



## RECORD OF DECISION

Adoption of the Federal Energy Regulatory Commission's Final Environmental Impact Statement (FERC FEIS) for the Alaska Liquefied Natural Gas Project and Selection of Alternative for Issuance of Incidental Take Authorizations to the Alaska Gasline Development Corporation

Prepared By:

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### I. INTRODUCTION AND PURPOSE

The National Marine Fisheries Service (NMFS) received applications<sup>1</sup> requesting incidental take of marine mammals from the Alaska Gasline Development Corporation (AGDC) in connection with construction of liquefied natural gas (LNG) facilities analyzed in the Alaska LNG Project Final Environmental Impact Statement (FEIS) prepared by the Federal Energy Regulatory Commission (FERC). NMFS reviews applications and, if appropriate, issues Incidental Take Authorizations (ITAs) pursuant to the Marine Mammal Protection Act (MMPA), as amended (16 U.S.C. 1361 et seq.) and 50 Code of Federal Regulations Part 216<sup>2</sup> (50 CFR 216). In addition, the National Environmental Policy Act (NEPA), 40 CFR 1500 -1508<sup>3</sup>, and NOAA policy and procedures<sup>4</sup> require all proposals for major federal actions to be reviewed with respect to their environmental consequences on the human environment. NMFS issuance of ITAs to AGDC are major federal actions triggering NMFS-independent NEPA compliance obligations, which may be satisfied by either preparing a separate NEPA analysis for the issuance of the ITAs or, if appropriate, by adopting the FEIS prepared by FERC if, after independent review and evaluation, NMFS determines the FERC EIS adequately analyzes the environmental effects of the ITAs. Therefore, the purposes of this Record of Decision (ROD) are to announce and explain: (1) the determination to adopt the FERC FEIS to support NMFS' environmental review and analysis associated with issuance of ITAs to AGDC pursuant to Section 101(a)(5)(A) or (D) of the MMPA; and, (2) the determination to select the action alternative in the FEIS which includes issuance of regulations and a Letter of Authorization (LOA) and final Incidental Harassment Authorization (IHA) to AGDC for take of marine mammals incidental to LNG construction activities in Cook Inlet and Prudhoe Bay associated with the Alaska LNG Project pursuant to Sections 101(a)(5)(A) and (D) of the MMPA and 50 CFR 216.

<sup>1</sup> NMFS received two applications from Alaska Gasline Development Corporation associated with the Alaska Liquefied Natural Gas Project, one application is for proposed construction activities in Cook Inlet, and the other application is for proposed construction activities in Prudhoe Bay.

<sup>2</sup> 50 CFR 216 are the regulations promulgated by NMFS to govern take and import of marine mammals.

<sup>3</sup> Since the Notice of Intent for the EIS was published prior to September 14, 2020, the references to 40 CFR 1500-1508 throughout this document refer to the 1978 Council on Environmental Quality National Environmental Policy Act regulations.

<sup>4</sup> NOAA Administrative Order (NAO) 216-6A "Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and 13690, Floodplain Management; and 11990, Protection of Wetlands" issued April 22, 2016 and the Companion Manual for NAO 216-6A "Policy and Procedures for Implementing the National Environmental Policy Act and Related Authorities" issued January 13, 2017.



## II. BACKGROUND

### A. Alaska LNG Project Summary

AGDC submitted an application to FERC on April 17, 2017<sup>5</sup> for approval to site, construct, and operate an integrated LNG project with multiple interdependent facilities for liquefying supplies of natural gas from Alaska's North Slope. In summary, AGDC is proposing to construct and operate an 807-mile long pipeline connecting production fields in Prudhoe Bay to shipping terminals in Cook Inlet and converting the natural gas supply from the existing Point Thomson Unit (PTU) and Prudhoe Bay Unit (PBU) production field locations for export and in-state gas deliveries. The Alaska LNG Project will consist of construction and operation of pipelines and facilities on land and in the marine environment. The geographic scope of the Alaska LNG Project is also extensive, for example, construction is expected to occur over 35,000 acres of land and although AGDC would ultimately maintain about 8,507 acres for operation, FERC estimates about 16,069 acres of land would be permanently impacted. However, the primary locations of the Alaska LNG Project under consideration by and related to NMFS' jurisdiction and expertise are the coastal and in-water areas of Cook Inlet and Prudhoe Bay. See enclosure (1) for a map depicting the geographic scope of the Alaska LNG Project. The details of all aspects of the Alaska LNG Project summarized below are described in Volume I, Chapter 2 of the Alaska LNG FEIS, which correspond to the discussion of alternatives in Volume I, Chapter 3 of the FEIS.

- A liquefaction facility in Southcentral Alaska
- An 807-mile natural gas pipeline
- A new gas treatment plant (GTP) within the PBU production field
- A 63-mile transmission line connecting the GTP to the PTU gas production facility
- A 1-mile transmission line connecting the GTP to the PBU production field
- A Prudhoe Bay Unit Gas Transmission Line (PBTL) and a Point Thomson Unit Gas Transmission Line (PTTL)
- A natural gas pipeline, referred to as the "Mainline Pipeline" and the associated aboveground facilities, referred to as the "Mainline Facilities"

The proposed LNG facilities in Cook Inlet involve the marine terminal and the mainline crossing of Cook Inlet. The marine terminal will be constructed adjacent to the proposed onshore LNG plant near Nikiski and consists of a permanent product loading facility (PLF) and mainline and temporary material offloading facilities (MOF). The proposed PLF will include two loading platforms, two berths, a marine operations platform, and an access trestle to support the piping that delivers LNG from shore to LNG carriers and includes equipment to dock LNG carriers. The components of these activities analyzed for noise-related impacts to marine mammals included the PLF loading platforms and PLF berths located in natural water depths greater than 53 feet mean lower low water. The marine operations platform will support the proposed marine terminal building and access trestle that carries pipe rack, roadway, and walkway. The temporary MOF would be constructed using land-based and marine construction methods and will only be

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<sup>5</sup> Although AGDC submitted a formal application in 2017, the planning and efforts to support an application to FERC started in 2013. The details and timeline associated with AGDC's application and FERC's pre-application and environmental review processes is available on the Internet at: <https://alaska-lng.com/>, see Project Overview", "Regulatory Process", and "Presentations".

used during the construction of the Liquefaction Facility for deliveries of equipment modules, bulk materials, construction equipment, and other cargo to minimize the transport of large and heavy loads over road infrastructure. The mainline MOF is required to support installation of the Cook Inlet shoreline crossing and onshore construction between the South of Beluga Landing shoreline crossing and the Yentna River and would consist of anchored sheet pile walls backed by granular fill on the west side of Cook Inlet. The mainline crossing includes the installation of the natural gas pipeline across the inlet and construction of the mainline MOF on the west side of Cook Inlet. The offshore portion would be laid on the seafloor across Cook Inlet using conventional pipelay vessel methods and would likely employ 12 anchors to keep it positioned and provide resistance. Dynamic positioning may be used in addition to the conventional mooring system. AGDC also expects to use three anchor-handling tugs to reposition the anchors to maintain position and allow forward movement. All these activities would be conducted primarily at the site of the proposed marine terminal, the site of the mainline MOF, and within the construction right-of-way for the mainline crossing of Cook Inlet. AGDC plans to start construction for the pipeline and associated LNG facilities in calendar year (CY) 2020 and complete by the end of spring in CY 2025. Although the construction efforts are expected to take five years, AGDC is proposing to divide construction activities into phases, with all construction occurring between the months of April and October. Detailed explanations for AGDC's proposed construction activities in Cook Inlet are in section 2 of FERC's FEIS and in AGDC's LOA application, in section 1, pages 11-30.

