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February 16, 2016

Norman C. Bay
Chairman, Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

via registered mail/return receipt

Penny Pritzker
Secretary of Commerce
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

Sally Jewell
Secretary of Interior
1849 C Street, N.W.
Washington, D.C. 20240

Re: **Sixty-Day Notice of Violations of Section 7 of the Endangered Species Act in Connection with the FERC Order Approving the Siting, Construction and Operation of the Aguirre Offshore Gas Port, Puerto Rico**

Dear Chairman Bay, Secretary Pritzker, and Secretary Jewell:

Pursuant to 16 U.S.C. § 1540(g)(2)(a), and on behalf of Comite Dialogo Ambiental, Inc. ("Dialogo"), the undersigned hereby provide you with notice of violations of the Endangered Species Act ("ESA") that have been committed by the Federal Energy Regulatory Commission ("FERC") in the Order issued July 24, 2015, (Docket No.CP13-193-000) authorizing Aguirre Offshore Gasport, LLC, to site, construct, and operate liquefied natural gas (LNG) import terminal facilities along the southern shore of the Commonwealth of Puerto Rico, near the municipalities of Salinas and Guayama (the "AOGP"). Dialogo is a community group and nonprofit corporation comprised of residents of Salinas and the Guayama region who live, work, and recreate in the area of the proposed gas port and who promote a harmonious balance of humans with their environment to fulfill economic, social, and other needs of present and future generations.

The AOGP could have severe negative impacts on many listed species, including (1) blue, fin, humpback, sei, and sperm whales, (2) green, hawksbill, leatherback, and loggerhead sea turtles; (3) boulder, lobed, mountainous star, elkhorn, staghorn, pillar, and rough cactus corals, as well as six additional corals listed on September 10, 2014, and including elkhorn and staghorn critical habitat; (4) Nassau grouper; and (5) scalloped hammerhead shark. See Letter from National Marine Fisheries Service to FERC, February 23, 2015 (attached).

Specifically with regard to this project, NMFS has suggested multiple alternatives that would reduce or limit impacts to listed species, including alternative locations, alternative construction methods, and alternative technologies for regasification. See NMFS Comments on Draft EIS, September 25, 2014. Moreover, the Pipeline and Hazardous Materials Safety Administration (PHMSA) has required that the pipeline be buried or covered along its entire route, which increases the likely impacts on listed species, especially corals, and may suggest that other alternatives are more viable. Letter from National Marine Fisheries Service to FERC, February 23, 2015, at 2.

Pursuant to the 180-day timeline in 16 U.S.C. § 1536(c), as well as the other requirements in Section 7, listed species and their needs should have been incorporated into alternatives and choices among those alternatives from the beginning, rather than now, when crucial siting and construction decisions have been made and there is tremendous political pressure to move forward with the project. See Letter from Alejandro Garcia Padilla, Governor of Puerto Rico, to FERC, dated January 8, 2016 (seeking an expedited consultation so project can moved forward as authorized).

2. Violations of 16 U.S.C. §§ 1536(a) and 1536(d).

16 U.S.C. § 1536(a) requires that FERC must consult with NMFS before authorizing any action that "may affect" any listed species to "insure" that this project will not jeopardize the continued existence of listed species or adversely modify their critical habitat. Further, 16 U.S.C § 1536(d) requires that, once consultation is initiated, FERC shall not make any irreversible or irretrievable commitment of resources that has the practical effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures. The point of these statutory prohibitions is to prevent agencies from "steamrolling" projects through the ESA process. Sierra Club v Andrus, 486 F. Supp. 322 (D.D.C. 1980); EPIC v Pacific Lumber Co., 229 F.Supp.2d 993 (N.D. Cal. 2002)

By letter dated August 14, 2014 or earlier, FERC initiated the Section 7 consultation process with NMFS. By letter dated February 23, 2015 NMFS confirmed that formal consultation is necessary and that much more detailed information was required in order to properly assess the impacts on the affected species. Section 7 requires that FERC provide the "best scientific and commercial data available" to facilitate consultation. Greenpeace Action v Franklin 14 F.3d 1324 (9th Cir.1993). To date FERC has not provided the information requested by NMFS.

FERC's approach to this project has violated both § 1536(a) and § 1536(d). FERC's "conditional" authorization of this project violated § 1536(a) because it determined the site, pipeline location and construction methods, and other project details that, rather than insuring that jeopardy and adverse modification will be avoided, essentially insure that this project will have significant detrimental impacts to listed species, including adverse modification of their critical habitat. See NMFS Comments on Final EIS, at 1 ("Unfortunately, information presented in the Final EIS leads us to believe the potential adverse effects associated with the proposed Project may be worse than previously anticipated.") see also Pacific Rivers Council v Thomas, 30 F.3d 1050, 1057 (9th Cir.1994) (enjoining Forest Service timber sales and other activities

Despite these potential impacts on this huge range of species and critical habitat, FERC has issued a Final EIS and authorized the construction and operation of the project before even the completion of an adequate Biological Assessment under 16 U.S.C. § 1536(c), as well as before completion of the consultation that is required under 16 U.S.C. § 1536(a) and before any Biological Opinion has been initiated, much less completed, pursuant to 16 U.S.C. § 1536(b).

FERC's approach to this project has treated its obligations under the ESA as details to be addressed later, rather than as mandatory duties deserving of the "highest of priorities" that override the primary missions of federal agencies. TVA v. Hill, 437 U.S. 153, 174, 185 (1978). To date, FERC has violated the Endangered Species Act in at least the following respects:

1. Violation of 16 U.S.C. § 1536(c).

FERC has failed to complete the Biological Assessment ("BA") for the project within 180 days after it was initiated, as required by 16 U.S.C. § 1536(c). This statute also requires completion of the BA before any contract for construction is entered into.

FERC initiated the BA for this project on or before August 23, 2013, when a consultant to Aguirre Offshore Gasport, LLC, provided a draft BA to NMFS. NMFS responded on October 31, 2013, that FERC had provided insufficient information and had failed to address adequately concerns about potential impacts to listed species and their critical habitat expressed by NMFS in multiple e-mails throughout 2012. See Letter from National Marine Fisheries Service to FERC, October 31, 2013 (attached).

Since the fall of 2013, over two years ago, FERC has done little, if anything, to move forward with the BA and the consultation that is required for this project, but FERC issued a Final EIS in February 2015, and issued its authorization to site, construct, and operate the project in July 2015. The project proponent, Aguirre Offshore Gasport, LLC/Excelerate Energy, LP, has been equally negligent in failing to submit requested information and failing to initiate required studies, yet FERC has moved forward with this project.

Although FERC's authorization purports to be conditioned on not beginning construction until completion of the required consultation, this authorization did not prohibit the entering into of contracts for construction, as required by 16 U.S.C. § 1536(c). Moreover, the structure of Section 7, including the 180-day timeline in 16 U.S.C. § 1536(c), is intended to require the consideration of listed species and their habitats early in the process, and throughout the process, when alternatives are being developed and measures needed to address listed species can be incorporated into those alternatives, rather than at the end of the process, when, as now, siting and construction decisions already have been made, and listed species are an afterthought, rather than a crucial determinant of the agency's decisions. See NMFS Comments on Final EIS, March 30, 2015, at 2, 8 (ESA section 7 consultation is intended to be a prospective process to evaluate the impacts of future actions) (attached); NRDC v Houston, 146 F.3d 1118, 1128 (9th Cir. 1995) (Bureau of Reclamation contracts executed prior to conclusion of consultation were not adequately conditioned to protect species).

because the Service had not properly initiated consultation). FERC also has failed to utilize its authority in furtherance of the purposes of the ESA by carrying out programs for the conservation of listed species, as required by 16 U.S.C. § 1536(a)(1).

FERC's approach to ESA compliance, including preparation of the BA and formal consultation after the EIS and project authorization violates § 1536(d) because FERC and the project proponent plainly have made irreversible and irretrievable commitments of resources and have foreclosed the formulation and implementation of most or all of the reasonable and prudent alternatives already suggested by NMFS and rejected by FERC. NMFS Comments on Final EIS, at 2, 8.

Conclusion

Dialogo recognizes and supports the need for Puerto Rico to transition to renewable sources of energy while protecting our unique natural resources and enhancing local livelihoods. FERC should revoke its authorization for this project and, working in close coordination with NMFS, prepare an adequate BA, then engage in a full and adequate consultation that results in alternatives that avoid jeopardy to these listed species and adverse modification of their critical habitat.

Failure to take these steps will subject FERC to litigation as provided by 16 U.S.C. §1540(g) to enforce the requirements of the ESA as described above.

Sincerely,

Ruth Santiago, by DWR
Ruth Santiago
Attorney for Comite Dialogo Ambiental, Inc.

Douglas A. Ruley
Douglas A. Ruley, Of Counsel
Davis & Whitlock, PC

Patrick A. Parenteau, by DWR
Patrick A. Parenteau
Professor of Law, Vermont Law School

Attachments Enclosed

UNITED STATES DEPARTMENT OF COMMERCE
National Ocean c and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
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October 31, 2013

F/SER31:LC
SER-2013-11371

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

Ref.: FERC Docket No. CP13-193-000, Application for Authorization to Site, Construct, and Operate Liquefied Natural Gas Import Terminal Facilities, Salinas, Puerto Rico

Dear Ms. Bose:

We are writing in response to an August 23, 2013, e-mail from Mr. Fernando Pagés, a consultant for Aguirre Offshore GasPort LLC, the applicant requesting authorization from the Federal Energy Regulatory Commission (FERC) for the above-referenced project. The e-mail included a copy of the Biological Assessment (BA) that has been drafted for the project as part of the Section 7 consultation requirements of the Endangered Species Act (ESA). At this time, FERC has not initiated ESA Section 7 consultation for the project, but we anticipate that this will occur once the Environmental Impact Assessment (EIS) for the project has been prepared.

