all PRC exporters of subject merchandise which have not received their own rate, the cash-deposit rate will be the PRC-wide rate; and (3) for all non-PRC exporters of subject merchandise which have not received their own rate, the cash-deposit rate will be the rate applicable to the PRC exporter/producer combination that supplied that non-PRC exporter. These suspension-of-liquidation instructions will remain in effect until further notice.

International Trade Commission Notification

In accordance with section 733(f) of the Act, we have notified the ITC of our preliminary affirmative determination of sales at LTFV. Section 735(b)(2) of the Act requires the ITC to make its final determination as to whether the domestic industry in the United States is materially injured, or threatened with material injury, by reason of imports of coated paper, or sales (or the likelihood of sales) for importation, of the merchandise under consideration within 45 days of our final determination.

Public Comment

Case briefs or other written comments may be submitted to the Assistant Secretary for Import Administration no later than seven days after the date on which the final verification report is issued in this proceeding and rebuttal briefs, limited to issues raised in case briefs, may be submitted no later than five days after the deadline date for case briefs. *See* 19 CFR 351.309. A table of contents, list of authorities used and an executive summary of issues should accompany any briefs submitted to the Department. This summary should be limited to five pages total, including footnotes. The Department also requests that parties provide an electronic copy of its case and rebuttal brief submissions in either a "Microsoft Word" or a "pdf" format.

In accordance with section 774 of the Act, we will hold a public hearing, if requested, to afford interested parties an opportunity to comment on arguments raised in case or rebuttal briefs. Interested parties, who wish to request a hearing, or to participate if one is requested, must submit a written request to the Assistant Secretary for Import Administration, U.S. Department of Commerce, Room 1870, within 30 days after the date of publication of this notice. *See* 19 CFR 351.310(c). Requests should contain the party's name, address, and telephone number, the number of participants, and a list of the issues to be discussed. If a request for a hearing is made, we intend to hold the hearing three days after the deadline of submission of rebuttal briefs at the U.S. Department of Commerce, 14th Street and Constitution Ave., NW., Washington, DC 20230, at a time and location to be determined. *See* 19 CFR 351.310. Parties should confirm by telephone the date, time, and location of the hearing two days before the scheduled date.

We will make our final determination no later than 135 days after the date of publication of this preliminary determination, pursuant to section 735(a)(2) of the Act.

This determination is issued and published in accordance with sections 733(f) and 777(i)(1) of the Act.

Dated: April 28, 2010.

Ronald K. Lorentzen,

Deputy Assistant Secretary for Import Administration.

[FR Doc. 2010–10701 Filed 5–5–10; 8:45 am]

BILLING CODE 3510–DS–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XW09

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Operation and Maintenance of a Liquefied Natural Gas Facility off Massachusetts

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

ACTION: Notice; proposed incidental harassment authorization; receipt of application for letter of authorization; request for comments.

SUMMARY: NMFS has received an application from Neptune LNG LLC (Neptune) for an Incidental Harassment Authorization (IHA) to take marine mammals, by harassment, incidental to port commissioning and operations, including maintenance and repair activities, at its Neptune Deepwater Port. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an IHA to Neptune to take, by Level B harassment only, several species of marine mammals during the specified activity. NMFS is also requesting comments on its intent to promulgate regulations governing the take of marine mammals over a 5–year period incidental to the same activities described herein.

DATES: Comments and information must be received no later than June 7, 2010.

ADDRESSES: Comments on the application should be addressed to Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East West Highway, Silver Spring, MD 20910. The mailbox address for providing email comments is *PR1.0648–XW09@noaa.gov*. NMFS is not responsible for e mail comments sent to addresses other than the one provided here. Comments sent via e mail, including all attachments, must not exceed a 10 megabyte file size.

Instructions: All comments received are a part of the public record and will generally be posted to http://www.nmfs.noaa.gov/pr/permits/incidental.htm without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

A copy of the application used in this document may be obtained by writing to the address specified above, telephoning the contact listed below (see **FOR FURTHER INFORMATION CONTACT**), or visiting the internet at: *http://www.nmfs.noaa.gov/pr/permits/incidental.htm*. Documents cited in this notice may also be viewed, by appointment, during regular business hours, at the aforementioned address.

The Maritime Administration (MARAD) and U.S. Coast Guard (USCG) Final Environmental Impact Statement (Final EIS) on the Neptune LNG Deepwater Port License Application is available for viewing at *http://www.regulations.gov* by entering the search words "Neptune LNG."

FOR FURTHER INFORMATION CONTACT: Candace Nachman, Office of Protected Resources, NMFS, (301) 713 2289, ext 156.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers 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 either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Authorization for incidental takings 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 (where relevant), 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."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the U.S. can apply for an authorization to incidentally take small numbers of marine mammals by 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 the authorization.

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as:

> 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"].

Summary of Request

NMFS received an application on December 14, 2009, from Neptune for the taking, by harassment, of marine mammals incidental to port commissioning and operations, including maintenance and repair activities, at its Neptune Deepwater Port (Port) facility in Massachusetts Bay. NMFS reviewed Neptune's application and identified a number of issues requiring further clarification. After addressing comments from NMFS, Neptune modified its application and submitted a revised application on March 11, 2010. The March 11, 2010, application is the one available for public comment (see **ADDRESSES**) and considered by NMFS for this proposed IHA and subsequent promulgation of regulations.

NMFS issued a 1–year IHA to Neptune in June 2008 for the construction of the Port (73 FR 33400, June 12, 2008), which expired on June 30, 2009. NMFS issued a second 1–year IHA to Neptune for the completion of construction and beginning of Port operations on June 26, 2009 (74 FR 31926, July 6, 2009). This IHA became effective on July 1, 2009, and expires on June 30, 2010.

During the period of this third IHA, Neptune intends to commission its second shuttle and regasification vessel (SRV) and conduct limited port operations. There is also a chance that some maintenance and repairs may need to be conducted on the Port facility. The Neptune Port is located approximately 22 mi (35 km) northeast of Boston, Massachusetts, in Federal waters approximately 260 ft (79 m) in depth. The purpose of the Port is the importation of liquefied natural gas (LNG) into the New England region. Take of marine mammals may occur during port operations from thruster use during maneuvering of the SRVs while docking and undocking, occasional weathervaning (turning of a vessel at anchor from one direction to another under the influence of wind or currents) at the port, and during thruster use of dynamic positioning (DP) maintenance vessels should a major repair be necessary. Neptune has requested an authorization to take 12 marine mammal species by Level B harassment. They are: North Atlantic right whale; humpback whale; fin whale; sei whale; minke whale; long-finned pilot whale; Atlantic white-sided dolphin; harbor porpoise; common dolphin; Risso's dolphin; bottlenose dolphin; and harbor seal. In the current IHA, NMFS also authorized take of killer whales and gray seals. NMFS has preliminarily determined that it would be appropriate to authorize take, by Level B harassment only, of these two species as well for port operations and maintenance.

Description of the Specified Activity

On March 23, 2007, Neptune received a license to own, construct, and operate a deepwater port from MARAD. The Port, which will be located in Massachusetts Bay, will consist of a submerged buoy system to dock specifically designed LNG carriers approximately 22 mi (35 km) northeast of Boston, Massachusetts, in Federal waters approximately 260 ft (79 m) in depth. The two buoys will be separated by a distance of approximately 2.1 mi (3.4 km). The locations of the Neptune Port and the associated pipeline are shown in Figure 2–1 in Neptune's application (see **ADDRESSES**).

Neptune anticipates completion of construction and commissioning of its first SRV in late April or early May 2010. These activities will be completed under the current IHA. Between July 1, 2010, and June 30, 2011, (the requested time period for this proposed IHA), Neptune plans to commission its second SRV and begin limited operations of the Port. Upon expiration of this third proposed IHA, Neptune has requested that NMFS promulgate regulations and subsequently issue annual Letters of Authorization to cover full port operations and any major repairs that may be necessary to the Port facility.

Neptune will be capable of mooring LNG SRVs with a capacity of approximately 140,000 cubic meters (m^3). Up to two SRVs will temporarily moor at the Port by means of a submerged unloading buoy system. Two separate buoys will allow natural gas to be delivered in a continuous flow, without interruption, by having a brief overlap between arriving and departing SRVs. The annual average throughput capacity will be around 500 million standard cubic feet per day (mmscfd) with an initial throughput of 400 mmscfd, and a peak capacity of approximately 750 mmscfd.

The SRVs will be equipped to store, transport, and vaporize LNG and to odorize, meter and send out natural gas by means of two 16–in (40.6–cm) flexible risers and one 24–in (61–cm) subsea flowline. These risers and flowline will lead to a 24–in (61–cm) gas transmission pipeline connecting the deepwater port to the existing 30–in (76.2–cm) Algonquin Hubline[SM] (Hubline[SM]) located approximately 9 mi (14.5 km) west of the Neptune deepwater port location. The Port will have an expected operating life of approximately 25 years. Figure 1–1 of Neptune's application shows an isometric view of the Port (see **ADDRESSES**). The following subsections describe the operational activities for the Port.

Description of Port Operations

During Neptune port operations, sound will be generated by the regasification of the LNG aboard the SRVs and the use of thrusters by vessels maneuvering and maintaining position at the port. Large construction-type DP vessels used for major repair of the subsea pipeline or unloading facility may be another potential sound source, although necessity for such a repair is unlikely. Of these potential operations and maintenance/repair sound sources, thruster use for DP is the most significant. The following text describes the activities that will occur at the port upon its commissioning.

(1) Vessel Activity

The SRVs will approach the port using the Boston Harbor Traffic Separation Scheme (TSS), entering the TSS within the Great South Channel (GSC) and remaining in the TSS until they reach the Boston Harbor Precautionary Area. At the Boston Lighted Horn Buoy B (at the center of the Boston Harbor Precautionary Area), the SRV will be met by a pilot vessel and a support vessel. A pilot will board the SRV, and the support vessel will accompany the SRV to the port. SRVs carrying LNG typically travel at speeds up to 19.5 knots (36 km/hr); however, Neptune SRVs will reduce speed to 10 knots (18.5 km/hr) within the TSS year-round in the Off Race Point Seasonal Management Area (SMA) and to a maximum of 10 knots (18.5 km/hr) when traveling to and from the buoys once exiting the shipping lanes at the Boston Harbor Precautionary Area. In addition, Neptune is committed to reducing speed to 10 knots in the GSC SMA from April 1 to July 31.

To supply a continuous flow of natural gas into the pipeline, about 50 roundtrip SRV transits will take place each year on average (one transit every 3.65 days). As an SRV approaches the port, vessel speed will gradually be reduced. Upon arrival at the port, one of the submerged unloading buoys will be located and retrieved from its submerged position by means of a winch and recovery line. The SRV is designed for operation in harsh environments and can connect to the unloading buoy in up to 11.5 ft (3.5 m) significant wave heights and remain operational in up to 36 ft (11 m) significant wave heights providing high operational availability.

The vessel's aft/forward thrusters will be used intermittently. Neptune SRVs will use both bow and stern thrusters when approaching the unloading buoy and when docking the buoy inside the Submerged Turret Loading (STL) compartment, as well as when releasing the buoy after the regasifying process is finished. The thrusters will be energized for up to 2 hours during the docking process and up to 1 hour during the undocking/release process. When energized, the thrusters will rotate at a constant RPM with the blades set at zero pitch. There will be little cavitation when the thruster propellers idle in this mode. The sound levels in this operating mode are expected to be approximately 8 decibels (dB) less than at 100 percent load, based on measured data from other vessels.

When the thrusters are engaged, the pitch of the blades will be adjusted in short bursts for the amount of thrust needed. These short bursts will cause cavitation and elevated sound levels. The maximum sound level with two thrusters operating at 100 percent load will be 180 dB re 1 μPa at 1m. This is not the normal operating mode, but a worst-case scenario. Typically, thrusters are operated for only seconds at a time and not at continuous full loading. These thrusters will be engaged for no more than 20 minutes, in total, when docking at the buoy. The same applies for the undocking scenario.

During normal conditions, the vessel will be allowed to weathervane on the single-point mooring system. However, aft thrusters may be used under certain conditions to maintain the vessel's heading into the wind when competing tides operate to push the vessel broadside to the wind. Neptune has assumed a total of 200 hr/yr operating under these conditions. In these circumstances, the ambient sound will already be high because of the wind and associated wave sound.

(2) Regasification System

Once an SRV is connected to a buoy, the vaporization of LNG and send-out of natural gas can begin. Each SRV will be equipped with three vaporization units, each with the capacity to vaporize 250 mmscfd. Under normal operation, two units will be in service. The third vaporization unit will be on standby mode, though all three units could operate simultaneously.

(3) Maintenance and Repairs

Routine maintenance activities typically are short in duration (several days or less) and require small vessels (less than 300 gross tons) to perform. Activities include attaching and detaching and/or cleaning the buoy pick up line to the STL buoy, performing surveys and inspections with a remotely operated vehicle, and cleaning or replacing parts (e.g., bulbs, batteries, etc.) on the floating navigation buoys. Every 7–10 years, Neptune will run an intelligent pig (a gauging/cleaning device) down the pipeline to assess its condition. This particular activity will require several larger, construction-type vessels and several weeks to complete.

Unplanned repairs can be either relatively minor, or in some cases, major, requiring several large, construction-type vessels and a mitigation program similar to that employed during the construction phase of the project. Minor repairs are typically shorter in duration and could include fixing flange or valve leaks, replacing faulty pressure transducers, or repairing a stuck valve. These kinds of repairs require one diver support vessel with three or four anchors to hold its position. Minor repairs could take from a few days to 1–2 weeks depending on the nature of the problem.

Major repairs are longer in duration and typically require large construction vessels similar to those used to install the pipeline and set the buoy and anchoring system. These vessels will typically mobilize from local ports or the Gulf of Mexico. Major repairs require upfront planning, equipment procurement, and mobilization of vessels and saturation divers. Examples of major repairs - although unlikely to occur - are damage to a riser or umbilical and their possible replacement, damage to the pipeline and manifolds, or anchor chain replacement. These types of repairs could take 1–4 weeks and possibly longer.

