

**DEPARTMENT OF COMMERCE****National Oceanic and Atmospheric Administration**

RIN 0648-X104

**Taking of Marine Mammals Incidental to Specified Activities; Operation of an LNG Facility in Massachusetts Bay**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice of issuance of an incidental harassment authorization.

**SUMMARY:** In accordance with regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that an Incidental Harassment Authorization (IHA) to take marine mammals, by harassment, incidental to operation of an offshore liquefied natural gas (LNG) facility in the Massachusetts Bay, has been issued to Northeast Gateway Energy Bridge™ L.L.C. (Northeast Gateway) for a period of 1 year.

**DATES:** This authorization is effective from May 15, 2008, until May 14, 2009.

**ADDRESSES:** A copy of the application, IHA, and a list of references used in this document may be obtained by writing to P. Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3225. A copy of the application may be obtained by writing to this address or by telephoning the contact listed here and is also available at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#iha>.

The Maritime Administration (MARAD) and U.S. Coast Guard (USCG) Final Environmental Impact Statement (Final EIS) on the Northeast Gateway Energy Bridge LNG Deepwater Port license application is available for viewing at <http://dms.dot.gov> under the docket number 22219.

**FOR FURTHER INFORMATION CONTACT:** Shane Guan, Office of Protected Resources, NMFS, (301) 713-2289, ext 137.

**SUPPLEMENTARY INFORMATION:****Background**

Sections 101(a)(5)(A) and 101(a)(5)(D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (Secretary) 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 issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for certain subsistence uses, and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. 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."

Subsection 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take marine mammals by harassment. Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as follows:

any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny issuance of the authorization.

**Description of the Activity**

The Port consists of two subsea Submerged Turret Loading (STL) buoys, each with a flexible riser assembly and a manifold connecting the riser assembly, via a steel flowline, to the subsea Pipeline Lateral. Northeast Gateway utilizes vessels from its current fleet of specially designed Energy-Bridge™ Regasification Vessels (EBRVs), each capable of transporting approximately 2.9 billion ft<sup>3</sup> (Bcf; 82 million m<sup>3</sup>) of natural gas condensed to 4.9 million ft<sup>3</sup> (138,000 m<sup>3</sup>) of LNG. Northeast Gateway will also add vessels to its fleet that will have a cargo capacity of approximately 151,000 m<sup>3</sup>.

The mooring system installed at the Port is designed to handle both the existing vessels and any of the larger capacity vessels that may come into service in the future. The EBRVs dock to the STLTM™ buoys which serve as both the single-point mooring system for the vessels and the delivery conduit for natural gas. Each of the STLTM buoys is secured to the seafloor using a series of suction anchors and a combination of chain/cable anchor lines.

During the Port operations, EBRVs servicing the Port would utilize the newly configured and International Maritime Organization-approved Boston Traffic Separation Scheme (TSS) on their approach to and departure from the NEG Port at the earliest practicable point of transit. EBRVs would maintain speeds of 12 knots or less while in the TSS except when transiting the Off Race Point Seasonal Management Area between March 1 and April 30, the Great South Channel Seasonal Management Area between April 1 and July 31, or when there have been active right whale sightings, active acoustic detections, or both, in the vicinity of the transiting EBRV in the TSS or at the Port, in which case the vessels would slow their speeds to 10 knots or less. See the Mitigation, Monitoring and Reporting Measurements section.

As an EBRV makes its final approach to the Port, vessel speed will gradually be reduced to 3 knots at 1.86 mi (1.16 km) out to less than 1 knot at a distance of 1,640 ft (500 m) from the Port. When an EBRV arrives at the Port, it will retrieve one of the two permanently anchored submerged STLTM™ buoys. It will make final connection to the buoy through a series of engine and bow thruster actions. The EBRV will require the use of thrusters for dynamic positioning during docking procedure. Typically, the docking procedure is completed over a 10- to 30-minute period, with the thrusters activated as necessary for short periods of time in second bursts, not a continuous sound source. Once connected to the buoy, the EBRV will begin vaporizing the liquefied natural gas (LNG) into its natural gas state using the onboard regasification system. As the LNG is regasified, natural gas will be transferred at pipeline pressures off the EBRV through the STLTM™ buoy and flexible riser via a steel flowline leading to the connecting Pipeline Lateral. When the LNG vessel is on the buoy, wind and current effects on the vessel will be allowed to "weathervane" on the single-point mooring system; therefore, thrusters will not be used to maintain a stationary position. It would take approximately 8 days for each EBRV to moor to the

STLTM™ Buoy, regasify its cargo of LNG and send it to the Northeast Gateway Pipeline Lateral, and disengage from the buoy.

It is estimated that the Port could receive approximately 65 cargo deliveries a year. During this time period thrusters will be engaged in use for docking at the Port approximately 10 to 30 minutes for each vessel arrival and departure.

The specified design life of the NEG Port is about 40 years, with the exception of the anchors, mooring chain/rope, and riser/umbilical assemblies, which are based on a maintenance-free design life of 20 years. The buoy pick-up system components are considered consumable and will be inspected following each buoy connection, and replaced (from inside the STLTM compartment during the normal cargo discharge period) as deemed necessary. The underwater components of the Port will be inspected once yearly using either divers or remotely operated vehicles to check and record the condition of the various STLTM system components. These activities will be conducted using the Port's normal support vessel, and to the extent possible will coincide with planned weekly visits to the Port.