The offshore gasport will be located approximately 3 statute miles offshore of Aguirre and will occupy approximately 74 acres of seafloor during construction with 22 acres of this being permanent impacts throughout the operational lifetime of the facility. A floating storage and regasification unit (FSRU) vessel measuring 291 meters long with a draft of 11.6 meters will be permanently moored to the offshore platform. The FSRU will only be moved during large storms when it is determined that conditions will be unsafe for it to remain moored to the platform, or approximately every 5 years when the vessel will require dry dock maintenance. However, AOG anticipates that another FSRU will then moor to the platform in order to maintain LNG operations. The platform will 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. A 4.1-mile-long, 18-inch (outside diameter) steel pipeline with an additional 3-inch concrete coating will be constructed to transfer gas from the offshore platform to the existing power plant facilities. The construction of the pipeline will impact approximately 81 acres of seafloor during construction with 10 acres of this being permanent impacts during the operation of the pipeline. A push-pull lay technique will be used to install the pipeline, with no burial proposed. This installation technique will result in the creation of 2-foot-wide berms on either side of the pipeline. During operation, seawater intake will be necessary for the operation of the FSRU, as well as during mooring of LNG vessels at the facility. It is estimated that up to 227.8 million gallons per day of seawater may be used during operation of the facility. The facility will also discharge heated water with a maximum temperature of 106.2°F.

ESA-listed species under our purview that may occur in the area include green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), loggerhead (*Caretta caretta*), and leatherback sea turtles (*Dermochelys coriacea*). Mr. Angel Dieppa, the biologist for the Jobos Bay National Estuarine Research Reserve (JBNERR), which is where the existing Aguirre thermoelectric plant is located and where the submarine pipeline proposed as part of this project would be laid, has informed us that there is sea turtle nesting, mainly by hawksbills, on pocket beaches in JBNERR. The colonized hardbottom, coral reefs, and scattered seagrass beds in the area also provide refuge and foraging habitat for green and hawksbill sea turtles and may also provide habitat for loggerhead sea turtles. Reefs and hardgrounds meeting the coral critical habitat definition[1] 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. 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 construction and operation of the facility.

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 annularis*, *M. faveolata*, *M. franksi*, *Dendrogyra cylindris*, and *Mycetophyllia 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.

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 included in e-mails dated March 9, May 3, and November 13, 2012. Below we have detailed the additional information that should be provided to us as part of the ESA Section 7 consultation for the project:

[1] 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.

1. 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.

2. Sea turtle and marine mammal surveys specific to the construction and operation areas. The methodology to be used to complete these surveys should be approved by us prior to surveys taking place to ensure the information gathered will meet our needs for completing an ESA Section 7 consultation for the project.

3. A thorough acoustic analysis for both sea turtles and marine mammals associated with all aspects of construction and operation of the facility needs to be provided. Acoustic information included in several resource reports only includes marine mammals and the reports appear to always conclude that effects are negligible, even when noise levels are estimated to be above thresholds for injury. Resource Report 9 contains information regarding ambient noise measurements that were conducted in the project area. The measured level was even higher than levels measured recently in St. Thomas at an active cruise ship pier so we are concerned that there may be some inaccuracies in the data considering that they were for areas with recreational vessel traffic.

4. Vessel strike data for the project area, including from operation of fuel barges currently used to supply fuel to the power plant and from similar LNG projects in order to estimate potential impacts of the project to sea turtles and marine mammals during construction and operation of the project. Some of the resource reports and information request responses note that the construction of the offshore gasport will reduce vessel traffic and vessel strikes, but no data are provided indicating that vessel strikes are an on-going threat to ESA-listed species in this area nor do we have records of reported strandings in our hotline data. In Resource Report 8, note that the number of construction and support vessels represents an increase over current vessel traffic, but there are no numbers provided in terms of vessel traffic or an analysis of the impacts of increased vessel traffic over the construction period.

5. A detailed lighting plan for the offshore terminal and for any nearshore areas of the existing plant that may require additional lighting due to the proposed project.

6. A thorough alternatives analysis of both in-water and terrestrial alternatives to the project, including a comparative analysis of all potential environmental impacts, construction and operational costs, and other aspects of each alternative in order to select an appropriate preferred alternative. The alternatives analysis should include the use of

existing facilities for storage or the construction of tank storage within the Aguirre power plant facilities or in other areas, such as the CORCO facilities near Costa Sur, and the transport of natural gas via trucks; the use of the Gasoducto del Sur, which had already been issued a U.S. Army Corps of Engineers (USACE) permit, and the construction of tank storage; if the reason for the project is simply to meet new Environmental Protection Agency (EPA) emission standards, improvements to the existing power plant such as new scrubber units and other technology, as well as stricter requirements for fuel providers; and the design of the submarine pipeline route to avoid impacts to ESA-listed corals, corals proposed for ESA listing, and coral critical habitat by rerouting or by using different installation methods.

7. 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. This analysis should include the cumulative impacts of the continued thermal discharge from the existing thermoelectric power plant, as well as all discharges contemplated during construction, such as from work vessels or for pipeline testing, and operation, such as from vessels and the FSRU. Resource Report 2 notes that, based on modeling, it is estimated that the thermal plume could reach the seafloor and lead to sediment resuspension. As part of the BA, a detailed analysis of the impacts of hot and cold thermal effects and water intakes and discharges on ESA resources should be included.

8. A detailed entrainment, impingement, and entrapment analysis for the project during both construction and operation, including for corals and sea turtles. In addition, the effects analysis for the project should include an estimate of the effects of entrapment, impingement and entrainment on ESA-listed species. For example, Resource Report 2 states that water will be pumped using portable high volume pumps located on the offshore lay barge and that the pumps will have 100-micron screens to prevent intake of organisms. However, there are no details of the type of pumps or their layout, measures that will be taken to prevent any entrapment of sea turtles in the area of the pumps, if applicable, or how the size of the screen was determined. Impingement and entrapment can be reduced or eliminated based on the design of intakes so information on measures taken to lessen these impacts should be included in the BA. Entrainment, impingement, and entrapment are part of the impacts of sea and freshwater intakes and discharges on ESA. However, the impacts of the intakes and discharges in terms of water volumes and thermal impacts need to be part of the effects analysis, as noted in some of the other points raised here.

9. Potential impacts to navigation and the potential for increases in accidental groundings should be part of the analysis of effects to ESA-listed species and their habitat, including for recreational vessels as these try to avoid any safety or warning zones that may be established on a temporary or permanent basis by the U.S. Coast Guard around the offshore port and during LNG vessel operations. Similarly, Resource Report 1 states the number of vessels of different types to be used during construction, but does not include details of vessel sizes or information regarding the number of trips anticipated during different construction operations. Resource Report 8 states that most if not all of the offshore materials to be used during construction will require barge transport from other

ports in Puerto Rico, but no size or numbers of vessels were provided. Resource Report 13 provides information regarding vessels to be used for passengers and daily transport. The potential for vessel strikes or accidental groundings from all vessel operation associated with construction and operation is needed as part of the analysis of potential impacts of the construction and operation of the project to ESA resources.

10. There are several impact estimates provided in the different resource reports prepared for the project and there appear to be inconsistencies in terms of the extent of potential habitat impacts. For instance, Resource Report 1 estimates there will be 156.5 acres of temporary impacts (74 from berthing area, 81 from pipeline installation, and 1.5 from in-water staging) and 32 permanent acres of impact (22 from berthing area and 10 from pipeline installation). The estimates of impact in the BA are much lower than this and, given the description of the push-pull pipe laying technique, likely unrealistic. Resource Report 1 notes that the push-pull installation technique for the pipeline will result in the creation of 2-foot-wide berms on either side of the pipeline in soft bottom sediments in addition to the 2-foot pipeline and a 7-foot-wide area of indirect impacts on either side of the pipeline corridor. A temporary work area with a 500-foot radius will also be present on one side of the pipeline. Resource Report 2 states that only 2.96 acres of seagrass and 0.9 acre of coral will be impacted by the pipeline, but our estimates of impacts within a 20-foot impacts corridor around the pipeline indicate impacts would be at least 10 acres, including seagrass and coral areas. Resource Report 3 states that there will be impacts to 0.72 acre of seagrass in the 6-foot construction corridor and 1.7 acres in the 7-foot buffer around the pipeline. All temporary and permanent impact estimates and the methods used to calculate these need to be detailed in the EIS and Section 7 consultation documents along with a quantification of how much of these impacts will affect ESA-listed species and their habitat. In Resource Report 3, the pipeline self-burial analysis indicates that one to two feet of the pipeline will remain exposed in many areas due to the bottom substrate and that scour along the pipeline is possible in these and other areas. This loss or degradation of habitat needs to be included in the estimates of impacts to benthic habitat. Resource Report 6 indicates that scour distance could be twice the sleeve jacket over the pipeline in terms of impacts to benthic habitat. Similarly, the June 25, 2013, response to one of FERC's information requests also has an impact summary table that does include construction vessels, the pipeline, and the gasport and these numbers are also different from those in other project documents.

11. Resource Report 1 states that 158 acres of land are required for upland construction, but this is contradicted by estimates in other resource reports. Clarification is needed regarding construction to be done at the existing plant docking and operation facilities and the potential impacts to ESA-listed species and their habitat. Details of sediment and erosion control and stormwater management, as well as the location and footprints of construction areas, should be included along with measures to be employed to protect ESA resources. Similarly, Resource Report 8 states that the existing thermoelectric plant's waterfront facilities are not equipped to handle and load the equipment and materials to be used during construction, but Resource Report 9 states that onshore staging will be used for 15 weeks during a portion of the offshore construction. Upland construction and other uses that could lead to impacts to ESA resources need to be

quantified and the extent of potential impacts determined as part of the analysis of all potential project impacts to ESA resources.

12. Several of the project documents prepared to date state that an environmental training program will be established to ensure construction personnel are aware of environmental requirements and will receive marine mammal observation and awareness training. The details of this training program, for personnel during construction and operation of the facility, need to be provided and should include all ESA resources.

13. The estimated construction timeline with information regarding potential impacts to ESA resources from all aspects of project construction and operation based on seasonal species's patterns, such as migrations, nesting, hatching, and spawning in the project area.

14. Based on information in Resource Report 2, it appears that sediment data from NOAA's National Status and Trends Program was used rather than conducting project-specific sampling and analysis in the bay and in the area of the offshore platform. Given that the NOAA study was meant to provide a general characterization of the bay, there is no indication that sample points were within proposed construction footprints, and that sediments will be disturbed by pipeline installation, as well as by the installation of pilings and trenching, we believe that sediment sampling specific to the project should be conducted. This sampling should be done to determine whether and what contaminants may be released to the water column as sediments are resuspended during pipeline and port construction. If contaminants are found in the sediments, then the construction design of the project needs to include measures to minimize potential impacts of sediment resuspension and transport to ESA resources.