Operations Sound

The acoustic effects of using the thrusters for maneuvering at the unloading buoys were modeled by JASCO Research Limited (2005). The analysis assumed the use of four thrusters (two bow, two stern) at 100 percent power during all four seasons. The one-third (1/3)-octave band source levels for the thrusters ranged from 148.5 dB re 1 μPa at 1 m at 2,000 Hertz (Hz) to 174.5 dB re 1 μPa at 1 m at 10 Hz. Figures 1–2 through 1–5 in Neptune's application show the received sound level at 164–ft (50–m) depth at the south unloading buoy during each of the four seasons.

The acoustic effects of operating the regasification system at the unloading buoys were also modeled by JASCO Research Limited (2005). In addition, supplemental analysis was performed to assess the potential underwater acoustic impacts of using the two aft thrusters after mooring for maintaining the heading of the vessel in situations when competing tides operate to push the vessel broadside to the wind. Additionally, Samsung performed an underwater noise study on the newly constructed SRV and an evaluation of these data was performed by JASCO Applied Sciences. Additional details of all the modeling analyses can be found in Appendices B and C of Neptune's application (see **ADDRESSES**). The loudest source of sound during operations at the port will be the use of thrusters for dynamic positioning.

Maintenance/Repair Sound

Acoustic modeling originally performed to predict received levels of underwater sound that could result from the construction of Neptune also could be applicable to major maintenance/repair during operations (see Appendices B and C in Neptune's application for a discussion of the acoustic modeling methodology employed). Activities considered to be potential sound sources during major maintenance/repair activities include excavation (jetting) of the flowline or main transmission pipeline routes and lowering of materials (pipe, anchors, and chains) to the sea floor. These analyses evaluated the potential impacts of construction of the flowline and pipeline using surrogate source levels for vessels that could be employed during Neptune's construction. One surrogate vessel used for modeling purposes was the Castoro II (and four accompanying vessels). Figures 1–6 and 1–7 in Neptune's application illustrate the worst-case received sound levels that would be associated with major maintenance/repair activities along the flowline between the two unloading buoys and along the pipeline route at the 164–ft (50–m) depth during the spring season if a vessel similar to the Castoro II were used.

Description of Marine Mammals in the Area of the Specified Activity

Massachusetts Bay (as well as the entire Atlantic Ocean) hosts a diverse assemblage of marine mammals, including: North Atlantic right whale; blue whale; fin whale; sei whale; minke whale; humpback whale; killer whale; long-finned pilot whale; sperm whale; Atlantic white-beaked dolphin; Atlantic white-sided dolphin; bottlenose dolphin; common dolphin; harbor porpoise; Risso's dolphin; striped dolphin; gray seal; harbor seal; harp seal; and hooded seal. Table 3–1 in Neptune's application outlines the marine mammal species that occur in Massachusetts Bay and the likelihood of occurrence of each species. Of the species listed here, the North Atlantic right, blue, fin, sei, humpback, and sperm whales are all listed as endangered under the Endangered Species Act (ESA) and as depleted under the MMPA. The northern coastal stock of bottlenose dolphins is considered depleted under the MMPA. Certain stocks or populations of killer whales are listed as endangered under the ESA or depleted under the MMPA; however, none of those stocks or populations occurs in the proposed activity area.

Of these species, 14 are expected to occur in the area of Neptune's proposed operations. These species include: the North Atlantic right, humpback, fin, sei, minke, killer, and long-finned pilot whale; Atlantic white-sided, common, Risso's, and bottlenose dolphins; harbor porpoise; and harbor and gray seals. Neptune used information from the Cetacean and Turtle Assessment Program (CETAP; 1982) and the U.S. Navy's Marine Resource Assessment (MRA) for the Northeast Operating Areas (DoN, 2005) to estimate densities for the species in the area. Nonetheless, NMFS used the data on cetacean distribution within Massachusetts Bay, such as those published by the NCCOS (2006), to determine density estimates of several species of marine mammals in the vicinity of the project area. The explanation for those derivations and the actual density estimates are described later in this document (see the "Estimated Take by Incidental Harassment" section).

Blue and sperm whales are not commonly found in Massachusetts Bay. The sperm whale is generally a deepwater animal, and its distribution off the northeastern U.S. is concentrated around the 13,280–ft (4,048–m) depth contour, with sightings extending offshore beyond the 6,560–ft (2,000–m) depth contour. Sperm whales also can be seen in shallow water south of Cape Cod from May to November (Cetacean and Turtle Assessment Program, 1982). In the North Atlantic, blue whales are most commonly sighted in the waters off eastern Canada. Although they are rare in the shelf waters of the eastern U.S., occasional sightings of blue whales have been made off Cape Cod. Harp and hooded seals are seasonal visitors from much further north, seen mostly in the winter and early spring. Prior to 1990, harp and hooded seals were sighted only very occasionally in the Gulf of Maine, but recent sightings suggest increasing numbers of these species now visit these waters (Harris *et al.*, 2001, 2002). Juveniles of a third seal species, the ringed seal, are seen on occasion as far south as Cape Cod in the winter, but this species is considered to be quite rare in these waters (Provincetown Center for Coastal Studies, 2005). Due to the rarity of these species in the proposed project area and the remote chance they would be affected by Neptune's proposed port operations, these species are not discussed further in this proposed IHA notice.

In addition to the 16 cetacean species listed in Table 3–1 in Neptune's application, 10 other cetacean species have been recorded for Massachusetts as rare vagrants or from strandings (Cardoza *et al.*, 1999). The following six species of beaked whale are all pelagic and recorded mostly as strandings: the northern bottlenose whale; Cuvier's beaked whale; Sowerby's beaked whale; Blainville's beaked whale; Gervais' beaked whale; and True's beaked whale. Vagrants include the beluga whale, a northern species with rare vagrants reported as far south as Long Island (Katona *et al.*, 1993); the pantropical spotted dolphin and false killer whale, which are primarily tropical species with rare sightings in Massachusetts waters (Cardoza *et al.*, 1999); and the pygmy sperm whale, which is generally an offshore species that occasionally wanders inshore. Due to the rarity of these species in the proposed project area and the remote chance they would be affected by Neptune's proposed port operations, these species are not discussed further in this proposed IHA notice.

Information on those species that may be impacted by this activity is provided in Neptune's application and sections 3.2.3 and 3.2.5 in the MARAD/USCG Final EIS on the Neptune LNG proposal (see **ADDRESSES**). Please refer to those documents for more information on these species. In addition, general information on these marine mammal species can also be found in the NMFS U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Report (Waring *et al.*, 2009), which is available at: *http://www.nefsc.noaa.gov/publications/tm/tm213/*. A brief summary on several commonly sighted marine mammal species distribution and abundance in the vicinity of the action area is provided below.

Humpback Whale

The highest abundance for humpback whales is 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 GSC, and northward alongside Cape Cod to Stellwagen Bank and Jeffreys Ledge. The relative abundance of whales increases in the spring with the highest occurrence along the slope waters (between the 40- and 140–m, 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 increases markedly over the shallow waters (<50 m, or <164 ft) of Stellwagen Bank, the waters (100–200 m, 328–656 ft) between Platts Bank and Jeffreys Ledge, the steep slopes (between the 30- and 160–m isobaths, 98- and 525–ft isobaths) of Phelps and Davis Bank north of the GSC 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 persists in all seasons except winter when humpbacks remain 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 GSC. The best estimate of abundance for Gulf of Maine, formerly western North Atlantic, humpback whales is 847 animals (Waring *et al.*, 2009). Current data suggest that the Gulf of Maine humpback whale stock is steadily increasing in size, which is consistent with an estimated average trend of 3.1 percent in the North Atlantic population overall for the period 1979–1993 (Stevick *et al.*, 2003, cited in Waring *et al.*, 2009).

Fin Whale

Spatial patterns of habitat utilization by fin whales are very similar to those of humpback whales. Spring and summer high-use areas follow 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 GSC (between the 50- and 160–m, 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 is 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 Stellwagen Bank National Marine Sanctuary (SBNMS) is used more frequently than the northern portion in all months except winter, when high abundance is recorded over the northern tip of Stellwagen Bank. In addition to Stellwagen Bank, high abundance in winter is estimated for Jeffreys Ledge and the adjacent Porpoise Basin (100- to 160–m, 328- to 525–ft, isobaths), as well as Georges Basin and northern Georges Bank. The best estimate of abundance for the western North Atlantic stock of fin whales is 2,269 (Waring *et al.*, 2009). Currently, there are insufficient data to determine population trends for this species.

Minke Whale

Like other piscivorus baleen whales, highest abundance for minke whale is 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, GSC, and Georges Shoals on Georges Bank. Minke whales are sighted in SBNMS in all seasons, with highest abundance estimated for the shallow waters (approximately 40 m, 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 Scantium) also support high relative abundance. Very low densities of minke whales remain throughout most of the southern Gulf of Maine in winter. The best estimate of abundance for the Canadian East Coast stock, which occurs from the western half of the Davis Strait to the Gulf of Mexico, of minke whales is 3,312 animals (Waring *et al.*, 2009). Currently, there are insufficient data to determine population trends for this species.

North Atlantic Right Whale

North Atlantic right whales are 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 GSC 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, <98 ft) of Cape Cod Bay (CCB), over Platts Bank and around Cashes Ledge. Lower relative abundance is estimated over deep-water basins including Wilkinson Basin, Rodgers Basin, and Franklin Basin. In the summer months, right whales move 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, 525- and 656–ft, isobaths) and north of Georges Bank (Rogers, Crowell, and Georges Basins). Highest abundance is found north of the 100–m (328–ft) isobath at the GSC and over the deep slope waters and basins along the northern edge of Georges Bank. The waters between Fippennies Ledge and Cashes Ledge are also estimated as high-use areas. In the fall months, right whales are 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, CCB, 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 occurs along the southern edge of the Bank.

The western North Atlantic population size was estimated to be at least 345 individuals in 2005 based on a census of individual whales identified using photo-identification techniques (Waring *et al.*, 2009). This value is a minimum and does not include animals that were alive prior to 2003 but not recorded in the individual sightings database as seen from December 1, 2003, to October 10, 2008. It also does not include calves known to be born during 2005 or any other individual whale seen during 2005 but not yet entered into the catalog (Waring *et al.*, 2009). Examination of the minimum alive population index calculated from the individual sightings database, as it existed on October 10, 2008, for the years 1990–2005 suggests a positive trend in numbers. These data reveal a significant increase in the number of catalogued whales alive during this period but with significant variation due to apparent losses exceeding gains during 1998–1999. Mean growth rate for the period 1990–2005 was 1.8 percent (Waring *et al.*, 2009).

Long-finned Pilot Whale

The long-finned pilot whale is more generally found along the edge of the continental shelf (a depth of 100 to 1,000 m, or 328 to 3,280 ft), choosing areas of high relief or submerged banks in cold or temperate shoreline waters. This species is split into two subspecies: the Northern and Southern subspecies. The Southern subspecies is circumpolar with northern limits of Brazil and South Africa. The Northern subspecies, which could be encountered during operation of the Neptune Port facility, ranges from North Carolina to Greenland (Reeves *et al.*, 2002; Wilson and Ruff, 1999). In the western North Atlantic, long-finned pilot whales are pelagic, occurring in especially high densities in winter and spring over the continental slope, then moving inshore and onto the shelf in summer and autumn following squid and mackerel populations (Reeves *et al.*, 2002). They frequently travel into the central and northern Georges Bank, GSC, and Gulf of Maine areas during the summer and early fall (May and October; NOAA, 1993). According to the SAR, the best population estimate for the western North Atlantic stock of long-finned pilot whale is 31,139 individuals (Waring *et al.*, 2009). Currently, there are insufficient data to determine population trends for the long-finned pilot whale.

Sei Whale

The sei whale is the least likely of all the baleen whale species to occur near the Neptune Port. However, there were a couple of sightings in the general vicinity of the port facility during the construction phase (Neptune Marine

Mammal Monitoring Weekly Reports, 2008). The Nova Scotia stock of sei whales ranges from the continental shelf waters of the northeastern U.S. and extends northeastward to south of Newfoundland. The southern portion of the species range during spring and summer includes the northern portions of the U.S. Atlantic Exclusive Economic Zone: the Gulf of Maine and Georges Bank. Spring is the period of greatest abundance in U.S. waters, with sightings concentrated along the eastern margin of Georges Bank and into the Northeast Channel area and along the southwestern edge of Georges Bank in the area of Hydrographer Canyon (CETAP, 1982). The best estimate of abundance for this stock is 386 animals (Waring *et al.*, 2009). There are insufficient data to determine population trends for this species.

Atlantic White-sided Dolphin

In spring, summer and fall, Atlantic white-sided dolphins are widespread throughout the southern Gulf of Maine, with the high-use areas widely located on either side of the 100–m (328–ft) isobath along the northern edge of Georges Bank, and north from the GSC to Stellwagen Bank, Jeffreys Ledge, Platts Bank, and Cashes Ledge. In spring, high-use areas exist in the GSC, 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 is a shift and expansion of habitat toward the east and northeast. High-use areas occur along most of the northern edge of Georges Bank between the 50- and 200–m (164- and 656–ft) isobaths and northward from the GSC along the slopes of Davis Bank and Cape Cod. High sightings are also recorded over Truxton Swell, Wilkinson Basin, Cashes Ledge and the bathymetrically complex area northeast of Platts Bank. High sightings of white-sided dolphin are 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 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 piscivorus or planktivorous, are more concentrated than the dolphins and porpoises. They utilize a corridor that extends 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 support a high abundance of baleen whales throughout the year. Species richness maps indicate 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 GSC. The southern edge of Stellwagen Bank and the waters around the northern tip of Cape Cod are 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. The best estimate of abundance for the western North Atlantic stock of white-sided dolphins is 63,368 (Waring *et al.*, 2009). A trend analysis has not been conducted for this species.