The proposed facilities in Prudhoe Bay involve construction of an Alaska LNG GTP, a gas transmission line connecting the GTP to the PTU gas production facility, and a gas transmission line connecting the GTP to the Prudhoe Bay Unit gas production facility. The GTP would be constructed with large pre-fabricated modules that can only be transported to the North Slope with barges (sealifts). As such, an accessible and well-functioning dock facility would be required in Prudhoe Bay to receive these large modular components. Upgrades to dock and causeway infrastructure at West Dock are required for offloading the modules, and for transporting the modules to the GTP construction site. West Dock is a multipurpose facility, commonly used to offload marine cargo to support Prudhoe Bay oilfield development.

The components of the Prudhoe Bay activities analyzed for noise-related impacts to marine mammals include in-water pile driving associated with further development of various components of the West Dock facility in Prudhoe Bay, AK. Development of the dock facility would include constructing a new dock head referred to as Dock Head 4 (DH4), widening the gravel causeway between the proposed DH4 site and the onshore road system, and installation of a temporary barge bridge parallel to an existing bridge to accommodate transport of the modules over a breach in the causeway. AGDC plans to begin construction of the Prudhoe Bay components analyzed for impacts to marine mammals in 2023. AGDC anticipates completing the majority of the construction during the 2023 open water season (July through October) but has proposed a contingency period of February to April 2024 to complete any remaining work, as necessary. Detailed explanations for AGDC's proposed construction activities in Prudhoe Bay are in section 2 of FERC's FEIS, AGDC's application for an IHA, in section 1, pages 15-30, and in NMFS' notice of the proposed IHA (85 FR 43382).

#### B. Summary of AGDC ITA Requests Associated with the Alaska LNG Project

On April 18, 2017, AGDC submitted an initial application to NMFS for the take of marine mammals incidental to constructing LNG facilities in Cook Inlet associated with the Alaska LNG Project. After coordination with NMFS, AGDC submitted a revised application, which NMFS deemed adequate and complete on March 14, 2018 and published a Notice of Receipt (NOR) in the *Federal Register* (83 FR 15556) on April 11, 2018. Following the close of the public comment period on the NOR for AGDC's ITA request, NMFS determined the potential effects to marine mammals in Cook Inlet could result in Level A and Level B harassment, and therefore, qualifies for an authorization from NMFS. The harassment is primarily due to underwater sound from use of impact and vibratory pile driving associated with the PLF, marine terminal, and mainline and temporary MOF construction and anchor handling associated with mainline pipelay across Cook Inlet, specifically the anchor handling tugs during the anchor handling for the pipelay vessel. Although serious injury or mortality is not expected, since AGDC's construction activities in Cook Inlet are expected to last at least five years, an LOA is appropriate. Therefore, NMFS published a proposed rule for the consideration whether to issue regulations and an LOA to AGDC on June 28, 2019 (84 FR 30991) for public review.

On March 28, 2019, NMFS received an application from AGDC for take of marine mammals incidental to construction activities associated with the AK LNG project in Prudhoe Bay, AK. AGDC submitted revised applications on May 29, 2019; September 16, 2019; October 31, 2019, February 7, 2020; and February 25, 2020. The application was deemed adequate and complete on May 21, 2020. NMFS has preliminarily determined that vibratory and impact pile driving associated with the work at West Dock would introduce underwater sounds that may result in take, by Level A and Level B harassment of marine mammals. Serious injury or mortality is not expected to result from this activity and, therefore, an IHA is appropriate. NMFS published a proposed IHA for public review in the *Federal Register* on July 16, 2020 (85 FR 43382). The public comment period ended on August 17, 2020. NMFS reopened the public comment period, at the request of the Alaska Eskimo Whaling Commission (AEWC), from September 16, 2020 to November 16, 2020 (85 FR 57836, September 16, 2020). NMFS is reviewing and considering public comments, and making the required findings and final determinations under the MMPA and the environmental review required by NEPA. This ROD announces and explains NMFS' decision to select its action alternative (described below) which is consistent with the scope and extent of the Preferred Alternative (described below) selected by FERC for implementation.

### C. Development of the Environmental Impact Statement

FERC has authority over the siting, construction, and operation of onshore LNG facilities per Section 3(a) of the Natural Gas Act (NGA) and is the lead agency responsible for the development of the EIS. In 2018, FERC initiated the environmental review process and prepared a draft EIS to assess the anticipated environmental impacts of AGDC's proposal to construct and operate the Alaska LNG Project and to provide a basis for coordinated environmental review of each agency's decision(s) in a single EIS to avoid duplication among federal agencies in the NEPA process. Details about the environmental review process and development of the Alaska LNG Project EIS is in Volume I, Chapter 1 of the FEIS and on the Internet at <https://alaska-lng.com/regulatory-process/ferc-process/>.

NMFS served as a cooperating agency and participated in the development of the Alaska LNG Project EIS because the scope of the proposed action and alternatives included activities that

have the potential to impact marine resources for which NOAA has legal jurisdiction and special expertise. In this capacity, NMFS provided FERC input regarding the analysis of impacts to several resources, including designated critical habitat and threatened and endangered species listed pursuant to the Endangered Species Act (ESA); marine mammals pursuant to the MMPA; and Essential Fish Habitat (EFH) and fishery resources pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). In addition to NMFS, the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration, U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers, U.S. Coast Guard, Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, and U.S. Department of Energy all served as cooperating agencies assisting in the preparation of the Alaska LNG Project EIS.

FERC issued the Alaska LNG FEIS on March 6, 2020 and EPA published a Notice of Availability of the FEIS in the *Federal Register* on March 13, 2020 (85 FR 14677). As part of their review and decision-making processes, FERC considers environmental impacts related to construction and operation of LNG facilities, including impacts to NMFS trust resources, and the mitigation of those impacts, as disclosed in the FEIS. Therefore, the analysis in the FEIS supports FERC's planning-level decisions associated with their oversight and authority whether to approve the construction and operation of the Alaska LNG Project. For example, in the FEIS, FERC indicated they may issue their decision in the form of an Order and if the Project is approved, the Order would specify the LNG terminal and associated facilities can be constructed and operated under the authority of Section 3 of the NGA. FERC also indicated they can accept AGDC's application completely or in part, and can require conditions to assure mitigation measures are implemented by AGDC to reduce or avoid impacts to the environment. FERC Commissioners issued an authorization to AGDC to construct and operate the Alaska LNG Project on May 21, 2020 (<http://alaska-lng.com/wp-content/uploads/2020/05/20200521-3111-34088269-FERC-Order.pdf>). Explanations about the development of the Alaska LNG EIS is in Chapter 1, section 1.0 of the Alaska LNG Project Final EIS which is available for review on the Internet: <https://www.ferc.gov/industries-data/natural-gas/final-environmental-impact-statement-0>.

