pipeline installation in the barge channel.

CO03-01 In order to comply with the U.S. Department of Transportation's pipeline standards, Aguirre LLC revised its construction method to include pipeline burial by hand jetting, although we considered alternative trenching methods in section 3.6. As such, we updated section 4.2.3.2 with the results of the sedimentation analysis provided by Aguirre LLC on September 29, 2014 (Accession number: 20140929-5220) and the results of our own analysis to demonstrate the associated impacts of pipeline burial. Finally, we are recommending that Aguirre LLC use the HDD construction method through the Boca del Infierno pass, if it is determined to be feasible.

CO03 – James Goodman, PhD (cont'd)

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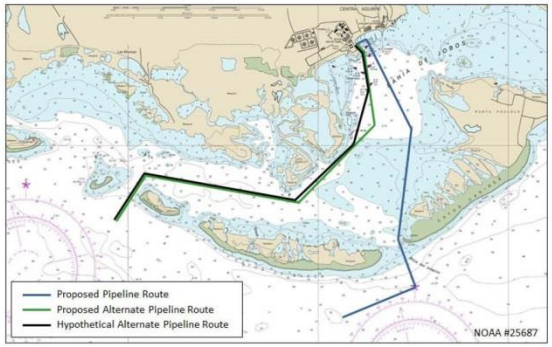

Figure 1. Hypothetical alternate pipeline route following barge channel to maximize the minimum water depth along pipeline route. Also shown are the proposed pipeline route and proposed alternate pipeline route (alternate #3) as approximated from pipeline routes presented in the Draft EIS (p. 3-17, Fig. 3.5-1).

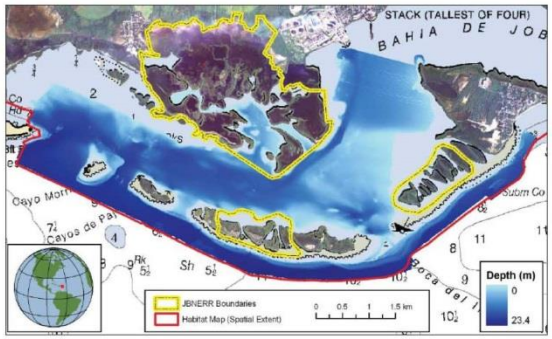

Figure 2. Acoustic bathymetry map developed by NOAA for Jobos Bay (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011, p. 33, Fig. 2.39). The barge channel is represented by darker blue colors, which indicate the deeper water of the channel as it extends through Jobos Bay.

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Horizontal Direction Drilling

Draft EIS, p. 3-18. *"The HDD construction method is commonly used to avoid sensitive resources, contaminated sediments, or areas where construction vessels may be hazardous. Directional drilling minimizes impacts on resources, but the process is not suitable to all areas. Aguirre LLC has not proposed the use of the HDD construction method; however, we are recommending in section 4.5.2.4 that Aguirre LLC assess the possibility of using an HDD to minimize impacts along the proposed route through the Boca del Inferno pass."*

Draft EIS, p. 3-18. *"At this time, the feasibility of an HDD through the Boca del Infierno pass is unknown and is contingent upon the geotechnical studies that Aguirre LLC would conduct pursuant to our recommendation in section 4.5.2.4. If the geotechnical studies show that the HDD construction method is feasible for the proposed route, it is likely that an HDD could be successful through the cays along any of the alternative routes, thereby balancing the associated impacts on coral reef habitat for all of the routes. Therefore, our analysis assumes a direct lay through the cays for the proposed route and each of the alternative routes for comparison."*

Sediment Transport Modeling

Draft EIS, p. ES-3 & ES-4. *"To ensure that impacts associated with the resuspension, transport, and redeposition of sediments disturbed during construction activities are addressed, we are recommending that Aguirre LLC conduct sediment transport modeling, prior to the end of the public comment period on the draft EIS, to support its determination that the redeposition of sediments disturbed during the construction activities would be limited to within 100 feet (30 m) of the pile foundations at the offshore berthing platform footprint and within 10 feet (3 m) of the pipeline centerline. Based on the information that would be provided by Aguirre LLC, we will further evaluate the construction-related impacts associated with the resuspension of seafloor sediment in the final EIS."*

Plowing

Draft EIS, p. 3-18. *"Plowing involves laying the pipeline on the bottom and then dragging a plow along the seafloor using the pipeline to guide the plow. The plow simultaneously casts the bottom sediment to the sides of the trench and lowers the pipeline into the trench. After the pipeline is placed in the trench, the plow is reversed and dragged along the trench, refilling the trench with the material cast out of the trench during plowing. In general, the advantage of plowing is that it creates less sediment resuspension (plume) than jetting or dredging. The disadvantage includes the large size of the plow and plow vessel, which creates a sizable area of disturbance from the anchorage requirements and water depth needed to successfully pull a plow. In addition, plowing requires a minimum water depth of 23 feet (7 m). In water depths of less than 23 feet (7 m), the plow would only be partially submerged and the increased weight creates a large increase in the pull force required. Most large barges with suitable equipment to pull a plow are unable to operate in waters less than 23 feet (7 m) deep."*

Draft EIS, p. 3-19. *"Due to the size of operational vessels, plowing of the proposed pipeline route or any alternative routes would impact a large area of seafloor. In addition, there are areas along the route where the route depth is less than 23 feet (7 m) deep which could require dredging to attain the necessary depth to move the plow equipment through the area."*

Water Turbidity

Draft EIS, p. 4-22. *"Turbidity is a measure of water clarity and the amount of light blocked by material suspended in the water, whereas total suspended solids is a measure of material weight per water volume. Suspended materials include sediment (clay, silt, and sand particles), algae, plankton, microbes, and other substances, typically ranging in the size range from 0.004 millimeters (mm) (clay) to 1.0 mm (sand). Turbidity can increase water temperature because suspended particles absorb more heat than clear water; this in turn decreases dissolved oxygen, which can cause biological stress (EPA, 2012). Water clarity/transparency, which provides a default measure of turbidity, can be measured with a Secchi disk. Jobos Bay and its adjacent nearshore waters are relatively shallow and Secchi transparency ranges from 3 to 13 feet (1 to 4 m). These low readings are attributable to the presence of relatively high levels of suspended sediment and plankton (Morelock and Williams, 2008)."*

CO03 – James Goodman, PhD (cont'd)

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CO03-02 **4. Pipeline Route Selection**

The proposed pipeline route and its alternatives appear to have been selected without using all available habitat and bathymetric assessments to first identify feasible corridors for pipeline placement and then selecting routes that minimize habitat impacts and optimize bathymetry considerations for pipeline installation and operation.

- According to the Draft EIS (p. 5-6): "Impacted corals are expected to take longer to recover, thus, alternative pipeline construction methods, such as the use of an HDD under the reef, are being considered. With the proposed pipeline, permanent impacts on ESA listed corals are expected to result in direct mortality of colonies within the footprint of the pipeline."
- The feasibility of utilizing horizontal directional drilling would facilitate not only decreased impact to the proposed pipeline route and its alternatives, but also allow for additional alternative routes to be considered (not just utilizing the proposed pipeline route, which would still impact sensitive areas of seagrass habitat even when using HDD for Boca del Infierno pass).
- The proposed alternate pipeline routes only follow an approximated corridor representing the barge channel (Draft EIS, p. 3-12, Fig. 3.4-1 & p. 3-17, Fig. 3.5-1), whereas recent acoustic surveys by NOAA (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011) provide detailed bathymetric information that can be used in conjunction with NOAA chart #25687 (Bahía de Jobos and Bahía de Rincon) to better define the location and water depths of the barge channel. For example, note that a hypothetical alternate pipeline route can be designed to explicitly follow the barge channel as measured in the NOAA acoustic survey (Fig. 3).