Killer Whale, Common Dolphin, Bottlenose Dolphin, Risso's Dolphin, and Harbor Porpoise

Although these five species are some of the most widely distributed small cetacean species in the world (Jefferson *et al.*, 1993), they are 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; Neptune Marine Mammal Monitoring Weekly Reports, 2008). The total number of killer whales off the eastern U.S. coast is unknown, and present data are insufficient to calculate a minimum population estimate or to determine the population trends for this stock (Blaylock *et al.*, 1995). The best estimate of abundance for the western North Atlantic stock of common dolphins is 120,743 animals, and a trend analysis has not been conducted for this species (Waring *et al.*, 2007). There are several stocks of bottlenose dolphins found along the eastern U.S. from Maine to Florida. The stock that may occur in the area of the Neptune Port is the western North Atlantic coastal northern migratory stock of bottlenose dolphins. The best estimate of abundance for this stock is 7,489 animals (Waring *et al.*, 2009). There are insufficient data to determine the population trend for this stock. The best estimate of abundance for the western North Atlantic stock of Risso's dolphins is 20,479 animals (Waring *et al.*, 2009). There are insufficient data to determine the population trend for this stock. The best estimate of abundance for the Gulf of Maine/Bay of Fundy stock of harbor porpoise is 89,054 animals (Waring *et al.*, 2009). A trend analysis has not been conducted for this species.

Harbor and Gray Seals

In the U.S. western North Atlantic, both harbor and gray seals are usually found from the coast of Maine south to southern New England and New York (Waring *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 has 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 20th century (Temte *et al.*, 1991; Katona *et al.*, 1993). The best estimate of abundance for the western North Atlantic stock of harbor seals is 99,340 animals (Waring *et al.*, 2009). Between 1981 and 2001, the uncorrected counts of seals increased from 10,543 to 38,014, an annual rate of 6.6 percent (Gilbert *et al.*, 2005, cited in Waring *et al.*, 2009).

Although gray seals are often seen off the coast from New England to Labrador, within 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 400 gray seals was documented on outer Cape Cod and Muskeget Island (Waring *et al.*, 2007). Depending on the model used, the minimum estimate for the Canadian gray seal population was estimated to range between 125,541 and 169,064 animals (Trzcinski *et al.*, 2005, cited in Waring *et al.*, 2009); however, present data are insufficient to calculate the minimum population estimate for U.S. waters. Waring *et al.* (2009) note that gray seal abundance in the U.S. Atlantic is likely increasing, but the rate of increase is unknown.

Brief Background on Marine Mammal Hearing

When considering the influence of various kinds of sound on the marine environment, it is necessary to understand that different kinds of marine life are sensitive to different frequencies of sound. Based on available behavioral data, audiograms derived using auditory evoked potential techniques, anatomical modeling, and other data, Southall *et al.* (2007) designate "functional hearing groups" for marine mammals and estimate the lower and upper frequencies of functional hearing of the groups. The functional groups and the associated frequencies are indicated below (though animals are less sensitive to sounds at the outer edge of their functional range and most sensitive to sounds of frequencies within a smaller range somewhere in the middle of their functional hearing range):

- Low frequency cetaceans (13 species of mysticetes): functional hearing is estimated to occur between approximately 7 Hz and 22 kHz;
- Mid-frequency cetaceans (32 species of dolphins, six species of larger toothed whales, and 19 species of beaked and bottlenose whales): functional hearing is estimated to occur between approximately 150 Hz and 160 kHz;
- High frequency cetaceans (eight species of true porpoises, six species of river dolphins, Kogia, the franciscana, and four species of cephalorhynchids): functional hearing is estimated to occur between approximately 200 Hz and 180 kHz; and
- Pinnipeds in Water: functional hearing is estimated to occur between approximately 75 Hz and 75 kHz, with the greatest sensitivity between approximately 700 Hz and 20 kHz.

As mentioned previously in this document, 14 marine mammal species (12 cetacean and two pinniped species) are likely to occur in the Neptune Port area. Of the 12 cetacean species likely to occur in Neptune's project area, five are classified as low frequency cetaceans (i.e., North Atlantic right, humpback, fin, minke, and sei whales), six are classified as mid-frequency cetaceans (i.e., killer and pilot whales and bottlenose, common, Risso's, and Atlantic white-sided dolphins), and one is classified as a high-frequency cetacean (i.e., harbor porpoise) (Southall *et al.*, 2007).

Potential Effects of the Specified Activity on Marine Mammals

Potential effects of Neptune's proposed port operations and maintenance/repair activities would most likely be acoustic in nature. LNG port operations and maintenance/repair activities introduce sound into the marine environment. Potential acoustic effects on marine mammals relate to sound produced by thrusters during maneuvering of the SRVs while docking and undocking, occasional weathervaning at the port, and during thruster use of DP maintenance vessels should a major repair be necessary. The potential effects of sound from the proposed activities associated with the Neptune Port might include one or more of the following: tolerance; masking of natural sounds; behavioral disturbance; non-auditory physical effects; and, at least in theory, temporary or permanent hearing impairment (Richardson *et al.*, 1995). However, for reasons discussed later in this document, it is unlikely that there would be any cases of temporary, or especially permanent, hearing impairment resulting from these activities. As outlined in previous NMFS documents, 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 but potentially for longer periods of time;

(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 a 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.

Tolerance

Numerous studies have shown that underwater sounds from industry activities are often readily detectable by marine mammals in the water at distances of many kilometers. Numerous studies have also shown that marine mammals at distances more than a few kilometers away often show no apparent response to industry activities of various types (Miller *et al.*, 2005). This is often true even in cases when the sounds must be readily audible to the animals based on measured received levels and the hearing sensitivity of that mammal group. Although various baleen whales, toothed whales, and (less frequently) pinnipeds have been shown to react behaviorally to underwater sound such as airgun pulses or vessels under some conditions, at other times mammals of all three types have shown no overt reactions (e.g., Malme *et al.*, 1986; Richardson *et al.*, 1995; Madsen and Mohl, 2000; Croll *et al.*, 2001; Jacobs and Terhune, 2002; Madsen *et al.*, 2002; Miller *et al.*, 2005). In general, pinnipeds and small odontocetes seem to be more tolerant of exposure to some types of underwater sound than are baleen whales. Richardson *et al.* (1995) found that vessel noise does not seem to strongly affect pinnipeds that are already in the water. Richardson *et al.* (1995) went on to explain that seals on haul-outs sometimes respond strongly to the presence of vessels and at other times appear to show considerable tolerance of vessels, and (Brueggeman *et al.*, 1992; cited in Richardson *et al.*, 1995) observed ringed seals hauled out on ice pans displaying short-term escape reactions when a ship approached within 0.25–0.5 mi (0.4–0.8 km).

Masking

Masking is the obscuring of sounds of interest by other sounds, often at similar frequencies. Marine mammals are highly dependent on sound, and their ability to recognize sound signals amid noise is important in communication, predator and prey detection, and, in the case of toothed whales, echolocation. Even in the absence of manmade sounds, the sea is usually noisy. Background ambient noise often interferes with or masks the ability of an animal to detect a sound signal even when that signal is above its absolute hearing threshold. Natural ambient noise includes contributions from wind, waves, precipitation, other animals, and (at frequencies above 30 kHz) thermal noise resulting from molecular agitation (Richardson *et al.*, 1995). Background noise also can include sounds from human activities. Masking of natural sounds can result when human activities produce high levels of background noise. Conversely, if the background level of underwater noise is high (e.g., on a day with strong wind and high waves), an anthropogenic noise source will not be detectable as far away as would be possible under quieter conditions and will itself be masked. Ambient noise is highly variable on continental shelves (Thompson, 1965; Myrberg, 1978; Chapman *et al.*, 1998; Desharnais *et al.*, 1999). This inevitably results in a high degree of variability in the range at which marine mammals can detect anthropogenic sounds.

Although masking is a natural phenomenon to which marine mammals must adapt, the introduction of strong sounds into the sea at frequencies important to marine mammals increases the severity and frequency of occurrence of masking. For example, if a baleen whale is exposed to continuous low-frequency noise from an industrial source, this will reduce the size of the area around that whale within which it can hear the calls of another whale. In general, little is known about the importance to marine mammals of detecting sounds from conspecifics, predators, prey, or other natural sources. In the absence of much information about the importance of detecting these natural sounds, it is not possible to predict the impacts if mammals are unable to hear these sounds as often, or from as far away, because of masking by industrial noise (Richardson *et al.*, 1995). In general, masking effects are expected to be less severe when sounds are transient than when they are continuous.

Although some degree of masking is inevitable when high levels of manmade broadband sounds are introduced into the sea, marine mammals have evolved systems and behavior that function to reduce the impacts of masking. Structured signals, such as the echolocation click sequences of small toothed whales, may be readily detected even in the presence of strong background noise because their frequency content and temporal features usually differ strongly from those of the background noise (Au and Moore, 1988, 1990). The components of background noise that are similar in frequency to the sound signal in question primarily determine the degree of masking of that signal. Low-frequency industrial noise, such as shipping, has little or no masking effect on high frequency echolocation sounds. Redundancy and context can also facilitate detection of weak signals. These phenomena may help marine mammals detect weak sounds in the presence of natural or manmade noise. Most masking studies in marine mammals present the test signal and the masking noise from the same direction. The sound localization abilities of marine mammals suggest that, if signal and noise come from different directions, masking would not be as severe as the usual types of masking studies might suggest (Richardson *et al.*, 1995). The dominant background noise may be highly directional if it comes from a particular anthropogenic source such as a ship or industrial site. Directional hearing may significantly reduce the masking effects of these noises by improving the effective signal-to-noise ratio. In the cases of high-frequency hearing by the bottlenose dolphin, beluga whale, and killer whale, empirical evidence confirms that masking depends strongly on the relative directions of arrival of sound signals and the masking noise (Penner *et al.*, 1986; Dubrovskiy, 1990; Bain *et al.*, 1993; Bain and Dahlheim, 1994). Toothed whales, and probably other marine mammals as well, have additional capabilities besides directional hearing that can facilitate detection of sounds in the presence of background noise. There is evidence that some toothed whales can shift the dominant frequencies of their echolocation signals from a frequency range with a lot of ambient noise toward frequencies with less noise (Au *et al.*, 1974, 1985; Moore and Pawloski, 1990; Thomas and Turl, 1990; Romanenko and Kitain, 1992; Lesage *et al.*, 1999). A few marine mammal species are known to increase the source levels of their calls in the presence of elevated sound levels (Dahlheim, 1987; Au, 1993; Lesage *et al.*, 1999; Terhune, 1999).

These data demonstrating adaptations for reduced masking pertain mainly to the very high frequency echolocation signals of toothed whales. There is less information about the existence of corresponding mechanisms at moderate or low frequencies or in other types of marine mammals. For example, Zaitseva *et al.* (1980) found that, for the bottlenose dolphin, the angular separation between a sound source and a masking noise source had little effect on the degree of masking when the sound frequency was 18 kHz, in contrast to the pronounced effect at higher frequencies. Directional hearing has been demonstrated at frequencies as low as 0.5–2 kHz in several marine mammals, including killer whales (Richardson *et al.*, 1995). This ability may be useful in reducing masking at these frequencies. In summary, high levels of noise generated by anthropogenic activities may act to mask the detection of weaker biologically important sounds by some marine mammals. This masking may be more prominent for lower frequencies. For higher frequencies, such as used in echolocation by toothed whales, several mechanisms are available that may allow them to reduce the effects of such masking.

Disturbance

Disturbance can induce a variety of effects, such as subtle changes in behavior, more conspicuous dramatic changes in activities, and displacement. Disturbance is one of the main concerns of the potential impacts of manmade noise on marine mammals. For many species and situations, there is no detailed information about reactions to noise. While there are no specific studies available on the reactions of marine mammals to sounds produced by a LNG facility, information from studies of marine mammal reactions to other types of continuous and transient anthropogenic sound (e.g., drillships) are described here as a proxy.

Behavioral reactions of marine mammals to sound are difficult to predict because they are dependent on numerous factors, including species, state of maturity, experience, current activity, reproductive state, time of day, and weather. If a marine mammal does react to an underwater sound by changing its behavior or moving a small distance, the impacts of that change may not be important to the individual, the stock, or the species as a whole. However, if a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on the animals could be important. Based on the literature reviewed in Richardson *et al.* (1995), it is apparent that most small and medium-sized toothed whales exposed to prolonged or repeated underwater sounds are unlikely to be displaced unless the overall received level is at least 140 dB re 1 μPa (rms). The limited available data indicate that the sperm whale is sometimes, though not always, more responsive than other toothed whales. Baleen whales probably have better hearing sensitivities at lower sound frequencies, and in several studies have been shown to react to continuous sounds at received sound levels of approximately 120 dB re 1 μPa (rms). Toothed whales appear to exhibit a greater variety of reactions to manmade underwater noise than do baleen whales. Toothed whale reactions can vary from approaching vessels (e.g., to bow ride) to strong avoidance, while baleen whale reactions range from neutral (little or no change in behavior) to strong avoidance. In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater noise than do cetaceans.

Baleen Whales - Baleen whales sometimes show behavioral changes in response to received broadband drillship noises of 120 dB (rms) or greater. On their summer range in the Beaufort Sea, bowhead whales (a species closely related to the right whale) reacted to drillship noises within 4–8 km (2.5–5 mi) of the drillship at received levels 20 dB above ambient, or about 118 dB (Richardson *et al.*, 1990). Reactions were stronger at the onset of the sound (Richardson *et al.*, 1995). Migrating bowhead whales avoided an area with a radius of 10–20 km (6.2–12.4 mi) around drillships and their associated support vessels, corresponding to a received noise level around 115 dB (Greene, 1987; Koski and Johnson, 1987; Hall *et al.*, 1994; Davies, 1997; Schick and Urban, 2000). For gray whales off California, the predicted reaction zone around a semi-submersible drill rig was less than 1 km (0.62 mi), at received levels of approximately 120 dB (Malme *et al.*, 1983, 1984). Humpback whales showed no obvious avoidance response to broadband drillship noises at a received level of 116 dB (Malme *et al.*, 1985).