As explained below, NMFS, consistent with past practice, expressly explained in both the proposed rule for issuing the ITA for the Cook Inlet activities and the notice of proposed IHA for the Prudhoe Bay activities that it intended to adopt the FERC FEIS if, after independent review, NMFS determined the FEIS to be adequate. This ROD explains the basis for the adequacy review and determination.

### **III. PROPOSED ACTION AND ALTERNATIVES SUMMARY**

FERC's consideration whether to authorize AGDC's proposal to construct and operate LNG facilities in Alaska's Northern Slope and NMFS' consideration whether to issue ITAs to AGDC for take of marine mammals incidental to construction of the LNG facilities are major federal actions requiring FERC and NMFS to consider a reasonable range of alternatives and analyze the effects of their actions and alternatives pursuant to NEPA and 40 CFR 1500 -1508. However, NMFS' action to issue ITAs pursuant to the MMPA and FERC's action to authorize construction and operation of LNG facilities pursuant to the NGA are not the same, and therefore, considered

separate but connected actions per 40 CFR 1508.25(a)(1)<sup>6</sup>, with discrete purposes and needs and consideration of alternatives based on their respective statutory and regulatory obligations. NMFS's connected action – to issue ITAs – is coextensive with FERC's proposed action to authorize the AGDC project and the effects analysis to marine mammals in the FEIS therefore addresses the effects caused by NMFS's proposed ITA authorization. This section explains the purpose and need and considerations of reasonable alternatives for both FERC and NMFS.

#### A. Purpose and Need

FERC's purpose and need for reviewing AGDC's application is based on its statutory obligations under the Section 3 of the NGA, which requires FERC to consider, as part of its decision to authorize natural gas facilities, all factors bearing on the public interest. However, as explained in the Alaska LNG Project FEIS (see Chapter 1, section 1.1, page 1-3), FERC only reviews proposals developed by other entities and is not responsible for planning, designing, building or operating natural gas infrastructure. As such, FERC relied on the information provided by AGDC to identify the purpose of the Alaska LNG Project as well as the basis for its purpose and need and the alternatives selection criteria. AGDC's purpose for proposing the Alaska LNG Project is to commercialize natural gas resources of Alaska's North Slope by using and converting existing natural gas supply infrastructure as well as constructing new facilities for the export and in-state delivery of gas.

NMFS' purpose and need is based on its statutory obligations under section 101(a)(5)(A) and (D) of the MMPA. The purpose of issuing ITAs is to provide an exception to the take prohibition in the MMPA and to ensure that an applicant complies with the MMPA and its implementing regulations. ITAs may be issued as either: (1) regulations and associated LOAs under section 101(a)(5)(A) of the MMPA or (2) Incidental Harassment Authorizations under section 101(a)(5)(D) of the MMPA. AGDC submitted two applications to NMFS demonstrating the need and potential eligibility for two ITAs related to two components of AGDC's project. Thus NMFS had a corresponding duty to determine whether and how to authorize take of marine mammals incidental to the activities described in their applications. The purpose of NMFS' action is to evaluate AGDC's applications pursuant to the MMPA and issue the two requested ITAs, if appropriate. The need for NMFS' action is to consider the impacts of AGDC's activities on marine mammals and their habitat and ultimately authorize AGDC to take marine mammals incidental to its activities in compliance with the MMPA if section 101(a)(5)(A) or (D) are satisfied. NMFS' purpose and need is supported by the analysis in FERC's Alaska LNG FEIS for AGDC's proposed activities associated with the Alaska LNG Project.

#### B. FERC Proposed Action

Section 3 of the NGA gives FERC the authority to authorize siting, construction, and operation of onshore LNG terminals. In the case of the Alaska LNG Project, FERC also has jurisdiction over the mainline pipeline, GTP, PBTL, and PTTL. FERC may approve an application in whole or in part, and can include conditions that are enforceable actions to assure that the proper mitigation measures are implemented. FERC's proposed action is to authorize AGDC's request for the construction and operation of the Alaska LNG Project pursuant to Section 3(a) of the

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<sup>6</sup> Connected actions are those proposed Federal actions that are "closely related" and "should be discussed" in the same NEPA document 40 CFR 1508.25 (a)(1). Proposed actions are connected if they automatically trigger other actions that may require an EIS, cannot or will not proceed unless other actions are taken previously or simultaneously, or the actions are interdependent parts of a larger action and depend upon the larger action for their justification (40 CFR 1508.25 (a)(1) (i)-(iii)).

NGA and 18 CFR 153. The Alaska LNG Project would involve the construction and operation of gas treatment, pipelines, and liquefaction facilities summarized in section II, paragraph A. The detailed description of the Alaska LNG Project proposed for authorization by FERC is in Volume 1, Chapter 2 of the Final EIS pages 2-1 through 2-39.

### C. NMFS Proposed Action

Sections 101(a)(5)(A) and (D) of the MMPA give NMFS the authority to authorize the incidental but not intentional take of small numbers of marine mammals, provided certain findings are made and statutory and regulatory procedures are met. To authorize the incidental take of marine mammals, NMFS evaluates the best available scientific information to determine whether the take would have a negligible impact<sup>7</sup> on affected species or stocks and whether the activity would have an unmitigable adverse impact on the availability of the species or stocks for subsistence use (if applicable). NMFS cannot issue authorizations if it would result in more than a negligible impact on marine mammal species or stocks or would result in an unmitigable adverse impact on the species or stocks for subsistence uses. NMFS must also prescribe the permissible methods of take and other means of effecting the least practicable adverse impact on the species or stocks of marine mammals and their habitat, paying particular attention to rookeries, mating grounds, and other areas of similar significance. NMFS also prescribes additional requirements or conditions pertaining to monitoring and reporting.

NMFS' proposed action is issuing regulations and an LOA and a separate IHA to AGDC pursuant to Sections 101(a)(5)(A) and (D) of the MMPA, respectively, and 50 CFR 216 for AGDC's construction activities in Cook Inlet and Prudhoe Bay associated with the Alaska LNG Project. The final rule and LOA is valid from January 1, 2021 through December 31, 2025 and authorizes take by Level A Harassment and Level B Harassment of five species of marine mammals. The proposed IHA, which NMFS is likely to issue as final, will likely be effective from July 1, 2023 to June 30, 2024. The final IHA, if issued, will reflect changes to the proposed IHA made in response to public review and comment. Mortality or serious injury is not expected and is not being authorized by either ITA. Since NMFS' proposed action would authorize take of marine mammals incidental to a subset of the activities analyzed in the Alaska LNG Project FEIS, these components of FERC's proposed action are the subject of the NMFS' ITAs (i.e., proposed action).

### D. Alternatives Considered by FERC

The evaluation of alternatives under NEPA assists with understanding, and as appropriate, minimizing impacts through an assessment of alternative ways to achieve the purpose and need for a proposed action. Reasonable alternatives are carried forward for detailed evaluation while alternatives considered but determined not to meet the purpose and need are not carried forward. The factors that FERC considered in favoring the selection of the proposed action per 40 CFR 1505.2(b) is included in explanations below.