15. An analysis of the impacts to ESA resources of various water quality constituents that will be part of project construction or operation needs to be part of the effects analysis for ESA resources.
    a. For example, Resource Report 1 states that nitrogen will be used to purge and inert the offshore facility in start and stop, but there is no information regarding whether this remains as gas only or becomes a discharge to the marine environment.
    b. Resource Report 2 states that a "marine growth preventative" consisting of sodium hypochlorite to be generated on-site will be used at the platform. However, no information is provided regarding the concentration of this solution and potential impacts of its discharge on aquatic life, the frequency of treatment, and the parts of the system where the biocide will be injected. Information regarding the potential impacts of the discharge of treated water in terms of the impacts of the biocide on aquatic organisms needs to be included in the EIS and ESA documents. It is noted on page 2-23 of Resource Report 2 that the in-system residual chlorine from the use of this biocide will exceed EPA standards for marine waters.
    c. Resource Report 2 notes that sanitary waste will not be discharged, but will instead be stored on the platform for pick up and terrestrial discharge. However,

the report also states that the wastewater will be treated with sodium hypochlorite resulting in 1.0 ppm residual chlorine prior to discharge. Therefore, clarification is needed as to whether or not there will also be a sanitary discharge from the offshore platform to marine waters.

d. Ballast water will be discharged during FSRU operations, including for vessel stability, and there may also be blowdowns of vessels. Both of these discharges could affect marine resources, but there is no analysis of potential impacts on ESA resources.
e. Surface and bottom blowdown can lead to metal particle release into surrounding waters. Depending on the type of metal, frequency of release, and size of particles, it should be determined whether and how this could affect ESA resources.
f. Spills from LNG, including any cryogenic impacts due to freezing temperatures, should be included in the effects analysis to determine whether and to what extent there could be impacts to ESA resources from accidental spills, such as during material transfer, or during accidental groundings associated with the operation.
g. Brine discharge from FSRU in terms of concentration, plume dispersion, and potential impacts to ESA resources should be included in the effects analysis.

16. An environmental sampling plan should be designed and implemented for the project and should include contingency measures should impacts to ESA resources be observed.

17. For ESA-listed corals, Resource Report 3 states that construction and operation impacts have been minimized through project siting and construction and operational best management practices (BMPs). However, the only pipeline route considered for the project based on information in our project file is the one that passes through a well-developed reef. In addition, no information was provided regarding BMPs that will be protective of ESA-listed corals. Similarly, the report states that work vessels will implement BMPs during construction, but no information on these BMPs was provided. It is also stated that work vessels will be equipped with fathometers and will restrict operation when feasible to ensure sufficient water depths. As part of the ESA Section 7 consultation for the project, it may be necessary to determine whether there are areas where vessels should not operate due to water depth, draft, and the presence of ESA resources and establish restrictions as part of permit requirements.

18. Resource Report 3 states that sediment resuspension and transport is expected during some construction and operation activities, but there are no minimization measures because it is argued that the natural physical conditions in the area will result in rapid resettlement and limit transport. Similarly, the report states that turbidity levels during construction will remain below natural levels, but there is no information provided regarding water quality sampling that was conducted as part of this project and the natural turbidity levels that were measured, including during storm events. There is also no information regarding water quality sampling to be conducted during construction in order to monitor impacts such as turbidity. In order to protect ESA resources, minimization measures (other than expecting waves and currents to disperse sediment plumes) will be necessary as part of project design and implementation, as well as water

quality sampling prior to any construction in order to set limits on parameters such as turbidity, and this information should be included in the BA.

19. Appendix 6D of Resource Report 6 noted that there are areas of anchor scars along some portions of the proposed pipeline route. Resource Report 6 also states that numerous magnetic anomalies were detected that could pose a hazard to pipeline burial, but there is no indication that these anomalies were being further investigated. Information regarding the potential extent of hazards to the pipeline that could compromise pipeline integrity from existing marine uses and debris present along the route should be included in the EIS, along with information regarding how the pipeline will be protected from these impacts and monitored.

20. Details of all construction need to be provided along with all avoidance and minimization measures to be incorporated in different aspects of construction to be protective of ESA resources. It is not enough to state that details will be defined as the design progresses because this does not enable a thorough analysis of the effects of the action on ESA resources.

21. The June 25, 2013, response to one of FERC's information requests contains proposed mitigation measures. As part of the ESA Section 7 consultation, the applicant needs to demonstrate that all project impacts to ESA resources have been avoided and minimized. In terms of mitigation, several of the options listed would likely not apply or be inappropriate in the project area, such as the filling of dredge holes or the construction and installation of artificial reefs. Mitigation should be done in the project area and be in-kind based on project impacts to specific resources.

If the information contained in the BA allows us to determine that an informal Section 7 consultation can be completed, NMFS will respond within 30 calendar days if possible. Otherwise, if NMFS determines that a formal Section 7 consultation is necessary, 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. 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.

In addition to Section 7 consultation, an essential fish habitat (EFH) consultation with NMFS is necessary for this project pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act. Please contact Mr. José Rivera of the Habitat Conservation Division at 787-405-3605, or via e-mail at Jose.A.Rivera@noaa.gov. Resource Report 3 also notes that bottlenose dolphins, which are protected under the Marine Mammal Protection Act (MMPA), were present in the survey area. If these or other non-ESA listed marine mammals may be adversely affected by the proposed action, a take authorization under the MMPA may be necessary. NMFS's Protected Resources headquarters office should be contacted at 301-713-2332 for more information regarding MMPA requirements.

Thank you for the opportunity to participate in the development of the EIS and BA for this project. If you have any questions regarding consultation requirements for the Aguirre Offshore Gasport project, please contact Dr. Lisamarie Carrubba, consultation biologist, at (787) 851-3700, or by e-mail at Lisamarie.Carrubba@noaa.gov.

Sincerely,

David M. Bernhart
Assistant Regional Administrator
Protected Resources Division

cc: USACE – Gisela Román
F/SER4 – José Rivera, Pace Wilber
FERC – Gertrude Johnson
EPA – Stephanie Lamster, Lingard Knutson
USFWS – Edwin Muñiz
USCG – Captain Drew Pearson

File: 1514.22.N

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NATIONAL MARINE FISHERIES SERVICE
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F/SER47: PW/DD

MAR 3 0 2015

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

Re: Aguirre Offshore GasPort, LLC, CP13-193-000 and PF12-4-000 FERC/EIS-0253 Final Environmental Impact Statement Dated February 2015

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 Final Environmental Impact Statement (EIS) for the Aguirre Offshore GasPort Project (Project). The Puerto Rico Electric Power Authority (PREPA) is developing the Project to receive, store, and regasify liquefied natural gas (LNG) and to deliver natural gas to PREPA's existing Aguirre Power Complex (Aguirre Plant) in Salinas, Puerto Rico. According to the Final EIS, the Project would include construction and operation of an offshore marine LNG receiving facility (Offshore GasPort) and a 4.0-mile-long subsea pipeline connecting the Offshore GasPort to the Aguirre Plant. A Floating Storage and Regasification Unit (FSRU) would be moored at the offshore berthing platform on a semi-permanent basis. Ships would dock at the offshore berthing platform and deliver LNG to the FSRU. Both the ships and the FSRU would be under the jurisdiction of the U.S. Coast Guard. The LNG receiving facility would be approximately three miles off the southern coast of Puerto Rico, about one mile outside of Jobos Bay, near the towns of Salinas and Guayama.

The Final EIS notes the Federal Energy Regulatory Commission (FERC) is consulting with NMFS separate from the Final EIS to meet FERC's responsibilities under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). Outstanding issues raised during the Draft EIS comment period pertaining to the ESA, essential fish habitat (EFH), and MMPA consultations remain unresolved. NMFS expressed concerns about the sufficiency of analysis in FERC's Biological Assessment in a letter dated October 31, 2013. In our DEIS comment letter, dated September 25, 2014, we reiterated these concerns and provided over 20 pages of substantive comments about the DEIS, regarding the potential extent of effects to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), ESA, and MMPA trust resources. We expressed our support for FERC to choose a more environmentally preferable alternative. Unfortunately, information presented in the Final EIS leads us to believe the potential adverse effects associated with the proposed Project may be worse than previously anticipated. On February 23, 2015, NMFS provided FERC a list of additional information needed to initiate the ESA consultation; the specifics listed in that seven page letter are not repeated here.

The NMFS is concerned the FERC may award the Project a license before completing required consultations with the NMFS, and this may constitute an irreversible and irretrievable commitment of resources under the National Environmental Policy Act (NEPA) and, potentially, under the ESA. As you know, ESA section 7 consultation is intended to be a prospective process to evaluate impacts of *future* actions, in order to ensure that actions will not jeopardize listed species or destroy or adversely modify critical habitat. Prospective consultation (i.e., prior to license issuance) allows for modifying actions as necessary to avoid jeopardy and adverse modification through reasonable and prudent alternatives. Similarly, prospective consultation allows NMFS to comply with its ESA responsibilities to ensure that reasonable and prudent measures and terms and conditions to minimize impacts of take of listed species, can be included as enforceable conditions of licenses or permits for future actions. As indicated in our February 23, 2015, letter, information provided to us is insufficient to initiate consultation, let alone determine the scale of impacts to listed species and associated measures necessary for the project to be implemented in compliance with the ESA.

Thus, we seek express confirmation from FERC on a number of matters. Specifically, to continue with consultations, we need to know whether FERC intends to comply with our information requests. Further, we need FERC to confirm that awarding the project a license prior to completing consultations will not restrict FERC's ability to modify the license to change the project, or further condition the project to, among other things, require implementation of any permit requirements, reasonable and prudent alternatives or measures, terms and conditions, mitigation, and/or conservation recommendations that might result from completed ESA, MMPA, and EFH consultations.

The comments below address issues related to NEPA and to the EFH consultation required by the Magnuson-Stevens Act. First, we summarize Project changes made since the Draft EIS, then review the status of each EFH conservation recommendation we provided on September 25, 2014, along with our comments on the Draft EIS.