Reactions of baleen whales to boat noises include changes in swimming direction and speed, blow rate, and the frequency and kinds of vocalizations (Richardson *et al.*, 1995). Baleen whales, especially minke whales, occasionally approach stationary or slow-moving boats, but more commonly avoid boats. Avoidance is strongest when boats approach directly or when vessel noise changes abruptly (Watkins, 1986; Beach and Weinrich, 1989). Humpback whales responded to boats at distances of at least 0.5–1 km (0.31–0.62 mi), and avoidance and other reactions have been noted in several areas at distances of several kilometers (Jurasz and Jurasz, 1979; Dean *et al.*, 1985; Bauer, 1986; Bauer and Herman, 1986).

During some activities and at some locations, humpbacks exhibit little or no reaction to boats (Watkins, 1986). Some baleen whales seem to show habituation to frequent boat traffic. Over 25 years of observations in Cape Cod waters, minke whales' reactions to boats changed from frequent positive interactions (i.e., reactions of apparent curiosity or reactions that appeared to provide some reward to the animal) to a general lack of interest (i.e., ignored the stimuli), while humpback whales reactions changed from being often negative to being often positive, and fin whales reactions changed from being mostly negative (i.e., sudden changes from activity to inactivity or a display of agonistic responses) to being mostly uninterested (Watkins, 1986).

North Atlantic right whales also display variable responses to boats. There may be an initial orientation away from a boat, followed by a lack of observable reaction (Atkins and Swartz, 1989). A slowly moving boat can approach a right whale, but an abrupt change in course or engine speed usually elicits a reaction (Goodyear, 1989; Mayo and Marx, 1990; Gaskin, 1991). When approached by a boat, right whale mothers will interpose themselves between the vessel and calf and will maintain a low profile (Richardson *et al.*, 1995). In a long-term study of baleen whale reactions to boats, while other baleen whale species appeared to habituate to boat presence over the 25–year period, right whales continued to show either uninterested or negative reactions to boats with no change over time (Watkins, 1986).

Biassoni *et al.* (2000) and Miller *et al.* (2000) reported behavioral observations for humpback whales exposed to a low-frequency sonar stimulus (160- to 330–Hz frequency band; 42–s tonal signal repeated every 6 min; source levels 170 to 200 dB) during playback experiments. Exposure to measured received levels ranging from 120 to 150 dB resulted in variability in humpback singing behavior. Croll *et al.* (2001) investigated responses of foraging fin and blue whales to the same low frequency active sonar stimulus off southern California. Playbacks and control intervals with no transmission were used to investigate behavior and distribution on time scales of several weeks and spatial scales of tens of kilometers. The general conclusion was that whales remained feeding within a region for which 12 to 30 percent of exposures exceeded 140 dB.

Frankel and Clark (1998) conducted playback experiments with wintering humpback whales using a single speaker producing a low-frequency "M-sequence" (sine wave with multiple-phase reversals) signal in the 60 to 90 Hz band with output of 172 dB at 1 m. For 11 playbacks, exposures were between 120 and 130 dB re 1 μPa (rms) and included sufficient information regarding individual responses. During eight of the trials, there were no measurable differences in tracks or bearings relative to control conditions, whereas on three occasions, whales either moved slightly away from (n = 1) or towards (n = 2) the playback speaker during exposure. The presence of the source vessel itself had a greater effect than did the M-sequence playback.

Finally, Nowacek *et al.* (2004) used controlled exposures to demonstrate behavioral reactions of northern right whales to various non-pulse sounds. Playback stimuli included ship noise, social sounds of conspecifics, and a complex, 18–min "alert" sound consisting of repetitions of three different artificial signals. Ten whales were tagged with calibrated instruments that measured received sound characteristics and concurrent animal movements in three dimensions. Five out of six exposed whales reacted strongly to alert signals at measured received levels between 130 and 150 dB (i.e., ceased foraging and swam rapidly to the surface). Two of these individuals were not exposed to ship noise, and the other four were exposed to both stimuli. These whales reacted mildly to conspecific signals. Seven whales, including the four exposed to the alert stimulus, had no measurable response to either ship sounds or actual vessel noise.

Odontocetes - In reviewing responses of cetaceans with best hearing in mid-frequency ranges, which includes toothed whales, Southall *et al.* (2007) reported that combined field and laboratory data for mid-frequency cetaceans exposed to non-pulse sounds did not lead to a clear conclusion about received levels coincident with various behavioral responses. In some settings, individuals in the field showed profound (significant) behavioral responses to exposures from 90 to 120 dB, while others failed to exhibit such responses for exposure to received levels from 120 to 150 dB. Contextual variables other than exposure received level, and probable species differences, are the likely reasons for this variability. Context, including the fact that captive subjects were often directly reinforced with food for tolerating noise exposure, may also explain why there was great disparity in results from field and laboratory conditions-exposures in captive settings generally exceeded 170 dB before inducing behavioral responses.

Dolphins and other toothed whales may show considerable tolerance of floating and bottom-founded drill rigs and their support vessels. Kapel (1979) reported many pilot whales within visual range of drillships and their support vessels off West Greenland. Beluga whales have been observed swimming within 100–150 m (328–492 ft) of an artificial island while drilling was underway (Fraker and Fraker, 1979, 1981), and within 1,600 m (1 mi) of the drillship Explorer I while the vessel was engaged in active drilling (Fraker and Fraker, 1981). Some belugas in Bristol Bay and Beaufort Sea, Alaska, when exposed to playbacks of drilling sounds, altered course to swim around the source, increased swimming speed, or reversed direction of travel (Stewart *et al.*, 1982; Richardson *et al.*, 1995). Reactions of beluga whales to semi-submersible drillship noise were less pronounced than were reactions to motorboats with outboard engines. Captive belugas exposed to playbacks of recorded semi-submersible noise seemed quite tolerant of that sound (Thomas *et al.*, 1990).

Morton and Symonds (2002) used census data on killer whales in British Columbia to evaluate avoidance of non-pulse acoustic harassment devices (AHDs). Avoidance ranges were about 4 km (2.5 mi). Also, there was a dramatic reduction in the number of days "resident" killer whales were sighted during AHD-active periods compared to pre- and post-exposure periods and a nearby control site.

Harbor porpoise off Vancouver Island, British Columbia, were found to be sensitive to the simulated sound of a 2–megawatt offshore wind turbine (Koschinski *et al.*, 2003). The porpoises remained significantly further away from the sound source when it was active, and this effect was seen out to a distance of 60 m (197 ft). The device used in that study produced sounds in the frequency range of 30 to 800 Hz, with peak source levels of 128 dB re 1 μPa at 1 m at the 80- and 160–Hz frequencies.

Some species of small toothed cetaceans avoid boats when they are approached to within 0.5–1.5 km (0.31–0.93 mi), with occasional reports of avoidance at greater distances (Richardson *et al.*, 1995). Some toothed whale species appear to be more responsive than others. Beaked whales and beluga whales seem especially responsive to boats. Dolphins may tolerate boats of all sizes, often approaching and riding the bow and stern waves (Shane *et al.*, 1986). At other times, dolphin species that are known to be attracted to boats will avoid them. Such avoidance is often linked to previous boat-based harassment of the animals (Richardson *et al.*, 1995). Coastal bottlenose dolphins that are the object of whale-watching activities have been observed to swim erratically (Acevedo, 1991), remain submerged for longer periods of time (Janik and Thompson, 1996; Nowacek *et al.*, 2001), display less cohesiveness among group members (Cope *et al.*, 1999), whistle more frequently (Scarpaci *et al.*, 2000), and rest less often (Constantine *et al.*, 2004) when boats were nearby. Pantropical spotted dolphins and spinner dolphins in the eastern Tropical Pacific, where they have been targeted by the tuna fishing industry because of their association with these fish, display avoidance of survey vessels up to 11.1 km (6.9 mi; Au and Perryman, 1982; Hewitt, 1985), whereas spinner dolphins in the Gulf of Mexico were observed bow riding the survey vessel in all 14 sightings of this species during one survey (Wursig *et al.*, 1998).

Harbor porpoises tend to avoid boats. In the Bay of Fundy, Polacheck and Thorpe (1990) found harbor porpoises to be more likely to be swimming away from the transect line of their survey vessel than swimming toward it and more likely to be heading away from the vessel when they were within 400 m (1,312 ft). Similarly, off the west coast of North America, Barlow (1988) observed harbor porpoises avoiding a survey vessel by moving rapidly out of its path within 1 km (0.62 mi) of that vessel. Beluga whales are generally quite responsive to vessels. Belugas in Lancaster Sound in the Canadian Arctic showed dramatic reactions in response to icebreaking ships, with received levels of sound ranging from 101 dB to 136 dB re 1 ?Pa in the 20 to 1,000–Hz band at a depth of 20 m (66 ft; Finley *et al.*, 1990). Responses included emitting distinctive pulsive calls that were suggestive of excitement or alarm and rapid movement in what seemed to be a flight response. Reactions occurred out to 80 km (50 mi) from the ship. Another study found belugas to use higher-frequency calls, a greater redundancy in their calls (more calls emitted in a series), and a lower calling rate in the presence of vessels (Lesage *et al.*, 1999). The level of response of belugas to vessels is partly a function of habituation. Sperm whales generally show no overt reactions to vessels unless approached within several hundred meters (Watkins and Schevill, 1975; Wursig *et al.*, 1998; Magalhaes *et al.*, 2002). Observed reactions include spending more (Richter *et al.*, 2003) or less (Watkins and Schevill, 1975) time at the surface, increasing swimming speed, or changing heading (Papastavrou *et al.*, 1989; Richter *et al.*, 2003) and diving abruptly (Wursig *et al.*, 1998).

Pinnipeds - Pinnipeds generally seem to be less responsive to exposure to industrial sound than most cetaceans. Pinniped responses to underwater sound from some types of industrial activities such as seismic exploration appear to be temporary and localized (Harris *et al.*, 2001; Reiser *et al.*, 2009).

Responses of pinnipeds to drilling noise have not been well studied. Richardson *et al.* (1995) summarizes the few available studies, which showed ringed and bearded seals in the Arctic to be rather tolerant of drilling noise. Seals were often seen near active drillships and approached, to within 50 m (164 ft), a sound projector broadcasting low-frequency drilling sound.

Southall *et al.* (2007) reviewed literature describing responses of pinnipeds to non-pulsed sound and reported that the limited data suggest exposures between approximately 90 and 140 dB generally do not appear to induce strong behavioral responses in pinnipeds exposed to non-pulse sounds in water; no data exist regarding exposures at higher levels. It is important to note that among these studies, there are some apparent differences in responses between field and laboratory conditions. In contrast to the mid-frequency odontocetes, captive pinnipeds responded more strongly at lower levels than did animals in the field. Again, contextual issues are the likely cause of this difference.

Jacobs and Terhune (2002) observed harbor seal reactions to AHDs (source level in this study was 172 dB) deployed around aquaculture sites. Seals were generally unresponsive to sounds from the AHDs. During two specific events, individuals came within 43 and 44 m (141 and 144 ft) of active AHDs and failed to demonstrate any measurable behavioral response; estimated received levels based on the measures given were approximately 120 to 130 dB.

Costa *et al.* (2003) measured received noise levels from an Acoustic Thermometry of Ocean Climate (ATOC) program sound source off northern California using acoustic data loggers placed on translocated elephant seals. Subjects were captured on land, transported to sea, instrumented with archival acoustic tags, and released such that their transit would lead them near an active ATOC source (at 939–m depth [0.6 mi]; 75–Hz signal with 37.5- Hz bandwidth; 195 dB maximum source level, ramped up from 165 dB over 20 min) on their return to a haul-out site. Received exposure levels of the ATOC source for experimental subjects averaged 128 dB (range 118 to 137) in the 60- to 90–Hz band. None of the instrumented animals terminated dives or radically altered behavior upon exposure, but some statistically significant changes in diving parameters were documented in nine individuals. Translocated northern elephant seals exposed to this particular non-pulse source began to demonstrate subtle behavioral changes at exposure to received levels of approximately 120 to 140 dB.

Kastelein *et al.* (2006) exposed nine captive harbor seals in an approximately 25 30 m (82 98 ft) enclosure to non-pulse sounds used in underwater data communication systems (similar to acoustic modems). Test signals were frequency modulated tones, sweeps, and bands of noise with fundamental frequencies between 8 and 16 kHz; 128 to 130 [3] dB source levels; 1- to 2–s duration [60–80 percent duty cycle]; or 100 percent duty cycle. They recorded seal positions and the mean number of individual surfacing behaviors during control periods (no exposure), before exposure, and in 15–min experimental sessions (n = 7 exposures for each sound type). Seals generally swam away from each source at received levels of approximately 107 dB, avoiding it by approximately 5 m (16 ft), although they did not haul out of the water or change surfacing behavior. Seal reactions did not appear to wane over repeated exposure (i.e., there was no obvious habituation), and the colony of seals generally returned to baseline conditions following exposure. The seals were not reinforced with food for remaining in the sound field.

Reactions of harbor seals to the simulated noise of a 2–megawatt wind power generator were measured by Koschinski *et al.* (2003). Harbor seals surfaced significantly further away from the sound source when it was active and did not approach the sound source as closely. The device used in that study produced sounds in the frequency range of 30 to 800 Hz, with peak source levels of 128 dB re 1 μPa at 1 m at the 80- and 160–Hz frequencies.

Ship and boat noise do not seem to have strong effects on seals in the water, but the data are limited. When in the water, seals appear to be much less apprehensive about approaching vessels. Some will approach a vessel out of apparent curiosity, including noisy vessels such as those operating seismic airgun arrays (Moulton and Lawson, 2002). Gray seals have been known to approach and follow fishing vessels in an effort to steal catch or the bait from traps. In contrast, seals hauled out on land often are quite responsive to nearby vessels. Terhune (1985) reported that northwest Atlantic harbor seals were extremely vigilant when hauled out and were wary of approaching (but less so passing) boats. Suryan and Harvey (1999) reported that Pacific harbor seals commonly left the shore when powerboat operators approached to observe the seals. Those seals detected a powerboat at a mean distance of 264 m (866 ft), and seals left the haul-out site when boats approached to within 144 m (472 ft).