For the purposes of identifying reasonable alternatives for the Alaska LNG Project in the Final EIS, FERC established criteria for selecting alternatives. In summary, FERC determined an

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<sup>7</sup> NMFS defines "negligible impact" as "an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival." (50 CFR 216.103)

alternative will only meet its purpose and need if it satisfies the purpose of the Alaska LNG Project, is technically and economically feasible, but practical, and that implementation of an alternative would have to be preferable to the proposed action. “Preferable” means the alternative would have to offer a significant environmental advantage over the proposed action. Technically practical alternatives generally require the use of common construction methods, however, while an alternative that would require the use of a new, unique or experimental construction method may be feasible, it may not be technically practical because the required technology is not available or is unproven. Economically practical alternatives would result in an action that generally maintains the price-competitive nature of the proposed action. FERC does not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render the project economically impractical. To determine if an alternative provides a significant environmental advantage, FERC evaluated impacts to resources, including any impacts that may be unique to that alternative, then compared the impacts of the corresponding site of the proposed action. FERC also considered the degree of impact anticipated on each resource, then the overall environmental impacts and other relevant considerations to determine if an alternative would provide a significant environmental advantage over the proposed action. Accordingly, FERC determined an alternative must meet these criteria to be considered “reasonable” with an exception. While alternatives were reviewed against this evaluation criteria, FERC also applied this criteria in a specific order. If the alternative would not meet the Alaska LNG Project purpose or was not feasible, they did not apply the third criterion, (i.e., comparison of impacts of the alternative on resources to determine if the alternative provides a significant environmental advantage).

FERC’s alternatives analysis considered a no action alternative, three system alternatives, a range of site alternatives associated with liquefaction and gas treatment facilities, alternative delivery systems and docking stations, and alternative pipeline routes and designs, all of which were eliminated from further consideration based on the selection criteria and process described above. As a result of the alternatives analysis, FERC identified the proposed action as the preferred alternative carried forward for analysis. Since the explanations about alternatives, including reasons alternatives were eliminated from further consideration is lengthy, only the alternatives relevant to NMFS’ action and marine resources under our jurisdiction and expertise is summarized below. Refer to Volume 1, Chapter 3, pages 3-1 through 3-49 of the Alaska LNG Project Final EIS for the detailed explanations.

Preferred Alternative (Proposed Action) FERC’s preferred alternative is the proposed action, which is to authorize AGDC’s request for the construction and operation of the Alaska LNG Project, as modified to incorporate FERC recommendations, pursuant to section 3(a) of the NGA and 18 CFR 153. Under this alternative, AGDC would be authorized to construct and operate the Alaska LNG Project, as described in Volume I, Chapter 2, section 2.1.2 through section 2.6.3 in the Alaska LNG Project FEIS. FERC also determined that while several alternatives appeared to be technically feasible, none of the identified alternatives would provide a significant environmental advantage over the Alaska LNG Project. Based on the analysis of alternatives, FERC concluded the proposed action, as modified by the required mitigation measures contained in the FERC order granting authorization of the project (Docket No. CP17-178-000; May 20, 2020), is the preferred alternative that can meet the Alaska LNG Project purpose and objectives.

No Action Alternative Under the no action alternative the proposed facilities would not be constructed and the associated environmental impacts from the Alaska LNG Project would not occur. However, FERC explains the purpose of the Alaska LNG Project, (e.g., allow for the opportunity to commercialize the North Slope natural gas) would not be realized and in-state deliveries of natural gas through interconnections, would not be achieved and that if FERC denied AGDC's request for the Alaska LNG Project, AGDC or other applicants would likely develop a new project to transport gas from the North Slope for export and in-state delivery and because the infrastructure needed to transport similar gas volumes, the environmental impacts would likely be comparable to those of the Alaska LNG Project. Therefore, FERC concluded the "no action" alternative would not provide a significant environmental advantage over the Alaska LNG Project.

#### E. Alternatives Considered by NMFS

NMFS is also required to consider a reasonable range of alternatives to a proposed action in accordance with NEPA and 40 CFR 1502.14. For the issuance of an ITA under the MMPA, NMFS generally considers two alternatives. One is the no action alternative in which NMFS denies an applicant's request. The other is an action alternative in which it grants the applicants request and issues an ITA. The action alternative is considered the proposed action. The factors NMFS considered in favoring the selection of the proposed action and identifying an environmentally preferred alternative per 40 CFR 1505.2(b) is included in explanations below.

No Action Alternative For NMFS, declining to issue the requested ITAs to AGDC constitutes the NMFS No Action Alternative, which is consistent with our statutory obligation under the MMPA to grant or deny ITA requests. Since the underlying activities would not be carried out, as indicated in the Alaska LNG FEIS (Executive Summary, page ES-6), the requested take of marine mammals would not occur. NMFS considers the No Action Alternative to be the environmentally preferable alternative as negative impacts to marine mammals would be avoided. If no construction activities occur, no disturbance to marine mammals would occur from pile driving associated with construction of the LNG facilities and pipelines/transmission lines.

Proposed Action The other alternative NMFS considered was its Proposed Action, which called for issuance of ITAs to the applicant, AGDC, to authorize the requested incidental take subject to specified requirements, including mitigation, monitoring and reporting requirements. As part of this alternative, and through the public and agency review processes under NEPA and MMPA, NMFS considers a range of mitigation measures to carry out its duty to identify other means of effecting the least practicable adverse impact on the species or stocks that are the subject of the ITA requests. For AGDC's construction activities in Cook Inlet and Prudhoe Bay, these measures were initially identified in the proposed rule and LOA (84 FR 30991; June 28, 2019) and proposed IHA (85 FR 43382; July 16, 2020). They were modified for the final rule for the ITA related to the Cook Inlet construction activities and the *Federal Register* Notice and final IHA for the Prudhoe Bay construction activities in response to public comment and agency review. The Proposed Action alternative considered by NMFS is consistent with the Proposed Action (Preferred Alternative) evaluated by FERC, as it would provide the ITAs necessary to achieve the activities identified in that alternative and analyzed in the Alaska LNG Project FEIS.

Finally, NMFS' Proposed Action to issue ITAs to AGDC for construction activities associated with the Alaska LNG Project and FERC's Proposed Action (also the Preferred Alternative) effectively meet NMFS' stated purpose and need for acting. NMFS has an obligation to issue a requested ITA if certain statutory and regulatory determinations are made after providing for adequate public review and comment concerning the ITA request. Denying the application, as would be required under the No Action Alternative, would be contrary to NMFS' responsibilities, given the results of the analysis conducted under the MMPA, and would thus not support NMFS' ability to meet its purpose and need for acting.

#### **IV. FACTORS CONSIDERED IN THE DECISION**

The environmental consequences to the marine environment and protected resources are important to the evaluation leading to the decision to issue any given ITA. In particular, because NMFS' action is specific to authorizing incidental take of marine mammals, the key factors relevant to, and considered in the decision to issue an ITA, are related to NMFS' statutory authority under the MMPA. The key factors and findings analyzed and considered include:

##### **A. Analysis of Impacts to Marine Mammals-Including Acoustic Impacts**

Marine mammals under NMFS jurisdiction potentially affected by AGDC's proposed construction activities associated with the Alaska LNG Project include the bowhead whale, gray whale, humpback whale, fin whale, killer whale, beluga whale, harbor porpoise, Dall's porpoise, California sea lion, Steller sea lion, bearded seal, ringed seal, spotted seal, and the harbor seal. The biology and life history of these animals are adequately described in Volume 2, Chapter 4, section 4.6.3 of the Alaska LNG FEIS. The marine mammals under consideration for the rule and LOA for AGDC's construction activities in Cook Inlet only include humpback whale, beluga whale, killer whale, harbor porpoise, and harbor seal. Several other species included in the proposed rule, such as gray whale, fin whale, Dall's porpoise, California sea lion, and Steller sea lion, were excluded in the final rule because additional detailed analysis showed that these species are extralimital to the Cook Inlet portion of the Alaska LNG Project, therefore they are not likely to be affected. The marine mammals under consideration for the IHA in Prudhoe Bay include bowhead whale, gray whale, beluga whale, bearded seal, ringed seal, and spotted seal.