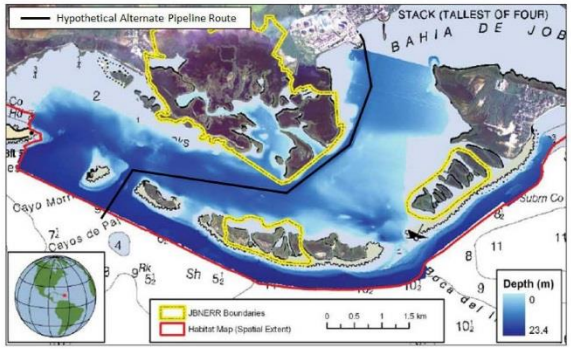

Figure 3. Hypothetical alternate pipeline route *following barge channel*, superimposed on Acoustic Bathymetry Map developed by NOAA (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011, p. 33, Fig. 2.39). The barge channel is represented by darker blue colors, which indicate the deeper water of the channel as it extends through Jobos Bay.

CO03-02 Section 3.6 provides additional information on alternative pipeline routes to minimize impacts on coral resources.

CO03 – James Goodman, PhD (cont'd)

Review Comments
Aguirre Offshore GasPort Project, Draft EIS

CO03-03 The biological assessments described in the Draft EIS and associated Tetra Tech reports provide detailed surveys of ESA species located along the proposed pipeline route, as well as indications of environmentally sensitive resources impacted by alternatives routes (Fig. 4); however, not included in the biological assessments are data on nearby adjoining areas that could be utilized to optimize the pipeline route for minimizing impacts to environmentally sensitive areas. Accordingly, biological assessments should be extended to explore these possibilities. [Note: Data from the recent habitat survey conducted in Jobos Bay by NOAA (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011) should provide additional habitat and species data necessary for this assessment.]

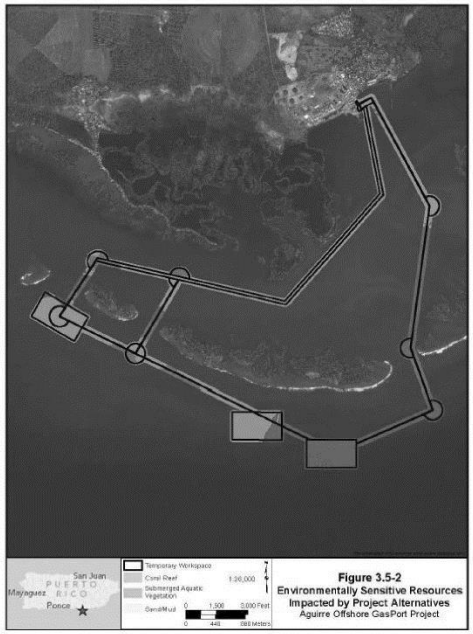

Figure 4. Environmentally sensitive resources impacted by project alternatives, Aguirre Offshore GasPort Project (Draft EIS, p. 3-24, Fig. 3.5-2).

CO03-03 Most agencies request relevant surveys of resources along a proposed route to aid in the decision of approval of the Project. If an alternative is determined to be preferable, additional survey work may be required. We would point out that we requested additional benthic surveys along the pipeline alternatives discussed in the EIS. Further, we refined one of the pipeline alternatives (Alternative Route 6) to further minimize impacts on coral resources. We are recommending that, if use of an HDD is found to likely be unsuccessful, Aguirre LLC use Alternative Route 6 to substantially reduce impacts on coral resources.

CO03 – James Goodman, PhD (cont'd)

Review Comments
Aguirre Offshore GasPort Project, Draft EIS

CO03-03 (cont'd) • Given the presence of environmentally sensitive resources, both within the bay and in the passes through the various keys bordering Jobos Bay, which include federally listed threatened or endangered species, there is a need to fully explore options for minimizing impacts to the benthic environment during pipeline installation and operation. Accordingly, using the recent NOAA habitat survey of Jobos Bay (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011), it can be demonstrated that there are reasonable alternatives for selecting a pipeline route that optimizes pipeline placement in order to minimize these impacts (Figs. 5, 6, 7 & 8). It is acknowledged that it is not necessarily feasible to explore all different route possibilities; however, the hypothetical example shown here demonstrates that existing habitat and bathymetric assessments can be effectively used to identify legitimate route variations and that this data should be used to revisit proposed Pipeline Route #3 to identify variations that reduce environmental impacts.

CO03-04 • There is discussion in the Draft EIS of building the offshore terminal to withstand significant storm events, such as hurricanes, but limited indication of similar storm readiness considerations for the subsea pipeline. With the relatively shallow depth of the Boca del Infierno pass, the potential occurrence of sizeable storm events in this region, and given the direct lay method of installation, the proposed pipeline route through the pass would be susceptible to significant wave forces and stress. These potential wave conditions should be considered with regard to both route selection and the pipeline installation method.

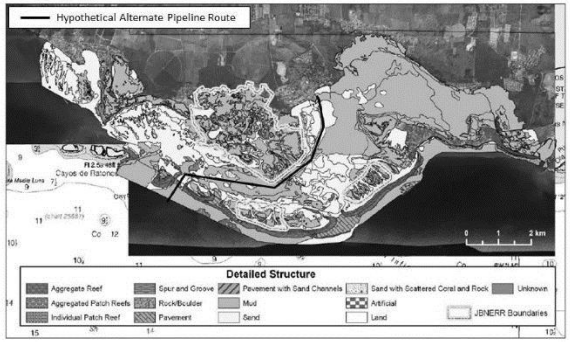

Figure 5. Hypothetical alternate pipeline route *following barge channel and minimizing overlap with reef structures*, superimposed on Detailed Structure Map developed by NOAA for Jobos Bay (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011, p. 43, Fig. 2.47).

CO03-04 Aguirre LLC has proposed to bury its pipeline with the exception of at the Boca del Infierno pass where Aguirre LLC proposes a direct lay of the pipeline. We are recommending that the pipe be installed in this area using the HDD method or be rerouted to minimize impacts on coral resources.

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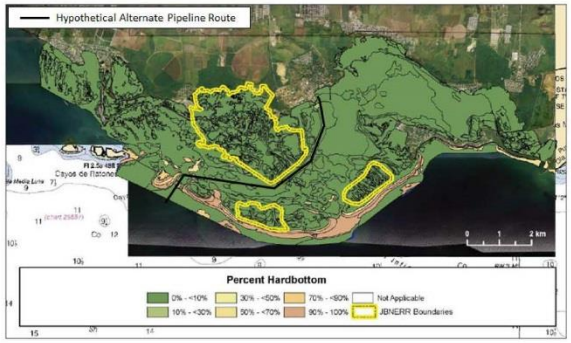

Figure 6. Hypothetical alternate pipeline route *following barge channel and minimizing overlap with hardbottom*, superimposed on Percent Hardbottom Map developed by NOAA for Jobos Bay (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011, p. 44, Fig. 2.48).

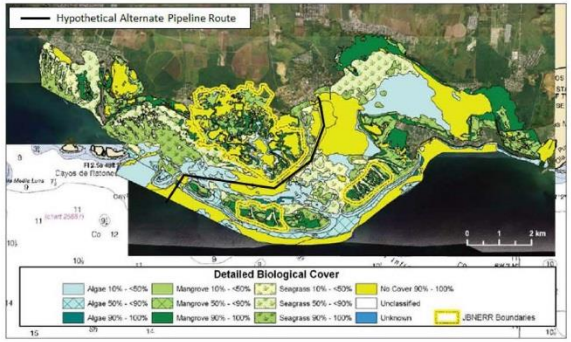

Figure 7. Hypothetical alternate pipeline route *following barge channel and minimizing overlap with biological cover*, superimposed on Detailed Biological Cover Map developed by NOAA for Jobos Bay (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011, p. 45, Fig. 2.49).

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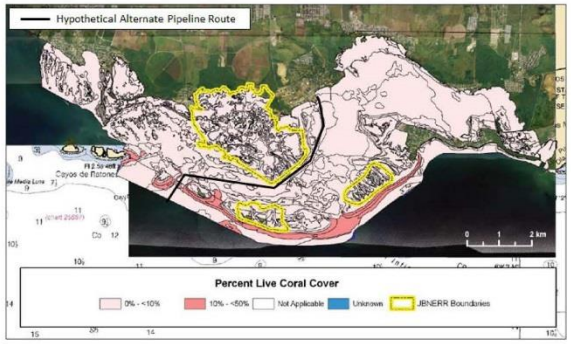

Figure 8. Hypothetical alternate pipeline route *following barge channel and minimizing overlap with live coral cover*, superimposed on Percent Live Coral Cover Map developed by NOAA for Jobos Bay (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011, p. 46, Fig. 2.50).

