



United States Department of the Interior

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PEP/NRM

ER 18/0586

March 13, 2019

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

Re: Annova LNG Brownsville Project - Draft Environmental Impact Statement (DEIS),
Cameron County, Texas, FERC No. CP16-480-000

Dear Secretary Bose:

The U.S. Department of the Interior (Department) has reviewed the December 2018 draft EIS by Federal Energy Regulatory Commission (FERC) regarding authorization for Annova (collectively Annova LNG Common Infrastructure, LLC; Annova LNG Brownsville A, LLC; Annova LNG Brownsville B, LLC; and Annova LNG Brownsville C, LLC) to site, construct and operate facilities to liquefy and export natural gas at a terminal facility along the Brownsville Ship Channel (BSC), in Cameron County, Texas. Department bureaus U.S. Fish and Wildlife Service (FWS) and National Park Service (NPS) are participating as cooperating agencies with FERC for this EIS process. We are all committed to working collaboratively with FERC and Annova LNG and offer the following comments for use in the development of the Final Environmental Impact Statement (FEIS) for the subject project.

This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 *et seq.*), the Endangered Species Act (ESA) of 1973, as amended (16 USC 1531 *et seq.*), the Fish and Wildlife Coordination Act (16 USC 661-667e), the National Wildlife Refuge System Improvement Act of 1997 (PL 105-57), the Migratory Bird Treaty Act (MBTA) (16 USC 661-667e), the Historic Sites Act of 1935 (16 USC 461-467), the National Historic Preservation Act (NHPA) (PL 89-665, as amended by PL 96-515), and other authorities mandating the Department's concern for environmental and historic preservation values.

Fish and Wildlife Service

General Comments

Three Federally Endangered species (ocelot, jaguarundi, and northern aplomado falcon) habitats are becoming more limited across South Texas and within the proposed project area, and continue to be fragmented and disconnected. The Annova project is proposing to remove a large piece of ocelot habitat within the Ocelot Coastal Wildlife Corridor. The text in the beginning of the DEIS (“To the Interested Party”) states that with the mitigation measures recommended in the EIS and Annova’s proposed mitigation measures, impacts in the Project area would be avoided or minimized and would not be significant. It is FWS’ opinion that the Annova project will impact part of a loma with ocelot habitat that is irreplaceable and cannot be restored or recreated. Also, this project impacts indirectly affects National Wildlife Refuge (NWR) property.

To reduce these significant impacts, FWS recommends that Annova establish perpetual conservation easements and perfect final agreements with Brownsville Navigation District (BND) for the proposed wildlife corridors on the western side of the proposed project wall (181 acres), and the Puerta de Trancas Loma to the north of the Brownsville Ship Channel (BSC). FWS requests that these conservation easements consist of a 1,000-foot-wide easement encompassing three tracts of land extending from State Highway (SH) 48 southerly right-of-way (ROW) line to the BSC (42 acres), and the perpetual conservation easement (189 acres) that parallels the proposed Alternative 2 access road with a right of way that goes through the Lower Rio Grande Valley NWR.

The USACE permit and the FERC DEIS should use the same wetlands baseline. In comparing the wetlands information provided in the DEIS with that given in the U.S. Army Corps of Engineers (USACE) Public Notice of December 27, 2018, for the Annova Section 10 and Section 404 permit application (SWG-2015-00110) for construction and operation of the proposed Annova LNG Project, FWS has a concern that the wetlands at the facility have been incorrectly characterized, and recommends to USACE that the delineation be reviewed (see also February 12, 2019, letter from FWS to USACE on the Public Notice).

Specific Comments - FWS

To the Interested Party, paragraph 2: *"In addition, the Annova LNG Project combined with other projects within the geographic scope, including the Texas LNG and Rio Grande LNG Projects, would result in certain significant cumulative impacts."*

FWS agrees with the above statement. There is less than 5% of the federally endangered ocelot and jaguarundi habitat left in the Rio Grande Valley, and the cumulative impacts from these three proposed projects and previous projects have substantially reduced wildlife corridors, areas for sheltering and reproduction due to fragmented ocelot and jaguarundi habitat and loss of connectivity needed for the recovery of the species.

Project Impacts, ES-3, paragraph 2: *"Overall, construction of the Project facilities would temporarily disturb approximately 550 acres for construction. About 412 acres of the areas disturbed during construction would either contain permanent facilities or be permanently maintained as either concrete, paved, or gravel surfaces, or maintained in an herbaceous state."*

FWS recommends that the term "temporarily" be deleted from the sentence, or the text specify that 412 acres of 550 acres be noted as permanently impacted, and 138 acres as temporarily disturbed.

Vegetation 11, ES-5: *"No state-designated vegetation communities of special concern (including rare, threatened, or endangered plants) occur in the Project area. Although approximately 409 acres of vegetation communities would be permanently lost, with implementation of Annova's minimization and mitigation measures, including implementation of measures within its Conceptual Mitigation Plan, we have determined that construction and operation of the Project would not significantly impact vegetation."*

FWS considers thornscrub areas used by ocelot and jaguarundi, and coastal salt prairie habitat used by the northern aplomado falcon, to be of special concern, as they are limited (less than 5% remain) and will be impacted by these proposed projects.

Wildlife and Aquatic Resources, ES-6, paragraph 2: *"In accordance with Service's recommendations, Annova would attempt to limit clearing on the Project site to between September 1 through February 28 to avoid impacts on migratory bird nesting. We recommend that prior to construction Annova consult with the Service to develop a Project-specific Migratory Bird Plan to include measures to avoid and minimize impacts on migratory birds, and that the Migratory Bird Plan should include details from the Facility Lighting Plan that are intended to reduce impact on wildlife and birds."*

FWS looks forward to coordinating with the applicant on their proposed migratory bird plan and a facility lighting plan, and appreciates FERC's support for the development of these documents prior to the initiation of construction.