FERC and AGDC assessed impacts to marine mammals through acoustic exposure estimates and a qualitative assessment based on a review of literature, primarily on acoustic impacts to marine mammals. Using representative sound source characteristics from in-water pile driving and anchor handling, noise propagation models, and information regarding marine mammal occurrence, AGDC derived estimated marine mammal takes as the results of its proposed LNG facilities construction activities. These analyses can be found in AGDC's LOA application for construction activities in Cook Inlet in section 6, pages 43-70 and the IHA application for construction activities for Prudhoe Bay in section 6, pages 45-62 as well as AGDC's noise modeling reporting for Cook Inlet. In addition, FERC prepared a qualitative analysis on general noise impacts to marine mammals associated with AGDCs proposed construction activities associated with the Alaska LNG Project in Cook Inlet and Prudhoe Bay in the F EIS in section 4.8.1.3, pages 4-497 to 4-512.

## B. Analysis of NOAA Trust Resources

As a cooperating agency, NMFS has a duty to provide information relevant to all resources over which NOAA has legal jurisdiction and special expertise. This mandate is broad in scope as NOAA has jurisdiction by law and special expertise for multiple marine resources potentially affected by the Alaska LNG Project. Therefore, in addition to marine mammal impacts discussed above, the analyses of potential impacts to other NOAA trust resources associated with the Alaska LNG Project and how these are addressed by the lead agency are relevant to and have bearing on NMFS' consideration to issue an ITA to AGDC. Specifically, this included the following information.

- Effects on Threatened and Endangered Species and Critical Habitat FERC requested formal consultation with NMFS' Alaska Regional Office (AKRO) under section 7 of the ESA for AGDC's proposed construction activities in Cook Inlet and Prudhoe Bay identified in AGDCs ITA applications and discussed in the Alaska LNG Project F EIS. NMFS' Office of Protected Resources Permits and Conservation Division (PR1) also requested initiation of formal consultation with AKRO on the proposed issuance of regulations and LOA and the proposed issuance of an IHA for take of marine mammals incidental to construction activities in Cook Inlet and Prudhoe Bay, respectively. The Biological Opinion issued on June 3, 2020, addresses both FERC's and NMFS' action associated with the underlying activity, which is ADGC's proposed construction activities. The accompanying Incidental Take Statement for marine mammals covers the same period as the Cook Inlet ITA (January 2021 through December 2025 for the Cook Inlet) and applies to the July 2023 through June 2024 time period for the Prudhoe Bay IHA. The Biological Opinion concludes that NMFS' issuance of the Cook Inlet rule and LOA and Prudhoe Bay IHA for take associated with AGDC's construction activities analyzed in these ITAs is not likely to jeopardize the continued existence of threatened or endangered marine mammal species, and are not likely to result in the destruction or adverse modification of critical habitat in the Cook Inlet and Prudhoe Bay areas, during any single year or as a result of the cumulative impacts of annual authorizations. The Biological Opinion also includes an explanation of how the results of NMFS' baseline and effects analyses in Biological Opinions relate to those contained in the Cumulative Impacts section (Chapter 4) of FERC's Alaska LNG Project FEIS. In particular, these analyses consider the effects resulting from interactions of potential stressors, thereby augmenting the cumulative impacts analysis in FERC's Alaska LNG FEIS.
- Effects on Fisheries Resources and Essential Fish Habitat FERC determined the Alaska LNG Project may adversely affect Essential Fish Habitat (EFH) and initiated EFH consultation with NMFS' AKRO to mitigate impacts. AKRO conducted a thorough review of the project, provided final EFH Conservation Recommendations on May 23, 2019, and concluded the EFH consultation on September 23, 2019. FERC also identified and addressed EFH in the Alaska LNG Project FEIS and the EFH assessment is included as Appendix M.

## C. New or Additional Information

In the preparation of the Alaska LNG EIS, FERC relied on the *Alaska Marine Mammal Stock Assessment, 2018* published in 2019 (Muto et al., 2019). The FEIS acknowledges that the beluga whale population in Cook Inlet is decreasing, and cited the minimum population

estimate of Cook Inlet beluga whales to be 287 animals and the average of the beluga whale population to be 312 animals, based on the 2018 stock assessment. On January 28, 2020, NMFS Alaska Fisheries Science Center (AFSC) released an updated population estimate for Cook Inlet beluga whales to be between 250 and 317, with a median estimate of 279 animals. The estimated number of Cook Inlet beluga whale Level B harassment takes, based on density derived from long-term aerial survey data, ensonified area from in-water pile driving, and number of pile driving days, is 25 animals per year. This translates to 8.96% of the population based on the revised population information from AFSC and 8.01% based on previous population estimate from the 2018 stock assessment. The level of impact based on new information is not different from what was analyzed in the Alaska LNG FEIS and AGDC's application based on the 2018 stock assessment. The estimated take is the same (25 animals/year). The percentage of take of the population is slightly higher due to population decline. However, both analyses point to a level of take that is under 10% of the population, which is not noticeably different or inconsistent with what was analyzed in the FEIS. In addition, the estimated population size and decline rate does not change NMFS' determinations that the effects of AGDC's proposed activities on individual beluga whales will continue to be limited to intermittent, localized impacts in the form of Level B harassment (behavioral harassment only) and their habitat. Beluga whales present in the vicinity of the action area and potentially taken by Level B harassment would most likely show overt brief disturbance (startle reaction) and avoidance of the area from elevated noise levels during pile driving. Mitigation measures such as dedicated marine mammal observers monitoring for animals and pre-construction exclusion zone clearance, including soft-start and shutdown when marine mammals are seen within the exclusion zones, are expected to reduce short-term reactions and minimize any effects on hearing sensitivity of these animals. In all cases, the effects of AGDC's construction activities are expected to be short-term, with no lasting biological consequence. NMFS' issuance of regulations and an LOA to AGDC for construction activities associated with the Alaska LNG Project in Cook Inlet is not expected to cause any significant effects on the human environment, and particularly to the Cook Inlet beluga whale stock, even with the new abundance estimate.

Based on consideration of the new data presented regarding abundance and population trends for Cook Inlet beluga whales, NMFS determined this does not involve significant new environmental information or substantially change NMFS' Proposed Action or the impacts to marine mammals analyzed in the Alaska LNG Project FEIS and therefore, does not require further environmental review per 40 CFR 1502.9(c).

On January 8, 2021, NMFS published a proposed rule for the Designation of Critical Habitat for the Beringia Distinct Population Segment of the Bearded Seal (86 FR 1433). The proposed designation under the ESA, comprises an area of marine habitat in the Bering, Chukchi, and Beaufort seas. The proposed critical habitat overlaps with the Level A and Level B harassment zones associated with project area in Prudhoe Bay. The notice of the final Prudhoe Bay IHA, if issued, will address this proposed critical habitat in detail.