Benthic Habitat Impact

Draft EIS, p. 5-6. *"Federal agencies are required by Section 7 of the ESA (19 USC § 1536(c)), as amended, to ensure that any actions authorized, funded, or carried out by the agency do not jeopardize the continued existence of a federally listed endangered or threatened species, or result in the destruction or adverse modification of the designated critical habitat of a federally listed species. The action agencies are required to consult with the FWS and/or NMFS to determine whether federally listed endangered or threatened species or designated critical habitat are found in the vicinity of a proposed project, and to determine the action's potential effects on those species or critical habitats. For actions involving major construction activities with the potential to affect listed species or designated critical habitat, the federal agency must prepare a BA for those species that may be affected. The action agency must submit its BA to the FWS and/or NMFS and, if it is determined that the action would likely adversely affect a listed species, the federal agency must submit a request for formal consultation to comply with Section 7 of the ESA. In response, the FWS and/or NMFS would issue a Biological Opinion as to whether or not the federal action would likely jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of designated critical habitat."*

Draft EIS, p. 5-6. *"Impacted corals are expected to take longer to recover, thus, alternative pipeline construction methods, such as the use of an HDD under the reef, are being considered. With the proposed pipeline, permanent impacts on ESA listed corals are expected to result in direct mortality of colonies within the footprint of the pipeline."*

NOAA NMFS Letter 10-31-2013, p. 2. *"Reefs and hardgrounds meeting the coral critical habitat definition are present, especially associated with the fringing reefs that protect the bay, including where a portion of the pipeline is proposed, as are ESA-listed elkhorn (Acropora palmata) and staghorn (Acropora cervicornis) coral colonies. Based on information from the benthic survey completed for the preferred pipeline route only, a number of ESA-listed coral colonies are within the pipeline route and construction corridor."*

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NOAA NMFS Letter 10-31-2013, p. 2. *"We published a 12-month finding and proposed listing rule for seven species of Atlantic corals on December 7, 2012. We are proposing to list five of these species as endangered (Montastraea anularis, M. faveolata, M. franksi, Dendrogyra cylindris, and Mycetopllyllia ferox) and two as threatened (Agaricia lamarcki and Dichocoenia stokesii) and change the listing of elkhorn and staghorn corals to endangered. Information in the benthic survey completed for the preferred pipeline route indicates only that all of these species are present in the area where the pipeline will be located. Therefore, the BA should also include information regarding these species and potential project impacts."*

NOAA NMFS Letter 10-31-2013, p. 2. *"Based on our review of the information in the draft BA, as well as the application, resource reports, and responses to information requests from FERC that will be used in the preparation of the EIS for the project, we believe that adequate detail regarding all potential project impacts (temporary and permanent, in water and on land, during construction and operation of the project) to ESA-listed species and their habitat and avoidance and minimization measures to be incorporated during the construction and operation of the project have not been provided. In addition, we do not believe the project documents have adequately addressed our concerns related to potential project impacts to ESA-listed species and their habitat..."*

Pipeline Routes

Draft EIS, p. 3-9 & 3-10. *"We also analyzed five major terminal/pipeline alternatives in response to concerns from the public and NMFS, EPA, FWS, and DNER concerning impacts from the proposed pipeline route through the Boca del Inferno pass on federally threatened and endangered coral species, coral reef habitat, seagrass within Jobos Bay, and the Antillean manatee. The construction techniques included direct lay and trenching for burial of the pipeline in the Jobos Bay barge channel. We determined that each of the terminal locations and pipeline routes avoiding the Boca del Inferno pass would have environmental impacts greater than or similar to the proposed terminal location and, therefore, were not environmentally preferable to the proposed site and pipeline route."*

Draft EIS, p. 3-10. *"A pipeline route variation review was completed on four pipeline route variations from the proposed terminal site to the Aguirre Plant, each passing through Boca del Infierno pass. For each pipeline route variation, the pipeline length, number of bends in the pipeline, and disturbance of submerged aquatic vegetation and coral reef habitat was compared to the corresponding segment of the proposed route. None of the route variations were determined to provide significant environmental advantages over the proposed route and were not evaluated further."*

Draft EIS, p. 3-11. *"The proposed site is located about 3,900 feet (1.2 km) southwest and directly offshore of the eastern tip of Cayos de Barca. From the proposed site, the pipeline would proceed northeast for about 0.9 mile (1.5 km), then turn northward through the Boca del Infierno pass for about 0.6 mile (1.0 km). Once through the Boca del Infierno pass, the pipeline would head northward through Jobos Bay for about 1.3 miles (2.1 km), then turn northwesterly for 1.2 miles (2.0 km), then turn west for 0.1 mile (0.2 km) where it would enter the Aguirre Plant from the east."*

Draft EIS, p. 3-16. *"The EPA and NMFS suggested that the barge channel, currently used for oil barges to the Aguirre Plant, should be evaluated as an alternative location for the pipeline on the assumption that construction and operation impacts would be fewer because the barge channel area is previously disturbed. Following recommendations from the EPA, NMFS, and Puerto Rico regulatory agencies, Aguirre LLC completed additional review of Alternative Site 4 and several alternative pipeline routes."*

Storm Readiness

Draft EIS, p. 2-11. *"After all pipeline segments are in position they would be connected to the adjacent segments. As proposed, Aguirre LLC would use augers placed into the seafloor to anchor each end of Segment 2, which would cross the Boca del Infierno pass."*

Draft EIS, p. 4-8. *"Aguirre LLC investigated the tsunami hazard associated with the marine terminal and onshore facilities. The chance of a tsunami run-up, which is the vertical height above sea level, exceeding 6.6 feet (2 m) within the region is quite unlikely. Aguirre LLC also concluded that for the offshore marine terminal structures the hurricane design waves would be much higher than maximum expected tsunami waves (C&C, 2012)."*

CO03 – James Goodman, PhD (cont'd)

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Draft EIS, p. 4-8. "*Aguirre has also considered tsunami and hurricane effects on the offshore marine terminal. The predicted tsunami wave run-up heights at the terminal are significantly less than those predicted for both a 100- and 500-year return period hurricane storm surge; so the storm surge wave height would govern the design. Also in the event of a threatening hurricane or tsunami, the moored ship(s) would depart and head for deeper water prior to the waves reaching the terminal.*"

Draft EIS, p. 4-9. "*Aguirre LLC would design the offshore marine terminal structures to withstand wind and wave loadings. The offshore structures would be designed for a wind speed of 68.2 miles per hour (mph) (3-second gust) (109 kilometers per hour [km/hr]) before the vessels disengage and leave the terminal; and designed for approximately 150 mph (241 km/hr) (sustained) and 179 mph (288 km/hr) (3-second gust) after the vessels have departed. Based on preliminary studies performed for Aguirre LLC by Forristall Ocean Engineering Inc. (Forristall), the current estimate of the 500-year wave crest height at the marine terminal site is 46.7 feet (14.2 m) above Lowest Astronomical Tide (Forristall, 2013). The underside of the offshore terminal upper deck height is 41.7 feet (12.7 m) above Lowest Astronomical Tide. Because the upper deck would be subject to full wave crest impact effects, the offshore terminal structures would be designed to withstand the impact forces from wave loadings based on a hurricane with a 500-year return period.*"

Draft EIS, p. 4-19. "*Short-term increases in wave height can occur from the passage of tropical systems (tropical storms and hurricanes) in the offshore areas encompassing the proposed terminal site. Table 4.3.1-1 summarizes the predicted extreme values of significant wave heights and associated return periods (an estimate of how often the given conditions would occur) in these areas during the passage of a tropical system.*"

CO03-05 **5. Offshore Terminal Location**

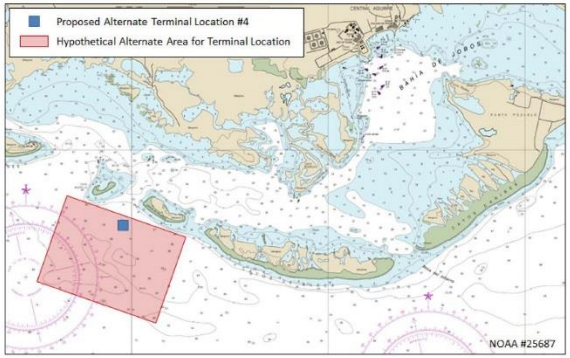
As with the proposed pipeline route, the proposed terminal location and its alternatives appear to have been selected without using all available habitat and bathymetric assessments to first identify feasible areas for terminal placement and then selecting a location that minimizes habitat impacts and optimizes bathymetry considerations for terminal installation and operation.