Detailed information on these activities can be found in the MARAD/USCG Final EIS on the Northeast Gateway Project (see **ADDRESSES** for availability) and in the IHA application. Detailed information on the LNG facility's operation and maintenance activities, and noise generated from operations was also published in the **Federal Register** on March 13, 2007 (72 FR 11328). No changes have been made to these proposed activities.

### Comments and Responses

A notice of receipt and request for public comment on the application and proposed authorization was published on March 27, 2008 (73 FR 16266). During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission) and two private citizens.

**Comment 1:** The Commission recommends that NMFS issue the IHA provided that (a) all marine mammal mitigation, monitoring, and reporting measures identified in the **Federal Register** notice are included in the authorization and retained in any proposed regulations issued by NMFS to govern the activities over a five-year period; and (b) operations be suspended immediately if a dead or seriously injured right whale or other marine mammal is found in the vicinity of the operations and the death or injury could

be attributable to the applicant's activities. Any suspension should remain in place until NMFS (1) has reviewed the situation and determined that further deaths or serious injuries are unlikely or (2) has issued regulations authorizing such takes under section 101(a)(5)(A) of the MMPA.

**Response:** NMFS concurs with the Commission's recommendation raised in the above comment, and extends the requirement to any type of injury, not just serious injury, if it could be attributable to LNG activities.

**Comment 2:** One private citizen states that more due diligence on the front end is needed before NMFS issues the IHA.

**Response:** NMFS has conducted extensive review of the best science available regarding the biology of the marine mammals affected and the propagation of sounds from operations of the offshore LNG port. This information is supported by Draft and Final Environmental Impact Statements issued by MARAD and USCG under the National Environmental Policy Act (NEPA) and a biological opinion pursuant to the Endangered Species Act (ESA).

**Comment 3:** One private citizen questions why NMFS grants the permit if there is harassment to marine mammals.

**Response:** As stated in the beginning of this document, the MMPA directs the Secretary 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. NMFS has made these findings and followed the appropriate process set forth in MMPA section 101(a)(5)(D).

### Marine Mammals Affected by the Activity

Marine mammal species that potentially occur in the vicinity of the Northeast Gateway facility include several species of cetaceans and pinnipeds:

North Atlantic right whale (*Eubalaena glacialis*),  
humpback whale (*Megaptera novaeangliae*),  
fin whale (*Balaenoptera physalus*),  
minke whale (*B. acutorostrata*),  
pilot whale (*Globicephala* spp.),  
Atlantic white-sided dolphin (*Lagenorhynchus acutus*),  
bottlenose dolphin (*Tursiops truncatus*),  
common dolphin (*Delphinus delphis*),  
killer whale (*Orcinus orca*),  
harbor porpoise (*Phocoena phocoena*),

harbor seal (*Phoca vitulina*), and gray seal (*Halichoerus grypus*).

Information on those species that may be impacted by this activity are discussed in detail in the MARAD and USCG Final EIS on the Northeast Gateway LNG proposal. Please refer to that document for more information on these species and potential impacts from construction and operation of this LNG facility. In addition, general information on these marine mammal species can also be found in Wursig *et al.* (2000) and in the NMFS Stock Assessment Reports (Waring *et al.*, 2007). This latter document is available at: <http://www.nefsc.noaa.gov/nefsc/publications/tm/tm201/>. An updated summary on several commonly sighted marine mammal species distribution and abundance in the vicinity of the proposed action area is provided below.

### Humpback Whale

The highest abundance for humpback whales was distributed primarily along a relatively narrow corridor following the 100-m (328 ft) isobath across the southern Gulf of Maine from the northwestern slope of Georges Bank, south to the Great South Channel, and northward alongside Cape Cod to Stellwagen Bank and Jeffreys Ledge. The relative abundance of whales increased in the spring with the highest occurrence along the slope waters (between the 40- and 140-m, or 131- and 459-ft, isobaths) off Cape Cod and Davis Bank, Stellwagen Basin and Tillies Basin and between the 50- and 200-m (164- and 656-ft) isobaths along the inner slope of Georges Bank. High abundance was also estimated for the waters around Platts Bank. In the summer months, abundance increased markedly over the shallow waters (<50 m, or <164 ft) of Stellwagen Bank, the waters (100 – 200 m, or 328 – 656 ft) between Platts Bank and Jeffreys Ledge, the steep slopes (between the 30- and 160-m isobaths) of Phelps and Davis Bank north of the Great South Channel towards Cape Cod, and between the 50- and 100-m (164- and 328-ft) isobath for almost the entire length of the steeply sloping northern edge of Georges Bank. This general distribution pattern persisted in all seasons except winter, when humpbacks remained at high abundance in only a few locations including Porpoise and Neddick Basins adjacent to Jeffreys Ledge, northern Stellwagen Bank and Tillies Basin, and the Great South Channel.

