

RECORD OF DECISION
ISSUANCE OF LETTERS OF AUTHORIZATION TO PORT DOLPHIN ENERGY LLC
TO TAKE MARINE MAMMALS INCIDENTAL TO CONSTRUCTION AND OPERATION
OF A DEEPWATER LIQUEFIED NATURAL GAS PORT

National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Protected Resources
Silver Spring, Maryland

As required by the National Environmental Policy Act (NEPA), this document comprises the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service's (NMFS) Record of Decision (ROD) for issuance of 5-year regulations and letters of authorization (LOAs) pursuant to section 101(a)(5)(A) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1361 *et seq.*) to the Port Dolphin Energy LLC (Port Dolphin) for the taking, by Level B harassment, of small numbers of two species of marine mammals incidental to construction and operation of a deepwater liquefied natural gas (LNG) port in the Gulf of Mexico offshore from Tampa Bay, Florida.

Introduction

In February, 2011, NMFS received a complete application from Port Dolphin requesting a 5-year rulemaking and issuance of subsequent LOAs, under section 101(a)(5)(A) of the MMPA, to take small numbers of two species of marine mammals, by Level B harassment, incidental to construction and operation of a deepwater LNG port in the Gulf of Mexico offshore from Tampa Bay, Florida. The 5-year regulations and LOAs would cover construction of the port, expected to require approximately one year, and four subsequent years of port operations, from approximately June 2013 through May 2018.

The U.S. Coast Guard and Maritime Administration (lead federal agencies responsible for licensing of the deepwater port) prepared a *Final Environmental Impact Statement on Port Dolphin LLC Deepwater Port License Application* (FEIS). The NMFS Office of Protected Resources (PR) has reviewed the information contained in the FEIS and determined that the FEIS accurately and completely describes the proposed action alternative, reasonable additional alternatives, and the potential impacts on marine mammals, endangered species, and other marine life that could be impacted by the proposed action and the other alternatives.

Because noise generated during construction and operation of the port has the potential to disrupt the behavior patterns of marine mammals in the vicinity, an incidental take authorization is warranted under the MMPA. Therefore, NMFS participated as a cooperating agency in the preparation of the Draft and Final EISs, and this ROD has been prepared in accordance with NMFS' decision-making requirements under NEPA and is intended to: (a) state the NMFS decision, present the rationale for its selection, and describe its implementation; (b) identify the alternatives considered in reaching the decision; and (c) state whether all practicable means to avoid or minimize environmental harm from implementation of the selected alternative have been adopted (40 CFR 1505.2).

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1361 *et seq.*) directs the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and regulations are prescribed setting forth the permissible methods of taking pursuant to the specified activity, other means of effecting the least practicable adverse impact on the species or stock and its habitat, and requirements pertaining to the monitoring and reporting of such taking. Under the MMPA, permission shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses. NMFS has defined “negligible impact” in 50 CFR 216.103 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.”

Decision to Be Made

This ROD documents the decision by NOAA NMFS to issue 5-year regulations and LOAs to Port Dolphin for harassment of marine mammals incidental to construction and operation of the port, based on the FEIS, Port Dolphin’s application for an authorization, NMFS’ analysis, and comments received on the proposed rulemaking. The final rule and LOAs are specific to the proposed action alternative in the FEIS. This ROD is based on and incorporates the FEIS, Port Dolphin’s application for an authorization under the MMPA, and all of NMFS’ analytical documents prepared for this action.

Pursuant to the requirements of NEPA, a notice of intent to prepare an EIS was published in the *Federal Register* on July 12, 2007. The action proponents conducted public scoping and released a notice of availability of a draft EIS for public comment on April 18, 2008. Comments submitted during this period, as well as at public hearings, were considered during the development of the FEIS. After careful review of the proposed measures and the associated analyses in the FEIS and the public comments that NMFS received on the proposed rulemaking *Federal Register* notice, NMFS has decided to finalize the rulemaking and issue an LOA to Port Dolphin, provided that mitigation, monitoring, and reporting requirements described below and analyzed in the FEIS are incorporated.

Alternatives Considered by NMFS

NMFS’ proposed action (issuance of a final rule and LOAs to Port Dolphin) would establish a framework for authorizing the take of marine mammals incidental to a subset of the activities analyzed in the EIS that are anticipated to result in the take of marine mammals, i.e., activities that produce underwater sound. Thus, these components of the proposed action are the subject of NMFS’ proposed MMPA regulatory action. The EIS contains a thorough analysis of the environmental consequences of Port Dolphin’s proposed action on the human environment, including specific sections addressing the effects of underwater sound on marine mammals and describing mitigation measures designed specifically for marine mammals.