- The biological assessments described in the Draft EIS and the associated Tetra Tech reports provide detailed surveys of ESA species located in the proposed terminal area, as well as indications of environmentally sensitive resources impacted by alternative terminal locations (Fig. 4); however, not included in the biological assessments are data on nearby adjoining areas that could be utilized to optimize the terminal location to minimize impacts on environmentally sensitive areas. Accordingly, biological assessments should be extended to explore these possibilities. [Note: The previously mentioned habitat survey conducted in Jobos Bay by NOAA (NOAA Technical Memorandum NOS NCCOS 133, Whitall et al. 2011) does not include the offshore areas and thus would not provide additional information for assessment of terminal location impacts.]
- The Draft EIS includes multiple references to the impacts of shading on benthic habitats, particularly with respect to coral reefs. Included in this discussion is mention that "the impact of the proposed terminal location on benthic habitat would be permanent" (Draft EIS, p. 4-45) and that shading may result in "reduced colony viability, or mortality" (Draft EIS, p. 4-88) for at least one ESA species. Specifically, "*Acropora* species are particularly susceptible to loss of light and have been shown to be one of the most sensitive reef species (Acropora BRT, 2005)" (Draft EIS, p. 4-88). With this in mind, the terminal location should be selected to minimize impacts on sensitive benthic habitat areas. Particular attention should be given to Terminal Site #4, or variations of this site, since current indications are that among those sites proposed this site contains the least amount of sensitive benthic habitat area (Draft EIS, p. 3-24, Fig. 3.5-2).

CO03-05 In accordance with CEQ regulations, we determined that the proposed site was feasible and would not result in a significant environmental impact. To make this determination, we considered Aguirre LLC's mitigation plans, agency comments received, and our recommendations within this EIS. Based on our analysis of the proposed site and the alternative sites, we found no compelling reason to review additional alternative sites.

CO03 – James Goodman, PhD (cont'd)

CO03-05 (cont'd) • Given the presence of environmentally sensitive resources in the habitat areas offshore of Jobos Bay, which include federally listed threatened or endangered species, there is a need to fully explore options that minimize impacts to the benthic environment during terminal installation and operation. Using the stated criteria for locating the terminal (Draft EIS, p. 3-10) "reasonably close to the Aguirre Plant", "located in sufficient water depths to accommodate the offshore terminal design", "avoids sensitive marine resources", "avoids population centers that could potentially create increased impacts on recreational users, safety concerns, and visual impacts" and "has a stable seafloor with favorable wind and wave data", the selection of terminal location is a function of overlapping feasible areas (i.e. maps) representing each of the individual criterion in order to identify areas where the criteria intersect. This is a common analysis technique in the field of Geographic Information Systems (GIS), where spatial maps and location-specific data are analyzed to derive spatial relationships. For example, using NOAA nautical chart #25687 (Bahía de Jobos and Bahía de Rincon) as a basemap, a preliminary analysis can be used to identify offshore areas near alternative site #4 that are a reasonable distance from the Aguirre Plant and are located in 50-60 ft water depth (Fig. 9). Such an analysis could be expanded to eliminate areas within close proximity to the nearby keys (i.e. only select areas that are further offshore), and thus minimize impacts to recreational resources (which are currently identified as significant limitations against selecting alternative terminal sites #3 and #4, but that could be potentially resolved by moving alternative terminal site #4 further offshore). Such an analysis would narrow the extent of areas that need to be surveyed with respect to identifying impacts to benthic habitats, and the resulting survey could be utilized to optimize terminal location such that impacts to benthic resources are minimized.



CO03-06 **Figure 9**. Hypothetical alternate area for location of alternate offshore terminal site #4, superimposed on NOAA nautical chart #25687 (Bahía de Jobos and Bahía de Rincon). Also shown is the currently proposed location of alternate terminal site #4 as approximated from locations presented in the Draft EIS (p. 3-17, Fig. 3.5-1).

CO03-06 See response to comment CO03-05.

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Benthic Habitat Impact

Draft EIS, p. 5-6. *"Federal agencies are required by Section 7 of the ESA (19 USC § 1536(c)), as amended, to ensure that any actions authorized, funded, or carried out by the agency do not jeopardize the continued existence of a federally listed endangered or threatened species, or result in the destruction or adverse modification of the designated critical habitat of a federally listed species. The action agencies are required to consult with the FWS and/or NMFS to determine whether federally listed endangered or threatened species or designated critical habitat are found in the vicinity of a proposed project, and to determine the action's potential effects on those species or critical habitats. For actions involving major construction activities with the potential to affect listed species or designated critical habitat, the federal agency must prepare a BA for those species that may be affected. The action agency must submit its BA to the FWS and/or NMFS and, if it is determined that the action would likely adversely affect a listed species, the federal agency must submit a request for formal consultation to comply with Section 7 of the ESA. In response, the FWS and/or NMFS would issue a Biological Opinion as to whether or not the federal action would likely jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of designated critical habitat."*

NOAA NMFS Letter 10-31-2013, p. 2. *"Based on our review of the information in the draft BA, as well as the application, resource reports, and responses to information requests from FERC that will be used in the preparation of the EIS for the project, we believe that adequate detail regarding all potential project impacts (temporary and permanent, in water and on land, during construction and operation of the project) to ESA-listed species and their habitat and avoidance and minimization measures to be incorporated during the construction and operation of the project have not been provided. In addition, we do not believe the project documents have adequately addressed our concerns related to potential project impacts to ESA-listed species and their habitat..."*

Terminal Location

Draft EIS, p. ES-9. *"We evaluated four alternative offshore terminal sites with pipelines to the terminal and Aguirre LLC conducted field review of each site and corresponding pipeline. All four terminals had similar water depths and seafloor conditions; however, the length of pipeline required and distance to the closest population centers varied."*

Draft EIS, p. 3-11. *"The proposed site is located about 3,900 feet (1.2 km) southwest and directly offshore of the eastern tip of Cayos de Barca. From the proposed site, the pipeline would proceed northeast for about 0.9 mile (1.5 km), then turn northward through the Boca del Infierno pass for about 0.6 mile (1.0 km). Once through the Boca del Infierno pass, the pipeline would head northward through Jobos Bay for about 1.3 miles (2.1 km), then turn northwesterly for 1.2 miles (2.0 km), then turn west for 0.1 mile (0.2 km) where it would enter the Aguirre Plant from the east."*

Draft EIS, p. 3-13. *"As presented and discussed in further detail in section 4.0 of this draft EIS, the proposed terminal site would encompass about 75.5 acres (77.7 cuerdas), of which 22.3 acres (23.0 cuerdas) would be permanently impacted. Construction activities would temporarily disturb 71.4 acres (73.5 cuerdas) of submerged aquatic vegetation (SAV) (e.g., seagrasses, macroalgae) and 4.1 acres (4.2 cuerdas) of coral reef habitat. Of these SAV and coral reef impacts, permanent habitat losses impact 22.1 and 1.1 acres (22.8 and 1.1 cuerdas), respectively. Coral reef habitat surveys for the alternative terminal sites were not conducted."*

Draft EIS, p. 3-13. *The proposed "site is located the greatest distance from the string of islands that separates the Jobos Bay and the Caribbean Sea. Due to its distance from population's centers as well as from the islands, it would have fewer impacts on recreational users of the area compared to the alternatives sites. In addition, it is the site located the furthest from population centers thus mitigating concerns over the safety zone imposed on the facility."*

Draft EIS, p. 3-15. *"Site 4 is located about 2,000 feet (0.6 km) southwest of Cayos de Pájaros. From Site 4, the pipeline would proceed northeast for about 0.6 mile (1.0 km) to the existing barge channel where it would proceed about 1.8 miles (2.9 km) east within the basin of Jobos Bay. The pipeline would then proceed northeast for about 1.3 miles (2.1 km) within the basin of Jobos Bay and turn north at about MP 3.7 northwest for 1.0 mile (1.6 km) to the Aguirre Plant property where it would interconnect with existing Aguirre Plant piping."*