### Fin Whale

Spatial patterns of habitat utilization by fin whales were very similar to those of humpback whales. Spring and

summer high-use areas followed the 100-m (328 ft) isobath along the northern edge of Georges Bank (between the 50- and 200-m (164- and 656-ft) isobaths), and northward from the Great South Channel (between the 50- and 160-m, or 164- and 525-ft, isobaths). Waters around Cashes Ledge, Platts Bank, and Jeffreys Ledge are all high-use areas in the summer months. Stellwagen Bank was a high-use area for fin whales in all seasons, with highest abundance occurring over the southern Stellwagen Bank in the summer months. In fact, the southern portion of the Stellwagen Bank National Marine Sanctuary (SBNMS) was used more frequently than the northern portion in all months except winter, when high abundance was recorded over the northern tip of Stellwagen Bank. In addition to Stellwagen Bank, high abundance in winter was estimated for Jeffreys Ledge and the adjacent Porpoise Basin (100- to 160-m, 328- to 656-ft, isobaths), as well as Georges Basin and northern Georges Bank.

#### *Minke Whale*

Like other piscivorous baleen whales, highest abundance for minke whale was strongly associated with regions between the 50- and 100-m (164- and 328-ft) isobaths, but with a slightly stronger preference for the shallower waters along the slopes of Davis Bank, Phelps Bank, Great South Channel and Georges Shoals on Georges Bank. Minke whales were sighted in the SBNMS in all seasons, with highest abundance estimated for the shallow waters (approximately 40 m, or 131 ft) over southern Stellwagen Bank in the summer and fall months. Platts Bank, Cashes Ledge, Jeffreys Ledge, and the adjacent basins (Neddick, Porpoise and Scantum) also supported high relative abundance. Very low densities of minke whales remained throughout most of the southern Gulf of Maine in winter.

#### *North Atlantic Right Whale*

North Atlantic right whales were generally distributed widely across the southern Gulf of Maine in spring with highest abundance located over the deeper waters (100- to 160-m, or 328- to 525-ft, isobaths) on the northern edge of the Great South Channel and deep waters (100 300 m, 328 - 984 ft) parallel to the 100-m (328-ft) isobath of northern Georges Bank and Georges Basin. High abundance was also found in the shallowest waters (< 30 m, or <98 ft) of Cape Cod Bay, over Platts Bank and around Cashes Ledge. Lower relative abundance was estimated over deep-water basins including Wilkinson Basin, Rodgers Basin and Franklin

Basin. In the summer months, right whales moved almost entirely away from the coast to deep waters over basins in the central Gulf of Maine (Wilkinson Basin, Cashes Basin between the 160- and 200-m, or 525- and 656-ft, isobaths) and north of Georges Bank (Rogers, Crowell and Georges Basins). Highest abundance was found north of the 100-m (328-ft) isobath at the Great South Channel and over the deep slope waters and basins along the northern edge of Georges Bank. The waters between Fippennies Ledge and Cashes Ledge were also estimated as high-use areas. In the fall months, right whales were sighted infrequently in the Gulf of Maine, with highest densities over Jeffreys Ledge and over deeper waters near Cashes Ledge and Wilkinson Basin. In winter, Cape Cod Bay, Scantum Basin, Jeffreys Ledge, and Cashes Ledge were the main high-use areas. Although SBNMS does not appear to support the highest abundance of right whales, sightings within SBNMS are reported for all four seasons, albeit at low relative abundance. Highest sighting within SBNMS occurred along the southern edge of the Bank.

#### *Pilot whale*

Pilot whales arrived in the southern Gulf of Maine in spring, with highest abundance in the region occurring in summer and fall. Summer high-use areas included the slopes of northern Georges Bank along the 100-m (328-ft) isobath and pilot whales made extensive use of the shoals of Georges Bank (<60 m, or <197 ft, depth). Similarly, fall distributions were also primarily along the slopes of northern Georges Bank, but with high-use areas also occurring amongst the deep-water basins and ledges of the south-central Gulf of Maine. Within SBNMS, pilot whales were sighted infrequently and were most often estimated at low density. Cape Cod Bay and southern SBNMS were the only locations with pilot whale sightings for winter.

#### *Atlantic White-Sided Dolphin*

In spring, summer and fall, Atlantic white-sided dolphins were widespread throughout the southern Gulf of Maine, with the high-use areas widely located either side of the 100-m (328-ft) isobath along the northern edge of Georges Bank, and north from the Great South Channel to Stellwagen Bank, Jeffreys Ledge, Platts Bank and Cashes Ledge. In spring, high-use areas existed in the Great South Channel, northern Georges Bank, the steeply sloping edge of Davis Bank and Cape Cod, southern Stellwagen Bank and the waters between Jeffreys Ledge and Platts Bank.

In summer, there was a shift and expansion of habitat toward the east and northeast. High-use areas were identified along most of the northern edge of Georges Bank between the 50- and 200-m (164- and 656-ft) isobaths and northward from the Great South Channel along the slopes of Davis Bank and Cape Cod. High sightings were also recorded over Truxton Swell, Wilkinson Basin, Cashes Ledge and the bathymetrically complex area northeast of Platts Bank. High sightings of white-sided dolphin were recorded within SBNMS in all seasons, with highest density in summer and most widespread distributions in spring located mainly over the southern end of Stellwagen Bank. In winter, high sightings were recorded at the northern tip of Stellwagen Bank and Tillies Basin.