Hearing Impairment and Other Physiological Effects

Temporary or permanent hearing impairment is a possibility when marine mammals are exposed to very strong sounds. Non-auditory physiological effects might also occur in marine mammals exposed to strong underwater sound. Possible types of non-auditory physiological effects or injuries that theoretically might occur in mammals close to a strong sound source include stress, neurological effects, bubble formation, and other types of organ or tissue damage. It is possible that some marine mammal species (i.e., beaked whales) may be especially susceptible to injury and/or stranding when exposed to strong pulsed sounds, particularly at higher frequencies. Non-auditory physiological effects are not anticipated to occur as a result of port operations or maintenance, as none of the activities associated with the Neptune Port will generate sounds loud enough to cause such effects. The following subsections discuss in somewhat more detail the possibilities of TTS and permanent threshold shift (PTS).

TTS - TTS is the mildest form of hearing impairment that can occur during exposure to a strong sound (Kryter, 1985). While experiencing TTS, the hearing threshold rises and a sound must be stronger in order to be heard. At least in terrestrial mammals, TTS can last from minutes or hours to (in cases of strong TTS) days. For sound exposures at or somewhat above the TTS threshold, hearing sensitivity in both terrestrial and marine mammals recovers rapidly after exposure to the noise ends. Few data on sound levels and durations necessary to elicit mild TTS have been obtained for marine mammals, and none of the published data concern TTS elicited by exposure to multiple pulses of sound.

Human non-impulsive noise exposure guidelines are based on exposures of equal energy (the same sound exposure level [SEL]) producing equal amounts of hearing impairment regardless of how the sound energy is distributed in time (NIOSH, 1998). Until recently, previous marine mammal TTS studies have also generally supported this equal energy relationship (Southall *et al.*, 2007). Three newer studies, two by Mooney *et al.* (2009a,b) on a single bottlenose dolphin either exposed to playbacks of U.S. Navy mid-frequency active sonar or octave-band noise (4–8 kHz) and one by Kastak *et al.* (2007) on a single California sea lion exposed to airborne octave-band noise (centered at 2.5 kHz), concluded that for all noise exposure situations the equal energy relationship may not be the best indicator to predict TTS onset levels. Generally, with sound exposures of equal energy, those that were quieter (lower sound pressure level [SPL]) with longer duration were found to induce TTS onset more than those of louder (higher SPL) and shorter duration. Given the available data, the received level of a single seismic pulse (with no frequency weighting) might need to be approximately 186 dB re 1 $\mu Pa^2.s$ (i.e., 186 dB sound exposure level [SEL]) in order to produce brief, mild TTS. NMFS considers TTS to be a form of Level B harassment, which temporarily causes a shift in an animal's hearing, and the animal is able to recover. Data on TTS from continuous sound (such as that produced by Neptune's proposed Port activities) are limited, so the available data from seismic activities are used as a proxy. Exposure to several strong seismic pulses that each have received levels near 175–180 dB SEL might result in slight TTS in a small odontocete, assuming the TTS threshold is (to a first approximation) a function of the total received pulse energy. Given that the SPL is approximately 10–15 dB higher than the SEL value for the same pulse, an odontocete would need to be exposed to a sound level of 190 dB re 1 μPa (rms) in order to incur TTS.

TTS was measured in a single, captive bottlenose dolphin after exposure to a continuous tone with maximum SPLs at frequencies ranging from 4 to 11 kHz that were gradually increased in intensity to 179 dB re 1 μPa and in duration to 55 minutes (Nachtigall *et al.*, 2003). No threshold shifts were measured at SPLs of 165 or 171 dB re 1 μPa. However, at 179 dB re 1 μPa, TTSs greater than 10 dB were measured during different trials with exposures ranging from 47 to 54 minutes. Hearing sensitivity apparently recovered within 45 minutes after noise exposure.

For baleen whales, there are no data, direct or indirect, on levels or properties of sound that are required to induce TTS. The frequencies to which baleen whales are most sensitive are lower than those to which odontocetes are most sensitive, and natural background noise levels at those low frequencies tend to be higher. Marine mammals can hear sounds at varying frequency levels. However, sounds that are produced in the frequency range at which an animal hears the best do not need to be as loud as sounds in less functional frequencies to be detected by the animal. As a result, auditory thresholds of baleen whales within their frequency band of best hearing are believed to be higher (less sensitive) than are those of odontocetes at their best frequencies (Clark and Ellison, 2004), meaning that baleen whales require sounds to be louder (i.e., higher dB levels) than odontocetes in the frequency ranges at which each group hears the best. From this, it is suspected that received levels causing TTS onset may also be higher in baleen whales. Since current NMFS practice assumes the same thresholds for the onset of hearing impairment in both odontocetes and mysticetes, the threshold is likely conservative for mysticetes.

In free-ranging pinnipeds, TTS thresholds associated with exposure to brief pulses (single or multiple) of underwater sound have not been measured. However, systematic TTS studies on captive pinnipeds have been conducted (Bowles *et al.*, 1999; Kastak *et al.*, 1999, 2005, 2007; Schusterman *et al.*, 2000; Finneran *et al.*, 2003; Southall *et al.*, 2007). Kastak *et al.* (1999) reported TTS of approximately 4–5 dB in three species of pinnipeds (harbor seal, Californian sea lion, and northern elephant seal) after underwater exposure for approximately 20 minutes to noise with frequencies ranging from 100 Hz to 2,000 Hz at received levels 60–75 dB above hearing threshold. This approach allowed similar effective exposure conditions to each of the subjects, but resulted in variable absolute exposure values depending on subject and test frequency. Recovery to near baseline levels was reported within 24 hours of noise exposure (Kastak *et al.*, 1999). Kastak *et al.* (2005) followed up on their previous work using higher sensitive levels and longer exposure times (up to 50–min) and corroborated their previous findings. The sound exposures necessary to cause slight threshold shifts were also determined for two California sea lions and a juvenile elephant seal exposed to underwater sound for similar duration. The sound level necessary to cause TTS in pinnipeds depends on exposure duration, as in other mammals; with longer exposure, the level necessary to elicit TTS is reduced (Schusterman *et al.*, 2000; Kastak *et al.*, 2005, 2007). For very short exposures (e.g., to a single sound pulse), the level necessary to cause TTS is very high (Finneran *et al.*, 2003). For pinnipeds exposed to in-air sounds, auditory fatigue has been measured in response to single pulses and to non-pulse noise (Southall *et al.*, 2007), although high exposure levels were required to induce TTS-onset (SEL: 129 dB re: 20 μPa2.s; Bowles *et al.*, unpub. data).

NMFS (1995, 2000) concluded that cetaceans and pinnipeds should not be exposed to pulsed underwater noise at received levels exceeding, respectively, 180 and 190 dB re 1 μPa (rms). The established 180- and 190–dB re 1 μPa (rms) criteria are not considered to be the levels above which TTS might occur. Rather, they are the received levels above which, in the view of a panel of bioacoustics specialists convened by NMFS before TTS measurements for marine mammals started to become available, one could not be certain that there would be no injurious effects, auditory or otherwise, to marine mammals. Since the modeled broadband source level for 100 percent thruster use during port operations is 180 dB re 1 μPa at 1 m (rms), it is highly unlikely that marine mammals would be exposed to sound levels at the 180- or 190–dB thresholds.

PTS - When PTS occurs, there is physical damage to the sound receptors in the ear. In some cases, there can be total or partial deafness, whereas in other cases, the animal has an impaired ability to hear sounds in specific frequency ranges.

There is no specific evidence that exposure to underwater industrial sound can cause PTS in any marine mammal (see Southall *et al.*, 2007). However, given the possibility that mammals might incur TTS, there has been further speculation about the possibility that some individuals occurring very close to such activities might incur PTS. Richardson *et al.* (1995) hypothesized that PTS caused by prolonged exposure to continuous anthropogenic sound is unlikely to occur in marine mammals, at least for sounds with source levels up to approximately 200 dB re 1 μPa at 1 m (rms). Single or occasional occurrences of mild TTS are not indicative of permanent auditory damage in terrestrial mammals. Relationships between TTS and PTS thresholds have not been studied in marine mammals but are assumed to be similar to those in humans and other terrestrial mammals. PTS might occur at a received sound level at least several decibels above that inducing mild TTS.

It is highly unlikely that marine mammals could receive sounds strong enough (and over a sufficient duration) to cause PTS (or even TTS) during the proposed port operations and maintenance/repair activities. The modeled broadband source level for 100 percent thruster use during port operations is 180 dB re 1 μPa at 1 m (rms). This does not reach the threshold of 190 dB currently used for pinnipeds. The threshold for cetaceans is 180 dB; therefore, cetaceans would have to be immediately adjacent to the vessel for even the possibility of hearing impairment to occur. Based on this and mitigation measures proposed for inclusion in the IHA (described later in this document in the "Proposed Mitigation" section), it is highly unlikely that any type of hearing impairment would occur as a result of Neptune's proposed activities.

Additionally, the potential effects to marine mammals described in this section of the document do not take into consideration the proposed monitoring and mitigation measures described later in this document (see the "Proposed Mitigation" and "Proposed Monitoring and Reporting" sections).

Anticipated Effects on Habitat

The primary potential impacts to marine mammals and other marine species are associated with elevated sound levels produced by the Port operations and maintenance/repair activities. However, other potential impacts from physical disturbance are also possible.

Potential Impacts from Repairs

Major repairs to the Neptune port and pipeline may affect marine mammal habitat in several ways: cause disturbance of the seafloor; increase turbidity slightly; and generate additional underwater sound in the area. Sediment transport modeling conducted by Neptune on construction procedures indicated that initial turbidity from installation of the pipeline could reach 100 milligrams per liter (mg/L), but will subside to 20 mg/L after 4 hours. Turbidity associated with the flowline and hot-tap will be considerably less and also will settle within hours of the work being completed. Therefore, any increase in turbidity from a major repair during operations is anticipated to be insignificant. Repair activities will not create long-term habitat changes, and marine mammals displaced by the disturbance to the seafloor are expected to return soon after the repair is completed.

During repair of the Neptune port and the pipeline, underwater sound levels will be temporarily elevated. These underwater sound levels will cause some species to temporarily disperse from or avoid repair areas, but they are expected to return shortly after the repair is completed.

Based on the foregoing, repair activities will not create long-term habitat changes, and marine mammals displaced by the disturbance to the seafloor are expected to return soon after repair activities cease. Marine mammals also could be indirectly affected if benthic prey species were displaced or destroyed by repair activities. However, affected species are expected to recover soon after the completion of repairs and will represent only a small portion of food available to marine mammals in the area.

Potential Impacts from Operation

Operation of the Port will result in long-term, continued disturbance of the seafloor, regular withdrawal of seawater, and generation of underwater sound.

Seafloor Disturbance: The structures associated with the Port (flowline and pipeline, unloading buoys and chains, suction anchors) will be permanent modifications to the seafloor. Up to 63.7 acres (0.25 km2) of additional seafloor will be subject to disturbance due to chain and flexible riser sweep while the buoys are occupied by SRVs.

Ballast and Cooling Water Withdrawal: Withdrawal of ballast and cooling water at the Port as the SRV unloads cargo (approximately 2.39 million gallons per day) could potentially entrain zooplankton and ichthyoplankton that serve as prey for whale species. This estimate includes the combined seawater intake while two SRVs are moored at the Port (approximately 9 hr every 6 days). The estimated zooplankton abundance in the vicinity of the seawater intake ranges from 25.6–105 individuals per gallon (Libby *et al.*, 2004). This means that the daily intake will remove approximately 61.2–251 million individual zooplankton per day, the equivalent of approximately 3.47–14.2 kg (7.65–31.4 lbs). Since zooplankton are short-lived species (e.g., most copepods live from 1 wk to several months), these amounts will be indistinguishable from natural variability.

In the long-term, approximately 64.6 acres (0.26 km^2) of seafloor will be permanently disturbed to accommodate the Port (including the associated pipeline). The area disturbed because of long-term chain and riser sweep includes 63.7 acres (0.25 km2) of soft sediment. This area will be similar in calm seas and in hurricane conditions. The chain weight will restrict the movement of the buoy or the vessel moored on the buoy. An additional 0.9 acre (0.004 km2) of soft sediments will be converted to hard substrate. The total affected area will be small compared to the soft sediments available in the proposed project area. Long-term disturbance from installation of the Port will comprise approximately 0.3 percent of the estimated 24,000 acres (97 km^2) of similar bottom habitat surrounding the project area (northeast sector of Massachusetts Bay).

It is likely that displaced organisms will not return to the area of continual chain and riser sweep. A shift in benthic faunal community is expected in areas where soft sediment is converted to hard substrate (Algonquin Gas Transmission LLC, 2005). This impact will be beneficial for species that prefer hard-bottom structure and adverse for species that prefer soft sediment. Overall, because of the relatively small areas that will be affected compared to the overall size of Massachusetts Bay, impacts on soft-bottom communities are expected to be minimal.

Daily removal of seawater will reduce the food resources available for planktivorous organisms. The marine mammal species in the area have fairly broad diets and are not dependent on any single species for survival. Because of the relatively low biomass that will be entrained by the Port, the broad diet, and broad availability of organisms in the proposed project area, indirect impacts on the food web that result from entrainment of planktonic fish and shellfish eggs and larvae are expected to be minor and therefore should have minimal impact on affected marine mammal species or stocks.

Potential Impacts from Sound Generation

The groups of important fish, which include those that constitute prey for some of the marine mammals found in the project area, that occur in the vicinity of the Neptune Port are comprised of species showing considerable diversity in hearing sensitivity, anatomical features related to sound detection (e.g., swim bladder, connections between swim bladder and ear), habitat preference, and life history. Neptune's application contains a discussion on sound production, sound detection, and variability of fish hearing sensitivities. Please refer to the application (see **ADDRESSES**) for the full discussion. A few summary paragraphs are provided here for reference.