Project Changes since the Draft EIS

Since the Draft EIS, Aguirre Offshore GasPort, LLC (Aguirre LLC) and FERC have made several changes to the proposed Project or proposed license (respectively), including:

- Based on input from the Aguirre community, the point where the offshore pipeline comes ashore was shifted 200 feet to the south end of the bulkhead, which reduced the length of offshore pipeline from 4.1 to 4.0 miles.
- Based on input from the Federal Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) regarding pipeline standards in 49 CFR 192.327(f), the regulation requires "burial below natural grade sea bottom or an alternative equivalent protection system from hazards." Accordingly, Aguirre LLC now proposes to bury the pipeline at least below the natural bottom in some locations and to three feet to the top of the pipeline in other locations. Approximately 1,700 feet through the Boca del Infierno pass would be an exception. For this segment, Aguirre LLC proposes to place the pipeline on the coral reef and to cover the pipeline with concrete mats.
- Based on input from NMFS and other agencies, Section 4.5.2.4 of the Final EIS notes Aguirre LLC will use horizontal direct drilling (HDD) to cross the Boca del Infierno pass if

HDD is later determined to be a viable construction method. If geotechnical analysis shows HDD would present an unreasonably high risk, then FERC would recommend an alternate route for the subsea pipeline (through the pass between Cayo Morrillo and Cayos de Pájaros and referred to as Route 6 in the Final EIS). However, because FERC considers the currently proposed route and installation method policy compliant, FERC has identified the subsea pipeline through Boca del Infierno pass using direct lay with cover by concrete mats as the proposed Project in the Final EIS.

The decision to bury the subsea pipeline is a significant project design change because the Draft EIS did not evaluate this option in detail. Sections 2.3.4.1 and 2.3.4.2 of the Final EIS discuss the pipeline installation and burial process by pipeline segment (specifically, five segments are discussed with Segment 1 being farthest from shore, and Segment 5 including the portion that comes ashore). In summary, Aguirre LLC would anchor its pipe lay barge within Jobos Bay at the juncture of Segments 3 and 4 (i.e., near the middle of the subsea pipeline) using fore and aft spuds. The barge, which will measure about 400 feet long by 120 feet wide, would have an assembly line of welding, coating, and inspection stations on its deck. Winch wire from the crane barge would be attached to the pipe pull head on the pipe lay barge. As the pipeline is fabricated, it would be slowly lowered over a ramp into the water. The crane barge would use a winch wire to maintain tension on the pipeline profile in the water column and prevent the pipeline from touching the seafloor until the entire pipeline segment is completed. Once the pipe segment has been welded and properly located above the seafloor, the winch wire would be released to allow the pipe segment to be lowered into place. The crane barge would move to the next position, and the pipe lay barge turned to feed pipe for the next section of pipeline. This process would repeat to install each offshore pipeline section. To complete the pipeline, the crane barge would be stationed at each segment juncture, both ends of the pipeline segments would be lifted, and an over-the-side tie-in would be completed. The pipe joints would be bent in the factory and stress tested prior to installation; no pipeline joints would be bent in the field or on the pipe lay barge. Once the tie-in is completed, the pipeline would be lowered to the seafloor. The pipeline would have a 1.5-inch-thick concrete coating to become negatively buoyant and sink into place.

In places with water depths less than 12 feet (i.e., portions of Segments 3 and 4, and all of Segment 5), the pipeline would be buried to a minimum of three feet of cover to the top of the pipe. In areas with water depths greater than 12 feet (i.e., portions of Segment 3, all of Segments 1 and 2), the pipeline would be buried so the top of the pipe is even with the natural grade of the seafloor. In the areas with coral reef in Segment 2 (i.e., Boca del Infierno pass), Aguirre LLC proposes to cover the pipeline with concrete mats for protection rather than pipeline burial.

Pipeline burial to a depth of three feet of cover or to grade would be completed using a diver operated jet/suction tool connected to a pump onboard the crane barge. The unit would entail a jet/suction head, a hose connecting the jet/suction head to the pump, a discharge hose leaving the pump, a diffuser, and a frame with a turbidity curtain over the diffuser. The pump would jet or suction sediment from underneath the pipeline, redepositing sediments from the discharge hose and diffuser over portions of the pipeline that have been lowered to the appropriate depths. The pump would be equipped with a 200-foot-long jet/suction hose and a 120-foot-long discharge hose. The pump would be positioned along the edge of the crane barge the diver is using to

maximize the amount of hose available. Due to limitations on the reach of the crane and the hose length, the crane barge and equipment would be moved and repositioned every 240 feet. The pipeline would be buried in sections of not more than 120 feet at a time. The burial would commence with the diver hand jetting along the side of the pipeline nearest to the crane barge, and jetting up to 120 feet along the pipeline. The diver would then move to the other side of the pipeline and jet until returning to the original starting point, and by doing so removing sediments on both sides of the pipeline. This initial pass would liquefy the sediment below the pipeline without causing a large sediment plume, and would establish the alignment for the pipeline lowering. On returning to the starting point, the diver would begin the suction pumping along the same length of pipeline that was previously jetted. The process would continue until the pipeline has reached the required burial depth. After a section of pipeline burial has been completed, the diver would complete the next 120-foot section. Aguirre LLC anticipates two passes with the jet/suction pump would be needed to bury the pipeline to meet the natural grade of the seafloor, and five passes would be needed to bury the pipeline below three feet of cover.

A diffuser head would be located at the end of the discharge hose to minimize dispersion of sediment from the right-of-way. The diffuser head would be approximately 9 to 12 feet wide, to deposit sediment over the width of the disturbed area. The diffuser head would be suspended over the pipeline within a custom frame, which would be surrounded by a turbidity curtain to minimize the movement of sediments from the right-of-way. The height of the diffuser over the pipeline and the amount of weight at the bottom of the turbidity curtain would be adjusted to maximize the distribution of sediment over the pipeline and minimize the movement of sediment from the right-of-way. The pipeline burial operation would operate 24 hours a day until the burial is complete.

Aguirre LLC would install concrete mats as an additional step to protect the pipeline at each bend. Each bend would have a single layer of concrete mats placed over the bend. Aguirre LLC estimates a course of three mats (60 feet in total length by 8 feet wide) would be required to cover the pipeline bend. Mats are articulated concrete coverings about 20 feet long, 8 or 12 feet wide, and 9 inches thick. Polypropylene rope closely links the mat cells resulting in a low profile when installed over the pipe. Except as noted below, the mats would not be anchored to the seafloor.

To reduce impacts from pipeline installation on the reef habitat, Aguirre LLC would not bury the portion of Segment 2 (i.e., Boca del Infierno pass) that crosses the reef. Due to the elevation changes of the reef terrain, the pipeline would not be in direct contact with the seafloor throughout the entire reef crossing. Rather, the pipeline would be supported by stanchions, grout bags, and mats placed underneath the pipeline to support any span areas (the slope would be 1:25). The exact location of pipeline supports would be determined during the detailed engineering phase and finalized during pipeline construction. After Segment 2 is sufficiently supported and in place, a single layer of concrete mats would be placed over the entire section of pipeline that crosses the reef area. An additional layer of mats would be placed over the ends of the matted reef section, on both the northern and southern ends of reef section. The double-layer mats would be anchored using helix-screw anchors to prevent the pipeline from moving within the reef. The helix-screw anchors would be connected to the concrete mats using stainless steel anchor connectors, and the helix-screw anchors would be flush with the top of the concrete mats.

As noted earlier, FERC is recommending Aguirre LLC consider the potential use of water-to-water HDD in Segment 2 to reduce impacts to coral reef habitat.

Aguirre LLC would use concrete mats in the onshore approach area (Segment 5). The concrete mats would be lowered over the pipeline using the crane barge. Instead of using helix-screw anchors for the mats at this location, the edges of the concrete mats would be keyed into the seafloor using jetting equipment. Where the pipeline would transition from burial at natural grade to three feet of cover, the pipeline elevation transition would not exceed a 1:25 slope.

Impacts to Essential Fish Habitat

The EFH designations made by the Caribbean Fishery Management Council (CFMC) include all habitats within the footprint of the Project, its operating areas, and its temporary construction areas. FERC's evaluations of EFH impacts have emphasized coral, hardbottom, seagrass, and macroalgae based on the spawning, nursery, foraging, and refuge services these habitats provide individually and as a complex to fishery species managed by the CFMC, NMFS, or the Commonwealth of Puerto Rico. NMFS has consistently supported this decision by FERC for the Project.

In comparison to the Draft EIS, the proposed impacts to coral, hardbottom, seagrass, and macroalgae in the Final EIS are 5.7 acres higher because burial of the subsea pipeline and use of concrete mats at the bends will disturb more habitat than the method proposed in the Draft EIS, which was carefully laying the pipeline onto the seafloor. This conclusion is affected by the outcome of the HDD investigations discussed in Section 4.5.2.4 of the Final EIS. Should HDD prove impractical for traversing Boca del Infierno pass and Route 6 be used for the subsea pipeline, as per FERC's conditional recommendation, impacts to coral, hardbottom, seagrass, and macroalgae would be 16.6 acres less than proposed in the Draft EIS. In past correspondence summarized in the Final EIS, NMFS notes the quality of the coral habitat impacted along Route 6 also would be lower than the quality of the coral habitat impacted by the proposed route. Table 3.6-3 in the Final EIS and the accompanying text make this point by placing a higher value on consolidated reef habitat than on unconsolidated reef habitat. While use of Route 6 would impact 1.5 acres more coral reef habitat than the proposed pipeline route, Route 6 impacts 0.7 acre less of consolidated reef habitat. Use of Route 6 also would impact about 20 acres less seagrass and macroalgae habitats, which makes this route preferable from an EFH conservation perspective regardless of the outcome of the HDD investigations. While NMFS appreciates the Final EIS having more detailed comparisons of the environmental impacts from the route alternatives, NMFS maintains similar detailed comparisons should be made for the Offshore GasPort platform, including moving the platform farther offshore or closer to the barge navigation channel.

The mitigation plan (Appendix D) in the Final EIS is the same one included in the Draft EIS, and neither FERC nor Aguirre LLC has provided NMFS with a revised mitigation plan. While NMFS can support the proposed mitigation measures (primarily working with staff from the Jobos Bay National Estuarine Research Reserve to restore seagrass beds within Jobos Bay damaged by boaters), the plan remains deficient. Needed changes include a plan that fully offsets all permanent and temporary impacts to coral, hardbottom, macroalgae beds, and

seagrass; has intermediate and long-term performance criteria; a monitoring and adaptive management program for gauging results with respect to the performance criteria; and a commitment to perform additional compensatory mitigation should performance criteria not be met. While FERC appears to agree generally with these needs, FERC intends to make finalizing the mitigation plan a license implementation condition, not part of FERC's NEPA analysis. FERC also is directing Aguirre LLC to work with NMFS in finalizing the mitigation plan. To avoid costly Project delays while finalizing the mitigation plan, NMFS recommends FERC evaluate the rough mitigation estimates developed by Aguirre LLC to assess whether that acreage is likely to be sufficient under the 2008 Mitigation Rule promulgated by U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency. If there appears to be a high risk of insufficiency, compensatory mitigation requirements could be reduced by requiring Route 6 for the subsea pipeline and moving the Offshore GasPort platform to a new location. Further risk reductions could occur by requiring HDD for the portions of the subsea pipeline traversing macroalgae and seagrass habitats.