On January 8, 2021, NMFS also published a revised proposed rule for the Designation of Critical Habitat for the Arctic Subspecies of the Ringed Seal (86 FR 1452). This proposed rule revises NMFS' December 9, 2014, proposed designation of critical habitat for the Arctic subspecies of the ringed seal under the ESA. The revised proposed designation comprises an area of marine habitat in the Bering, Chukchi, and Beaufort seas. Based on consideration of

national security impacts, NMFS' also proposes to exclude a particular area north of the Beaufort Sea shelf from the designation. The proposed critical habitat overlaps with the Level A and Level B harassment zones associated with project area in Prudhoe Bay. The notice of the final Prudhoe Bay IHA, if issued, will address this proposed critical habitat in detail.

## V. ENVIRONMENTAL REVIEW SUMMARY AND ADOPTION

40 CFR 1506.3 and NOAA policy and procedures for implementing NEPA provide for NMFS to adopt a lead agency EIS. Specifically, when NMFS, as a cooperating agency, reviews the lead agency's EIS and determines that it is sufficient and adequately addressed NOAA comments and suggestions, NOAA may adopt the EIS without recirculating it (40 CFR 1506.3(c)).

NMFS, on behalf of NOAA, served as a cooperating agency and participated substantially and meaningfully in the NEPA process, including preparation of the draft and final EIS to ensure the EIS included adequate information and evaluation of the impacts on marine resources, including marine mammals, associated with AGDC's construction activities. NMFS independently reviewed the FEIS for the Alaska LNG Project and determined FERC adequately evaluated the direct, indirect, and cumulative impacts of their proposed action and alternatives on marine resources. This evaluation included a detailed review of potential impacts on marine mammals under NMFS jurisdiction, marine mammal acoustic exposure impacts, and identification of monitoring and mitigation measures. As part of our independent review, NMFS determined the Alaska LNG FEIS to be comprehensive in analyzing the scope of AGDC's proposed construction activities and that the evaluation of the direct, indirect, and cumulative impacts on the marine resources under NOAA's jurisdiction is adequate to support NMFS required evaluation for issuance of ITAs to AGDC. This includes the issuance of regulations and an LOA to AGDC for construction activities in Cook Inlet as well as issuance of the requested IHA to AGDC for construction activities in Prudhoe Bay. NMFS also concludes that the impacts evaluated in the Alaska LNG FEIS are substantially the same as the impacts that NMFS must analyze under its proposed action to authorize take of marine mammals incidental to AGDC's construction activities for the Alaska LNG Project. FERC's FEIS also addresses NOAA-required components for adoption because it meets the requirements for an adequate EIS per 40 CFR 1500 - 1508 and NOAA policy and procedures and reflects comments and expert input provided by NMFS as a cooperating agency. For example, the FEIS for the Alaska LNG Project covers or includes the following information:

- the scope of NMFS' proposed action, alternatives and environmental impacts,
- a discussion of the lead agency's proposed action and purpose and need for the action,
- a reasonable range and evaluation of alternatives to the proposed action, including the no action alternative,
- a description of the affected environment, including the status of all marine mammal species likely to be affected,
- an adequate evaluation of the direct, indirect, and cumulative impacts on marine mammals and the marine environment, including species listed under the ESA and projected estimates of take,
- an adequate evaluation of the direct, indirect, and cumulative impacts to other NOAA

trust resources, as applicable,

- identification and evaluation of reasonable mitigation measures to avoid or minimize adverse impacts to marine mammals, including species listed under the ESA and other NOAA trust resources, as applicable,
- an adequate discussion of the authorization process under the MMPA necessary to support implementation of the action. As applicable, adequate discussions of other statutes and consultations in NOAA's purview,
- the content of the EIS meets standards established by NEPA and 40 CFR 1502.10, and
- NOAA comments and suggestions were satisfied per 40 CFR 1506.3(c) and FERC provided NOAA a formal explanation why comments were not incorporated, as appropriate.

As a cooperating agency, NMFS was instrumental in providing information related to the occurrence of impacts to marine resources over which it exercises legal jurisdiction and has special expertise, including marine mammals. Per the cooperating agency commitment, FERC provided NMFS with preliminary versions of the draft and final EIS documents for review, and NMFS provided comments in support of the analysis regarding areas of NOAA's subject matter expertise and jurisdiction. NMFS also circulated the draft and final documents to relevant NOAA offices and programs, compiled comments received, and submitted them to FERC. Subsequently, FERC and NMFS participated in comment resolution discussions, in which FERC addressed NOAA-related comments or resolved any outstanding issues. As indicated in section IV, paragraphs A-B in this document, NMFS is also satisfied the marine resources potentially affected by the Alaska LNG Project were adequately addressed in the FEIS.

Based on our determination of the sufficiency of the FEIS for the Alaska LNG Project and the adequacy FERC's incorporation of NOAA-related comments and concerns, NMFS, on behalf of NOAA, has decided to adopt the document without the need for recirculation in accordance with 40 CFR 1506.3(c).

## **VI. PUBLIC INVOLVEMENT SUMMARY**

The public had opportunities to review and comment during the development of FERC's draft and final EIS for the Alaska LNG Project and at public meetings. From October 2014 through January 2015, AGDC held 14 open houses in Nikiski, Tyonek, Anchorage, Healy, Nenana, Minto, Barrow, Fairbanks, Trapper Creek, Wasilla, Houston, Nuiqsut, Kaktovik, and Anaktuvuk Pass, Alaska. On March 4, 2015, FERC published a Notice of Intent to prepare the EIS for the Alaska LNG Project and provided a nine-month public scoping period for the submission of comments, concerns, and issues related to environmental aspects of the Alaska LNG Project. In October 2015, FERC issued two supplemental Notices of public scoping meetings for the Alaska LNG Project to notify the communities and relevant stakeholders about the planned scoping meetings. During the fall of 2015, FERC held 12 public scoping meetings to inform the various communities about FERC's environmental review process and gather key comments and concerns from the communities in the Project area that should be addressed in the EIS. On July 27, 2016, FERC issued a Supplemental Notice Requesting Comments on the Denali National Park and Preserve (DNPP) Alternative for the Alaska LNG Project. The Notice was issued to

solicit feedback from the public and agencies regarding the Denali Alternative, which passes directly through the DNPP entrance area and is closely aligned with the Park's Highway. After issuing a Notice of Availability of the Draft EIS on June 28, 2019, FERC held eight public hearings. Refer to Volume 1, Chapter 1, and Appendices A and CC of the Alaska LNG Project FEIS for information on all the public outreach efforts and comments received during the public involvement process.

NMFS also relied on the public process pursuant to the MMPA to develop and evaluate environmental information relevant to an analysis under NEPA, which included publication of the NOR of AGDC's application and the proposed rule, giving the public an opportunity to submit comments on NMFS' proposed action to issue regulations and a LOA to AGDC for construction activities in Cook Inlet. In addition, in the proposed Cook Inlet rule (84 FR 30991; June 28, 2019), NMFS indicated it planned to adopt the Alaska LNG Project FEIS, provided NMFS' independent evaluation found it included adequate information analyzing the effects to the marine environment. During the 30-day public comment period on the proposed rule for AGDC's proposed construction activities in Cook Inlet, NMFS received comments from the Marine Mammal Commission and several Non-Governmental Organizations<sup>8</sup>. In general, the comments received were about concerns over the potential cumulative impacts of the Alaska LNG Project and NMFS' preliminary negligible impact determination, proposed mitigation and monitoring measures, harassment thresholds and the small numbers and estimated take analyses. NMFS considered all comments received in response to the publication of the proposed rule and used these comments to inform the analysis under the MMPA and to develop mitigation, monitoring, and other conditions for the final rule. NMFS' responses to substantive comments were included in the final rule (85 FR 50720; August 27, 2020).