Fishes produce sounds that are associated with behaviors that include territoriality, mate search, courtship, and aggression. It has also been speculated that sound production may provide the means for long distance communication and communication under poor underwater visibility conditions (Zelick *et al.*, 1999), although the fact that fish communicate at low-frequency sound levels where the masking effects of ambient noise are naturally highest suggests that very long distance communication would rarely be possible. Fishes have evolved a diversity of sound generating organs and acoustic signals of various temporal and spectral contents. Fish sounds vary in structure, depending on the mechanism used to produce them (Hawkins, 1993). Generally, fish sounds are predominantly composed of low frequencies (less than 3 kHz).

Since objects in the water scatter sound, fish are able to detect these objects through monitoring the ambient noise. Therefore, fish are probably able to detect prey, predators, conspecifics, and physical features by listening to the environmental sounds (Hawkins, 1981). There are two sensory systems that enable fish to monitor the vibration-based information of their surroundings. The two sensory systems, the inner ear and the lateral line, constitute the acoustico-lateralis system.

Although the hearing sensitivities of very few fish species have been studied to date, it is becoming obvious that the intra- and inter-specific variability is considerable (Coombs, 1981). Nedwell *et al.* (2004) compiled and published available fish audiogram information. A noninvasive electrophysiological recording method known as auditory brainstem response (ABR) is now commonly used in the production of fish audiograms (Yan, 2004). Generally, most fish have their best hearing (lowest auditory thresholds) in the low-frequency range (i.e., less than 1 kHz). Even though some fish are able to detect sounds in the ultrasonic frequency range, the thresholds at these higher frequencies tend to be considerably higher than those at the lower end of the auditory frequency range. This generalization applies to the fish species occurring in the Neptune Port area. Table 9–1 in Neptune's application (see **ADDRESSES**) outlines the measured auditory sensitivities of fish that are most relevant to the Neptune Port area.

Literature relating to the impacts of sound on marine fish species can be divided into the following categories: (1) pathological effects; (2) physiological effects; and (3) behavioral effects. Pathological effects include lethal and sub-lethal physical damage to fish; physiological effects include primary and secondary stress responses; and behavioral effects include changes in exhibited behaviors of fish. Behavioral changes might be a direct reaction to a detected sound or a result of the anthropogenic sound masking natural sounds that the fish normally detect and to which they respond. The three types of effects are often interrelated in complex ways. For example, some physiological and behavioral effects could potentially lead to the ultimate pathological effect of mortality. Hastings and Popper (2005) reviewed what is known about the effects of sound on fishes and identified studies needed to address areas of uncertainty relative to measurement of sound and the responses of fishes. Popper *et al.* (2003/2004) also published a paper that reviews the effects of anthropogenic sound on the behavior and physiology of fishes.

The following discussions of the three primary types of potential effects on fish from exposure to sound consider continuous sound sources since such sounds will be generated by operation and repair activities associated with the Neptune Project. Note that most research reported in the literature focuses on the effects of seismic airguns which produce pulsed sounds. A full discussion is provided in Neptune's application (see **ADDRESSES**), and a summary is provided here.

Potential effects of exposure to continuous sound on marine fish include TTS, physical damage to the ear region, physiological stress responses, and behavioral responses such as startle response, alarm response, avoidance, and perhaps lack of response due to masking of acoustic cues. Most of these effects appear to be either temporary or intermittent and therefore probably do not significantly impact the fish at a population level. The studies that resulted in physical damage to the fish ears used noise exposure levels and durations that were far more extreme than would be encountered under conditions similar to those expected at the Neptune Port.

The known effects of underwater noise on fish have been reviewed. The noise levels that are necessary to cause temporary hearing loss and damage to hearing are higher and last longer than noise that will be produced at Neptune. The situation for disturbance responses is less clear. Fish do react to underwater noise from vessels and move out of the way, move to deeper depths, or change their schooling behavior. The received levels at which fish react are not known and apparently are somewhat variable depending upon circumstances and species of fish. In order to assess the possible effects of underwater project noise, it is best to examine project noise in relation to continuous noises routinely produced by other projects and activities such as shipping, fishing, etc.

The two long-term sources of continuous noise associated with the project are the ship transits between the Boston shipping lanes and the unloading buoys and the regasification process at the carriers when moored to the unloading buoys. Noise levels associated with these two activities are relatively low and unlikely to have any effect on prey species in the area. One other activity expected to produce short periods of continuous noise is the carrier maneuvering bouts at the Port. Although this activity is louder, it is still less than the noise levels associated with large ships at cruising speed. The carrier maneuvering using the ship's thrusters would produce short periods of louder noise for 10 to 30 minutes every 4 to 8 days. On average, these thruster noises would be heard about 20 hours per year. Even in the unlikely event that these two activities caused disturbance to marine fish, the short periods of time involved serve to minimize the effects.

In conclusion, NMFS has preliminarily determined that Neptune's proposed port operations and maintenance/repair activities are not expected to have any habitat-related effects that could cause significant or long-term consequences for individual marine mammals or on the food sources that they utilize.

Proposed Mitigation

In order to issue an incidental take authorization (ITA) under Sections 101(a)(5)(A) and (D) of the MMPA, NMFS must, where applicable, set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses (where relevant).

Mitigation Measures Proposed in Neptune's IHA Application

Neptune submitted a "Marine Mammal Detection, Monitoring, and Response Plan for the Operations Phase" (the Plan) as part of its MMPA application (Appendix D of the application; see **ADDRESSES**). The measures, which include safety zones and vessel speed reductions, are fully described in the Plan and summarized here. Any maintenance and/or repairs needed will be scheduled in advance during the May 1 to November 30 seasonal window, whenever possible, so that disturbance to North Atlantic right whales will be largely avoided. If the repair cannot be scheduled during this time frame, additional mitigation measures are proposed.

(1) Mitigation Measures for Major Repairs (May 1 to November 30)

(A) During repairs, if a marine mammal is detected within 0.5 mi (0.8 km) of the repair vessel, the vessel superintendent or on-deck supervisor will be notified immediately. The vessel's crew will be put on a heightened state of alert. The marine mammal will be monitored constantly to determine if it is moving toward the repair area.

(B) Repair vessels will cease any movement in the area if a marine mammal other than a right whale is sighted within or approaching to a distance of 100 yd (91 m) from the operating repair vessel. Repair vessels will cease any movement in the construction area if a right whale is sighted within or approaching to a distance of 500 yd (457 m) from the operating vessel. Vessels transiting the repair area, such as pipe haul barge tugs, will also be required to maintain these separation distances.

(C) Repair vessels will cease all sound emitting activities if a marine mammal other than a right whale is sighted within or approaching to a distance of 100 yd (91 m) or if a right whale is sighted within or approaching to a distance of 500 yd (457 m), from the operating repair vessel. The back-calculated source level, based on the most conservative cylindrical model of acoustic energy spreading, is estimated to be 139 dB re 1 μPa.

(D) Repair activities may resume after the marine mammal is positively reconfirmed outside the established zones (either 500 yd (457 m) or 100 yd (91 m), depending upon species).

(E) While under way, all repair vessels will remain 500 yd (457 m) away from right whales and 100 yd (91 m) away from all other marine mammals to the extent physically feasible given navigational constraints.

(F) All repair vessels 300 gross tons or greater will maintain a speed of 10 knots (18.5 km/hr) or less. Vessels less than 300 gross tons carrying supplies or crew between the shore and the repair site will contact the Mandatory Ship Reporting System (MSRS), the USCG, or the marine mammal observers (MMOs) at the repair site before leaving shore for reports of recent right whale sightings or active Dynamic Management Areas (DMAs) and, consistent with navigation safety, restrict speeds to 10 knots (18.5 km/hr) or less within 5 mi (8 km) of any recent sighting location and within any existing DMA.

(G) Vessels transiting through the Cape Cod Canal and CCB between January 1 and May 15 will reduce speeds to 10 knots (18.5 km/hr) or less, follow the recommended routes charted by NOAA to reduce interactions between right whales and shipping traffic, and avoid aggregations of right whales in the eastern portion of CCB.

(2) Additional Port and Pipeline Major Repair Measures (December 1 to April 30)

If unplanned/emergency repair activities cannot be conducted between May 1 and November 30, Neptune has proposed to implement the following additional mitigation measures:

(A) If on-board MMOs do not have at least 0.5–mi (0.8–km) visibility, they shall call for a shutdown of repair activities. If dive operations are in progress, then they shall be halted and brought on board until visibility is adequate to see a 0.5–mi (0.8–km) range. At the time of shutdown, the use of thrusters must be minimized. If there are potential safety problems due to the shutdown, the captain will decide what operations can safely be shut down and will document such activities.

(B) Prior to leaving the dock to begin transit, the barge will contact one of the MMOs on watch to receive an update of sightings within the visual observation area. If the MMO has observed a North Atlantic right whale within 30 minutes of the transit start, the vessel will hold for 30 minutes and again get a clearance to leave from the MMOs on board. MMOs will assess whale activity and visual observation ability at the time of the transit request to clear the barge for release.

(C) A half-day training course will be provided to designated crew members assigned to the transit barges and other support vessels. These designated crew members will be required to keep watch on the bridge and immediately notify the navigator of any whale sightings. All watch crew will sign into a bridge log book upon start and end of watch. Transit route, destination, sea conditions, and any protected species sightings/mitigation actions during watch will be recorded in the log book. Any whale sightings within 3,281 ft (1,000 m) of the vessel will result in a high alert and slow speed of 4 knots (7.4 km/hr) or less. A sighting within 2,461 ft (750 m) will result in idle speed and/ or ceasing all movement.

(D) The material barges and tugs used for repair work shall transit from the operations dock to the work sites during daylight hours, when possible, provided the safety of the vessels is not compromised. Should transit at night be required, the maximum speed of the tug will be 5 knots (9.3 km/hr).

(E) Consistent with navigation safety, all repair vessels must maintain a speed of 10 knots (18.5 km/hr) or less during daylight hours. All vessels will operate at 5 knots or less at all times within 3.1 mi (5 km) of the repair area.

(3) Speed Restrictions in Seasonal Management Areas (SMAs)

Repair vessels and SRVs will transit at 10 knots (18.5 km/hr) or less in the following seasons and areas, which either correspond to or are more restrictive than the times and areas in NMFS' final rule (73 FR 60173, October 10, 2008) to implement speed restrictions to reduce the likelihood and severity of ship strikes of right whales:

- CCB SMA from January 1 through May 15, which includes all waters in CCB, extending to all shorelines of the Bay, with a northern boundary of 42° 12' N. latitude;
- Off Race Point SMA year round, which is bounded by straight lines connecting the following coordinates in the order stated: 42° 30' N. 69° 45' W.; thence to 42° 30' N. 70° 30' W.; thence to 42° 12' N. 70° 30' W.; thence to 42° 12' N. 70° 12' W.; thence to 42° 04' 56.5'' N. 70° 12' W.; thence along mean high water line and inshore limits of COLREGS limit to a latitude of 41° 40' N.; thence due east to 41° 41' N. 69° 45' W.; thence back to starting point; and
- GSC SMA from April 1 through July 31, which is bounded by straight lines connecting the following coordinates in the order stated:

42° 30' N. 69° 45' W.
41° 40' N. 69° 45' W.
41° 00' N. 69° 05' W.
42° 09' N. 67° 08' 24'' W.
42° 30' N. 67° 27' W.
42° 30' N. 69° 45' W.

(4) Additional Mitigation Measures

(A) In approaching and departing from the Neptune Port, SRVs shall use the Boston Traffic Separation Scheme (TSS) starting and ending at the entrance to the GSC. Upon entering the TSS, the SRV shall go into a "heightened awareness" mode of operation, which is outlined in great detail in the Plan (see Neptune's application).

(B) In the event that a whale is visually observed within 0.6 mi (1 km) of the Port or a confirmed acoustic detection is reported on either of the two auto-detection buoys (ABs; more information on the acoustic devices is contained in the "Proposed Monitoring and Reporting" section later in this document) closest to the Port, departing SRVs shall delay their departure from the Port, unless extraordinary circumstances, defined in the Plan, require that the departure is not delayed. The departure delay shall continue until either the observed whale has been visually (during daylight hours) confirmed as more than 0.6 mi (1 km) from the Port or 30 minutes have passed without another confirmed detection either acoustically within the acoustic detection range of the two ABs closest to the Port or visually within 0.6 mi (1 km) from Neptune.

(C) SRVs that are approaching or departing from the Port and are within the Area to be Avoided (ATBA) surrounding Neptune shall remain at least 0.6 mi (1 km) away from any visually detected right whales and at least 100 yards (91 meters) away from all other visually detected whales unless extraordinary circumstances, as defined in Section 1.2 of the Plan in Neptune's application, require that the vessel stay its course. The ATBA is defined in 33 CFR 150.940. It is the largest area of the Port marked on nautical charts and it is enforceable by the USCG in accordance with the 150.900 regulations. The Vessel Master shall designate at least one lookout to be exclusively and continuously monitoring for the presence of marine mammals at all times while the SRV is approaching or departing Neptune.

(D) Neptune will ensure that other vessels providing support to Neptune operations during regasification activities that are approaching or departing from the Port and are within the ATBA shall be operated so as to remain at least 0.6 mi (1 km) away from any visually detected right whales and at least 100 yd (91 m) from all other visually detected whales.

Additional Mitigation Measures Proposed by NMFS

In addition to the mitigation measures proposed in Neptune's IHA application, NMFS proposes the following measures be included in the IHA, if issued, in order to ensure the least practicable impact on the affected species or stocks:

(1) Neptune must immediately suspend any repair and maintenance or operations activities if a dead or injured marine mammal is found in the vicinity of the project area, and the death or

injury of the animal could be attributable to the LNG facility activities. Neptune must contact NMFS and the Northeast Stranding and Disentanglement Program. Activities will not resume until review and approval has been given by NMFS.

(2) MMOs will direct a moving vessel to slow to idle if a baleen whale is seen less than 0.6 mi (1 km) from the vessel.