NMFS was a cooperating agency in the development of the EIS. This allowed NMFS to ensure that the necessary information and analyses were included in the EIS to support NMFS’

proposed action and allow for adoption of the document for NMFS' NEPA purposes. In adopting the EIS, NMFS considered two alternatives, as well as the No Action Alternative. The following briefly summarizes these alternatives:

Alternative 1: NMFS issues a final rule and LOAs authorizing take of marine mammals incidental to activities described in Port Dolphin's preferred alternative, with the mitigation, monitoring and reporting measures presented in the EIS.

Alternative 2: NMFS issues a final rule and LOAs authorizing take of marine mammals incidental to activities described in Port Dolphin's preferred alternative, but with additional mitigation requirements for marine mammals, potentially including additional measures developed by NMFS or suggested to NMFS via public comment on the proposed rulemaking.

No Action: NMFS would not issue a final rule and LOAs to Port Dolphin for the take of marine mammals incidental to activities described in the preferred alternative.

Alternatives Considered in the EIS

The Deepwater Port Act of 1974 requires the Secretary of Transportation to approve, approve with conditions, or deny a deepwater port license application. Consistent with NEPA, in determining the provisions of the license, the Secretary of Transportation must also consider alternative means to construct and operate a deepwater port. Alternatives for a natural gas deepwater port can extend to matters such as its specific location, methods of construction, and technologies for regasifying LNG. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. Consistent with NEPA, the FEIS considered impacts to marine mammals and their habitats associated with each alternative considered.

Screening of alternatives was conducted in several steps. First, the conceptual design of the deepwater Port was considered and two designs were selected for evaluation: a submerged turret loading (STL) buoy system with special purpose SRV and a floating storage and regasification unit (FSRU). A three-phase assessment was then conducted to narrow the potential alternative sites. After site alternatives were identified, alternate routes for the pipelines necessary to interconnect with the existing natural gas transmission structure were evaluated. Finally, specific technology choices, such as vaporization technology, anchoring methods, and construction methods, were evaluated.

Upon application of the screening criteria, alternatives that were eliminated from detailed consideration included Port design concepts, some regasification technologies, design features, and construction methods. Alternatives evaluated in detail in the EIS are the STL and FSRU port concepts, two vaporization technologies, two alternatives for siting of the port, three natural gas pipeline route alternatives (i.e., a Proposed Site and Route, a Southern Site and Route, and the Offshore Interconnection with Gulfstream Pipeline), and the No Action Alternative. Alternatives evaluated in detail in the EIS are summarized below:

No Action Alternative: The No Action Alternative is required by CEQ regulations as a baseline against which the impacts of the Proposed Action are compared. Under the No Action

Alternative, the EIS considers the possible satisfaction of demand through increased use of other types of energy sources (e.g., fossil fuels, nuclear, alternative energy).

Deepwater port design: There are six basic deepwater port design concepts that have been developed by industry and are currently considered commercially available for use as an offshore LNG import port; all six port concepts include use of subsea natural gas pipelines to transport regasified LNG from the port to the existing onshore pipeline system. The EIS evaluates in detail the STL and FSRU design concepts while rejecting gravity-based structures, fixed and floating platforms, and artificial islands as unsuitable for the purpose and need.

Port location: According to the Purpose and Need, the Project is intended to supply natural gas to the west-central Florida market and surrounding areas, and therefore only locations that meet these fundamental criteria can be considered. Initial regional site-screening evaluation identified five areas within the region where it would be reasonable and feasible to locate an SRV facility, including north of Tampa Bay; the St. Petersburg area; off of Tampa Bay; off of Sarasota; and near the Caloosahatchee River area near Fort Myers. Following a secondary suitable area analysis, only the Tampa Bay area was deemed suitable and carried forward as the preferred alternative for detailed evaluation.

Pipeline routes: Following identification of the preferred port location, a site-specific analysis identified alternative site locations and associated pipeline route corridors. These are the proposed (preferred) site and route alternative, proposed site and offshore interconnection with Gulfstream Pipeline alternative, northern site and route alternative, and southern site and route alternative. The northern alternative was deemed unsuitable and was not carried forward for detailed analysis.

Anchoring methods: There are a variety of available anchoring systems for installation of the buoy mooring anchors. Embedment anchors, drilled and grouted anchors, suction piles, driven piles, and gravity anchors were considered. Only suction piles and driven piles (preferred) were carried forward for detailed analysis.