Responses to EFH Conservation Recommendations

By letter dated September 25, 2014, NMFS provided FERC with four EFH conservation recommendations based on the Draft EIS for the Project. Volume II of the Final EIS provides the responses FERC is obligated to provide under Section 305(b)(4)(B) of the Magnuson-Stevens Act and 50 CFR 600.920(k). The four EFH conservation recommendations are summarized below along with comments from NMFS on FERC's response.

EFH Conservation Recommendation 1. NMFS recommended FERC evaluate alternative LNG vaporization technologies to determine if they offer a practicable means to reduce the amount of water consumed and entrainment of fishery species. Section 3.8 of the Final EIS provides additional discussion of LNG vaporization technologies and their seawater usage. The discussion notes technologies consuming less seawater are available and in use, but Aguirre LLC's desire to use a FSRU vessel it already operates makes use of alternative technologies not practicable. FERC further notes "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."

EFH Conservation Recommendation 2. NMFS recommended HDD and trenching be evaluated as a means for installing the pipeline in areas with high densities of seagrass and corals. Sections 3.6 and 4.5.2.4 of the Final EIS provide additional discussion of the use of HDD to reduce impacts on coral reef habitat within Boca del Infierno pass; however, the Final EIS does not discuss use of HDD to minimize impacts to seagrass and macroalgae habitats. NMFS notes FERC may meet the intent of this EFH conservation recommendation depending on the outcome of the additional HDD evaluations the license would require. Should those evaluations show HDD presents an unreasonably high risk for the Project, FERC will recommend the subsea pipeline follow Route 6, which would reduce substantially the amount of seagrass and macroalgae habitat impacted. As noted above, NMFS recommends FERC require Route 6 regardless of the outcome of the HDD investigations. Also as noted above, NMFS recommends FERC evaluate alternative locations for the offshore platform as an impact avoidance and minimization strategy.

EFH Conservation Recommendation 3. NMFS recommended Aguirre LLC collect at least two years of baseline data 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 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. In Section 4.5.4 of the Final EIS, FERC recommends Aguirre LLC develop, in consultation with NMFS, a pre-operations ichthyoplankton baseline survey and monitoring plan and a mitigation plan for ichthyoplankton and coral larvae once those data have been evaluated. FERC believes this plan should include a three- or five-year operational study to analyze water intake impacts associated with Project operations. While not acknowledged in the Final EIS, Aguirre LLC is already working with NMFS on this monitoring plan.

EFH Conservation Recommendation 4. NMFS recommended a compensatory mitigation plan for impacts to EFH be developed and approved by NMFS before FERC licenses the Project. The planned mitigation should fully offset all permanent and temporary impacts to coral, hardbottom, macroalgae, and seagrass habitats; have intermediate and long-term performance criteria; a monitoring and adaptive management program for gauging results with respect to the performance criteria; and a commitment to perform additional compensatory mitigation should performance criteria not be met. As noted above, FERC is committed to having Aguirre LLC perform some mitigation and for completion of a final mitigation plan to be a license condition. It remains unclear as to whether FERC believes the mitigation is needed for both temporary and permanent impacts and for hardbottom and macroalgae beds in addition to seagrass and coral.

Administrative Concerns

A significant change since the Draft EIS is the USACE is no longer participating as a cooperating agency in developing the EIS. The FERC noted in the Draft EIS, and affirmed in the Final EIS, it believes it can issue Aguirre LLC a license for the Project without first obtaining all necessary environmental approvals. In a letter dated January 28, 2015, the USACE informed FERC it was retracting its participation as a cooperating agency and withdrawing from FERC's NEPA process for the Project because the USACE could not support an EIS that would result in a FERC authorization "that contained conditions for certain pending environmental issues." The USACE also stated it did not accept the range of alternatives FERC considered in its NEPA analysis. Should the USACE request assistance with the NEPA analysis needed by the USACE permitting process, NMFS will assist the USACE with its analysis.

In Table 1.5-1 of the Final EIS, which lists the status of major permits, approvals, and consultations for the Project, the EFH consultation is described as initiated during March 2012, analysis filed during April 2013, and "anticipate receipt prior to construction" (the same statement is provided for the ESA and MMPA consultations). The accompanying text in Section 1.5 does not discuss the EFH consultation. NMFS is aware Aguirre LLC filed material on the FERC docket suggesting Aguirre LLC was conducting an EFH consultation with NMFS. By email dated July 6, 2014, Mr. Mike Trammell, Excelerate Energy LP (owner of Aguirre LLC),

confirmed Aguirre LLC has not initiated EFH consultation separate from FERC. The NMFS requests the Record of Decision correctly note the EFH consultation was initiated with the Draft EIS, and that FERC neither initiated EFH consultation with NMFS before release of the Draft EIS nor indicated pursuant to 50 CFR 900.920(c) that another entity would be conducting the EFH consultation on FERC's behalf.

Closing

In summary, NMFS remains concerned FERC and Aguirre LLC intend to finalize the EFH conservation measures, including selecting the final subsea pipeline route, finalizing the ichthyoplankton monitoring plan, and developing a mitigation plan, as license implementation requirements rather than as detailed Project components at the time of license issuance. It also is not clear to the NMFS how FERC views its obligations under the Magnuson-Stevens Act, ESA, and MMPA with respect to completing the NEPA process. As noted earlier, Table 1.5-1 describes the status of these consultations as "anticipate receipt prior to construction," and the NMFS is concerned awarding the Project a license before these consultations are completed may represent an irreversible and irretrievable commitment of resources under NEPA, and possibly the ESA, and may not allow either FERC or NMFS to complete a consultation in compliance with the ESA. As indicated above, NMFS requests FERC provide NMFS with a letter clarifying FERC's views on this matter. Specifically, we need to know whether FERC intends to comply with our information requests. Further, we need FERC to confirm that awarding the project a license prior to completing consultations will not restrict FERC's ability to modify the license to change the project, or further condition the project to, among other things, require implementation of any permit requirements, reasonable and prudent alternatives or measures, terms and conditions, mitigation, and/or conservation recommendations that might result from completed ESA, MMPA, and EFH consultations.

Thank you for your consideration of these comments. For questions related to EFH, please contact Pace Wilber at (843) 762-8601. For ESA- or MMPA-related questions, please contact Rachel Sweeney at (727) 551-5743 or Laura Engleby at (727) 551-5791, respectively.

Sincerely,

Roy E. Crabtree, Ph.D.
Regional Administrator

cc:
F/SER - Blough
F/SER2 - McGovern
F/SER3 - Bernhart
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F/SER47:PW

SEP 25 2014

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

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.

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/

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

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

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.

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

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.

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

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.

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

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.

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.

Summary of Recommendations for the Project Description and Alternatives Analysis

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.

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].

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.

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.

NMFS Concerns with the Coral Larvae and Ichthyoplankton Sampling

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.

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.

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.

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

determined necessary, adaptive management mitigation options to further reduce such impacts could be implemented.

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.

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

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

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.

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.

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.

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[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. franks*i, *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.

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 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.

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:

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.

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.

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 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.

Finally, information regarding sighting logs, environmental monitoring, and other management measures should be provided.

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.

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.

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.

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.

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.

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

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.

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.

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.

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.

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.

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

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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SER-2013-11371

FEB 23 2015

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

Ref.: Aguirre Offshore GasPort, LLC, Aguirre Offshore GasPort, FERC Docket Number CP13-193-000 and PF12-4-00, Aguire Offshore GasPort LLC, Salinas, Puerto Rico

Dear Ms. Bose:

We are writing in response to your August 14, 2014, letter requesting the initiation of an Endangered Species Act (ESA) Section 7 consultation with the Federal Energy Regulatory Commission (FERC) for the above-referenced project. A copy of Draft Environmental Impact Statement (DEIS) with the Biological Assessment (BA) for the project (included as Appendix D) accompanied your letter. You requested National Marine Fisheries Service's (NMFS) concurrence with your determinations, listed as follows: (1) the project may affect, but is not likely to adversely affect, ESA-listed blue, fin, humpback, sei, and sperm whales; (2) the project may affect, but is not likely to adversely affect, green, hawksbill, leatherback, and loggerhead sea turtles; (3) the project is likely to adversely affect ESA-listed boulder, lobed, and mountainous star, elkhorn, staghorn, pillar, and rough cactus corals; and (4) it is likely to adversely affect staghorn and elkhorn coral critical habitat. You also requested our concurrence on your finding that the project is likely to adversely affect elliptical star and Lamarck's sheet corals. NMFS did not list these 2 coral species under the ESA, so an effects determination is not needed.

The preferred alternative for the Offshore GasPort is approximately 3 statute miles offshore of Aguirre. A 4.1-mile-long, 18-inch (outside diameter) steel pipeline would be constructed to transfer gas from the offshore platform to the existing power plant facilities. According to information provided by the applicant, the construction of the offshore platform at the proposed location will impact 49.9 acres of seagrass and macroalgae and 3.9 acres of patch reef with permanent impacts to 22.1 acres of impacts to seagrass and macroalgae and 0.2 acre to patch reef. The platform will have 2 liquefied natural gas (LNG) vessel berths with fenders and mooring and breasting dolphins as well as utility platforms with docking for lifeboat and service vessels. A floating storage and regasification unit (FSRU) vessel measuring 291 meters (m) long with a draft of 11.6 m will be permanently moored to the offshore platform. The FSRU will only be moved during large storms when it is determined that conditions will be unsafe for it to remain moored to the platform. Additionally, it will be moved approximately every 5 years when the vessel will require dry dock maintenance. The applicant anticipates that another FSRU will then moor to the platform in order to maintain LNG operations. LNG Carriers (LNGC)

would dock at the GasPort to deliver product to the FSRU. These vessels will 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). The purpose of the project is to provide LNG storage capacity and sustained delivery of natural gas directly to the plant, which would facilitate the Puerto Rico Electric Power Authority's conversion of the Aguirre Plant to a dual-fuel generation facility. The preferred alternative for the construction of the pipeline would impact macroalgae and seagrass and colonized hard bottom and coral reef. However, the extent of impacts cannot be quantified at this time due to requirements of the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA is requiring that the pipeline be buried or covered along its entire route. In areas containing coral reef and colonized hard bottom, the pipeline will be covered by large concrete mats. The PHMSA requirements do not change our need for additional information in order to proceed with an ESA Section 7 consultation for this project, but they do add to the information we requested in our September 25, 2014, letter. Additionally, the PHMSA requirements may suggest that alternatives that had been determined to pose safety risks or other concerns may currently be more viable than previously considered.