Regarding the statement of clearing timeframes above, FWS noted that Appendix B of this DEIS, Section 3.9 (Upland Erosion Control, Revegetation, and Maintenance Plan), states that no winter construction is anticipated due to the humid subtropical climate of Brownsville. FWS requests that the clearing timeframes in the Executive Summary be changed to match Appendix B.

Reliability and Safety, ES-9-10, paragraph 3: *"We are including specific recommendations to address potential impacts from rocket launch failures on the Project. However, the extent of impacts on SpaceX operations, the National Space Program, and to the federal government would not fully be known until SpaceX submits an application with the FAA requesting to launch and whether the LNG terminal is under construction or in operation at that time."*

FWS recommends a reference to the location in FERC documents of the specific recommendations referenced in the sentence above, or clarifying whether all FERC

recommendations for impacts from rocket launch failures will be deferred until SpaceX has submitted its application to the Federal Aviation Administration (FAA).

Cumulative Impacts, ES-10, paragraph 1: *"As part of that assessment, we identified existing projects, projects under construction, projects that are proposed or planned, and reasonably foreseeable future projects – including proposed LNG terminals, currently operating and future oil and gas projects, land transportation projects, commercial and industrial developments, and dredging projects. Reasonably foreseeable projects that might cause cumulative impacts in combination with the proposed Project include the Rio Grande LNG Project and the Texas LNG Project. Many of the identified cumulative impacts would be temporary and minor."*

FWS believes cumulative effects from existing projects and the proposed LNG terminals contribute to the net loss, and with less than 5% of ocelot, jaguarundi, and northern aplomado falcon habitat remaining, effects will be permanent and significant.

Alternatives Considered, ES-13, paragraph 5: *"Based on our analysis of alternative flare designs, we conclude that a Totally Enclosed Ground Flare design would not result in a significant environmental advantage over the proposed combined warm/cold flare stack."*

FWS recommends that the preferred flare design, including analysis of alternative designs, be included in the applicant's Migratory Bird Plan proposed to be developed in consultation with them.

Conclusions, ES-13, paragraph 1: *"We determined that construction and operation of the Annova LNG Project would result in some unavoidable adverse environmental impacts. We conclude that impacts on the environment from the proposed Project would be reduced to less than significant levels with the implementation of Annova's proposed impact avoidance, minimization, and mitigation measures and the additional measures recommended by FERC staff."*

FWS believes that Annova has worked to lessen the environmental effects to ocelots, but with less than 5% of ocelot and jaguarundi habitat left in the Rio Grande Valley, the effect is still significant. Annova is one of three liquified natural gas (LNG) lines being proposed and there are cumulative impacts from these three proposed projects, as well as previous projects that have substantially reduced wildlife corridors, areas for sheltering and reproduction due to fragmented ocelot and jaguarundi habitat, and loss of connectivity needed for the recovery of the species. FWS requests that Annova confirm mitigation measures for the proposed wildlife corridor on the western side of the proposed project wall (181 acres), the conservation easement north of the BSC (42 acres), and the perpetual conservation easement (189 acres) that parallels the proposed Alternative 2 access road with a ROW that goes through the Lower Rio Grande Valley National Wildlife Refuge.

1.4.1 Natural Gas Supply Lateral, 1-13, paragraph 1: *"The approximately 9-mile-long, 36-inch-diameter natural gas supply lateral would begin at an existing Valley Crossing compressor station north of Highway 48 within the boundary of the Port of Brownsville, cross the BSC, and*

continue generally south and then east to the Project site. The supply lateral would be an intrastate pipeline and therefore would not be under the FERC's jurisdiction."

FWS requests that the applicant confirm plans to directionally drill the pipeline in the same manner as the Valley Crossing Pipeline between SH4 and the facilities to avoid impacts to the loma. Additionally, FWS recommends that Annova and they proceed with development of a perpetual conservation easement with BND to protect the ocelot and jaguarundi habitat which would be avoided if access road (Alternative 2) is selected because use of the other proposed access road alternatives would impact wildlife corridor habitat. FWS requests that the applicant provide an analysis of the cumulative impacts of the natural gas supply pipeline in the Biological Assessment for evaluation in its Biological Opinion.

Electric Transmission Line and Switchyard, 1-16, paragraph 3, and Figure 1.4.3-1: *"The new 138-kV transmission line would be approximately 15 miles long. The poles supporting the transmission line wires would be 90 to 110 feet in height and spaced approximately 600 feet apart within a right-of-way width of about 100 feet."*

The electric transmission line as indicated in Figure 1.4.3-1 goes through loma habitat that has been proposed to be avoided and protected by a perpetual conservation easement, in the development of the access road, in Alternative 2. FWS recommends moving the transmission line north to avoid impacting ocelot habitat in the proposed perpetual conservation easement.

Potable Water Pipeline, 1-16, paragraph 1, and Figure 1.4.4-1: *"The new water pipeline would be an extension of an existing water pipeline and would be about 5.9 miles long."*

The potable water pipeline has the same alignment as the above pipeline between SH 4 and the facilities that will go through the proposed perpetual conservation easement with BND to protect the jaguarundi and ocelot habitat for the use of the Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR) access road (Alternative 2) ROW. The Service recommends either the potable pipeline be directionally drilled for the length of the loma, or that the line be moved to the north, to avoid ocelot habitat impacts to the proposed perpetual conservation easement.