SRV propulsion: The EIS identified gas-fired propulsion steam boilers, gas-fired turbines, slow-speed diesel propulsion, and high-speed diesel propulsion. Only the steam boiler and high-speed diesel alternatives were carried forward.

Vaporization technologies: There are three available heating methods used to vaporize LNG: burning part of the vaporized LNG, using the surrounding seawater to warm the LNG, or using the surrounding air to warm the LNG. Burning part of the LNG with no use of ambient seawater is generally referred to as a closed-loop system, while using the surrounding seawater in a once-through system to warm the LNG is generally referred to as an open-loop system. Use of ambient air to warm LNG is referred to generally as ambient air vaporization. There are several commercially tested vaporization systems currently used as heat exchangers to vaporize LNG: submerged combustion vaporizers (SCVs), shell-and-tube vaporizers (STVs), open rack vaporizers (ORVs), and ambient air vaporization (AAV) equipment with or without backup heating systems (usually SCVs). Vaporization systems can be configured in numerous ways to use one or more of the available heat sources to vaporize LNG. The EIS evaluates in detail use of

a closed-loop STV technology (appropriate for use with the STL port design concept) and use of an AAV system (appropriate for use with the FSRU port design concept).

Marine life exclusion systems: SRVs will be required to obtain engine cooling water via sea chests below the waterline. The proposed (preferred) design provides for a through slot intake of 0.25 inches with a velocity of less than or equal to the recommended velocity of 0.15 m/s, and provides for exclusion of most juvenile fish. Alternative technologies were deemed unsuitable for the purpose and need, and only the preferred alternative was carried forward for detailed evaluation.

Biocide systems: Biocide systems are used for seawater required for engine cooling and ballast control. However, the installed biocide system will not be used while SRVs are at the port. Therefore, there would be no use or discharge of biocide while at the port and no alternative biocide systems were evaluated. Any alternatives to not using the system while at the port would involve greater environmental impacts.

Pipeline construction methods: Conventional pipeline construction methods include alternatives for the placement of the pipeline in offshore and onshore areas, and alternatives in offshore vessels used to connect pipeline sections into a continuous pipe and lay the pipeline on the seafloor. Alternative methods to bury the pipeline include dredging, plowing, jetting, and directional drilling. Dredging, plowing, and directional drilling were carried forward for detailed evaluation.

Environmentally Preferred Alternative(s)

CEQ regulations require that an agency identify the environmentally preferred alternative when preparing a ROD for actions considered in an EIS. The Council on Environmental Quality has advised that such an alternative is to be based solely on the physical and biological impacts of the proposed action on the resources in question and not the social or economic impacts of the action. The FEIS determines that the Proposed Action (Preferred Alternative) is the environmentally preferred action alternative. The Proposed Action would have the least impact on the human environment based on the analyses of location and construction design and schedule.

Rationale for Selection of the Preferred Alternative

The decision is to issue a final rule and LOAs to Port Dolphin for the take of marine mammals incidental to the construction and operation of the deepwater LNG port. This decision is made based on the evaluations in the FEIS and in consideration of NMFS' statutory responsibilities under the MMPA, as well as in compliance with the Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act, Coastal Zone Management Act, and other laws and implementing regulations as fully analyzed in the FEIS.

Based upon review of the Proposed Action and all other alternatives, NMFS has determined that the impact of construction and operation of the port may result, at worst, in a temporary modification in behavior of small numbers of certain species of marine mammals that may be in close proximity to construction operations, or in close proximity to the facility during subsequent years of operations. These activities are expected to result in some local, short-term

displacement resulting in no more than a negligible impact on the affected species or stocks of marine mammals. These impacts will be reduced to effect the least practicable adverse impact by incorporation of the mitigation and monitoring measures summarized below. No injuries or mortalities of marine mammals are expected to result from this activity.

NMFS participated as a cooperating agency in the preparation of the FEIS to ensure that the potential impacts to marine mammals and their habitat were fully considered in the evaluation of the environmental consequences of the proposed action and alternatives. Any of the proposed alternatives would be conducted in a manner that would be expected to result in only temporary Level B (behavioral) harassment of two marine mammal species. However, the Project as presented for NMFS consideration in Port Dolphin's application represents the environmentally preferable action alternative (Preferred Alternative) when evaluated in accordance with the NEPA and in consideration of the MMPA. Although NMFS evaluated an alternative that would require additional mitigation measures, those measures are not feasible for implementation, and therefore would not meet the purpose and need of the proposed action.