(3) Use of lights during repair or maintenance activities shall be limited to areas where work is actually occurring, and all other lights must be extinguished. Lights must be downshielded to illuminate the deck and shall not intentionally illuminate surrounding waters, so as not to attract whales or their prey to the area.

Mitigation Conclusions

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another:

• The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals;

• The proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and

• The practicability of the measure for applicant implementation.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Proposed Monitoring and Reporting

In order to issue an ITA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must, where applicable, set forth "requirements pertaining to the monitoring and reporting of such taking". The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for ITAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area.

Neptune proposed both visual and acoustic monitoring programs in the Plan contained in the IHA application. Summaries of those plans, as well as the proposed reporting, are contained next.

Passive Acoustic Monitoring

Neptune LNG will deploy and maintain a passive acoustic detection network along a portion of the TSS and in the vicinity of Neptune. This network will consisting of autonomous recording units (ARUs) and near-real-time ABs. To develop, implement, collect, and analyze the acoustic data obtained from deployment of the ARUs and ABs, as well as to prepare reports and maintain the passive acoustic detection network, Neptune LNG has engaged the Cornell University Bioacoustic Research Program (BRP) in Ithaca, New York, and the Woods Hole Oceanographic Institution (WHOI) in Woods Hole, Massachusetts.

During June 2008, an array of 19 passive seafloor ARUs was deployed by BRP for Neptune. The layout of the array centered on the terminal site and was used to monitor the noise environment in Massachusetts Bay in the vicinity of Neptune during construction of the port and associated pipeline lateral. The ARUs were not designed to provide real-time or near-real-time information about vocalizing whales. Rather archival noise data collected from the ARU array were used for the purpose of understanding the seasonal occurrences and overall distributions of whales (primarily North Atlantic right whales) within approximately 10 nm (18.5 km) of the Neptune Port. Neptune LNG will maintain these ARUs in the same configuration for a period of five years during full operation of Neptune in order to monitor the actual acoustic output of port operations and to alert NOAA to any unanticipated adverse effects of port operations, such as large scale abandonment by marine mammals of the area. To further assist in evaluations of the Neptune's acoustic output, source levels associated with DP of SRVs at the buoys will be estimated using empirical measurements collected from the passive detection network.

In addition to the ARUs, Neptune LNG has deployed 10 ABs within the Separation Zone of the TSS for the operational life of the Port. The purpose of the AB array is to detect the presence of vocalizing North Atlantic right whales. Each AB has an average detection range of 5 nm (9.3 km) of the AB, although detection ranges will vary based on ambient underwater conditions. The AB system will be the primary detection mechanism that alerts the SRV Master to the occurrence of right whales in the TSS and triggers heightened SRV awareness. The configurations of the ARU array and AB network (see Figure 3 in the Plan in Neptune's application) were based upon the configurations developed and recommended by NOAA personnel.

Each AB deployed in the TSS will continuously screen the low-frequency acoustic environment (less than 1,000 Hz) for right whale contact calls occurring within an approximately 5–nm (9.3–km) radius from each buoy (the ABs' detection range) and rank detections on a scale from 1 to 10. Each AB shall transmit all detection data for detections of rank greater than or equal to 6 via Iridium satellite link to the BRP server website every 20 minutes. This 20–minute transmission schedule was determined by consideration of a combination of factors including the tendency of right whale calls to occur in clusters (leading to a sampling logic of listening for other calls rather than transmitting immediately upon detection of a possible call) and the amount of battery power required to complete a satellite transmission. Additional details on the protocol can be found in Neptune's application.

Additionally, Neptune shall provide empirically measured source level data for all sources of noise associated with LNG port maintenance and repair activities. Measurements should be carefully coordinated with noise-producing activities and should be collected from the passive acoustic monitoring network.

Visual Monitoring

During maintenance- and repair-related activities, Neptune LNG shall employ two qualified MMOs on each vessel that has a DP system. All MMOs must receive training and be approved in advance by NOAA after a review of their qualifications. Qualifications for these MMOs shall include direct field experience on a marine mammal observation vessel and/or aerial surveys in the Atlantic Ocean/Gulf of Mexico. The MMOs (one primary and one secondary) are responsible for visually locating marine mammals at the ocean's surface and, to the extent possible, identifying the species. The primary MMO shall act as the identification specialist, and the secondary MMO will serve as data recorder and will assist with identification. Both MMOs shall have responsibility for monitoring for the presence of marine mammals.

The MMOs shall monitor the area where maintenance and repair work is conducted beginning at daybreak using the naked eye, hand-held binoculars, and/or power binoculars (e.g, Big Eyes). The MMOs shall scan the ocean surface by eye for a minimum of 40 minutes every hour. All sightings must be recorded on marine mammal field sighting logs.

While an SRV is navigating within the designated TSS, three people have lookout duties on or near the bridge of the ship including the SRV Master, the Officer-of-the-Watch, and the Helmsman on watch. In addition to standard watch procedures, while the SRV is within the ATBA and/or while actively engaging in the use of thrusters an additional lookout shall be designated to exclusively and continuously monitor for marine mammals. Once the SRV is moored and regasification activities have begun, the vessel is no longer considered in "heightened awareness" status. However, when regasification activities conclude and the SRV prepares to depart from Neptune, the Master shall once again ensure that the responsibilities as defined in the Plan are carried out. All sightings of marine mammals by the designated lookout, individuals posted to navigational lookout duties, and/or any other crew member while the SRV is within the TSS, in transit to the ATBA, within the ATBA, and/or when actively engaging in the use of thrusters shall be immediately reported to the Officer-of-the-Watch who shall then alert the Master.

Reporting Measures

Since the Neptune Port is within the Mandatory Ship Reporting Area (MSRA), all SRVs transiting to and from Neptune shall report their activities to the mandatory reporting section of the USCG to remain apprised of North Atlantic right whale movements within the area. All vessels entering and exiting the MSRA shall report their activities to WHALESNORTH. Vessel operators shall contact the USCG by standard procedures promulgated through the Notice to Mariner system.

For any repair work associated with the pipeline lateral or other port components, Neptune LNG shall notify the appropriate NOAA personnel as soon as practicable after it is determined that repair work must be conducted. During maintenance and repair of the pipeline lateral or other port components, weekly status reports must be provided to NOAA. The weekly report must include data collected for each distinct marine mammal species observed in the project area during the period of the repair activity. The weekly reports shall include the following:

- The location, time, and nature of the pipeline lateral repair activities;
- Whether the DP system was operated and, if so, the number of thrusters used and the time and duration of DP operation;
- Marine mammals observed in the area (number, species, age group, and initial behavior);
- The distance of observed marine mammals from the repair activities;
- Observed marine mammal behaviors during the sighting;
- Whether any mitigation measures were implemented;
- Weather conditions (sea state, wind speed, wind direction, ambient temperature, precipitation, and percent cloud cover, etc.);
- Condition of the marine mammal observation (visibility and glare); and
- Details of passive acoustic detections and any action taken in response to those detections.

For minor repairs and maintenance activities, the following protocols will be followed:

- All vessel crew members will be trained in marine mammal identification and avoidance procedures;
- Repair vessels will notify designated NOAA personnel when and where the repair/maintenance work is to take place along with a tentative schedule and description of the work;
- Vessel crews will record/document any marine mammal sightings during the work period; and
- At the conclusion of the repair/maintenance work, a report will be delivered to designated NOAA personnel describing any marine mammal sightings, the type of work taking place when the sighting occurred, and any avoidance actions taken during the repair/maintenance work.

During all phases of project construction, sightings of any injured or dead marine mammals will be reported immediately to the USCG and NMFS, regardless of whether the injury or death is caused by project activities. Sightings of injured or dead marine mammals not associated with project activities can be reported to the USCG on VHF Channel 16 or to NMFS Stranding and Entanglement Hotline. In addition, if the injury or death was caused by a project vessel (e.g., SRV, support vessel, or construction vessel), USCG must be notified immediately, and a full report must be provided to NMFS, Northeast Regional Office. The report must include the following information: (1) the time, date, and location (latitude/longitude) of the incident; (2) the name and type of vessel involved; (3) the vessel's speed during the incident; (4) a description of the incident; (5) water depth; (6) environmental conditions (e.g., wind speed and direction, sea state, cloud cover, and visibility); (7) the species identification or description of the animal; (8) the fate of the animal; and (9) photographs or video footage of the animal (if equipment is available).

An annual report on marine mammal monitoring and mitigation will be submitted to NMFS Office of Protected Resources and NMFS Northeast Regional Office within 90 days after the expiration of the IHA. The weekly reports and 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 construction and operations. 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 construction and operation activities shall also be included in the annual report. Additional information that will be recorded during construction and contained in the reports include: date and time of marine mammal detections (visually or acoustically), weather conditions, species identification, approximate distance from the source, activity of the vessel or at the construction site when a marine mammal is sighted, and whether thrusters were in use and, if so, how many at the time of the sighting.

General Conclusions Drawn from Previous Monitoring Reports

Throughout the construction period, Neptune submitted weekly reports on marine mammal sightings in the area. While it is difficult to draw biological conclusions from these reports, NMFS can make some general conclusions. Data gathered by MMOs is generally useful to indicate the presence or absence of marine mammals (often to a species level) within the safety zones (and sometimes without) and to document the implementation of mitigation measures. Though it is by no means conclusory, it is worth noting that no instances of obvious behavioral disturbance as a result of Neptune's activities were observed by the MMOs. Of course, these observations only cover the animals that were at the surface and within the distance that the MMOs could see. Based on the number of sightings contained in the weekly reports, it appears that NMFS' estimated take levels are accurate. As operation of the Port has not yet commenced, there are no reports describing the results of the visual monitoring program for this phase of the project. However, it is anticipated that visual observations will be able to continue as they were during construction.

As described previously in this document, Neptune was required to maintain an acoustic array to monitor calling North Atlantic right whales (humpback and fin whale calls were also able to be detected). Cornell BRP analyzed the data and submitted a report covering the initial construction phase of the project, which occurred in 2008. While acoustic data can only be collected if the animals are actively calling, the report indicates that humpback and fin whales were heard calling on at least some of the ARUs on all construction days, and right whale calls were heard only 28 percent of the time during active construction days. The passive acoustic arrays will remain deployed during the time frame of this proposed IHA in order to obtain information during the operational phase of the Port facility.

Estimated Take by Incidental Harassment

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: 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]. Only take by Level B harassment is anticipated as a result of Neptune's operational and repair/maintenance activities. Anticipated take of marine mammals is associated with thruster sound during maneuvering of the SRVs while docking and undocking, occasional weathervaning at the Port, and during thruster use of DP maintenance vessels should a major repair be necessary. The regasification process itself is an activity that does not rise to the level of taking, as the modeled source level for this activity is 110 dB (rms). Certain species may have a behavioral reaction to the sound emitted during the activities. Hearing impairment is not anticipated. Additionally, vessel strikes are not anticipated, especially because of the speed restriction measures that are proposed that were described earlier in this document.

For continuous sounds, such as those produced by Neptune's proposed activities, NMFS uses a received level of 120–dB (rms) to indicate the onset of Level B harassment. The basis for Neptune's "take" estimate is the number of marine mammals that potentially could be exposed to sound levels in excess of 120 dB. This has been determined by applying the modeled zone of influence (ZOI; e.g., the area ensonified by the 120–dB contour) to the seasonal use (density) of the area by marine mammals and correcting for seasonal duration of sound-generating activities and estimated duration of individual activities when the maximum sound-generating activities are intermittent to occasional. Nearly all of the required information is readily available in the MARAD/USCG Final EIS, with the exception of marine mammal density estimates for the project area. In the case of data gaps, a conservative approach was used to ensure that the potential number of takes is not underestimated, as described next.

Neptune contractors have conducted modeling of various vessels for several years to determine the 120–dB ZOI. Prior to submitting its most recent IHA application, Neptune contracted JASCO to conduct new sound source measurement tests on the SRV while using the thrusters at full power. The reports are contained in Appendix C of Neptune's application (see **ADDRESSES**). The vessels used in the most recent tests conducted in 2009 use vessels that are closer in similarity to the ones that will be used at the Neptune Port facility. The results indicate that the 120–dB radius from thruster use is estimated to be 1.6 nm (3 km), creating a maximum ZOI of 8.5 nm2 (29 km2). This zone is smaller than the one that was used to estimate the level of take in the previous IHA. However, the vessels used in the 2009 tests more closely resemble the vessels that will be used by Neptune.

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 whales is not well documented within the project area. Nonetheless, NMFS used the data on cetacean distribution within Massachusetts Bay, such as those published by the NCCOS (2006), to determine potential takes of marine mammals in the vicinity of the project area. Neptune presented density estimates using the CETAP (1982) and U.S. Navy MRA (2005) data. The NCCOS (2006) uses information from these sources; however, it also includes information from some other studies. Therefore, NMFS used density information for the species that are included in the NCCOS (2006) report. These species include: North Atlantic right, fin, humpback, minke, pilot, and sei whales and Atlantic white-sided dolphins.

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 the 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: the CETAP, the Canadian Department of Fisheries and Oceans, the Provincetown Center for Coastal Studies, International Fund for Animal Welfare, NEFSC, New England Aquarium, WHOI, and the University of Rhode Island. A total of 406,293 mi (653,725 km) 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 NEFSC to provide an assessment of the relative abundance and distribution of cetaceans, seabirds, and marine turtles in the shelf waters of the northeastern U.S. (MBO, 1987). The CSAP program was designed to be completely compatible with 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 8,383 mi (5,210 km) 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 913,840 mi (567,955 km) of survey track for small cetaceans (dolphins and porpoises) and 1,060,226 mi (658,935 km) 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.