2.1.8 Access Road, 2-7, paragraph 1: *"Annova anticipates that two, 12-foot-wide paved travel lanes would be required to accommodate regular two-way industrial traffic, including tractor-trailers. Each side of the road would also have a 10-foot-wide gravel shoulder able to accommodate a disabled tractor-trailer without blocking incoming or outgoing traffic. In total, this would result in a 157-foot-wide construction impact, and a 137-foot-wide operational impact for the access road."*

In consultation with FWS under ESA, the applicant will need to specify the wildlife crossings, size of crossings, and fencing to be placed on this road to minimize road kill of ocelots and other wildlife. The construction and operational width of disturbance needs to be reduced as much as possible. FWS recommends that any ocelot habitat disturbance be addressed in the Biological Assessment, and mitigated as ocelot habitat acres impacted. It recommends that dense ocelot habitat be established or revegetated on the loma side leading up to the wildlife crossings.

3.5, Access Road Alternatives, 3-18, paragraph 6: *"Based on the overall analysis of these criteria and the minimization of impacts on waterbodies, wetlands, and biological resources, we believe that neither Access Road Alternative 1 nor 3 would provide a significant environmental advantage over the proposed access road. However, use of the proposed access road would require an appropriateness determination and a compatibility determination from the FWS."*

FWS agrees with the plan to pursue Access Road (Alternative 2) for the Annova Project; however, it will be seeking a perpetual conservation easement for protection of the brush habitat avoided by this alternative, as well as protection from impacts on this same habitat by the installation of the proposed freshwater pipeline and power line to the facility.

General Impacts and Mitigation, 4-3, paragraph 1: *"The Project site would be graded to the extent necessary to construct Project facilities including grading of all but the northeast and southwest portions of Loma Del Potrero Cercado. As a result, the LNG facilities would not alter the existing geologic conditions at the site. The final Project site would include asphalt-surfaced roads, gravel-surfaced roads, general gravel surfacing, and application of top soil, seed, and mulch for planned vegetated areas."*

FWS believes destruction of the loma habitat would destroy the essential geologic and ecological conditions of this site. Creation of high quality functional loma habitat is likely impossible.

4.2.1.4 Revegetation Potential, 4-6, paragraph 1: *"The revegetation potential for soils within the Project site is generally poor, as shown in table 4.2.1-1. The revegetation potential of soils is only a concern outside of the footprint of permanent Project facilities where Annova would conduct revegetation efforts."*

FWS recommends that revegetation be monitored for 5 years to ensure the sites are successfully revegetated.

4.4.1 Existing Wetland Resources, 4-28, paragraph 1: *"Wetlands delineated within the Project site include estuarine open water; unvegetated tidal flat; estuarine emergent marsh, and estuarine scrub-shrub ..."*

This statement contradicts descriptions of the wetland impacts elsewhere in the DEIS. For example, on page 4-276, it is noted that "Wetlands that would be affected by the Project include estuarine emergent marsh, estuarine scrub-shrub (mangrove) marsh, and palustrine emergent wetlands. Most of these impacts would be to palustrine emergent wetlands. "

As noted under General Comments, FWS recommends that the delineation documentation be reviewed and the descriptions of the wetland habitat types that would be impacted by the project be described consistently throughout the document.

Figure 4.4.2-1 Wetlands Affected by Construction and Operation of the Project, 4-30:

The types and amounts of wetlands in the DEIS changed from the previous version, Figure 2.4-1 Wetlands and Non-Wetland Waterbodies on the Project Site, provided in Resource Report 2,

July 2016 (RR2). The large palustrine features are labeled as Estuarine Emergent in the DEIS version, and only those wetlands that are to be directly impacted by the construction of the facility are shown on DEIS Figure 4.4.2-1.

FWS recommends that wetlands anticipated to be temporarily impacted, or avoided by direct impacts, be mapped and monitored, and if construction and operation impacts occur that are not avoidable or temporary, it recommends additional mitigation.

Table 4.5.2-1 Vegetation Communities Affected by Construction and Operation of the Project, 4-35:

FWS believes that this table, as the data are currently reported, presents an incomplete picture of the effects of the project on vegetation communities within the applicant's project area. FWS recommends that a complete accounting of the vegetation communities present, and the anticipated impacts on them, be presented. FWS recommends that Coastal Salt and Brackish High Tidal Marsh, identified as 10 acres in Section 4.5.1.1; and Coastal Mangrove, identified as 2 acres in Section 4.5.1.4, be added to the Vegetation Community Column. Additionally, columns for Total Present in the Project area (acres), Temporary Impacts (acres), and Permanent Impacts (acres) be added with the Construction Impacts (acres) and Operation impacts (acres) columns presently shown. This will provide a clearer picture of acres that should be restored and monitored for restoration success, as well as acres avoided from direct impacts, but monitored to ensure that no indirect adverse impacts have occurred.

4.5.5 Conclusion, 4-37, paragraph 1: *"Although approximately 409 acres of vegetation communities would be permanently lost, the region contains large quantities of similar vegetation communities. Therefore, we have determined that construction and operation of the Project would not significantly impact vegetation."*

The presence of additional habitat within the project area does not discount a cumulative impact to ocelot and northern aplomado falcon habitats. The three proposed LNGs will fragment remaining habitat and it is difficult to maintain functionality without protecting the remaining <5%. This information is needed for the Biological Opinion to show off site conservation strategies to compensate for the net loss of habitat and loss of connectivity.