Based on our review of the information in the DEIS and the BA, we believe that most of the concerns expressed in our October 31, 2013, letter (copy enclosed) regarding the draft BA prepared for the project remain unaddressed. In order for us to conduct an adequate review of potential project effects, information regarding all potential temporary and permanent project impacts that may occur during construction and operation of the project to ESA-listed species and their habitat needs to be provided. This information should include quantification of potential impacts to all listed species and critical habitat as well as details regarding proposed avoidance and minimization measures for impacts. Although 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, the document lacks objective information (e.g., data sources, site surveys, calculations) to support those conclusions.

We have also published final and proposed ESA-listing rules that should be considered in your effects analysis. We are currently in the process of evaluating and listing other species under the ESA and we recommend that the BA be revised to include information to assess potential impacts as appropriate. We 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 due to loss of food sources associated with reductions in plankton concentrations. Reduction in plankton may be the result of entrainment caused by operation of the facility in conjunction with the existing seawater intake in the bay.

We published a final rule for the scalloped hammerhead shark (*Sphyrna lewini*) on July 3, 2014, listing 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.

On September 10, 2014, we issued a final rule responding to a petition to list an additional 82 species of corals. Five Atlantic coral species were listed as threatened: *Orbicella* (formerly *Montastraea*) *annularis*, *Orbicella faveolata*, *Orbicella 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 the BA did not provide estimates of the numbers of colonies of each of these species to be impacted by the proposed project.

Therefore, after reviewing the BA and based on new information regarding PHMSA requirements, we have determined that we cannot initiate an ESA Section 7 consultation at this time or begin drafting our Biological Opinion. This determination is largely based on the current uncertainty of the magnitude and location of project impacts due to the PHMSA requirements and the need to reassess the viability of project alternatives in light of those new requirements. At this time, we believe that consultation is premature due to lack of information adequate to support a reasonable evaluation of project effects. In order for us to initiate the ESA Section 7 consultation for this project, we request the following information and analyses:

General

1. Please provide a thorough alternatives analysis including consideration of the following alternatives: the use of the existing EcoElectrica facilities combined with the reactivation of the existing Gasoducto del Sur permit (with terrestrial route modifications as needed); alternate pipeline route 3 and platform location 4 (or a location offshore of this area); and alternate installation technologies such as the use of trenching through dense seagrass areas. Finally, please provide an analysis of the feasibility of using alternative technologies for regasification that eliminate or significantly reduce seawater intake. The analysis of each alternative should include assessments of all temporary and permanent impacts to ESA resources. This analysis is necessary to evaluate potential options to avoid and minimize impacts to ESA resources.

2. An estimated construction timeline for each alternative is necessary. The timelines should include details of the total time required to complete each stage of the project, as well as the duration of the associated temporary impacts.

3. Information regarding additive impacts of the proposed project in combination with continued operation of the seawater intake and outfall of the existing Aguirre plant. Because effects of the existing operation will add to the effects associated with entrainment and impingement on coral and Nassau grouper larvae, a discussion of all the impacts of the project, including the continued operation of the plant, needs to be included.

4. A detailed analysis, including quantification, of impingement and entrapment 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 used during the construction and operation phases of the project. The information should also include the proposed minimization measures to reduce these impacts.

5. 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 habitats should be provided. The information should include proposed minimization measures to reduce these impacts, including monitoring.

6. Please provide an analysis of potential effects to ESA-listed species and their habitats that may result from altered navigation patterns and the potential for increases in accidental groundings of project vessels and recreational vessels as these try to avoid any safety or warning zones around the GasPort. 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. As part of this assessment, please include information regarding typical navigation routes and sites visited in the project area, and information on the number and type of accidental groundings currently reported in the project area. Proposed minimization measures to reduce the potential for accidental groundings should also be presented in the BA.

7. The number, size, and draft of vessels to be used during the construction of the project should be included along with details of locations for anchoring, mooring, and launching these vessels during construction activities, as applicable. Information regarding minimization measures to be employed to reduce potential vessel collisions and accidental groundings should also be provided.

8. The details of sediment and erosion control and storm water management measures both in-water and on land should be included in the DEIS and BA. This information is necessary to assess potential sediment and storm water impacts to ESA resources and the adequacy of proposed minimization measures.

9. The use of sediment data from NOAA's National Status and Trends Program does not provide a reasonable basis for assessing potential effects of in-water installation methodologies, including the proposed push-pull technique, because such methods will result in sediment re-suspension and transport. We recommend sediment sampling specific to the project, the proposed 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 re-suspension and transport to ESA resources.

10. 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 BA including:

    - nitrogen used to purge and inert the offshore facility in start and stop
    - 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 U.S. Environmental Protection Agency standards for marine waters
    - sanitary discharges or excess chlorine from treatment of wastewater
    - ballast water and blowdown water from the FSRU and LNGCs

- brine discharge from the FSRU

11. An environmental sampling and monitoring plan should be developed for the construction and operation of the project. The plan should include sampling and monitoring of entrainment, impingement, entrapment, water quality constituents specific to the construction and operation of the project (i.e., sediment, turbidity, total suspended solids, nitrogen, sodium hypochlorite), coral and seagrass conditions, and other indices necessary to determine whether and the extent to which the construction and/or operation of the project impacts ESA resources. The plan should also assess the effectiveness of minimization and mitigation measures to reduce the extent of impacts to ESA resources. The plan should include contingency measures to be taken if minimization or mitigation measures prove inadequate. A draft of the plan should be included with the revised BA.

12. An analysis of water quality sampling data from the project area should be used to set thresholds for the monitoring program. These data should include water quality constituents of interest during construction and operation of the project. If water quality monitoring data are not available, a sampling program to collect this information should be designed and implemented. This will set threshold values during construction of the pipeline and platform to ensure all terrestrial and in-water sediment control measures are adequate and functioning properly. During project operation, the sampling program will ensure contaminant discharges do not result in impacts to ESA resources.

New Listings: Nassau Grouper, Scalloped Hammerhead Shark

1. The DEIS and BA should be revised to reflect the change in listing status for Nassau grouper and also for the scalloped hammerhead shark if data for the project area indicate that this shark species could be affected by the project. The potential effects of all aspects of the proposed project on Nassau grouper and scalloped hammerhead shark, if found in the project area, should be thoroughly analyzed in the BA.

2. The potential acoustic effects of the installation of piles and other structures on Nassau grouper based on population estimates from surveys of the area and construction methodology to be employed during the project should be assessed. Minimization measures to reduce these impacts should also be included in the BA.

3. The potential impacts to Nassau grouper due to congregation around the lighted platform should be assessed. As lights attract prey species, the potential for an increased probability of impingement or entrapment should be analyzed and minimization measures proposed.

Corals

1. The DEIS and BA should be revised to reflect the final listing decision for Atlantic and Caribbean coral species. The numbers of colonies and amount of habitat for ESA-listed corals that will be affected by all construction and operation aspects of the project, on both a temporary and permanent basis, should be quantified and reported in the BA.

2. The BA should quantify 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 vicinity of the platform.

3. A transplant plan and other minimization measures to be employed during pipeline and platform construction and operation should be provided in order to assess the adequacy of proposed measures and the potential for loss of coral colonies.

4. A quantification of the temporary and permanent loss of elkhorn and staghorn coral critical habitat should be included in the BA along with proposed minimization and mitigation measures. A quantification of impacts to habitat for other ESA-listed corals should also be included along with proposed minimization and mitigation measures.

Whales and Sea Turtles

1. Sightings and stranding data for sea turtles and marine mammals should be provided, 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 we have no record of reviewing or approving the survey protocols or the results of the surveys. We also have no record that the surveys, if completed, were conducted at times when different whale and sea turtle species are most likely to be present in the project area.

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. should be provided. There is general information regarding an acoustic analysis in the DEIS and BA, but no details were provided, including details of the size and type of the piles, the length of time needed to drive them, and other information that is essential for estimating the potential extent of behavioral and injurious impacts to sea turtles and marine mammals. Minimization measures that will be implemented during construction and operation of the project should also be included.

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, is needed to estimate potential impacts on sea turtles and marine mammals during construction and operation of the project. The DEIS and BA contain language indicating that the current barge traffic poses vessel strike threats, but no supporting data are provided regarding the number and severity of strikes associated with fuel barge traffic. In addition, as part of the avoidance and minimization measures, information should be provided regarding implementation of NMFS's guidelines for vessel strike avoidance, reporting, and in-water construction. Finally, information regarding sighting logs, environmental monitoring, and other management measures should be provided.

4. The DEIS refers to the need to develop a lighting plan. Detailed lighting plans are required for the offshore terminal and any nearshore areas of the existing plant that may require additional lighting to inform a complete assessment of potential impacts to ESA-

listed species, in particular hawksbill sea turtles because of reports of nesting in areas of Jobos Bay. The plan should consider photo-pollution impacts to various life stages of sea turtles and should include an assessment of lighting currently in the bay and at the proposed platform location.

5. Quantification of the temporary and permanent loss of habitat for all sea turtle species present in the project area that utilize the nearshore and offshore habitats where the pipeline and platform will be located should be included in the revised BA. Population estimates, in particular for green and hawksbill sea turtles, should be provided along with minimization and mitigation measures to offset the temporary and permanent habitat losses as well.

FERC requested formal consultation in your letter dated August 14, 2014. Because of the direct project impacts to ESA-listed corals and their designated critical habitat, we agree that formal consultation is necessary, but we are unable to proceed with consultation at this time due to the lack of necessary information. Specifically, we are unable to quantify the extent of potential effects to ESA-listed sea turtles, whales, scalloped hammerhead sharks, and corals as well as species proposed for ESA-listing or undergoing status reviews, specifically Nassau grouper.

In several sections, the DEIS states that details of some aspects of project design will be included in the final EIS document. Please note that 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 we have received 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.

Thank you for your efforts to ensure the conservation of listed species and their habitat under NMFS's purview. If you have any questions regarding the consultation process or our request for additional information for this project, please contact Dr. Lisamarie Carrubba, Consultation Biologist, at (787) 851-3700, or by email at Lisamarie.Carrubba@noaa.gov.