A comparison of spatial distribution patterns for all baleen whales (Mysticeti) and all porpoises and dolphins combined showed that both groups have very similar spatial patterns of high- and low-use areas. The baleen whales, whether piscivorous or planktivorous, were more concentrated than the dolphins and porpoises. They utilized a corridor that extended broadly along the most linear and steeply sloping edges in the southern Gulf of Maine indicated broadly by the 100 m (328 ft) isobath. Stellwagen Bank and Jeffreys Ledge supported a high abundance of baleen whales throughout the year. Species richness maps indicated that high-use areas for individual whales and dolphin species co-occurred, resulting in similar patterns of species richness primarily along the southern portion of the 100-m (328-ft) isobath extending northeast and northwest from the Great South Channel. The southern edge of Stellwagen Bank and the waters around the northern tip of Cape Cod were also highlighted as supporting high cetacean species richness. Intermediate to high numbers of species are also calculated for the waters surrounding Jeffreys Ledge, the entire Stellwagen Bank, Platts Bank, Fippennies Ledge and Cashes Ledge.

#### *Killer Whale, Common Dolphin, Bottlenose Dolphin, and Harbor Porpoise*

Although these four species are some of the most widely distributed small cetacean species in the world (Jefferson *et al.*, 1993), they were not commonly seen in the vicinity of the project area in Massachusetts Bay (Wiley *et al.*, 1994; NCCOS, 2006; Northeast Gateway Marine Mammal Monitoring Weekly Reports, 2007).

### Harbor Seal and Gray Seal

In the U.S. waters of the western North Atlantic, both harbor and gray seals were usually found from the coast of Maine south to southern New England and New York (Warrings *et al.*, 2007).

Along the southern New England and New York coasts, harbor seals occur seasonally from September through late May (Schneider and Payne, 1983). In recent years, their seasonal interval along the southern New England to New Jersey coasts had increased (deHart, 2002). In U.S. waters, harbor seal breeding and pupping normally occur in waters north of the New Hampshire/Maine border, although breeding has occurred as far south as Cape Cod in the early part of the 20<sup>th</sup> century (Temte *et al.*, 1991; Katona *et al.*, 1993).

Although gray seals were often seen off the coast from New England to Labrador, within the U.S. waters, only small numbers of gray seals have been observed pupping on several isolated islands along the Maine coast and in Nantucket-Vineyard Sound, Massachusetts (Katona *et al.*, 1993; Rough, 1995). In the late 1990s, a year-round breeding population of approximately over 400 gray seals was documented on outer Cape Cod and Muskeget Island (Warring *et al.*, 2007).

### Potential Effects of Noise on Marine Mammals

The effects of noise on marine mammals are highly variable, and can be categorized as follows (based on Richardson *et al.*, 1995): (1) The noise may be too weak to be heard at the location of the animal (i.e., lower than the prevailing ambient noise level, the hearing threshold of the animal at relevant frequencies, or both); (2) The noise may be audible but not strong enough to elicit any overt behavioral response; (3) The noise may elicit reactions of variable conspicuousness and variable relevance to the well being of the marine mammal; these can range from temporary alert responses to active avoidance reactions such as vacating an area at least until the noise event ceases; (4) Upon repeated exposure, a marine mammal may exhibit diminishing responsiveness (habituation), or disturbance effects may persist; the latter is most likely with sounds that are highly variable in characteristics, infrequent and unpredictable in occurrence, and associated with situations that a marine mammal perceives as a threat; (5) Any anthropogenic noise that is strong enough to be heard has the potential to reduce (mask) the ability of a marine

mammal to hear natural sounds at similar frequencies, including calls from conspecifics, and underwater environmental sounds such as surf noise; (6) If mammals remain in an area because it is important for feeding, breeding or some other biologically important purpose even though there is chronic exposure to noise, it is possible that there could be noise-induced physiological stress; this might in turn have negative effects on the well-being or reproduction of the animals involved; and (7) Very strong sounds have the potential to cause temporary or permanent reduction in hearing sensitivity. In terrestrial mammals, and presumably marine mammals, received sound levels must far exceed the animal's hearing threshold for there to be any temporary threshold shift (TTS) in its hearing ability. For transient sounds, the sound level necessary to cause TTS is inversely related to the duration of the sound. Received sound levels must be even higher for there to be risk of permanent hearing impairment. In addition, intense acoustic (or explosive events) may cause trauma to tissues associated with organs vital for hearing, sound production, respiration and other functions. This trauma may include minor to severe hemorrhage.

There are three general kinds of sounds recognized by NMFS: continuous (such as shipping sounds), intermittent (such as vibratory pile driving sounds), and impulse. No impulse noise activities, such as blasting or standard pile driving, are associated with this project. The noise sources of potential concern are regasification/offloading (which is a continuous sound) and dynamic positioning of vessels using thrusters (an intermittent sound). Based on research by Malme *et al.* (1983; 1984), for both continuous and intermittent sound sources, Level B harassment is presumed to begin at received levels of 120-dB.