Impacts and Mitigation, 4-39, paragraph 5: *"Although construction would permanently remove wildlife habitat, ample undisturbed habitat is available in the vicinity of the Project site ... some habitat within the fenced boundaries would only be temporarily disturbed and vegetation would be allowed to revert to pre-existing land covers after construction. Fencing and wildlife crossings along the access road and establishment of speed limits is expected to reduce the possibility of vehicle collisions."*

Wildlife habitat is present in the project area and should be protected from effects of the operational activities of the facility, now and into the future. Restoration efforts will need to address invasive grasses coming in behind the clearing. A plan to control invasive grasses, possibly with chemical treatment, to allow native vegetation to grow needs to be developed.

Also, FWS will need details on number of proposed wildlife crossings, size of crossing, and fencing in its biological assessment (BA), so it can be included in the Biological Opinion.

Unique and Sensitive Wildlife, National Wildlife Refuges and Preserves, Loma Ecological Preserve 4-44, paragraph 1: *"To facilitate preservation of the wildlife corridor, the Service has agreed to terminate their lease for this additional area upon construction of the project."*

BND notified FWS that they intend to withdraw the acreage from the agreement in order to build the Annova facilities. FWS has no recourse under the lease agreement. We believe this will impact wildlife movement through this wildlife corridor, including ocelots and jaguarundi.

4.6.1.2, Unique and Sensitive Wildlife, National Wildlife Refuges, South Texas Coastal Corridor, 4-47, paragraph 3: *"Annova would maintain a wildlife corridor on the west side of the Project site, where existing dense thornshrub and other habitats would be avoided and preserved. Annova would protect the wildlife corridor with a conservation easement for the life of the Project. In addition, Annova would install a barrier wall along the southwest edge of the site between the LNG terminal facilities and the wildlife corridor to reduce light and noise impacts on wildlife."*

Annova would need to protect the wildlife corridor with a conservation easement in perpetuity and not just for the life of the project. After the life of the project, the loss of habitat is still permanent and a net loss.

4.7.1.2, Impacts and Mitigation: Terrestrial Mammals, 4-65 and 4-66, paragraph 1: *"Constructing and operating the Project would result in the loss of suitable ocelot and jaguarundi habitat, which could affect their movement resulting in avoidance and displacement. The Project would result in the permanent loss of 127 acres of Loma Evergreen Shrub/and, which is considered preferred habitat for ocelots and jaguarundis. Because this habitat is part of the South Texas Coastal Corridor identified by the Service, this habitat loss could decrease the effectiveness of this habitat linkage (resulting in habitat fragmentation) and affect the ability of ocelots to use this area as a potential travel corridor. To address this impact and as discussed further below, Annova designed the Project layout to include an undisturbed wildlife corridor on the Project's western boundary."*

The wildlife corridor proposed on the western boundary north of the ship channel and loma is where the Alternative 2 road access is proposed. A perpetual conservation easement agreement is recommended, to ensure this area continues functioning as a wildlife corridor.

4.7.1.2, Impacts and Mitigation: Terrestrial Mammals, Time Extension of Existing Redhead Ridge Conservation Easement, 4-66 and 4-67, paragraph 1: *"Annova is working with the BND to extend the duration of an END-owned conservation easement located on the north side of the BSC (Puerta de Trancas Loma) ... Currently, the conservation easement is scheduled to expire in September 2023. If approved by the BND, Annova is proposing to extend the conservation easement for the life of the Project in order to connect the proposed wildlife corridor on the west side of the Project site to additional conservation lands further north."*

This conservation easement should be included in the EIS and will be analyzed in our Biological Opinion. FWS recommends that Annova protect the wildlife corridor with a conservation easement in perpetuity to offset the impacts of the project. After the life of the project, the loss of habitat is still permanent and a net loss.

4.7.1.3, Impacts and Mitigation: Northern Aplomado Falcon, 4-68, paragraph 5: *"A safe harbor program was initiated in 1996 that provides landowners, including the BND, a safe harbor (i.e., permission to cause incidental take of the northern Aplomado falcon at the Project site, so long as the level of incidental take does not cause the Action Area's environmental baseline for the northern Aplomado falcon to fall below conditions existing at the time BND became a sub-permittee). The Permit defines the environmental baseline for the northern Aplomado falcon as the pair of northern Aplomado falcons that was bred in captivity and that nested in the Brownsville area in 1995. As no northern Aplomado falcon nests existed within the Project site at the time BND became a sub-permittee under the Permit, any incidental take associated with the Project would be covered under the Safe Harbor Agreement."*

The northern aplomado falcon is already covered for take under the Endangered Species Act (ESA) by a 99-year Safe Harbor Agreement and associated ESA Section 10(a)1(b) permit that allows development to occur in the area around the Port of Brownsville. However, we encourage northern aplomado falcon habitat conservation across the landscape. These falcons typically occur in coastal prairie or savanna grasslands containing low-growing salt-tolerant plants such as sea oxeye daisy and with scattered, but prominent woody vegetation such as yuccas or mesquites. Northern aplomado falcons have been documented specifically within the area of Laguna Atascosa National Wildlife Refuge (NWR) and on eastern Cameron County tracts of the Lower Rio Grande Valley NWR.

For this section of the DEIS, FWS recommends that the last two sentences be replaced with the following: "The baseline responsibilities for BND under the Safe Harbor permit are one pair of northern aplomado falcons, which was determined at the time they signed a Cooperative Agreement and received a Certificate of Inclusion from the Peregrine Fund. Therefore, BND's obligations are to maintain one nesting pair. In addition, they would give the Peregrine Fund advance notice and an opportunity to salvage any nestlings and/or eggs during the breeding season for any activities that may result in incidental taking of northern aplomado falcons on BND property."