Sincerely,

David M. Bernhart
Assistant Regional Administrator
for Protected Resources

cc: USACE – Gisela Román
F/SER4 – José Rivera, Pace Wilber
EPA – Lingard Knutson, José Soto

File: 1514-22.N

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
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F/SER31:LC
SER-2013-11371

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

Ref.: FERC Docket No. CP13-193-000, Application for Authorization to Site, Construct, and Operate Liquefied Natural Gas Import Terminal Facilities, Salinas, Puerto Rico

Dear Ms. Bose:

We are writing in response to an August 23, 2013, e-mail from Mr. Fernando Pagés, a consultant for Aguirre Offshore GasPort LLC, the applicant requesting authorization from the Federal Energy Regulatory Commission (FERC) for the above-referenced project. The e-mail included a copy of the Biological Assessment (BA) that has been drafted for the project as part of the Section 7 consultation requirements of the Endangered Species Act (ESA). At this time, FERC has not initiated ESA Section 7 consultation for the project, but we anticipate that this will occur once the Environmental Impact Assessment (EIS) for the project has been prepared.

The offshore gasport will be located approximately 3 statute miles offshore of Aguirre and will occupy approximately 74 acres of seafloor during construction with 22 acres of this being permanent impacts throughout the operational lifetime of the facility. A floating storage and regasification unit (FSRU) vessel measuring 291 meters long with a draft of 11.6 meters will be permanently moored to the offshore platform. The FSRU will only be moved during large storms when it is determined that conditions will be unsafe for it to remain moored to the platform, or approximately every 5 years when the vessel will require dry dock maintenance. However, AOG anticipates that another FSRU will then moor to the platform in order to maintain LNG operations. The platform will 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. A 4.1-mile-long, 18-inch (outside diameter) steel pipeline with an additional 3-inch concrete coating will be constructed to transfer gas from the offshore platform to the existing power plant facilities. The construction of the pipeline will impact approximately 81 acres of seafloor during construction with 10 acres of this being permanent impacts during the operation of the pipeline. A push-pull lay technique will be used to install the pipeline, with no burial proposed. This installation technique will result in the creation of 2-foot-wide berms on either side of the pipeline. During operation, seawater intake will be necessary for the operation of the FSRU, as well as during mooring of LNG vessels at the facility. It is estimated that up to 227.8 million gallons per day of seawater may be used during operation of the facility. The facility will also discharge heated water with a maximum temperature of 106.2°F.

ESA-listed species under our purview that may occur in the area include green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), loggerhead (*Caretta caretta*), and leatherback sea turtles (*Dermochelys coriacea*). Mr. Angel Dieppa, the biologist for the Jobos Bay National Estuarine Research Reserve (JBNERR), which is where the existing Aguirre thermoelectric plant is located and where the submarine pipeline proposed as part of this project would be laid, has informed us that there is sea turtle nesting, mainly by hawksbills, on pocket beaches in JBNERR. The colonized hardbottom, coral reefs, and scattered seagrass beds in the area also provide refuge and foraging habitat for green and hawksbill sea turtles and may also provide habitat for loggerhead sea turtles. Reefs and hardgrounds meeting the coral critical habitat definition[1] 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. 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 construction and operation of the facility.

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 annularis*, *M. faveolata*, *M. franksi*, *Dendrogyra cylindris*, and *Mycetophyllia 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.

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 included in e-mails dated March 9, May 3, and November 13, 2012. Below we have detailed the additional information that should be provided to us as part of the ESA Section 7 consultation for the project:

[1] 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.

1. 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.

2. Sea turtle and marine mammal surveys specific to the construction and operation areas. The methodology to be used to complete these surveys should be approved by us prior to surveys taking place to ensure the information gathered will meet our needs for completing an ESA Section 7 consultation for the project.

3. A thorough acoustic analysis for both sea turtles and marine mammals associated with all aspects of construction and operation of the facility needs to be provided. Acoustic information included in several resource reports only includes marine mammals and the reports appear to always conclude that effects are negligible, even when noise levels are estimated to be above thresholds for injury. Resource Report 9 contains information regarding ambient noise measurements that were conducted in the project area. The measured level was even higher than levels measured recently in St. Thomas at an active cruise ship pier so we are concerned that there may be some inaccuracies in the data considering that they were for areas with recreational vessel traffic.

4. Vessel strike data for the project area, including from operation of fuel barges currently used to supply fuel to the power plant and from similar LNG projects in order to estimate potential impacts of the project to sea turtles and marine mammals during construction and operation of the project. Some of the resource reports and information request responses note that the construction of the offshore gasport will reduce vessel traffic and vessel strikes, but no data are provided indicating that vessel strikes are an on-going threat to ESA-listed species in this area nor do we have records of reported strandings in our hotline data. In Resource Report 8, note that the number of construction and support vessels represents an increase over current vessel traffic, but there are no numbers provided in terms of vessel traffic or an analysis of the impacts of increased vessel traffic over the construction period.

5. A detailed lighting plan for the offshore terminal and for any nearshore areas of the existing plant that may require additional lighting due to the proposed project.

6. A thorough alternatives analysis of both in-water and terrestrial alternatives to the project, including a comparative analysis of all potential environmental impacts, construction and operational costs, and other aspects of each alternative in order to select an appropriate preferred alternative. The alternatives analysis should include the use of

existing facilities for storage or the construction of tank storage within the Aguirre power plant facilities or in other areas, such as the CORCO facilities near Costa Sur, and the transport of natural gas via trucks; the use of the Gasoducto del Sur, which had already been issued a U.S. Army Corps of Engineers (USACE) permit, and the construction of tank storage; if the reason for the project is simply to meet new Environmental Protection Agency (EPA) emission standards, improvements to the existing power plant such as new scrubber units and other technology, as well as stricter requirements for fuel providers; and the design of the submarine pipeline route to avoid impacts to ESA-listed corals, corals proposed for ESA listing, and coral critical habitat by rerouting or by using different installation methods.

7. 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. This analysis should include the cumulative impacts of the continued thermal discharge from the existing thermoelectric power plant, as well as all discharges contemplated during construction, such as from work vessels or for pipeline testing, and operation, such as from vessels and the FSRU. Resource Report 2 notes that, based on modeling, it is estimated that the thermal plume could reach the seafloor and lead to sediment resuspension. As part of the BA, a detailed analysis of the impacts of hot and cold thermal effects and water intakes and discharges on ESA resources should be included.

8. A detailed entrainment, impingement, and entrapment analysis for the project during both construction and operation, including for corals and sea turtles. In addition, the effects analysis for the project should include an estimate of the effects of entrapment, impingement and entrainment on ESA-listed species. For example, Resource Report 2 states that water will be pumped using portable high volume pumps located on the offshore lay barge and that the pumps will have 100-micron screens to prevent intake of organisms. However, there are no details of the type of pumps or their layout, measures that will be taken to prevent any entrapment of sea turtles in the area of the pumps, if applicable, or how the size of the screen was determined. Impingement and entrapment can be reduced or eliminated based on the design of intakes so information on measures taken to lessen these impacts should be included in the BA. Entrainment, impingement, and entrapment are part of the impacts of sea and freshwater intakes and discharges on ESA. However, the impacts of the intakes and discharges in terms of water volumes and thermal impacts need to be part of the effects analysis, as noted in some of the other points raised here.

9. Potential impacts to navigation and the potential for increases in accidental groundings should be part of the analysis of effects to ESA-listed species and their habitat, including for recreational vessels as these try to avoid any safety or warning zones that may be established on a temporary or permanent basis by the U.S. Coast Guard around the offshore port and during LNG vessel operations. Similarly, Resource Report 1 states the number of vessels of different types to be used during construction, but does not include details of vessel sizes or information regarding the number of trips anticipated during different construction operations. Resource Report 8 states that most if not all of the offshore materials to be used during construction will require barge transport from other

ports in Puerto Rico, but no size or numbers of vessels were provided. Resource Report 13 provides information regarding vessels to be used for passengers and daily transport. The potential for vessel strikes or accidental groundings from all vessel operation associated with construction and operation is needed as part of the analysis of potential impacts of the construction and operation of the project to ESA resources.

10. There are several impact estimates provided in the different resource reports prepared for the project and there appear to be inconsistencies in terms of the extent of potential habitat impacts. For instance, Resource Report 1 estimates there will be 156.5 acres of temporary impacts (74 from berthing area, 81 from pipeline installation, and 1.5 from in-water staging) and 32 permanent acres of impact (22 from berthing area and 10 from pipeline installation). The estimates of impact in the BA are much lower than this and, given the description of the push-pull pipe laying technique, likely unrealistic. Resource Report 1 notes that the push-pull installation technique for the pipeline will result in the creation of 2-foot-wide berms on either side of the pipeline in soft bottom sediments in addition to the 2-foot pipeline and a 7-foot-wide area of indirect impacts on either side of the pipeline corridor. A temporary work area with a 500-foot radius will also be present on one side of the pipeline. Resource Report 2 states that only 2.96 acres of seagrass and 0.9 acre of coral will be impacted by the pipeline, but our estimates of impacts within a 20-foot impacts corridor around the pipeline indicate impacts would be at least 10 acres, including seagrass and coral areas. Resource Report 3 states that there will be impacts to 0.72 acre of seagrass in the 6-foot construction corridor and 1.7 acres in the 7-foot buffer around the pipeline. All temporary and permanent impact estimates and the methods used to calculate these need to be detailed in the EIS and Section 7 consultation documents along with a quantification of how much of these impacts will affect ESA-listed species and their habitat. In Resource Report 3, the pipeline self-burial analysis indicates that one to two feet of the pipeline will remain exposed in many areas due to the bottom substrate and that scour along the pipeline is possible in these and other areas. This loss or degradation of habitat needs to be included in the estimates of impacts to benthic habitat. Resource Report 6 indicates that scour distance could be twice the sleeve jacket over the pipeline in terms of impacts to benthic habitat. Similarly, the June 25, 2013, response to one of FERC's information requests also has an impact summary table that does include construction vessels, the pipeline, and the gasport and these numbers are also different from those in other project documents.