None of the continuous sound sources associated with operation of the Northeast Gateway Project is expected to exceed the 120-dB threshold for Level B harassment. However, the intermittent noises from thruster use associated with dynamic positioning of vessels during operation (docking) may occasionally exceed this 120-dB threshold. Consequently, thruster use has the potential for a "take" by Level B harassment of any marine mammal occurring within a zone of ensonification (greater than 120 dB) emanating from the sound source. The potential impacts to marine mammals associated with sound propagation from

vessel movements, anchors, chains and LNG regasification/offloading could be the temporary and short-term displacement of seals and whales from within the 120-dB zones ensonified by these noise sources. Animals would be expected to re-occupy the area once the noise ceases. In the vicinity of the LNG Port, where the water depth is about 80 m (262 ft), the 120-dB radius is estimated to be approximately 2.56 km (1.6 mi) from the second source during dynamic positioning for the container ship, making a zone of influence (ZOI) of 21 km<sup>2</sup> (8.1 mi<sup>2</sup>).

### Estimates of Take by Harassment

The basis for Northeast Gateway's "take" estimate is the number of marine mammals that would be exposed to sound levels in excess of 120 dB. This is determined by multiplying the ZOI by local marine mammal density estimates, corrected to take account for 50 percent marine mammals that may be underwater, and then by estimated LNG container ship visits per year. In the case of data gaps, a conservative approach was used to ensure the potential number of takes is not underestimated, as described next.

NMFS recognizes that baleen whale species other than North Atlantic right whales have been sighted in the project area from May to November. However, the occurrence and abundance of fin, humpback, and minke is not well documented within the project area. Nonetheless, NMFS uses the data on cetacean distribution within Massachusetts Bay, such as those published by the National Centers for Coastal Ocean Science (NCCOS, 2006), to determine potential takes of marine mammals in the vicinity of project area.

The NCCOS study used cetacean sightings from two sources: (1) the North Atlantic Right Whale Consortium (NARWC) sightings database held at the University of Rhode Island (Kenney, 2001); and (2) the Manomet Bird Observatory (MBO) database, held at NMFS Northeast Fisheries Science Center (NEFSC). The NARWC data contained survey efforts and sightings data from ship and aerial surveys and opportunistic sources between 1970 and 2005. The main data contributors included: Cetacean and Turtles Assessment Program (CETAP), Canadian Department of Fisheries and Oceans, PCCS, International Fund for Animal Welfare, NOAA's NEFSC, New England Aquarium, Woods Hole Oceanographic Institution, and the University of Rhode Island. A total of 653,725 km (406,293 mi) of survey track and 34,589 cetacean observations were provisionally selected for the NCCOS study in order to

minimize bias from uneven allocation of survey effort in both time and space. The sightings-per-unit-effort (SPUE) was calculated for all cetacean species by month covering the southern Gulf of Maine study area, which also includes the project area (NCCOS, 2006).

The MBO's Cetacean and Seabird Assessment Program (CSAP) was contracted from 1980 to 1988 by NMFS NEFSC to provide an assessment of the relative abundance and distribution of cetaceans, seabirds, and marine turtles in the shelf waters of the northeastern United States (MBO, 1987). The CSAP program was designed to be completely compatible with NMFS NEFSC databases so that marine mammal data could be compared directly with fisheries data throughout the time series during which both types of information were gathered. A total of 5,210 km (8,383 mi) of survey distance and 636 cetacean observations from the MBO data were included in the NCCOS analysis. Combined valid survey effort for the NCCOS studies included 567,955 km (913,840 mi) of survey track for small cetaceans (dolphins and porpoises) and 658,935 km (1,060,226 mi) for large cetaceans (whales) in the southern Gulf of Maine. The NCCOS study then combined these two data sets by extracting cetacean sighting records, updating database field names to match the NARWC database, creating geometry to represent survey tracklines and applying a set of data selection criteria designed to minimize uncertainty and bias in the data used.

Owning to the comprehensiveness and total coverage of the NCCOS cetacean distribution and abundance study, NMFS calculated the estimated take number of marine mammals based on the most recent NCCOS report published in December 2006. A summary of seasonal cetacean distribution and abundance in the project area is provided above, in the Marine Mammals Affected by the Activity section. For a detailed description and calculation of the cetacean abundance data and sighting per unit effort (SPUE), please refer to the NCCOS study (NCCOS, 2006). These data show that the upper limit of the relative abundance of North Atlantic right, fin, humpback, minke, and pilot whales, and Atlantic white-sided dolphins for all seasons, as calculated by SPUE in number of animals per square kilometer, is 0.0082, 0.0097, 0.0265, 0.0059, 0.0407, and 0.1314 n/km, respectively.