4.7.1.3, Impacts and Mitigation: Northern Aplomado Falcon, 4-69, paragraph 6: *"Although northern Aplomado falcons have been documented in and near the Project site, no nests have been documented at the Project site. This species is highly mobile and typically departs at the approach of humans. In addition, Annova would implement measures, including minimization of impacts on suitable nesting habitat as well as clearing outside the nesting season or otherwise conducting nest surveys prior to construction. Therefore, we have determined that constructing and operating the Project may affect, but is not likely to adversely affect the northern aplomado falcon."*

FWS recommends that all cumulative habitat impacts within the project area such as loss of habitat from existing and proposed wind energy projects, Space X, all of the proposed LNG's, the proposed Second Causeway, and the South Port Connector road be considered.

4.7.1.3, Impacts and Mitigation: Eastern Black Rail, 4-75, paragraph 4: *"Although suitable eastern black rail habitat would be permanently affected as a result of the Project, there is abundant estuarine marsh habitat that would remain undisturbed in the vicinity of the Project site. Therefore, we have determined that constructing and operating the Project would result in no effect on this species."*

FWS requests that more information be included to support the language that there is abundant habitat available for the eastern black rail in the project area, including an estimate of the acres available, if possible, and whether an assessment was made of cumulative impacts (how much habitat has been lost) to this species.

Figure 4.11.2-1 Noise Sensitive Areas and Noise Monitoring Locations:

FWS recommends that the noise analysis include establishing a Noise Sensitive Area site in the habitat on the southwest side of the project area, which Annova has committed to avoid during construction of their facility.

4.13.2.1, Non-jurisdictional Facilities Associated with the Annova LNG Project, Natural Gas Supply Lateral Pipeline, 4-260, paragraph 1: *"Construction of the natural gas supply lateral would affect about 110 acres of land, all of which would be located within Cameron County, and result in a permanent footprint of about 50 acres within the right-of-way."*

FWS requests that a detailed description of the impacts of this feature include acres of each habitat type proposed to be impacted by the natural gas pipeline's construction. Additional details of the approximately 55 acres of temporarily impacted habitat should be provided including habitat type and restoration methodologies.

4.13.2.1, Non-jurisdictional Facilities Associated with the Annova LNG Project, Transmission Line and Switchyard, 4-262, paragraph 2: *"The new 138-kV transmission line from the existing substation to the Project site would be approximately 15 miles long and supported by poles 90 to 110 feet high and spaced approximately 600 feet apart. The initial design calls for a right-of-way width of 100 feet."*

FWS requests that a detailed description of the impacts of the power line include acres of each habitat type proposed to be impacted by the construction of this feature. Additional details of the temporary impacts should be provided including habitat type and restoration methodologies to be used.

4.13.2.1, Non-jurisdictional Facilities Associated with the Annova LNG Project, Potable Water Pipeline, 4-262, paragraph 1: *"The total length of the potable water pipeline would be about 5.9 miles. Annova identified a potential route for the water pipeline for the purpose of describing non-jurisdictional facilities and evaluating cumulative impacts. See figure 1.4.4-1."*

FWS requests that a detailed description of the impacts of the potable water pipeline, including acres of each habitat type proposed to be impacted by the construction of this feature be provided. Additional details of the temporary impacts should be provided, including habitat type and restoration methodologies to be used.

4.13.3.3, Wetlands and Vegetation, Wetlands 4-277, paragraph 7: *"Therefore, while the proposed LNG Terminal would contribute to cumulative impacts on wetlands, along with other projects in the area, this impact would not be significant."*

FWS believes that wildlife in the hydrologic unit code (HUC) cannot access other wetlands if excluded from the wetlands impacted by the project.

4.13.3.3, Wetlands and Vegetation, Vegetation, 4-277, paragraph 2: *"About 407 acres of upland vegetation would be affected during construction of the Annova LNG Project. Most of these impacts would be to the following vegetative communities: South Texas: Loma Evergreen Shrub/and; Gulf Coast: salty prairie; South Texas: Loma Grassland/Shrub/and; and Coastal: Sea Ox-eye Daisy Flats. Temporary workspaces would be replanted with native grasses with the goal of restoring grassland/herbaceous wildlife habitat."*

FWS does not believe that this replanting would adequately replace lost native habitat.

4.13.3.3, Wetlands and Vegetation, Vegetation, 4-277, paragraph 2: *"No state- designated vegetation communities of special concern (including rare, threatened, or endangered plants) occur on the Project area."*

Tamaulipan thornscrub is a rare and threatened habitat with less than 5% left in the Rio Grande Valley. In addition, northern aplomado falcon habitat, salty prairie and sea ox-eye daisy flats habitat, is very limited and has been impacted by wind energy projects along with the three proposed LNGs.

4.13.3.5, Special Status Species, Terrestrial Mammals, Ocelot and Jaguarundi, 4- 283, paragraph 4: *"Not all of the projects listed above are anticipated to impact ocelot and jaguarundi habitat, such as the San Roman Wind Farm, which is located in primarily agricultural and open land, and the Port of Brownsville projects, which are located within densely developed, previously disturbed areas."*

The San Roman wind energy project is constructed within the Ocelot Coastal Wildlife Corridor just north of SH 100. The Annova project could change the ocelot movement between Laguna Atascosa NWR and Bahia Grande, due to its location within the corridor.