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Draft EIS, p. 3-16. *"Site 4 would result in greater impacts on the recreational boating and fishing activities in the area, as well as create a greater visual impact than the proposed site. However, due to concerns about pipeline construction through the Boca del Infierno pass (which this alternative would avoid), Site 4, similar to Site 3, is further evaluated in section 3.5."*

Coral Shading

Draft EIS, p. ES-5. *"The Offshore GasPort would create a permanent impact on marine wildlife habitat. These permanent impacts would include approximately 3.7 acres (3.8 cuerdas) of seagrass, 20 acres (20.6 cuerdas) of macroalgae, 0.5 acre (0.5 cuerda) of reef, and 1.1 acres (1.1 cuerdas) of soft bottom habitat. The Project would result in direct impacts from mortality of coral colonies within the footprint of the pipeline across the coral reef and unconsolidated hardbottom, as well as indirect impacts resulting from shading of patch reef below the offshore terminal (including the FSRU and LNG carrier) and degradation of seagrass and macroalgae foraging habitats."*

Draft EIS, p. 4-45. *"The habitat beneath the offshore berthing platform would be permanently altered by shading and the thermal plume discharge, which are discussed more below. These permanent impacts include approximately 2.9 acres (3.0 cuerdas) of seagrass and soft bottom benthic communities as well as 0.2 acre (0.2 cuerda) of patch reef with live corals. We conclude the impact of the proposed terminal location on benthic habitat would be permanent and moderate because there would be a permanent change in the benthic community in this location."*

Draft EIS, p. 4-47. *"The operation of the proposed offshore berthing platform would result in the permanent shading of the area beneath the FSRU structure. This would represent permanent impacts on seagrass and coral reef habitat. We are recommending above that Aguirre LLC develop mitigation plans to minimize or avoid these impacts."*

Draft EIS, p. 4-88. *"This study suggests that shading from the moored FSRU and offshore terminal may adversely affect any Acropora spp. in the shaded area, resulting in reduced colony viability, or mortality. LNG carriers are expected to be moored at the terminal for approximately 183 days each year (50 deliveries per year at 88 hours each). Therefore shading from the LNG carries could also adversely affect Acropora spp."*

Draft EIS, p. D-27. *"Construction and operation of the pipeline and offshore terminal could cause direct physical damage to protected coral species through displacement, destruction, or shading. Physical damage may result from accidental equipment contact with the seafloor, propeller wash, and pipeline direct-lay procedures. Shading along the pipeline could result from increased sedimentation during construction, temporary placement of barges (estimated to be a maximum of six days at any given point), or from the suspension of the pipe over naturally occurring depressions in the reef. The offshore patch reef is especially susceptible to impacts from shading and mooring, with a permanent loss of coral species expected within the footprint of the offshore terminal. Physical damage can also be expected in this area from anchoring and mooring during the construction phase; however, these effects would subside upon completion of construction activities."*

NOAA NMFS Letter 10-31-2013, p. 3. *"A detailed benthic survey of the pipeline and offshore platform area, including the specific locations of all ESA-listed corals and corals proposed for ESA listing and a map of the areas containing the essential element of coral critical habitat. The benthic survey previously conducted used techniques that do not allow characterization of the entire area but instead a broader characterization of habitats and some observations of coral colonies. Detailed benthic surveys must include the area of the offshore platform. There is anecdotal information in some of the resource reports that two seagrass species and some hard corals occur in this area, but the information is not adequate to assess the extent of impacts to ESA resources. For instance, Resource Report 3 states that there will be shading impacts due to the construction and operation of the offshore platform, but there are no details of what resources will be impacted or quantification of the impacts."*

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6. Conclusions

The following overall conclusions are drawn from this review:

- Using currently available habitat and bathymetry data it is evident that other legitimate alternatives for pipeline route and platform location are available but have not been considered.
- The location of the proposed pipeline route should be revisited, with particular attention to variations of Pipeline Route 3 such that the route is optimized to explicitly follow the barge channel and avoid sensitive benthic habitat areas.
- The location of the proposed terminal should be revisited, with particular attention to moving Terminal Site 4 further offshore to reduce recreation impacts in the nearby keys and avoid sensitive benthic habitat areas.

CO04 – Mount Sinai Hospital, Pediatric Environmental Health and Specialty Unit

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Alice Freund, CIH, MSPH
Industrial Hygienist

Norman Zuckerman, MS
Industrial Hygienist

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426September 9, 2014

Dear Secretary Bose,

As pediatricians and scientists at the Pediatric Environmental Health Specialty Unit (PEHSU) at the Icahn School of Medicine at Mount Sinai, we are grateful for the opportunity to comment on the draft of the Aguirre Offshore GasPort Project Environmental Impact Statement. The mission of the Mount Sinai PESHU is to provide clinical consultation and education to families, health care professionals, public health officials, policy-makers and community organizations with concerns regarding children's environmental health throughout Federal Region II, which includes New York, New Jersey, Puerto Rico and the US Virgin Islands.

Children are especially vulnerable to outdoor air pollution – particularly ozone which can be formed from Volatile Organic Compounds (VOCs). Development of the lung begins in fetal life and does not end until the child is an adolescent. The outcome of this developmental process is important for the future health of the child. Exposure to air pollution alters the normal process of lung development.

Because children tend to spend more time outside than adults, often while being physically active, they have a greater opportunity for exposure to pollutants. While playing or at rest, children breathe more rapidly and inhale more pollutants per pound of body weight than adults. Since airway passages in children are narrower than those in adults, irritation caused by air pollution can result in proportionally greater airway obstruction. In addition, children have many years of future life and thus time to develop diseases that take years to develop from early exposures. Unlike adults, children may not cease vigorous outdoor activities when symptoms occur. Additional, populations of concern include pregnant women because of potential air pollution effects on fetal development and also children or older persons with respiratory diseases such as asthma or chronic obstructive pulmonary disease (COPD). Children in Puerto Rico are of particular concern as asthma is estimated to affect over 20% of the young population.[1]

With the Aguirre Offshore GasPort Project, the types of VOCs that will be released include chemicals such as formaldehyde, benzene, toluene, hexane, and styrene.[2] Many of these VOCs are known to have both short term and long term effects. These effects include irritation of the eyes, nose, throat and skin; headache, nausea and

CO04 – Mount Sinai Hospital, Pediatric Environmental Health and Specialty Unit (cont'd)

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dizziness; fatigue and shortness of breath; and worsening of respiratory conditions such as asthma. Long term effects resulting from chronic exposure include increased risks of some types of cancers or other diseases such as kidney failure. Health effects vary depending on the chemicals involved and the duration of the exposure.[iii,iv]

Specific comments on the draft EIS for the proposed project:

CO04-01 1. There is a lack of location specific data regarding current ambient VOCs and ozone. No ambient VOC levels are provided and the ambient levels provided for ozone are measured in Juncos County which is approximately 30 miles from the proposed project site.[v] While a number of air pollutants are expected to decrease, volatile organic compounds (VOCs) are projected to increase by 32 tons per year. VOCs are precursors to ozone.

CO04-02 2. When considering the increase in VOCs, special consideration for vulnerable populations is important. These include the up to 60% of the families living below the poverty line who have children under 5 years of age.[vi] Simple adherence to NAAQS is likely not sufficient to be health protective for these vulnerable subgroups.

CO04-03 3. Ozone projections should be modeled. The expected impact of the proposed GasPort on ozone concentrations is not modeled whereas a number of other criteria air pollutant projections are provided.[vii]

CO04-04 4. Lastly, to reduce potential toxic exposures for the large proportion of the population who are vulnerable, we would encourage precautionary air pollution mitigation options such as use of additional operating restrictions and emission reduction technologies.

Thank you for the opportunity to submit our comments at this important hearing. We would be more than happy to answer any questions that you might have.

Respectfully submitted,

The Mount Sinai PEHSU team

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[i] Maymi MA, Somolinos AL, Nazario CM, Sánchez JL. The prevalence of atopic dermatitis in Puerto Rican school children. P R Health Sci J. 2007 Jun;26(2):127-33. PubMed PMID: 17722425.