There has been substantial opportunity for public review and comment in association with preparation of the EIS, as well as through the MMPA incidental take authorization process. The scoping period began with the publication of a Notice of Intent in the *Federal Register* on July 12, 2007. The scoping period included one public scoping meeting. The draft EIS was responsive to comments received, and was made available for public review and comment on April 18, 2008 through a Notice of Availability published in the *Federal Register*. During the review period, one public meeting was held and a total of 34 formal comments were received. No comments were received on the EIS that are related to NMFS' action.

In addition, NMFS received public comment on the proposed rulemaking *Federal Register* notice from the Marine Mammal Commission (MMC). The MMC made several recommendations, including some additional mitigation measures. While NMFS agreed with certain recommendations from the MMC, additional mitigation measures were deemed unnecessary, as the measures agreed upon by NMFS and Port Dolphin and required under the terms of the final rule and LOAs would effect the least practicable impact on the affected species or stock. The numbers of incidental take analyzed in Port Dolphin's application, as well as the numbers in the final rulemaking *Federal Register* notice, are small relative to the relevant stock sizes. NMFS responded to these comments more fully in the final rulemaking *Federal Register* notice of issuance. NMFS has made the decision to finalize the rulemaking and issue the LOA after careful review of these comments.

Mitigation Measures and Monitoring

In accordance with the MMPA, an extensive series of mitigation and monitoring measures were analyzed in the FEIS and will be required as part of the 5-year regulations and LOA. These measures will effect the least practicable adverse impact on the affected species or stock of marine mammals under NMFS jurisdiction. The mitigation, monitoring, and reporting requirements that will be included in the 5-year regulations and LOA are summarized below, and were developed by NMFS in cooperation with Port Dolphin to achieve the least practicable adverse impact to marine mammal species or stocks and consider all practicable means to avoid or minimize harm to resources under NMFS jurisdiction:

Visual Monitoring Program

For each component of the activity with the potential to cause the incidental take of marine mammals, Port Dolphin will establish zones of acoustic influence to be monitored by professional observers. These zones will include harassment zones, within which the presence of marine mammals will be recorded and noted as instances of behavioral harassment, and shutdown zones. Shutdown zones correspond with areas where underwater sound could result in acoustic injury of marine mammals, and activity will cease if marine mammals approach these zones in order to prevent such an occurrence. Monitoring of activities will take place throughout the time required to complete the activity.

Sound Attenuation Devices

Sound attenuation devices would be utilized during all impact pile driving operations. Port Dolphin plans to use a bubble curtain as mitigation for in-water sound during construction activities. Bubble curtains absorb sound, attenuate pressure waves, exclude marine life from work areas, and control the migration of debris, sediments and process fluids.

Vessel Strike Avoidance Measures

Construction and support vessels will follow the NMFS Vessel Strike Avoidance Measures and Reporting for Mariners. Standard measures would be implemented to reduce the risk associated with vessel strikes.

Line and Cable Entanglement Avoidance Measures

Best Management Practices (BMPs) would be implemented to prevent entanglement in any lines or cables or siltation barriers used in any construction area. For example, lines, cables, and in-water barriers would not be made of any materials in which a protected species can become entangled (e.g., monofilament), would be properly secured, and would be regularly monitored to avoid protected species entrapment.

Marine Debris and Waste Management Protocols

BMPs would be implemented to prevent potential impacts to protected species from debris discarded within any construction area, including mandatory marine debris training.

Reporting

Required reporting on Port Dolphin's activities and implementation of these mitigation measures will be submitted to NMFS, and will include reporting of data collected during acoustic monitoring required to verify sound source levels and site-specific acoustic propagation characteristics used to evaluate potential effects to marine mammals. The report will include observations of all marine mammal behavior, including potential reactions to the activities.

Conclusions

Through adoption of the FEIS and as documented in this ROD, NMFS has fulfilled the requirements of NEPA to consider the objectives of the proposed action and analyze a reasonable range of alternatives that adequately address the objectives of the proposed action. Furthermore, NMFS has analyzed the associated environmental consequences and impacts of the alternatives and identified mitigation and monitoring measures to address, to the extent practicable, those

consequences and impacts. NMFS has also considered public comments on promulgation of regulations and issuance of LOAs. Consequently, NMFS concludes that issuance of the 5-year regulations and LOAs for the take of marine mammals incidental to construction and operation of Port Dolphin in the Gulf of Mexico is warranted under the MMPA, as long as the mitigation, monitoring, and reporting requirements described above are implemented.

Further information regarding this ROD may be obtained by contacting Ben Laws, NOAA NMFS PR, 1315 East-West Highway, Silver Spring, MD 20910, (301) 427-8425.

DEC 04 2012



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Date