4.13.3.5, Special Status Species, Terrestrial Mammals, Ocelot and Jaguarundi, 4- 284, paragraph 5: *"The current remaining habitat corridor in the region to connect U.S. and Mexico populations is located adjacent to and within the proposed Rio Grande LNG and Texas LNG sites north of the BSC and within the proposed Project site south of the BSC. The area adjacent*

to the proposed Rio Grande LNG Project site is a conservation easement that will not be developed in the future."

FWS requests that this conservation easement, which is set to expire in 2023, be in perpetuity to have a viable wildlife corridor. If this conservation easement is made for the life of the project, then this area may be developed once Annova leaves the area.

4.13.3.5, Special Status Species, Birds, 4-285, paragraph 1:

FWS recommends that the eastern black rail, a species proposed for ESA listing, be added to this list.

4.13.3.5, Special Status Species, Birds, 4-285, paragraph 5: *"The Port of Brownsville projects are primarily located in an already industrialized area that likely does not provide suitable habitat for northern Aplomado falcon."*

The area does provide suitable habitat. FWS recommends a change to the language to reflect that though there is some industry in the BND area, Annova is impacting 186 acres, Rio Grande LNG is impacting 191.5 acres, and Texas LNG is impacting 168.7 acres for a total of 546.2 acres of suitable northern aplomado falcon habitat just within BND property.

Land Use and Recreation, and Visual Resources, Land Use and Recreation, 4-290, paragraph 6: *"Ongoing and recently completed projects, such as the San Roman Wind Farm (4,000 acres) and the Cameron Wind Farm (15,000 acres), have contributed to the conversion of the land in Cameron County to industrial use; however, given that the actual acreage of conversion within these facilities is minimal (i.e., the majority of land is still able to be used for agricultural purposes), contributions to cumulative impacts on land use from these projects would be permanent, but negligible, when considered with the total available land in Cameron County."*

Impacts to northern aplomado falcon habitat are not negligible when there is limited habitat left in Cameron County, Texas, and existing and proposed wind energy projects around Laguna Atascosa NWR have impacted the use of the habitat and northern aplomado falcon territories.

5.2 FERC Staff Recommended Mitigation, Sb, 5-16: *"implementation of endangered, threatened, or special concern species mitigation measures."*

FWS recommends offsetting impacts to endangered species habitat that will be in place and protected in perpetuity.

National Park Service

Three designated National Historic Landmarks (NHLs) are located in the project vicinity: Palo Alto Battlefield, Resaca de la Palma Battlefield, and Palmito Ranch Battlefield. Palo Alto Battlefield and Resaca de la Palma Battlefield are managed by the National Park Service as a National Historical Park (NHP) unit. Because of this NHL designation, the Heritage

Partnerships Program, which manages the NHL program for the Intermountain Regional Office, has provided additional comments regarding the Palmito Ranch Battlefield NHL.

Authorized by the Historic Sites Act and administered by the National Park Service, the NHL program recognizes buildings, sites, districts, structures, and objects determined by the Secretary of the Interior to be nationally significant in American history and culture. Section 110(f) of the National Historic Preservation Act (NHPA) requires federal agencies to consult with the Secretary of the Interior (delegated to the National Park Service) to identify ways to minimize harm to any National Historic Landmark that may be directly and adversely affected by an undertaking.

General Comments - NPS

NPS is concerned about the potential adverse effects on the viewsheds, soundscapes, and night skies of the Palo Alto Battlefield National Historical Park and those of the Palmito Ranch Battlefield National Historic Landmark that could result from the construction and operation of the proposed Annova LNG and the two additional proposed LNG projects that are currently undergoing the FERC application/permitting processes. Attachment 1 is a map showing the location of the three proposed LNG terminal sites in relationship to Palo Alto Battlefield NHP and the Palmito Ranch Battlefield NHL.

As evident in the 2016 aerial imagery (Attachment 1), the area to the east of Palo Alto Battlefield NHP and to the north of Palmito Ranch Battlefield NHL is largely undeveloped and remains relatively unchanged from the time that these two battles occurred during the mid-nineteenth century. NPS acknowledges the environmental impact the BSC had on the hydrology and the immediate terrain when it was constructed in the 1930s, but at the time it did little to change the character of the surrounding landscape.

This landscape is a very flat, broad coastal plain comprised of open tidal flats, shallow estuaries, wetland prairies, punctuated with numerous low-lying clay dunes locally known as “lomas.” The elevation of this area fluctuates between just above mean sea level (MSL) to about 20-25 feet above MSL. The proposed Annova LNG terminal is situated on the south side of the BCS in close proximity to Palmito Ranch Battlefield NHL. The proposed Annova terminal site would include two LNG storage tanks that would be 260 feet wide and 186 feet high, a 160-foot high main flare stack, and a 45-foot high marine flare stack.

The proposed structures would result in rather imposing intrusions upon the flat landscape of the Rio Grande Delta and transform the current character of the landscape into an industrial landscape. These visual effects, along with an increased artificial lighting and audible disturbance from construction and operation of the terminal, to the setting and character of the battlefields would be substantially increased if all three proposed LNG terminal projects are permitted to be constructed and brought into operation.

Specific Comments - NPS

2.1, Proposed Facilities: NPS requests that the number and height of structures that will require aircraft warning devices and the type of aircraft warning devices Annova LNG anticipates using on elevated structures be identified in the final EIS so potential impacts to visual resources and night skies can be analyzed and mitigation measures developed to minimize visual impacts. For example, it believes the use of white strobes over painted markings for daytime visibility would be preferable to red strobes.