In calculating the area density of these species from these linear density data, NMFS used 0.4 km (0.25 mi), which is a quarter the distance of the radius for

visual monitoring (see Monitoring, Mitigation, and Reporting section below), as a conservative hypothetical strip width (W). Thus the area density (D) of these species in the project area can be obtained by the following formula:

$$D = \text{SPUE}/2W,$$

Based on the calculation, the estimated take numbers per year for North Atlantic right, fin, humpback, minke, and pilot whales, and Atlantic white-sided dolphins, within the 120-dB ZOI of the LNG Port facility area of approximately 21 km<sup>2</sup> (8.1 mi<sup>2</sup>) maximum ZOI, corrected for 50 percent underwater, are 21, 90, 165, 15, 104, and 336, respectively. This estimate is based on an average of 65 visits by LNG container ships to the project area per year (or approximately 1.25 visits per week), operating the vessels' thrusters for dynamic positioning before offloading natural gas. It is expected that total amount of time of dynamic positioning is about 30 minutes, therefore, any marine mammals that are potentially exposed to noise levels about 120 dB re 1 microPa from container ships' dynamic positioning would be brief. There is no danger of injury, death, or hearing impairment from the exposure to these noise levels. These numbers represent approximately 7, 3, 18, 0.4, 0.3, and 0.7 percent of the populations for these species, respectively.

In addition, bottlenose dolphins, common dolphins, killer whales, harbor porpoises, harbor seals, and gray seals could also be taken by Level B harassment as a result of the deepwater LNG port project. The numbers of estimated take of these species are not available because they are rare in the project area. The population estimates of these marine mammal species and stock in the west North Atlantic basin are 81,588, 120,743, 89,700, 99,340, and 195,000 for bottlenose dolphins, common dolphins, harbor porpoises, harbor seals, and gray seals, respectively (Waring *et al.*, 2007). No population estimate is available for the North Atlantic stock of killer whales, however, their occurrence within the proposed project area is rare. Since the Massachusetts Bay represents only a small fraction of the west North Atlantic basin where these animals occur, and these animals do not congregate in the vicinity of the project area, NMFS believes that only relatively small numbers of these marine mammal species would be potentially affected by the Northeast Gateway LNG deepwater project. From the most conservative estimates of both marine mammal densities in the project area and the size

of the 120-dB zone of (noise) influence (ZOI), the calculated number of individual marine mammals for each species that could potentially be harassed annually is small relative to the overall population size.

### Potential Impact on Habitat

Operation of the Port and Pipeline Lateral will result in long-term effects on the marine environment, including alteration of seafloor conditions, continued disturbance of the seafloor, regular withdrawal of sea water, and regular generation of underwater noise. A small area (0.14 acre) along the Pipeline Lateral will be permanently altered (armored) at two cable crossings. In addition, the structures associated with the Port will occupy 4.8 acres of seafloor. An additional area of the seafloor of up to 38 acres will be subject to disturbance due to chain sweep while the buoys are occupied. The benthic community in the up-to 38 acres of soft bottom that may be swept by the anchor chains while EBRVs are docked will have limited opportunity to recover, so this area will experience a long-term reduction in benthic productivity.

Each EBRV will require the withdrawal of an average of 4.97 million gallons per day of sea water for general ship operations during its 8-day stay at the Port. As with hydrostatic testing, plankton associated with the sea water will not likely survive this activity. Based on densities of plankton in Massachusetts Bay, it is estimated that sea water use during operations will consume, on a daily basis, about 3 200 × 1,010 phytoplankton cells (about several hundred grams of biomass), 6.5 × 10<sup>8</sup> zooplankters (equivalent to about 1.2 kg of copepods), and on the order of 30,000 fish eggs and 5,000 fish larvae. Also, the daily removal of sea water will reduce the food resources available for planktivorous organisms. However, the removal of these species is minor relative to the overall area they occupy and unlikely to measurably affect the food sources available to marine mammals.

### Monitoring, Mitigation, and Reporting Measures

All individuals onboard the EBRVs responsible for the navigation and lookout duties on the vessel must receive training prior to assuming navigation and lookout duties, a component of which will be training on marine mammal sighting/reporting and vessel strike avoidance measures. Crew training of EBRV personnel will stress individual responsibility for marine mammal awareness and reporting.

If a marine mammal is sighted by a crew member, an immediate notification will be made to the Person-in-Charge on board the vessel and the Northeast Port Manager, who will ensure that the required reporting procedures are followed.

#### *Vessel Strike Avoidance*

(1) All EBRVs approaching or departing the port will comply with the Mandatory Ship Reporting (MSR) system to keep apprised of right whale sightings in the vicinity. Vessel operators will also receive active detections from the passive acoustic array prior to and during transit through the northern leg of the Boston TSS where the buoys are installed.

(2) In response to active right whale sightings (detected acoustically or reported through other means such as the MSR or SAS), and taking into account safety and weather conditions, EBRVs will take appropriate actions to minimize the risk of striking whales, including reducing speed to 10 knots or less and alerting personnel responsible for navigation and lookout duties to concentrate their efforts.

(3) EBRVs will maintain speeds of 12 knots or less while in the TSS until reaching the vicinity of the buoys (except during the seasons and areas defined below, when speed will be limited to 10 knots or less). At 1.86 miles (3 km) from the NEG port, speed will be reduced to 3 knots, and to less than 1 knot at 1,640 ft (500 m) from the buoy.