[ii] Table B-9 "Future Potential Hazardous Air Pollutant (HAP) Emissions- Aguirre Power Complex" on page B-10 in the PSD Non Applicability Analysis for the Natural Gas Conversion Project at the Aguirre Power Complex document

[iii] ATSDR Toxic Substance Portal VOCs. Available at: http://www.atsdr.cdc.gov/substances/toxchemicallisting.asp?sysid=7

[iv] Mount Sinai Pediatric Environmental Health Specialty Unit WTC Volatile Organic Compounds Fact Sheet. Available at: http://icehn.mssm.edu/static_files/MSSM/Files/Research/Programs/Pediatric%20Environmental%20Health%20Specialty%20Unit/voc-faqs.pdf

[v] Table "Ambient Air Quality Concentrations for Areas Near the Aguirre Offshore GasPort Project," on page 4-124.

[vi] Page 4-115

[vii] Table "Offshore and Coastal Dispersion Model Results for All Aguirre GasPort Project Combined with Ambient Background for Comparison with National Ambient Air Quality Standards," on page 4-200.

CO04-01 See the response to comment CO02-06.

CO04-02 See the response to comment CO02-07.

CO04-03 See the response to comment CO02-08.

CO04-04 See the response to comment CO02-09.

CO05 – Puerto Rico Fishermen's Federation and Defenders of the Sea, Inc.

20140930-5074 FERC PDF (Unofficial) 9/30/2014 9:22:08 AM

Comments of the **Puerto Rico Fishermen's Federation and Defenders of the Sea, Inc.** to Draft Environmental Impact Statement, Aguirre Offshore GasPort Project, FERC /OEP/DG2E/ Gas 4, Aguirre Offshore GasPort, LLC, Docket No. CP13-193-000; Puerto Rico Permits Management Office, 2014-287982-REA-22461.

The **Puerto Rico Fishermen's Federation and Defenders of the Sea, Inc.** (*Federación de Pescadores de Puerto Rico y Defensores del Mar. Inc.* or *FEPDEMAR*) opposes the construction and operation of the Aguirre Offshore Gasport, which includes a submerged pipeline at the *Boca del Infierno* sector of *Bahía de Jobos*, a National Estuarine Research Reserve.

The reasons for FEPDEMAR's opposition are:

CO05-01 1. The short term and long term adverse impact on the environment, particularly on the marine resources, such as the reefs, the queen conch and the Nassau grouper, among others.

CO05-02 2. The pipeline route at *Boca del Infierno* is unacceptable, not only because of the impact to the marine resources in the area, such as the queen conch, but because that is the only route to the open sea which is available to the local fishermen, who already have to make a living under many restrictions to the fishing activities in the area. If the project is going to be approved, the pipeline should be constructed and operated in the navigation channel of the Jobos Bay, which is already impacted; the construction and operation of the pipeline at *Boca del Infierno* is unacceptable.

Finally, FEPDEMAR shares and adopts as its own, all the concerns that are included in the Comments of Comité Diálogo Ambiental, Inc. to the Draft Environmental Impact Statement of Aguirre Offshore GasPort Project.

/s/Miguel Dávila García
President
FEPDEMAR
PO Box 14
Puerto Real
Fajardo, PR 00740
Tel.: 787-594-4800

CO05-01 We have determined that our analysis in sections 4.5 and 4.6 fully describe the impacts on the wildlife resources in the Project area. In addition, we are including recommendations to minimize the associated impacts from the Project on sensitive marine wildlife and associated habitats.

CO05-02 In our analysis, we did find that the construction of the pipeline crossing of the Boca del Infierno pass, as proposed, is environmentally unacceptable. To this end, we are recommending that, if Aguirre LLC determines that an HDD of the pass is unlikely to be successful, Aguirre LLC should adopt Alternative Route 6 as its proposed route. To ensure that impacts on boating and fishing are minimized during construction, we are recommending in section 4.7.7 that Aguirre LLC prepare a Construction Access Plan that demonstrates areas that would be required to be avoided by marine users, discusses duration and public restrictions, and details methods of communication of restrictions to the general public.

CO06 – Puerto Rico Manufacturers Association

TORO, COLÓN, MULLET,
RIVERA & SIFRE, P.S.C.

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September 29, 2014

VIA E-FILING: www.ferc.gov

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, 1A
Washington, DC 20426

Re: Request for extension to submit comments on Draft Environmental Impact Statement for the Aguirre Offshore GasPort Project under CP13-193-000

Dear Mrs. Bose:

The Puerto Rico Manufacturers Association ("PRMA") is a private, voluntary, non-profit organization that has represented the Puerto Rico's manufacturing and service industries for more than eighty–six years. PRMA's mission is to strengthen the industrial and entrepreneurial sectors, to enhance the competitiveness and to promote economic and social development. Members of the PRMA include pharmaceuticals, medical devices manufacturers, health care companies, power plants, information technology companies, building materials suppliers, food products and services providers, retail industry, and consultants and vendors to these industries. PRMA represents 1,200 entities of the service, industrial and manufacturing sector in Puerto Rico.

Recently, the PRMA learned that the Federal Energy Regulatory Commission (FERC) prepared a Draft Environmental Impact Statement (EIS) for the Aguirre Offshore Gasport Project located offshore Puerto Rico, proposed by Excelerate Energy, LP. The PRMA also learned that the FERC opened the project for public comment until September 29, 2014. PRMA is very interested in submitting its comments on the EIS's draft. For this project, PRMA needs to convene all of the PRMA's affected members to review, analyze, and comment the EIS's draft. Because of the complexity of this process, the PRMA needs additional time to gather its comments and submit them to FERC.

CO06-01 In light of the above, we respectfully request FERC to grant the PRMA an extension of time of 30 days to provide comments on the Environmental Impact Statement for the Aguirre Offshore GasPort Project under CP13-193-000.

Cordially,

Carlos E. Colón Franceschi, Esq.

c: Yohari Molina
Denise Madera

P.O. BOX 195383, SAN JUAN, PUERTO RICO 00919-5383

CO06-01 While some information was still pending at the time of issuance of the draft EIS, the lack of this final information does not deprive the public of a meaningful opportunity to comment on potential substantial adverse environmental effects of the Project or to suggest a feasible way to mitigate or avoid such effects. The EIS includes sufficient detail to enable the reader to understand and consider the issues raised by the proposed Project and addresses a reasonable range of alternatives. The final EIS has been updated with new information where it is available.

CO07 – Mesa de Dialogo Energetico de Puerto Rico

20141007-4004 FERC PDF (Unofficial) 10/07/2014

MESA DE DIALOGO ENERGETICO DE PUERTO RICO

Calle Roble ED-7
Los Almendros
Bayamón, Puerto Rico 00961

9 de septiembre de 2014

RE: EVALUACIÓN DE DOCUMENTO AMBIENTAL PARA EL PROYECTO DEL TERMINAL MARÍTIMO DE GNL DE AGUIRRE

Estimado arquitecto Lastra Power:

Buenas tardes. La Mesa de Diálogo Energético de Puerto Rico (**La Mesa**), organización sin fines de lucro, no gubernamental, fue fundada en julio de 2008. Entre sus miembros se encuentran:

- **Asociación de Bayamoneses pro Reciclaje y Ambiente Sano (ABRASO)**
- **Asociación de Consultores y Contratistas de Energía Renovable de Puerto Rico (ACONER)**
- **Asociacion de Industriales de Puerto Rico (AIPR)**
- **Autoridad de Energía Eléctrica de Puerto Rico (AEE)**
- **Colegio de Arquitectos y Arquitectos Paisajistas de Puerto Rico (CAAPPR)**
- **Colegio de Químicos de Puerto Rico (CQPR)**
- **Concilio de Iglesias de Puerto Rico (CIPR)**

CO07 – Mesa de Dialogo Energetico de Puerto Rico (cont'd)

20141007-4004 FERC PDF (Unofficial) 10/07/2014

- **Consorcio Alianza Energética de Puerto Rico (CAEPR)**
- **Instituto Tropical de Energía, Ambiente y Sociedades (ITEAS) del Recinto de Mayagüez de la Universidad de Puerto Rico**
- **Liga de Cooperativas de Puerto Rico**
- **Misión Industrial**
- **Oficina Estatal de Política Pública Energética (OEPPE)**
- **Puerto Rico Energy Center (PREC)**
- **Sociedad Puertorriqueña de Planificación (SPP)**
- **Universidad Interamericana de Puerto Rico Recinto de Bayamón**
- **US Green Building Council (USGBC) Capítulo del Caribe**

Nuestra "**Constitución**" es el **Memorando de Entendimiento** (**ME**) de noviembre de 2010. El **ME** contiene los siguientes **POR CUANTOS** relevantes a los principios fundamentales que apoyamos y sostenemos para enmarcar la transformación energética reclamada por todos y requerida para la sostenibilidad de **Puerto Rico**:

CO07-01 **"POR CUANTO:** LA MESA tiene como fin lograr unos acuerdos fundamentales entre representantes y usuarios del sistema eléctrico en Puerto Rico."