2.8.5, Fire Protection System: The fire protection system calls for a 250,000 gallon potable water storage tank. NPS requests that the final EIS provide additional details about this structure and the potential impacts it could have on visual resources and night skies, if it will require visual and lighted aircraft warnings devices.

4.8.5, Land Use, Recreation, and Visual Resources: NPS requests that the final EIS describe the potential impacts of the proposed action on the visual resources of the Palmito Ranch Battlefield NHL, incorporating aspects of historic integrity such as setting and feeling. The area of the Palmito Ranch Battlefield NHL retains a high degree of historic character and integrity of setting. The lands within the boundary of the Palmito Ranch Battlefield NHL, like much of the surrounding area, have seen little change in nearly 160 years. According to the documentation for its 1997 NHL designation, “Palmito Ranch Battlefield - retains exceptional integrity of setting, feeling, association and location, nearly 130 years after the battle, which occurred on May 12 and 13, 1865.” The Advisory Council on Historic Preservation (ACHP) regulation 36 CFR§800.5 requires the consideration of adverse effects when an undertaking may alter directly or indirectly any of the characteristics of a historic property or that may diminish the integrity of the property’s location, setting, feeling or association. This includes the introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features.

4.8.5.2, Visual Impact Analysis: NPS appreciates the effort to provide high quality visual simulations of the proposed project from identified viewpoints. The visual simulations of the Project site provide an idea of the effects on the Palmito Ranch Battlefield NHL but do not adequately convey the impacts to the character and integrity of the NHL. As a result, it believes that the DEIS understates the potential visual impacts of the project.

Since the Project site is less than three miles from the northern boundary of the NHL and would be highly visible to visitors on Highway 4, NPS would welcome the opportunity to discuss additional measures that could be taken to minimize potential visual impacts, such as appropriate paint colors for tall structures.

With regard to the visual impacts to the Palo Alto Battlefield NHP, while the Project site is located some 12 miles from the overlook site on the battlefield, the features of the project will be visible. Based upon practical experience, the visual impacts of structures at the Port of Brownsville, nearby windfarms and other tall structures equal to those at the project site are more pronounced in actuality than as rendered in visual simulations. For this reason, NPS believes that there will be an adverse effect on the NHL.

Also, given the number of LNG vessels anticipated per year for the three proposed LNG terminals, we suggest that their visibility from the battlefields be considered in the impact analysis for the Annova LNG project.

NPS also appreciates the proposed best practice lighting design measures (p. 4-105). While there is currently little nighttime use of the Palo Alto Battlefield NHP, there is a potential for future nighttime programs or use. The impacts of nighttime lighting and occasional flaring from the project will visually affect the battlefields. Cumulative impacts of nighttime lighting from other LNG projects, the Port of Brownsville, SpaceX and other potential projects will have a major effect on the night sky and the historic setting and feeling of the site. NPS welcomes further discussions on appropriate dark skies lighting technology uses at the project site.

4.9.10.1, Land Transportation: NPS requests the final EIS describe and analyze the potential effects of traffic noise on and intrusion into the setting and feeling of both Palo Alto Battlefield NHP, and Palmito Ranch Battlefield NHL pursuant to 36 CFR§800.5.

NPS also requests that the DEIS include additional analysis of the cumulative impact of increased traffic on Palo Alto Battlefield NHP and Palmito Ranch NHL. This should include projections for construction vehicles transporting materials, equipment or supplies or providing service and support to the construction of the project in addition to vehicles required to transport the workforce. It should also include projections for support and delivery vehicles to the site during operation of the facility. The potential impacts to visitation at both Palo Alto Battlefield NHP, and Palmito Ranch Battlefield NHL due to increased traffic during the construction and operation of the facility should be addressed in the final EIS.

Table 4.9.10.3 indicates that SH 550 become the preferred route for truck traffic to the project site and Figure 4.9.10-2 identifies SH 511 as an alternative truck route serving two of the three concrete plants needed for the project. While it would be preferable for trucks to use SH 550, because of the tolls involved, the likelihood that the majority of trucks will ultimately use SH 511 to avoid the toll should be considered. This truck traffic will pass immediately adjacent to the Palo Alto Battlefield NHP.

NPS requests that additional details be included about the possible construction of an eastbound left-turn lane and a westbound right-turn acceleration lane on SH 4, which is identified as potential mitigation measures for construction-related traffic. It seems likely the addition of these turn lanes would require widening SH 4 along the Palmito Ranch Battlefield NHL boundary. This, and future road maintenance, may deter visitors from viewing roadside interpretive exhibits along SH 4.

4.10.1, Cultural Resource Survey: This section characterizes Palmito Ranch Battlefield NHL as: *“the only non-archeological historic-age resource with the 300-foot-radius indirect APE for the Project access road. Based on field investigations, we determined that the Project would have no direct or indirect effect on this historic property.”* As noted in previous comments, NPS disagrees with this determination, as they anticipate that the proposed project will have adverse effects on the viewsheds, soundscapes, and night skies of the Palmito Ranch Battlefield NHL and

the Palo Alto Battlefield NHP through the construction and operation of the proposed Annova LNG. NPS requests that these potential impacts be thoroughly described and analyzed.