A notice of NMFS's proposal to issue the Prudhoe Bay IHA to AGDC was published in the *Federal Register* on July 16, 2020 (85 FR 43382). That notice described, in detail, AGDC's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. In addition, NMFS indicated in the notice that it planned to adopt the Alaska LNG Project FEIS, provided NMFS' independent evaluation found it included adequate information analyzing the effects to the marine environment. During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission, AEWC, the Center for Biological Diversity (CBD), the Pipeliners Union 798 United Association and its members, and a member of the general public. NMFS reopened the public comment period, at the request of the AEWC, from September 16, 2020 to November 16, 2020 (85 FR 57836, September 16, 2020). During the reopened comment period, NMFS received letters from the AEWC and the North Slope Borough (NSB), an additional reference from the CBD, and another comment from a member of the public. In general, substantive comments were related to the scope of the IHA, suggested monitoring and mitigation measures, concerns about potential impacts to subsistence hunts and outreach to subsistence communities, adoption of FERCs EIS, Level A harassment take, sound source level recommendations, and concerns about potential for renewal of the IHA. NMFS is considering all comments received in response to the publication of the notice of the proposed IHA, and is using these comments to inform the analysis under the MMPA and to develop mitigation, monitoring, and other conditions for the final IHA. NMFS'

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<sup>8</sup> This included the Center for Biological Diversity, Cook Inlet Keeper, Friends of Animals, Environmental Investigation Agency, and the Defenders of Wildlife.

responses to substantive comments will be included in the notice of the final IHA. NMFS also considered these comments as part of its NEPA environmental review responsibilities and they have informed the decision making process explained in this ROD.

## VII. CONDITIONS –MITIGATION, MONITORING AND REPORTING

NMFS does not authorize the construction activities proposed by AGDC, however, NMFS does authorize the incidental take of marine mammals under its jurisdiction in connection with these activities and prescribes, where applicable, the methods of taking and other means of effecting the least practicable impact on the species and stocks and their habitats. NMFS issuance of any given ITA is conditioned upon reporting requirements and the implementation of mitigation and monitoring designed to reduce impacts to marine mammals to the level of least practicable adverse impact. Mitigation measures were analyzed in the Alaska LNG Project FEIS for AGDCs construction activities in Cook Inlet and in Prudhoe Bay (see Volume 2, Chapter 4, section 4.6 of the FEIS). However, for the issuance of regulations and an LOA to AGDC for construction activities in Cook Inlet and issuance of an IHA to AGDC for construction activities in Prudhoe Bay, the conditions, summarized below, are described in more detail in the Mitigation and Monitoring and Reporting sections of the final rule (85 FR 50720; August 27, 2020). These are also incorporated in the Marine Mammal Monitoring and Mitigation Plans (4MPs) prepared by AGDC for each project to support their applications for the ITAs. The 4MPs are specific to AGDC's proposed in-water construction activities planned for the Cook Inlet and Prudhoe Bay areas. The 4MPs include additional measures beyond what are considered in the Alaska LNG Project FEIS and will provide for additional protection to marine mammals. For example, the Cook Inlet 4MP includes prohibition of in-water pile driving in the western portion of Cook Inlet between June 1 and September 7, and the Prudhoe Bay 4MP includes the experimental use of night-vision and infrared devices for marine mammal monitoring during low-visibility conditions. The goal of the 4MPs is to define procedures and practices to comply with the MMPA and ESA during in-water construction activities in Cook Inlet and Prudhoe Bay and are generally designed to avoid or minimize adverse effects to species.

### A. Mitigation Requirements

Time/Area Restrictions. For Cook Inlet pile driving, work would occur only during daylight hours, when visual monitoring of marine mammals can be conducted. Other construction activities, such as pipe laying, anchor handling, and dredging could occur outside of daylight hours or during periods of low visibility. In addition, pile driving associated with the Mainline Material Offloading Facility (Mainline MOF) will not occur from June 1 to September 7 (pile driving can occur from September 8 to May 31). In addition, AGDC will not engage in in-water sound-producing activities within 10 miles (16 km) of the mean higher high water (MHHW) line of the Susitna Delta (Beluga River to the Little Susitna River) between April 15 and October 15 for activities with underwater noise levels in excess of 120 dB rms re 1 $\mu$ Pa @ 1 m.

For Prudhoe Bay construction, pile driving activities must cease during the entirety of the Nuiqsut whaling season (approximately August 25 – September 15). Additionally, if pile driving is necessary during the February to April contingency period, AGDC must begin pile driving prior to March 1.

Pile Driving During the Prudhoe Bay Contingency Period- In the event that AGDC must continue pile driving or removal during their contingency period (February- April 2024), AGDC must begin pile driving before March 1, the known onset of ice seal lairing season. Additionally, a subsistence advisor will survey areas within a buffer zone of DH4 where water depth is greater than 10 ft. (3 m) to identify potential ringed seal structures before activity begins. Construction crews must avoid identified ice seal structures by a minimum of 500 ft. (150 m).

Plan of Cooperation- AGDC must conduct the communication and coordination with subsistence groups as described in the Plan of Cooperation.

Pre-activity Monitoring- Prior to the start of daily in-water construction activity, or whenever a break in pile driving or removal of 30 minutes or longer occurs, protected species observers (PSOs) will observe the shutdown and monitoring zones for a period of 30 minutes. If a marine mammal is observed within the shutdown zone, a soft start (see below) cannot proceed until the animal has left the zone or has not been observed for 15 minutes (pinnipeds) or 30 minutes (cetaceans).

Establishing and Monitoring Level A and Level B Harassment Zones, and Exclusion Zones. For the Cook Inlet and Prudhoe Bay ITAs, before the commencement of in-water construction activities, which include impact pile driving and vibratory pile driving, AGDC will establish Level A harassment zones where received underwater levels could cause PTS. AGDC will also establish Level B harassment zones where received underwater SPLs are higher than 160 dBrms re 1  $\mu$ Pa for impulsive noise sources (impact pile driving) and 120 dBrms re 1  $\mu$ Pa for non-impulsive noise sources (vibratory pile driving). For Cook Inlet, NMFS requires AGDC to establish specific shutdown zones for low frequency cetaceans (i.e., bowhead, humpback, fin, and gray whales), mid-frequency cetaceans (i.e., beluga and killer whales), high frequency cetaceans (harbor and Dall's porpoises) and phocids ( i.e., bearded seal, ringed seal, spotted seal, and harbor seal). Operations will not resume until the marine mammal has exited the shutdown zone or 30 minutes have elapsed for large cetaceans or 15 minutes have elapsed for small cetaceans and pinnipeds since the last sighting.

Soft Start. For the Cook Inlet and Prudhoe Bay ITAs, AGDC will implement soft start techniques for impact pile driving. Soft start will be required for any impact driving, including at the beginning of the day, and at any time following a cessation of impact pile driving of thirty minutes or longer.