"POR CUANTO: LA MESA ha identificado el objetivo común de que nuestro sistema eléctrico se convierta en un instrumento vital para una visión de un **Puerto Rico próspero, justo, democrático, sostenible y feliz,** como fue definido en nuestra visión ampliada, y por ello es imperativo alcanzar una transformación de dicho sistema con un **Plan Estratégico** [Referencia: "**Plan Estratégico para Promover la Sostenibilidad del Sistema Eléctrico de Puerto Rico**", **La Mesa**, Noviembre de 2009

CO07-01 Comment noted. The energy policy in Puerto Rico and practices by PREPA are outside of the scope of this environmental analysis. However, our EIS reiterates the comment that one of the Project's objectives is to contribute to energy price stabilization in the region.

CO07 – Mesa de Dialogo Energetico de Puerto Rico (cont'd)

CO07-01 (cont'd) http://iteas.uprm.edu/docs/Mesa_Dialogo_Documento_Plan_Estrategico.pdf]

que permita superar las visiones exclusivas de corto plazo y de intereses sectoriales."

"**POR CUANTO:** La meta es que nuestro sistema eléctrico se convierta en uno robusto, eficiente, sostenible e innovador, económicamente estable y que contribuya significativamente a la sostenibilidad de **Puerto Rico** a largo plazo."

"POR CUANTO: Resulta imperativo que se discontinúe el actual patrón de consumo de energía en el que está basado las proyecciones de ventas de la AEE y se pueda reducir en un 25% el mismo, principalmente evitando el uso indebido de energía per cápita para el año 2030, a través de estrategias de conservación y eficiencia energética a todos los niveles del sistema eléctrico (Generación, Transmisión, Distribución y Consumidores)."

"POR CUANTO: La AEE debe desarrollar un nuevo modelo de negocios el cual incluya desarrollar nuevas fuentes de ingresos tales como la generación de energía mediante fuentes más limpias y renovables y la expansión de su red de fibra óptica." (ver **Una Nueva AEE: Energía Eléctrica para la Sociedad Puertorriqueña del Siglo XXI**, Efraín O'Neill-Carrillo, Ph.D., P.E., Diciembre de 2012 http://iteas.uprm.edu/docs/Nueva_AEE_2012.pdf y **Alternativas para una Nueva Estructura Financiera de la AEE, La Mesa**, Parte I, Octubre 2012 y Parte II, Abril 2013)

"POR CUANTO: Es nuestra meta que Puerto Rico pueda producir el 30% de nuestra energía eléctrica usando sus recursos renovables para el año 2030." [Referencia: **Achievable Renewable Energy Targets [ARET] For Puerto Rico's Renewable**

CO07 – Mesa de Dialogo Energetico de Puerto Rico (cont'd)

20141007-4004 FERC PDF (Unofficial) 10/07/2014

CO07-01 (cont'd)

Energy Portfolio Final Report, Agustín A. Irizarry Rivera, Ph.D., P.E., José Colucci Rios, Ph.D., P.E., y Efraín O'Neill Carrillo, Ph.D., P.E. (suscribientes iniciales del **ME**), Noviembre de 2008 http://www.uprm.edu/aret/

Cita del informe:

"Approximately 65% of residential roofs can provide the total electric energy, not power, that is generated in Puerto Rico, as shown in Figure 1.1 ["Estimate of solar photovoltaic electric energy contribution form (debe leer "from") residential applications"]."

"POR CUANTO: Es necesario que se revise la política pública de subsidios energéticos en Puerto Rico de tal forma que no se afecten los recaudos de la AEE como está sucediendo."

"POR CUANTO: Necesitamos crear, desarrollar y establecer procesos decisionales eficaces, transparentes, inclusivos y participativos en la AEE de manera que los consumidores tengan acceso a toda información y los datos relevantes que permita alcanzar estas metas."

"POR CUANTO: LA MESA ha identificado que el uso del gas natural quizás puede ayudar a reducir costos energéticos para los habitantes de Puerto Rico en un corto plazo."

Nuestro **ME** con sus principios y criterios fundamentales permite a los miembros de **La Mesa** actuar conforme a ese norte común. En reunión celebrada el 29 de agosto de 2014 todos los miembros presentes de **La Mesa** decidieron por unanimidad utilizar los principios y criterios fundamentales del **ME**, Plan Estratégico, Parte I y Parte II del antes mencionado informe, y Una Nueva AEE y el ARET para evaluar y reaccionar para todas

CO07 – Mesa de Dialogo Energetico de Puerto Rico (cont'd)

las propuestas para proyectos sobre energía.

La Mesa entiende que el Proyecto del Terminal Marítimo de GNL de Aguirre pudiera alinearse con los principios y criterios fundamentales de su **ME**, **Plan Estratégico**, Parte I y Parte II del antes mencionado informe, y **Una Nueva AEE** y el **ARET** que hemos adoptado.

Sin embargo, para lograr que este Proyecto realmente ayude a adelantar la sostenibilidad energética de Puerto Rico, y para evitar que este Proyecto tenga los problemas que tuvieron los esfuerzos anteriores de la AEE para transportar gas natural, **La Mesa** presenta las siguientes recomendaciones:

La ley 57 del 27 de mayo de 2014 ordena a la Autoridad proveer "mecanismos de participación ciudadana en cada una de sus regiones" y establecer "un programa continuo de educación a sus empleados y a todos los clientes, que fomente conservación y eficiencia energética." Para asegurar que este Proyecto atienda los reclamos de justicia social y ambiental de Salinas, **La Mesa** sugiere que la AEE use el Proyecto para establecer un programa piloto de participación y educación ciudadana en la región de Ponce (una de las 7 regiones de la AEE). Esto usando como base y comenzando con las preocupaciones comunitarias con este proyecto de terminal marítimo. La AEE puede ir dando espacio e ir atendiendo las preocupaciones asociadas al Proyecto y a la planta generatriz de Aguirre. En cuanto al costo de esto, la ley 57 establece que "la Autoridad podrá establecer acuerdos de colaboración con otras entidades públicas, entidades cívicas, organizaciones no gubernamentales y otras instituciones interesadas en facilitar la coordinación y reducir los costos de los programas de educación y de los mecanismos

CO07-02

CO07-02 Comment noted. PREPA was present at the FERC's comment meeting to receive this comment.

CO07 – Mesa de Dialogo Energetico de Puerto Rico (cont'd)

para permitir y fomentar la participación ciudadana." No se le debe tener miedo a la apertura y a la transparencia, especialmente la AEE que maneja la infraestructura eléctrica que es de TODOS en Puerto Rico por ser pública.

La misma ley 57 del 27 de mayo de 2014 establece que la Autoridad "tiene el deber de proveer energía eléctrica de forma confiable, aportando al bienestar general y al futuro sostenible del Pueblo de Puerto Rico, maximizando los beneficios y minimizando los

CO07-03 impactos sociales, ambientales y económicos." Se habla de minimizar los impactos sociales y ambientales, por lo tanto la mitigación que se establezca en este Proyecto no debe ser necesariamente lo que requiera la ley, sino la mejor mitigación posible, que realmente minimice impactos ambientales y sociales, y que a la vez sea razonable en costo. Lo que es "razonable" en costo es debatible, por eso la importancia de que la Autoridad sea transparente y comparta con los afectados las alternativas y se lleguen a acuerdos, que aunque no sean óptimos para alguna parte, sean aceptables para las partes, en especial aquellos potencialmente afectados.