(4) EBRVs will reduce transit speed to 10 knots or less (unless hydrographic, meteorological, or traffic conditions dictate an alternative speed to maintain the safety or maneuverability of the vessel) from March 1 – April 30 in all waters bounded by straight lines connecting the following points in the order stated below. This area is also known as the Off Race Point Seasonal Management Area (SMA).

42°30'N 70°30'W  
42°30'N 69°45'W  
41°40'N 69°45'W  
41°40'N 69°57'W  
42°04.8'N 70°10'W  
42°12'N 70°15'W  
42°12'N 70°30'W  
42°30'N 70°30'W

(5) EBRVs will reduce transit speed to 10 knots or less (unless hydrographic, meteorological, or traffic conditions dictate an alternative speed to maintain the safety or maneuverability of the vessel) from April 1 – July 31 in all waters bounded by straight lines connecting the following points in the order stated below. This area is also

known as the Great South Channel SMA.

42°30'N 69°45'W  
42°30'N 67°27'W  
42°09'N 67°08.4'W  
41°00'N 69°05'W  
41°40'N 69°45'W  
42°30'N 69°45'W

(6) EBRVs are not expected to transit Cape Cod Bay. However, in the event transit through Cape Cod Bay is required, EBRVs will reduce transit speed to 10 knots or less (unless hydrographic, meteorological, or traffic conditions dictate an alternative speed to maintain the safety or maneuverability of the vessel) from January 1 – May 15 in all waters in Cape Cod Bay, extending to all shorelines of Cape Cod Bay, with a northern boundary of 42°12'N latitude.

(7) In such cases where speeds in excess of the ten knot speed maximums as described above are required, the reasons for the deviation, the speed at which the vessel is operated, the area, and the time and duration of such deviation will be documented in the logbook of the vessel and reported to the NMFS Northeast Region Ship Strike Coordinator.

#### *Passive Acoustic Monitoring (PAM) Program*

An array of Auto-detection Buoys (ABs) have been installed in the Boston TSS that meets the criteria specified in the recommendations developed by NOAA through consultation with the USCG under the National Marine Sanctuary Act (NMSA). The system will be monitored during the LNG Port operations and will provide near real-time information on the presence of vocalizing whales in the shipping lanes.

An archival array of acoustic recording units (ARUs), or “pop-ups,” has been installed around the port site that meets the criteria specified in the program developed by NOAA in consultation with the USCG under the National Marine Sanctuary Act (NMSA). The ARUs will be in place for 5 years following initiation of operations to monitor the actual acoustic output of port operations and alert NOAA to any unanticipated adverse effects of port operations, such as large-scale abandonment of the area.

#### *Reporting*

The Project area is within the Mandatory Ship Reporting Area (MSRA), so all vessels entering and exiting the MSRA would report their activities to WHALESNORTH. During all phases of the Northeast Gateway LNG Port operation, sightings of any injured or dead marine mammals would

be reported immediately to the USCG or NMFS, regardless of whether the injury or death is caused by project activities.

An annual report on marine mammal monitoring and mitigation would be submitted to NMFS Office of Protected Resources and NMFS Northeast Regional Office within 90 days after the expiration of the IHA. The annual report should include data collected for each distinct marine mammal species observed in the project area in the Massachusetts Bay during the period of LNG facility operation. Description of marine mammal behavior, overall numbers of individuals observed, frequency of observation, and any behavioral changes and the context of the changes relative to operation activities shall also be included in the annual report.

#### **ESA**

On February 5, 2007, NMFS concluded consultation with MARAD and the USCG, under section 7 of the ESA, on the proposed construction and operation of the Northeast Gateway LNG facility and issued a biological opinion. The finding of that consultation was that the construction and operation of the Northeast Gateway LNG terminal may adversely affect, but is not likely to jeopardize, the continued existence of northern right, humpback, and fin whales, and is not likely to adversely affect sperm, sei, or blue whales and Kemp's ridley, loggerhead, green or leatherback sea turtles. An incidental take statement (ITS) was issued following NMFS' issuance of the IHA.

On November 15, 2007, Northeast Gateway and Algonquin submitted a letter to NMFS requesting an extension for the LNG Port construction into December 2007. Upon reviewing Northeast Gateway's weekly marine mammal monitoring reports submitted under the previous IHA, NMFS recognized that the potential take of some marine mammals resulting from the LNG Port and Pipeline Lateral by Level B behavioral harassment likely had exceeded the original take estimates. Therefore, NMFS Northeast Region (NER) reinitiated consultation with MARAD and USCG on the construction and operation of the Northeast Gateway LNG facility. On November 30, 2007, NMFS NER issued a revised biological opinion, reflecting the revised construction time period and including a revised ITS. This revised biological opinion concluded that the construction and operation of the Northeast Gateway LNG terminal may adversely affect, but is not likely to jeopardize, the continued existence of northern right, humpback, and fin

whales, and is not likely to adversely affect sperm, sei, or blue whales. NMFS has concluded that issuance of this IHA renewal would not have impacts beyond what was analyzed in the November 30, 2007, biological opinion, so additional consultation is not required.