Based on 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 previously in this document, in the "Description of Marine Mammals in the Area of the Specified Activity" section. For a detailed description and calculation of the cetacean abundance data and SPUE, refer to the NCCOS study (NCCOS, 2006). SPUE for all four seasons were analyzed, and the highest value SPUE for the season with the highest abundance of each species was used to determine relative abundance. Based on the data, the relative abundance of North Atlantic right, fin, humpback, minke, sei, and pilot whales and Atlantic white-sided dolphins, as calculated by SPUE in number of animals per square kilometer, is 0.0082, 0.0097, 0.0265, 0.0059, 0.0084, 0.0407, and 0.1314 n/km, respectively. Table 1 in this document outlines the density, abundance, take estimates, and percent of population for the 14 species for which NMFS is proposing to authorize Level B harassment.

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, 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:

$$D = SPUE/2W.$$

Based on the calculation, the estimated take numbers by Level B harassment for the 1–year IHA period for North Atlantic right, fin, humpback, minke, sei, and pilot whales and Atlantic white-sided dolphins, within the 120–dB ZOI of the LNG Port facility area of approximately 8.5 nm^2 (29 km^2) maximum ZOI, corrected for 50 percent underwater, are 23, 27, 72, 16, 6, 111, and 357, respectively. This estimate is based on an estimated 50 SRV trips for the period July 1, 2010, through June 30, 2011, that will produce sounds of 120 dB or greater.

Based on the same calculation method described above for Port operations, the estimated take numbers by Level B harassment for North Atlantic right, fin, humpback, minke, sei, and pilot whales and Atlantic white-sided dolphins for the 1–year IHA period incidental to Port maintenance and repair activities, corrected for 50 percent underwater, are 6, 7, 20, 5, 6, 31, and 100, respectively. These numbers are based on 14 days of repair and maintenance activities occurring between July 1, 2010, and June 30, 2011. It is unlikely that this much repair and maintenance work would be required this soon after completion of the construction phase of the facility.

The total estimated take of these species as a result of both operations and repair and maintenance activities of the Neptune Port facility between July 1, 2010, and June 30, 2011, is: 29 North Atlantic right whales; 34 fin whales; 92 humpback whales; 21 minke whales; 12 sei whales; 142 long-finned pilot whales; and 457 Atlantic white-sided dolphins. These numbers represent a maximum of 8.4, 1.5, 10.9, 0.6, 3.1, 0.5, and 0.7 percent of the populations for these species or stocks in the western North Atlantic, respectively. It is likely that individual animals will be "taken" by harassment multiple times (since certain individuals may occur in the area more than once while other individuals of the population or stock may not enter the proposed project area). Additionally, the highest value SPUE for the season with the highest abundance of each species was used to determine relative abundance. Moreover, it is not expected that Neptune will have 50 SRV transits and LNG deliveries in the first year of operations. Therefore, these percentages are the upper boundary of the animal population that could be affected. Thus, the actual number of individual animals being exposed or taken is expected to be far less.

In addition, bottlenose dolphins, common dolphins, Risso's 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. Since these species are less likely to occur in the area, and there are no density estimates specific to this particular area, NMFS based the take estimates on typical group size. Therefore, NMFS estimates that up to approximately 10 bottlenose dolphins, 20 common dolphins, 20 Risso's dolphins, 20 killer whales, 5 harbor porpoises, 15 harbor seals, and 15 gray seals could be exposed to continuous noise at or above 120 dB re 1 ?Pa rms incidental to operations and repair and maintenance activities during the one year period of the IHA, respectively.

Since Massachusetts Bay represents only a small fraction of the western North Atlantic basin where these animals occur NMFS has preliminarily determined that only small numbers of the affected marine mammal species or stocks would be potentially affected by the Neptune LNG deepwater project. The take estimates presented in this section of the document do not take into consideration the mitigation and monitoring measures that are proposed for inclusion in the IHA (if issued).

TABLE 1. DENSITY ESTIMATES, POPULATION ABUNDANCE ESTIMATES, TOTAL PROPOSED TAKE (WHEN COMBINE TAKES FROM OPERATION AND MAINTENANCE/REPAIR ACTIVITIES), AND PERCENTAGE OF POPULATION THAT MAY BE TAKEN FOR THE POTENTIAL AFFECTED SPECIES.

Species	Density (n/km^2)	Abundance[1]	Total Proposed Take (operation & maintenance)	Percentage of Stock or Population
North Atlantic right whale	0.0082	345	29	8.4
Fin whale	0.0097	2,269	34	1.5
Humpback whale	0.0265	847	92	10.9
Minke whale	0.0059	3,312	21	0.6
Sei whale	0.0084	386	12	3.1
Long-finned pilot whale	0.0407	31,139	142	0.5
Atlantic white-sided dolphin	0.1314	63,368	457	0.7

TABLE 1. DENSITY ESTIMATES, POPULATION ABUNDANCE ESTIMATES, TOTAL PROPOSED TAKE (WHEN COMBINE TAKES FROM OPERATION AND MAINTENANCE/REPAIR ACTIVITIES), AND PERCENTAGE OF POPULATION THAT MAY BE TAKEN FOR THE POTENTIAL AFFECTED SPECIES.—Continued

Species	Density (n/km^2)	Abundance[1]	Total Proposed Take (operation & maintenance)	Percentage of Stock or Population
Bottlenose dolphin	NA	7,489	10	0.1
Common dolphin	NA	120,743	20	0.02
Risso's dolphin	NA	20,479	20	0.1
Killer whale	NA	NA	20	NA
Harbor porpoise	NA	89,054	5	0.01
Harbor seal	NA	99,340	15	0.02
Gray seal	NA	125,541–169,064	15	0.01

[1] Abundance estimates taken from NMFS Atlantic and Gulf of Mexico SAR; NA=Not Available

Negligible Impact and Small Numbers Analysis and Preliminary Determination

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." In making a negligible impact determination, NMFS considers a variety of factors, including but not limited to: (1) the number of anticipated mortalities; (2) the number and nature of anticipated injuries; (3) the number, nature, intensity, and duration of Level B harassment; and (4) the context in which the takes occur.

No injuries or mortalities are anticipated to occur as a result of Neptune's proposed port operation and maintenance and repair activities, and none are proposed to be authorized by NMFS. Additionally, animals in the area are not anticipated to incur any hearing impairment (i.e., TTS or PTS), as the modeling results for the SRV indicate a source level of 180 dB (rms).

While some of the species occur in the proposed project area year-round, some species only occur in the area during certain seasons. Sei whales are only anticipated in the area during the spring. Therefore, if shipments and/or maintenance/repair activities occur in other seasons, the likelihood of sei whales being affected is quite low. Additionally, any repairs that can be scheduled in advance will be scheduled to avoid the peak time that North Atlantic right whales occur in the area, which usually is during the early spring. North Atlantic right, humpback, and minke whales are not expected in the project area in the winter. During the winter, a large portion of the North Atlantic right whale population occurs in the southeastern U.S. calving grounds (i.e., South Carolina, Georgia, and northern Florida). The fact that certain activities will occur during times when certain species are not commonly found in the area will help reduce the amount of Level B harassment for these species.

Many animals perform vital functions, such as feeding, resting, traveling, and socializing, on a diel cycle (24–hr cycle). Behavioral reactions to noise exposure (such as disruption of critical life functions, displacement, or avoidance of important habitat) are more likely to be significant if they last more than one diel cycle or recur on subsequent days (Southall *et al.*, 2007). Consequently, a behavioral response lasting less than one day and not recurring on subsequent days is not considered particularly severe unless it could directly affect reproduction or survival (Southall *et al.*, 2007). Operational activities are not anticipated to occur at the Port on consecutive days. Once Neptune is at full operations, SRV shipments would occur every 4–8 days, with thruster use needed for a couple of hours. Therefore, Neptune will not be creating increased sound levels in the marine environment for several days at a time.

Of the 14 marine mammal species likely to occur in the area, four are listed as endangered under the ESA: North Atlantic right, humpback, fin, and sei whales. All of these species, as well as the northern coastal stock of bottlenose dolphin, are also considered depleted under the MMPA. As stated previously in this document, the affected humpback and North Atlantic right whale populations have been increasing in recent years. However, there is insufficient data to determine population trends for the other depleted species in the proposed project area. There is currently no designated critical habitat or known reproductive areas for any of these species in or near the proposed project area. However, there are several well known North Atlantic right whale feeding grounds in the CCB and GSC. As mentioned previously, to the greatest extent practicable, all maintenance/repair work will be scheduled during the May 1 to November 30 time frame to avoid peak right whale feeding in these areas, which occur close to the Neptune Port. No mortality or injury is expected to occur and due to the nature, degree, and context of the Level B harassment anticipated, the activity is not expected to impact rates of recruitment or survival.

The population estimates for the species that may be taken by harassment from the most recent U.S. Atlantic SAR were provided earlier in this document (see the "Description of Marine Mammals in the Area of the Specified Activity" section). From the most conservative estimates of both marine mammal densities in the project area and the size of the 120–dB ZOI, the maximum calculated number of individual marine mammals for each species that could potentially be harassed annually is small relative to the overall population sizes (10.9 percent for humpback whales and 8.4 percent for North Atlantic right whales and no more than 3.1 percent of any other species).

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS preliminarily finds that operation, including repair and maintenance activities, of the Neptune Port will result in the incidental take of small numbers of marine mammals, by Level B harassment only, and that the total taking from Neptune's proposed activiites will have a negligible impact on the affected species or stocks.

Impact on Availability of Affected Species or Stock for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action.

Endangered Species Act (ESA)

On January 12, 2007, NMFS concluded consultation with MARAD and USCG under section 7 of the ESA on the proposed construction and operation of the Neptune LNG facility and issued a Biological Opinion. The finding of that consultation was that the construction and operation of the Neptune 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.

On March 2, 2010, MARAD and USCG sent a letter to NMFS requesting reinitiation of the section 7 consultation. MARAD and USCG determined that certain routine planned operations and maintenance activities, inspections, surveys, and unplanned repair work on the Neptune Deepwater Port pipelines and flowlines, as well as any other Neptune Deepwater Port component (including buoys, risers/umbilicals, mooring systems, and sub-sea manifolds), may constitute a modification not previously considered in the 2007 Biological Opinion. Construction of the Port facility will be completed by summer 2010, and, therefore, is no longer part of the proposed action. This consultation will be concluded prior to a determination on the issuance of this IHA.

National Environmental Policy Act (NEPA)

MARAD and the USCG released a Final EIS/Environmental Impact Report (EIR) for the proposed Neptune LNG Deepwater Port (see **ADDRESSES**). A notice of availability was published by MARAD on November 2, 2006 (71 FR 64606). The Final EIS/EIR provides detailed information on the proposed project facilities, construction methods, and analysis of potential impacts on marine mammals.

NMFS was a cooperating agency in the preparation of the Draft and Final EISs based on a Memorandum of Understanding related to the Licensing of Deepwater Ports entered into by the U.S. Department of Commerce along with 10 other government agencies. On June 3, 2008, NMFS adopted the USCG and MARAD FEIS and issued a separate Record of Decision for issuance of authorizations pursuant to sections 101(a)(5)(A) and (D) of the MMPA for the construction and operation of the Neptune LNG Port facility.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to authorize the take of marine mammals incidental to port commissioning and operations, including repair and maintenance activities at the Neptune Deepwater Port, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: April 30, 2010.

Helen M. Golde,

Deputy Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2010–10715 Filed 5–5–10; 8:45 am]

BILLING CODE 3510–22–S

CONSUMER PRODUCT SAFETY COMMISSION

Sunshine Act Meetings

TIME AND DATE: Wednesday, May 12, 2010; 2 p.m.–4 p.m.

PLACE: Hearing Room 420, Bethesda Towers, 4330 East West Highway, Bethesda, Maryland.

STATUS: Closed to the Public.

MATTERS TO BE CONSIDERED:

Compliance Status Report:

The Commission staff will brief the Commission on the status of compliance matters.

For a recorded message containing the latest agenda information, call (301) 504–7948.

CONTACT PERSON FOR MORE INFORMATION: Todd A. Stevenson, Office of the Secretary, U.S. Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814, (301) 504–7923.

Dated: May 3, 2010.

Todd A. Stevenson,

Secretary.

[FR Doc. 2010–10833 Filed 5–4–10; 4:15 pm]

BILLING CODE 6355–01–P

CONSUMER PRODUCT SAFETY COMMISSION

Sunshine Act Meetings

TIME AND DATE: Wednesday, May 12, 2010, 9 a.m.–11 a.m.

PLACE: Hearing Room 420, Bethesda Towers, 4330 East West Highway, Bethesda, Maryland.

STATUS: Commission Meeting—Open to the Public.

MATTERS TO BE CONSIDERED:

1. Pending Decisional Matter: Infant Bath Seats—Final Rule:

A live webcast of the Meeting can be viewed at *http://www.cpsc.gov/webcast/index.html*. For a recorded message containing the latest agenda information, call (301) 504–7948.

CONTACT PERSON FOR MORE INFORMATION: Todd A. Stevenson, Office of the Secretary, U.S. Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814 (301) 504–7923.

Dated: May 3, 2010.

Todd A. Stevenson,

Secretary.

[FR Doc. 2010–10834 Filed 5–4–10; 4:15 pm]

BILLING CODE 6355–01–P

DEPARTMENT OF DEFENSE

Office of the Secretary

Federal Advisory Committee; Defense Intelligence Agency Advisory Board; Closed Meeting

AGENCY: Defense Intelligence Agency, DoD.

ACTION: Meeting notice.

SUMMARY: Under the provisions of the Federal Advisory Committee Act of 1972 (5 U.S.C., Appendix, as amended), the Government in the Sunshine Act of 1976 (5 U.S.C. 552b, as amended), and 41 CFR 102–3.150 the Department of Defense announces that Defense Intelligence Agency Advisory Board, and its subcommittees, will meet on June 15 and 16, 2010. The meeting is closed to the public.

DATES: The meeting will be held on June 15, 2010 (from 1:30 p.m. to 5:15 p.m.) and on June 16, 2010 (from 9 a.m. to 4:30 p.m.).

ADDRESSES: The meeting will be held at Bolling Air Force Base.

FOR FURTHER INFORMATION CONTACT: Mr. Mark Harrison, (703) 647–5102, Alternate Designated Federal Official, DIA Office for Congressional and Public Affairs, Pentagon, 1A874, Washington, DC 20340.