4.11.2, Noise: The NPS is primarily concerned with the introduction of audible elements associated with the proposed Annova LNG project that could diminish the integrity of either battlefield's sense of place, feeling and setting, in accordance with the regulation 36 CFR 800.5, and request that this be thoroughly analyzed. It appreciates the comprehensive noise analysis that included predictions of noise for Noise Sensitive Area 4 (NSA4), a noise sensitive area in the interior of the Palmito Ranch Battlefield NHL. It further appreciates the disclosure that changes in the sound level caused by project construction were estimated to be "very noticeable" at NSA4, as well as the disclosure that flaring would produce a low-pitched "roaring" sound that nearby residents or visitors to the Palmito Ranch Battlefield NHL would distinctly notice.

NPS recommends that, to the extent possible, marine and maintenance flaring noise be included with the p. 4-189 recommended noise surveys for each new liquefaction train under full power load and the entire LNG operation under full power load (maximum possible horsepower), so that the effect of flaring noise are not neglected in the noise surveys. NPS similarly suggests that the noise surveys be conducted following the construction of the Annova LNG project including, if needed, a site evaluation to assess the cumulative effect of the LNG operation (with flaring) on the historic integrity of the Palmito Ranch Battlefield NHL.

If the p. 4-189 recommended noise surveys or the Texas Historical Commission (THC) observations determine that additional noise controls are needed, NPS would respectfully suggest that one potential, reasonable mitigation measure would be removal of elevated flaring stacks and replacement by a ground-based flaring system, with a noise barrier wall to reduce the level of noise and visual impacts to the surrounding landscape.

Section 4.13 Cumulative Impacts: The combination of the SpaceX facility, 3 LNG projects, a 15 mile 138 kV transmission line and the existing and planned Port of Brownsville structures could affect the historic character and integrity of the Palo Alto Battlefield NHP to a significant degree. The Palmito Ranch Battlefield NHL could also be affected as well. It is reasonable to believe there are other foreseeable effects caused by this undertaking that could occur later in time. The cumulative impacts to the viewsheds from tall structures and lighting could be significant. As a result, NPS believes that the DEIS understates the cumulative impacts and request additional analysis be conducted.

NPS requests that the cumulative impact analysis be expanded to include the additional truck traffic serving the other two LNG sites and the Port of Brownsville, in addition to truck traffic associated with the connection to the East Loop highway to the Veteran's International Bridge crossing to Mexico. It believes that the potential impacts of increased traffic will adversely affect both sites in terms of noise, air quality and visual intrusion as a backdrop to the battlefield site. Traffic from workers and trucks during both construction and operation of the project combined with traffic associated with the SpaceX facility and the Stargate facility will affect the Palmito Ranch Battlefield NHL with increased noise and visual intrusions. It is reasonably foreseeable that SH 4 will require frequent maintenance and possible widening to four lanes. As previously noted, NPS believes there will be adverse cumulative impacts to Palo Alto Battlefield NHP, and

Palmito Ranch Battlefield NHL due to increased traffic, so request that these impacts be thoroughly analyzed.

Noting that the final routing of the proposed electric transmission line (and associated temporary power line) is not identified, it is unclear what, if any, potential visual effect these could have on either the Palo Alto Battlefield NHP, or the Palmito Ranch Battlefield NHL. NPS requests that the final EIS describe the type of structure that will be used for the proposed permanent and temporary transmission lines, as well as the height of these structures, and evaluate potential impacts on the two sites.

In conclusion, NPS appreciates the opportunity to review the Annova LNG DEIS as a cooperating agency and looks forward to working with FERC as a consulting party for its compliance with Section 106 of the NHPA. Please note, that while the NPS manages the Palo Alto Battlefield National Historical Park (Palo Alto Battlefield NHL and Resaca de la Palma Battlefield NHL), the NPS also has a responsibility to work with other agencies to identify ways to minimize harm to any National Historic Landmark that may be directly and adversely affected by an undertaking, including the Palmito Ranch Battlefield NHL, which is managed by FWS' Lower Rio Grande Valley National Wildlife Refuge, pursuant to Section 110(f) of NHPA.

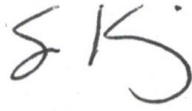
NPS considers that visual resources should include aspects of historic integrity such as setting and feeling that allow visitors to historic sites to experience a resource such as a battlefield in a contemplative manner, so that they can imagine a scene unimpaired as it might have existed during its period of significance. Modern intrusions into the landscape may impact the historic viewshed, irrespective of whether the proposed project is on private, rather than federal or state land. Essentially, the three proposed LNG terminals will transform a sparsely developed landscape into an industrial landscape adversely affecting the historic setting and feeling of the battlefields and this needs to be analyzed so decision makers are fully informed.

The DEIS notes that Section 106 compliance with the National Historic Preservation Act (NHPA) has not yet been completed (see p. 4-156). NPS requests to participate as a consulting party to the review and compliance process pursuant to Section 106, 36 CFR 800.2. As described above, cumulative impacts to visitor experience and aspects of historic integrity, including setting and feeling, within the boundaries of designated NHLs are of concern.

CONCLUDING REMARKS

We appreciate the opportunity to provide input on the Annova draft EIS. Should you have questions in response to these comments, please contact, for FWS, Dawn Gardiner, U. S. Fish and Wildlife Service, at dawn_gardiner@fws.gov (361.225.7310); and for NPS, Rolando Garza, the Park's Chief of Resource Management, rolando_garza@nps.gov ; (956) 541-2785 ext. 331; as well as Justin Henderson, Intermountain Regional Office, Historic Partnerships Program Manager, at justin_henderson@nps.gov at (303) 969-2540, for any NHL-related questions.

Sincerely,

A handwritten signature in black ink, consisting of the letters 'S' and 'K' joined together in a cursive style.

Susan King
Acting Regional Environmental Officer