11. Resource Report 1 states that 158 acres of land are required for upland construction, but this is contradicted by estimates in other resource reports. Clarification is needed regarding construction to be done at the existing plant docking and operation facilities and the potential impacts to ESA-listed species and their habitat. Details of sediment and erosion control and stormwater management, as well as the location and footprints of construction areas, should be included along with measures to be employed to protect ESA resources. Similarly, Resource Report 8 states that the existing thermoelectric plant's waterfront facilities are not equipped to handle and load the equipment and materials to be used during construction, but Resource Report 9 states that onshore staging will be used for 15 weeks during a portion of the offshore construction. Upland construction and other uses that could lead to impacts to ESA resources need to be

quantified and the extent of potential impacts determined as part of the analysis of all potential project impacts to ESA resources.

12. Several of the project documents prepared to date state that an environmental training program will be established to ensure construction personnel are aware of environmental requirements and will receive marine mammal observation and awareness training. The details of this training program, for personnel during construction and operation of the facility, need to be provided and should include all ESA resources.

13. The estimated construction timeline with information regarding potential impacts to ESA resources from all aspects of project construction and operation based on seasonal species's patterns, such as migrations, nesting, hatching, and spawning in the project area.

14. Based on information in Resource Report 2, it appears that sediment data from NOAA's National Status and Trends Program was used rather than conducting project-specific sampling and analysis in the bay and in the area of the offshore platform. Given that the NOAA study was meant to provide a general characterization of the bay, there is no indication that sample points were within proposed construction footprints, and that sediments will be disturbed by pipeline installation, as well as by the installation of pilings and trenching, we believe that sediment sampling specific to the project should be conducted. This sampling should be done to determine whether and what contaminants may be released to the water column as sediments are resuspended during pipeline and port construction. If contaminants are found in the sediments, then the construction design of the project needs to include measures to minimize potential impacts of sediment resuspension and transport to ESA resources.

15. An analysis of the impacts to ESA resources of various water quality constituents that will be part of project construction or operation needs to be part of the effects analysis for ESA resources.
    a. For example, Resource Report 1 states that nitrogen will be used to purge and inert the offshore facility in start and stop, but there is no information regarding whether this remains as gas only or becomes a discharge to the marine environment.
    b. Resource Report 2 states that a "marine growth preventative" consisting of sodium hypochlorite to be generated on-site will be used at the platform. However, no information is provided regarding the concentration of this solution and potential impacts of its discharge on aquatic life, the frequency of treatment, and the parts of the system where the biocide will be injected. Information regarding the potential impacts of the discharge of treated water in terms of the impacts of the biocide on aquatic organisms needs to be included in the EIS and ESA documents. It is noted on page 2-23 of Resource Report 2 that the in-system residual chlorine from the use of this biocide will exceed EPA standards for marine waters.
    c. Resource Report 2 notes that sanitary waste will not be discharged, but will instead be stored on the platform for pick up and terrestrial discharge. However,

the report also states that the wastewater will be treated with sodium hypochlorite resulting in 1.0 ppm residual chlorine prior to discharge. Therefore, clarification is needed as to whether or not there will also be a sanitary discharge from the offshore platform to marine waters.

d. Ballast water will be discharged during FSRU operations, including for vessel stability, and there may also be blowdowns of vessels. Both of these discharges could affect marine resources, but there is no analysis of potential impacts on ESA resources.
e. Surface and bottom blowdown can lead to metal particle release into surrounding waters. Depending on the type of metal, frequency of release, and size of particles, it should be determined whether and how this could affect ESA resources.
f. Spills from LNG, including any cryogenic impacts due to freezing temperatures, should be included in the effects analysis to determine whether and to what extent there could be impacts to ESA resources from accidental spills, such as during material transfer, or during accidental groundings associated with the operation.
g. Brine discharge from FSRU in terms of concentration, plume dispersion, and potential impacts to ESA resources should be included in the effects analysis.

16. An environmental sampling plan should be designed and implemented for the project and should include contingency measures should impacts to ESA resources be observed.

17. For ESA-listed corals, Resource Report 3 states that construction and operation impacts have been minimized through project siting and construction and operational best management practices (BMPs). However, the only pipeline route considered for the project based on information in our project file is the one that passes through a well-developed reef. In addition, no information was provided regarding BMPs that will be protective of ESA-listed corals. Similarly, the report states that work vessels will implement BMPs during construction, but no information on these BMPs was provided. It is also stated that work vessels will be equipped with fathometers and will restrict operation when feasible to ensure sufficient water depths. As part of the ESA Section 7 consultation for the project, it may be necessary to determine whether there are areas where vessels should not operate due to water depth, draft, and the presence of ESA resources and establish restrictions as part of permit requirements.

18. Resource Report 3 states that sediment resuspension and transport is expected during some construction and operation activities, but there are no minimization measures because it is argued that the natural physical conditions in the area will result in rapid resettlement and limit transport. Similarly, the report states that turbidity levels during construction will remain below natural levels, but there is no information provided regarding water quality sampling that was conducted as part of this project and the natural turbidity levels that were measured, including during storm events. There is also no information regarding water quality sampling to be conducted during construction in order to monitor impacts such as turbidity. In order to protect ESA resources, minimization measures (other than expecting waves and currents to disperse sediment plumes) will be necessary as part of project design and implementation, as well as water

quality sampling prior to any construction in order to set limits on parameters such as turbidity, and this information should be included in the BA.

19. Appendix 6D of Resource Report 6 noted that there are areas of anchor scars along some portions of the proposed pipeline route. Resource Report 6 also states that numerous magnetic anomalies were detected that could pose a hazard to pipeline burial, but there is no indication that these anomalies were being further investigated. Information regarding the potential extent of hazards to the pipeline that could compromise pipeline integrity from existing marine uses and debris present along the route should be included in the EIS, along with information regarding how the pipeline will be protected from these impacts and monitored.

20. Details of all construction need to be provided along with all avoidance and minimization measures to be incorporated in different aspects of construction to be protective of ESA resources. It is not enough to state that details will be defined as the design progresses because this does not enable a thorough analysis of the effects of the action on ESA resources.

21. The June 25, 2013, response to one of FERC's information requests contains proposed mitigation measures. As part of the ESA Section 7 consultation, the applicant needs to demonstrate that all project impacts to ESA resources have been avoided and minimized. In terms of mitigation, several of the options listed would likely not apply or be inappropriate in the project area, such as the filling of dredge holes or the construction and installation of artificial reefs. Mitigation should be done in the project area and be in-kind based on project impacts to specific resources.

If the information contained in the BA allows us to determine that an informal Section 7 consultation can be completed, NMFS will respond within 30 calendar days if possible. Otherwise, if NMFS determines that a formal Section 7 consultation is necessary, 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. 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.

In addition to Section 7 consultation, an essential fish habitat (EFH) consultation with NMFS is necessary for this project pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act. Please contact Mr. José Rivera of the Habitat Conservation Division at 787-405-3605, or via e-mail at Jose.A.Rivera@noaa.gov. Resource Report 3 also notes that bottlenose dolphins, which are protected under the Marine Mammal Protection Act (MMPA), were present in the survey area. If these or other non-ESA listed marine mammals may be adversely affected by the proposed action, a take authorization under the MMPA may be necessary. NMFS's Protected Resources headquarters office should be contacted at 301-713-2332 for more information regarding MMPA requirements.

Thank you for the opportunity to participate in the development of the EIS and BA for this project. If you have any questions regarding consultation requirements for the Aguirre Offshore Gasport project, please contact Dr. Lisamarie Carrubba, consultation biologist, at (787) 851-3700, or by e-mail at Lisamarie.Carrubba@noaa.gov.

Sincerely,

David M. Bernhart
Assistant Regional Administrator
Protected Resources Division

cc: USACE – Gisela Román
F/SER4 – José Rivera, Pace Wilber
FERC – Gertrude Johnson
EPA – Stephanie Lamster, Lingard Knutson
USFWS – Edwin Muñiz
USCG – Captain Drew Pearson

File: 1514.22.N

CP 13-193

COMMONWEALTH OF PUERTO RICO
GOVERNOR
ALEJANDRO J. GARCÍA-PADILLA

January 8, 2016

The Honorable Norman C. Bay
Chairman
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: FERC Docket No. CP 13-193-00/Aguirre Offshore GasPort Project

Dear Chairman Bay:

I write to you regarding the Aguirre Offshore GasPort Project (the "AOGP") application in the above referenced proceeding. As you know, the Commonwealth of Puerto Rico is at a critical juncture as it faces the greatest fiscal and economic crisis in its history. The conversion from fuel oil to natural gas envisioned in the AOGP will reduce electricity costs, improve economic competitiveness and achieve compliance with federal environmental regulations. However, the continued delay of the AOGP is harming Puerto Rico's economic growth prospects.

I appreciate that, in July 2015, the Federal Energy Regulatory Commission ("FERC") issued an authorization under Section 3 of the Natural Gas Act for the siting, construction and operation of the AOGP. However, FERC's authorization is subject to several conditions, permits and approvals. One of these conditions is the completion of any necessary consultations by FERC with the U.S. Fish and Wildlife Service ("FWS") and National Marine Fisheries Service ("NMFS") as required under Section 7 of the Endangered Species Act ("ESA"). I have been informed that these consultations have not begun in earnest because FERC has not submitted to NMFS the required Biological Assessment for the AOGP. This is causing major delays for the construction and delivery of the AOGP.

I am concerned with these delays due to looming environmental compliance deadlines. The conversion of the Aguirre power plant is necessary to comply with the Environmental Protection Agency's ("EPA") Mercury and Air Toxics Standards ("MATS"). The Aguirre power plant's deadline for complying with the MATS is April 2016, which already reflects a one-year extension. The conversion is also required to comply with the EPA's Clean Power Plan. FERC's Environmental Impact Statement recognized that the AOGP would reduce nitrogen oxide and sulfur dioxide emissions by 800 and 5,815 tons per year, respectively.

La Fortaleza, San Juan, PR 00901 | PO Box 9020082, San Juan, PR 00902-0082 | gobernador@fortaleza.pr.gov | 787.721.7000

2014-00015

Non-compliance with MATS could force PREPA to choose between severe daily financial penalties or shutting down the Aguirre power plant. Neither option is viable. Because the Aguirre power plant generates a third of Puerto Rico's generation capacity, a shutdown would threaten reliability of the entire power grid and cripple our economic recovery. I respectfully ask FERC to expedite the presentation of the Biological Assessment for purposes of initiating the formal consultation process under Section 7 of the ESA.

I appreciate FERC's interest in promoting reliable and efficient energy infrastructure in Puerto Rico. I look forward to your consideration of my request.

Cordially,

The Governor of the Commonwealth of Puerto Rico,

Alejandro J. García Padilla

Document Content(s)

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