Shutdown Measures. For the Cook Inlet and Prudhoe Bay ITAs AGDC will implement shutdown measures if a marine mammal is detected moving towards or has entered the relevant shutdown zone. Further, AGDC will implement shutdown measures if the number of authorized takes for any particular species reaches the limit under the LOA or IHA and such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during in water construction activities. If visibility degrades to where a PSO determines that they cannot effectively monitor the entire shutdown zone during pile driving, the applicant may continue to drive the pile section that was being driven to its target depth when visibility degraded to unobservable conditions, but will not drive additional sections of pile. For Cook Inlet, shutdown of pile installation will be considered if the Level A harassment zone cannot be

adequately monitored due to inclement weather. Pile driving in Prudhoe Bay may continue during low light conditions to allow for the evaluation of night vision and infrared sensing devices.

Noise Attenuation. For pile-driving at the mainline MOF near the Beluga River, and on the east side of Cook Inlet near Nikiski associated with the liquefaction facility, AGDC must deploy air bubble curtains around piles. If the sound source verification (SSV) measurements indicate that the best-performing bubble curtain configuration provides less than a 2 dB reduction in in-water sound beyond the bubble curtain, use of the bubble curtain may be discontinued. NMFS determined it was necessary to require AGDC to conduct SSV for pile driving to get a better understanding of take associated with noise levels, and use of the air bubble curtain if the reduction of noise level is greater than 2 dB, based on SSV results. These measures, not initially prescribed in the proposed rule published for public review are aimed to provide additional protection to marine mammals that may be present in the vicinity of pile driving during construction activities. However, these changes to require additional mitigation are not inconsistent with what was analyzed in the Alaska LNG Project Final EIS and does not substantially change NMFS' proposed action, and therefore, do not require further environmental review per 40 CFR 1502.9(c).

#### B. Monitoring Requirements

AGDC will employ NMFS-approved, trained PSOs to conduct marine mammal monitoring for its AK LNG Project. The purposes of marine mammal monitoring are to implement mitigation measures and learn more about impacts to marine mammals from AGDC's construction activities.

In Prudhoe Bay, PSOs must monitor 24 hours per day from shore, even during periods within the construction activity period when construction is not underway. Monitoring must begin three days prior to the start of pile driving, and continue for three days after all pile driving is complete for the season. Prudhoe Bay PSOs will use night vision devices (NVDs) and infrared technology (IR) for nighttime and low visibility monitoring, and must record visibility conditions every 30 minutes throughout construction using land-based reference landmarks.

AGDC must conduct SSV, for purposes of measuring sound source levels and sound propagation, in accordance with accepted methodology as described in an Acoustic Monitoring Plan, which AGDC must develop after its contractor is selected. AGDC must conduct sound source verification for the number of each pile type and size indicated in the approved plan.

AGDC must deploy three hydrophones during the open-water season to monitor for marine mammals, beginning three days prior to the start of pile driving, and continuing for three days after completion of pile driving, in accordance with the 4MP and the Acoustic Monitoring Plan referenced above. Should construction be required during ice-cover, AGDC must deploy one hydrophone located in between the 2,200 m and 4,700 m zones, perpendicular to the pile driving site.

#### C. Reporting Requirements

For the Cook Inlet ITA, AGDC is required to submit annual reports within 90 days after each activity year (April 1 - October 31), starting from the date when the LOA is issued (for the first annual report) or from the date when the previous annual report ended. These reports would detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed during the period of the report. AGDC is also required to submit a draft monitoring report within 90 days after completion of the construction work or the expiration of the LOA, whichever comes earlier. This report would synthesize all data recorded during marine mammal monitoring and estimate the number of marine mammals that may have been harassed through the entire Alaska LNG Project.

For the Prudhoe Bay ITA, AGDC will be required to submit a draft report on all marine mammal monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal and acoustic monitoring or sixty days prior to the issuance of any subsequent IHA for this project, whichever comes first. A final report shall be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report would detail the construction activities that occurred, synthesize all data recorded during marine mammal monitoring and estimate the number of marine mammals that may have been harassed throughout the project period. The acoustic monitoring report will include sound source verification data, marine mammal passive acoustic monitoring detections, and acoustic monitoring equipment information.

For both the Cook Inlet and Prudhoe Bay ITAs, NMFS would require AGDC to notify NMFS' Office of Protected Resources and NMFS' Alaska Stranding Coordinator if an injured or dead marine mammal is sighted at the construction site or the surrounding area under certain circumstances.

## **VIII. DECISIONS AND CONCLUSIONS**

Based on the information presented herein along with AGDC's application and the analysis in the Alaska LNG Project FEIS prepared by FERC and the proposed and final rules and notice of proposed IHA prepared by NMFS and the public comments submitted in these processes relative to impacts on marine mammals and marine habitats, NMFS' decision is to issue regulations and an LOA and Final IHA to AGDC for take of marine mammals incidental to construction in Cook Inlet and Prudhoe Bay associated with the Alaska LNG Project. The issuance of the rule and LOA and IHA would allow for the taking of marine mammals, consistent with provisions under sections 101(a)(5)(A) and (D) of the MMPA and incidental to the applicant's lawful activities.

Through participating as a cooperating agency during the development of the Alaska LNG Project EIS for the Alaska LNG Project, NMFS considered the goals and objectives of NMFS' purpose and need associated with the issuance of ITAs to AGDC and determined FERC analyzed alternatives that adequately addresses the scope of NMFS' proposed action. NMFS supported the analysis of the environmental consequences of the proposed action (preferred alternative) and the mitigation measures as required under NEPA and the MMPA and concluded the impacts evaluated in the Alaska LNG Project FEIS are substantially the same as the impacts NMFS must analyze under its proposed action to authorize take of marine mammals incidental to AGDC's construction activities. NMFS has also determined that FERC adequately addressed its cooperating agency comments in the FEIS. While the proposed and final rule and the notice of

the proposed IHA contain additional and/or updated analyses regarding the effects of the respective project activities on marine mammals and the notice of the final IHA, if issued, may also contain additional or updated analysis, NMFS has determined that the additional/updated information is not substantial or significant such that the FEIS needs supplementation.

Based on the foregoing explanation, including evaluation of the proposed action, reasonable range of alternatives, assessment of effects to marine mammals and marine habitat in the Alaska LNG Project FEIS, NMFS has determined the FEIS meets all the requirements for an adequate EIS per 40 CFR 1500 -1508 and reflects comments and expert input provided by NMFS. For these reasons, and in accordance with 40 CFR 1506.3, this ROD also documents NMFS' decision to adopt the FEIS for the Alaska LNG Project to support its independent NEPA obligations for its proposed action, issuance of ITAs to AGDC pursuant to Sections 101(a)(5)(A) and (D) of the MMPA. This includes the issuance of the regulations and LOA and Final IHA to AGDC for LNG construction activities in Cook Inlet and Prudhoe Bay respectively. Supplementation of the FEIS and recirculation is not warranted.

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Donna S. Wieting  
Director, Office of Protected Resources  
National Marine Fisheries Service

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Date

Map Depicting Geographic Scope of the Alaska LNG Project<sup>9</sup>



Figure 1-1  
Alaska LNG Project  
Project Overview

<sup>9</sup> Extracted from Section 1.0 of the Alaska LNG Project Final EIS