#### NEPA

MARAD and the USCG released a Final EIS/Environmental Impact Report (EIR) for the proposed Northeast Gateway Port and Pipeline Lateral. A notice of availability was published by MARAD on October 26, 2006 (71 FR 62657). The Final EIS/EIR provides detailed information on the proposed project facilities, construction methods and analysis of potential impacts on marine mammal.

NMFS was a cooperating agency (as defined by the Council on Environmental Quality (40 CFR 1501.6)) in the preparation of the Draft and Final EISs. NMFS has reviewed the Final EIS and has adopted it. Therefore, the preparation of another EIS or EA is not warranted.

#### Determinations

NMFS has determined that the impact of operation of the Northeast Gateway Port Project 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 the Northeast Gateway LNG facility and associated pipeline during its operation. These activities are expected to result in some local short-term displacement only of the affected species or stocks of marine mammals. Taking these two factors together, NMFS concludes that the activity will have no more than a negligible impact on the affected species or stocks, as there will be no expected effects on annual rates of survival and reproduction of these species or stocks. This determination is further supported by the required mitigation, monitoring, and reporting measures described in this document and in NMFS' Biological Opinion on this action.

As a result of implementation of the described mitigation and monitoring measures, no take by injury or death would be requested, anticipated or authorized, and the potential for temporary or permanent hearing impairment is very unlikely due to the relatively low noise levels (and consequently small zone of impact).

While the number of marine mammals that may be harassed will depend on the distribution and abundance of marine mammals in the vicinity of the LNG Port facility, the estimated numbers of marine mammals

to be harassed is small relative to the affected species or stock sizes.

#### Authorization

NMFS has issued an IHA to Northeast Gateway for conducting LNG Port facility operations in Massachusetts Bay, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: May 15, 2008.

**Helen Golde,**

*Deputy Director, Office of Protected Resources, National Marine Fisheries Service.*  
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#### DEPARTMENT OF DEFENSE

##### Department of the Army

##### **Notice of Availability of the Draft Supplemental Programmatic Environmental Impact Statement for Army Growth and Force Structure Realignment To Support Operations in the Pacific Theater**

**AGENCY:** Department of the Army, DOD.

**ACTION:** Notice of availability.

**SUMMARY:** The Department of the Army announces the availability of a Draft Supplemental Programmatic Environmental Impact Statement (DSPEIS) for the growth and realignment of the United States Army to support Operations in the Pacific Theater. The Department of the Army has prepared a DSPEIS that evaluates the potential environmental and socioeconomic effects associated with alternatives for implementing the growth, realignment, and transformation of the Army's forces to support Operations in the Pacific Theater. Potential impacts have been analyzed in the DSPEIS at installations that are capable of supporting operations in the Pacific Theater.

**DATES:** The public comment period will end 45 days after publication of a Notice of Availability in the **Federal Register** by the U.S. Environmental Protection Agency.

**ADDRESSES:** Send all written comments and suggestions concerning this DSPEIS to: Public Affairs Office, U.S. Army Environmental Command, Building E4460, Attention: IMAE-PA 5179 Hoadley Road, Aberdeen Proving Ground, MD 21010-5401. Comments may also be sent to: [APGR-USAEC PublicComments@conus.army.mil](mailto:APGR-USAEC PublicComments@conus.army.mil).

**FOR FURTHER INFORMATION CONTACT:** Public Affairs Office at (410) 436-2556 or facsimile at (410) 436-1693 during

normal business hours 9 a.m. to 5 p.m. Eastern Daylight Time, Monday through Friday.

**SUPPLEMENTARY INFORMATION:** The Army's Proposed Action and analysis within the DSPEIS covers those activities the Army may undertake from 2008 through 2013 to grow, realign, and transform its forces to support operations in the Pacific Theater. Implementation of the Proposed Action will ensure the proper capabilities exist to sustain operations and regional security in the Pacific Theater now and into the foreseeable future. The implementation of the Proposed Action will better meet military operational needs, national and regional security requirements, and the needs of the Army's Soldiers and their Families. To implement the Proposed Action, new units with critical military skills must be stationed at locations that are capable of supporting strategic deployment and mobilization requirements in the Pacific Theater. These stationing locations must be capable of accommodating unit training, garrison operations, maintenance activities, and the needs of Soldiers and their Families.

The current global security environment is turbulent, unpredictable, and rapidly changing. It has placed considerable demands on the nation's military, and highlighted the need for the Army to correct shortfalls in high-demand skills while reassessing its force capabilities. No one has felt the impacts of the recent demands of the modern security environment more than Soldiers and their Families. To meet the challenges of the 21st century security environment, the Army requires the growth and restructuring of its forces to support operations across the Pacific Theater to sustain the broad range of missions required to promote regional, national, and global stability.

The DSPEIS supplements the Army's Final Programmatic EIS for Army Growth and Force Structure Realignment (2007). The DSPEIS examines major Army training installations that were not in the 2007 PEIS, but are capable of supporting operations in the Pacific Theater and the ability of those installations to support new unit stationing actions. The DSPEIS includes analysis of specific actions that will need to be taken (such as the construction of housing and quality of life facilities, the construction of new training ranges and infrastructure, and changes in the intensity of use of maneuver land and firing ranges) to station new units as part of the Army's overall efforts to grow and realign the force.