United States Department of the Interior

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

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.

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:

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

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

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.

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

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.

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.

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:

    - 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

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:

  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.

  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.

  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.

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:

  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

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.

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

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.

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.

- 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.

- 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:

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

  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).

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:

     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:

   - 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.

   - 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.

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.

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

- 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

- 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

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