CO07-04 Por otro lado, los ahorros que resulten del uso de gas natural, deben usarse no solo para reducir el costo del servicio eléctrico a los clientes. Es fundamental usar parte de esos ahorros para actualizar la infraestructura de la AEE para que pueda integrarse más energía renovable. De esa forma es que realmente el uso de gas natural puede ser una herramienta en la transición a un mayor uso de renovables.

Parte de los ahorros deben usarse para aliviar las presiones financieras que enfrenta la AEE. Este proyecto de terminal marítimo y uso de gas natural en Aguirre presenta una

CO07-03 Our determination of impacts is based on a review of the information provided by Aguirre LLC and further developed from data requests; field investigations; scoping; literature research; alternatives analysis; and contacts with federal, state, and local agencies and individual members of the public; as well as our recommendations to avoid or reduce certain environmental impacts. As part of our review, we developed specific mitigation measures that we conclude would appropriately and reasonably reduce the environmental impacts resulting from construction and operation of the Project. Specifically, we are recommending that if Aguirre LLC determines that an HDD across the Boca del Infierno pass is unlikely to be successful, it should adopt Alternative Route 6 as its proposed route in order to substantially reduce impacts on coral resources along the pipeline route.

CO07-04 The generation and consumption of the electricity supplied by PREPA to Puerto Rico is outside of the scope of this EIS.

CO07 – Mesa de Dialogo Energetico de Puerto Rico (cont'd)

importante oportunidad para que las finanzas asociadas al manejo de NUESTRA infraestructura eléctrica puedan enderezarse.

CO07-05 Por último es importante señalar que la documentación relacionada al Proyecto es compleja y voluminosa. Las 600 páginas se hicieron disponibles a principios de agosto de 2014. **La Mesa** no tiene el tiempo ni los recursos para poder hacer una evaluación detallada de la información técnica contenido en la DIA. Es por esto que es aún más importante que el Proyecto se presente a la ciudadanía de forma entendible, y que los espacios de participación ciudadana no sean lo mínimo que requiere la ley (como lo son estas vistas públicas). La Autoridad no debe dejar pasar otra oportunidad de abrirse a la ciudadanía y construir juntos un mejor futuro energético para Puerto Rico.

Conclusión

CO07-06 **La Mesa** evaluó la DIA de epígrafe a la luz de su Visión, Misión, Objetivos, Principios y Valores, **Plan Estratégico para Promover la Sostenibilidad del Sistema Eléctrico de Puerto Rico**, Parte I y Parte II del antes mencionado informe, y **Una Nueva AEE,** y el **ARET** y el **ME.** **La Mesa** concluye que el Proyecto producirá menos emisiones y contaminación ambiental, y disminuirá el impacto negativo a la salud de nuestro Pueblo, y permitirá el cumplimiento de los estándares de Mercurio y Tóxicos del Aire (MAT) de la EPA y así se evitará millonarias multas.

La Mesa apoya el Proyecto condicionado a que se logre y se firme un acuerdo entre la Autoridad de Energía Eléctrica, Excelerate Energy, y organizaciones ciudadanas de la región que incluya:

CO07-05 PREPA was present at the FERC's comment meeting to receive this comment.

CO07-06 Comment noted.

CO07 – Mesa de Dialogo Energetico de Puerto Rico (cont'd)

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CO07-07 • Presentar un plan aceptable que minimice el impacto ambiental y ambiente marino circundante.

CO07-08 • Presentar un plan para preservar la Reserva Natural de Investigación Estuarina Bahía de Jobos y su ecosistema intermareal tropical, y garantizar una mínima intervención de las actividades en la bahía.

CO07-09 • Llevar a cabo estudios ambientales con el Instituto Nacional de Energía y Sostenibilidad Isleña (INESI) de la Universidad de Puerto Rico y grupos ambientales locales para asegurarse de que el Proyecto tendrá un impacto mínimo en la bahía.

CO07-10 • Estipular penalidades por incumplimiento del acuerdo.

Respetuosamente,

Wilma Deliz Vélez, MA, BA
Coordinadora

CO07-07 We developed specific mitigation measures that we conclude would appropriately and reasonably reduce the environmental impacts resulting from construction and operation of the Project. In addition, we are recommending that our mitigation measures be attached as mandatory conditions to any authorization issued by the Commission.

CO07-08 The Jobos Bay National Estuarine Research Reserve has been engaged in the review and permitting of the Project through representation of the federal and state agencies.

CO07-09 Our determination of impacts is based on a review of the information provided by Aguirre LLC and further developed from data requests; field investigations; scoping; literature research; alternatives analysis; and contacts with federal, state, and local agencies and individual members of the public; as well as our recommendations to avoid or reduce certain environmental impacts.

CO07-010 Each federal agency has the option of enforcing penalties if the applicant fails to meet its permit conditions.

CO08 –Puerto Rico Manufacturers Association

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INDUSTRIALES PUERTO RICO
MANUFACTURA ■ SERVICIO ■ COMPETITIVIDAD ■

Waleska Rivera
Presidenta

Jaime L. García
Director Ejecutivo

October 20, 2014

VIA E-FILLING: www.ferc.gov

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, I A
Washington, DC 20426

Re: Comments on Draft Environmental Impact Statement for the Aguirre Offshore GasPort Project under CP13-J93-000

Dear Mrs. Bose:

In September 29, 2014 the Puerto Rico Manufacturers Association ("PRMA") requested an extension of time of 30 days to provide comments on the Environmental Impact Statement for the Aguirre Offshore GasPort Project under CP 13-1 93-000.

In light of the above we respectfully submit for your consideration the following comments below.

According to the Environmental Impact Statement, PREPA plans to accept enforceable operational limits on the boilers at the Aguirre Thermoelectric Plant and on the Aguirre Combined Cycle, thus rendering the Prevention of Significant Deterioration of Air Quality (PSD) review inapplicable. PREPA plans to limit future AG 1 and 2 operations to a 55 percent annual capacity factor and the combined cycle units to a 35 percent annual capacity factor.

CO08-01 The proposed limits implies a high constraint of use of the 900 megawatts Aguirre Thermoelectric Plant and of the 592 megawatts Aguirre Combined Cycle. This takes significant importance when considering that the 1,492 megawatts of the Aguirre units represent 31% of the 4,770 megawatts of the total thermal and gas turbines generation of PREPA. The result is a restrain for the Puerto Rico generation system and a burden to the rest of the generation units.

Due to the facts mentioned herewith, the PRMA understand that a project with a significant impact on the environment such as the Aguirre Offshore GasPort should assure that the production of energy resulting from the improvements of this project shall be made by generation units that make the best use of resources in an efficient manner, without requiring enforceable limits that restrain their operation. Maintaining in operation, old and low efficient units would result in a long term environmental risk since, due to the lack of production of energy by renewable sources in Puerto Rico (only 123 MW by photovoltaic and wind energy PPOAs and 70 MW by PREPA hydroelectric plants) and the aged and deteriorated condition of PREPA thermal generation fleet, there is no assurance of the compliance with the stringent Aguirre enforceable operational limits.

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PO Box 195477, San Juan, P.R. 00919-5477 ■ Tel. 787-641-4455 ■ Fax 787-641-2535 ■ PRMA.com

CO08-01 Comment noted. The Aguirre Power Complex is under the jurisdiction of PREPA, and FERC does not have jurisdictional authority over the facilities operated by PREPA. Therefore, the comments raised here regarding operation of the Aguirre Power Complex are outside the scope of this EIS.

CO08 –Puerto Rico Manufacturers Association (cont'd)

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CO08-01 (cont'd) For the above reasons, a project of such magnitude as the Aguirre GasPort needs to consider the repowering of its generation units, especially in the case of the Combined Cycle with an average Heat Rate ratio of over 12,000 Btu/Kwh and with an annual capacity factor of 35%, to assure full compliance with environmental clean air regulation and the best use of resources by efficient and environmentally compliant generation units.

Cordially,

Jaime L. García
Executive Director
Puerto Rico Manufacturers Association

XC: Waleska Rivera