



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, MD 20910

OCT 7 2016

Daniel McPherson  
Neptune LNG LLC  
20 City Square  
Charlestown, Massachusetts 02129

Dear Mr. McPherson,

Enclosed is an Incidental Harassment Authorization (IHA), issued pursuant to Section 101(a)(5)(D) of the Marine Mammal Protection Act, to take small numbers of marine mammals, by Level B harassment, incidental to maintenance, repair, and decommissioning of the Neptune LNG port, Massachusetts Bay.

You are required to comply with the conditions contained in the IHA, including all mitigation, monitoring and reporting requirements. Along with mitigation measures to be incorporated, the IHA requires monitoring for the presence and behavior of marine mammals before and during times when dynamic positioning vessels are operating thrusters and select departure and transit times. Neptune is required to submit a draft report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal and acoustic monitoring or sixty days prior to the issuance of any subsequent IHA for this project, whichever comes first. A final report shall be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS.

If you have any questions concerning the IHA or its requirements, please contact Jaclyn Daly, Office of Protected Resources, at 301-427-8438.

Sincerely,

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

## Incidental Harassment Authorization

Neptune LNG LLC, is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)), to harass marine mammals incidental to vessel thruster use during maintenance, repair, and decommissioning of an LNG deepwater port in Massachusetts Bay when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid for one year from date of issuance.
2. This IHA is valid only for dynamic positioning vessel thruster use associated with the maintenance, repair, and decommissioning of an LNG deepwater port in Massachusetts Bay.
3. General Conditions
  - (a) A copy of this IHA must be in the possession of the Neptune, its designees, and work crew personnel operating under the authority of this IHA.
  - (b) The species authorized for taking are provided in Table 1 (attached).
  - (c) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in condition 3(b) of the Authorization or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.
  - (d) Neptune shall conduct briefings between construction supervisors and crews, marine mammal monitoring team, acoustical monitoring team, and Neptune staff or contractors prior to the start of maintenance, repair and decommissioning, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.
  - (e) The entity may not conduct decommissioning work prior to May 1, 2017.

4. Mitigation Measures

The holder of this Authorization is required to implement the following mitigation measures:

- (a) Any whale visually sighted or otherwise detected (e.g., on the NAVTEX, NOAA Weather Radio, SAS and/ or a confirmed acoustic detection is reported on any two passive acoustic monitoring (PAM) buoys closest to the activity) within 1,000 m of a vessel shall result in a heightened alert status which will require all project vessels to operate at slow speeds of 4 knots or less and any non-critical departure plans to be delayed.

- (b) Any whale sighted within or approaching 500 m of a vessel shall result in that vessel using idle speed and/or ceasing all movement. If the vessel is operating DP thrusters, the thrusters will be shut down or reduced to minimal safe operating power. The speed and activity restrictions shall continue until either the observed whale has been confirmed outside of and on a path away from 500m from the vessel or 30 minutes have passed without another confirmed detection.
- (c) Any non-whale marine mammal species detected within or approaching 100 m of a vessel shall result in that vessel using idle speed and/or ceasing all movement. If the vessel is operating DP thrusters, the thrusters will be shut down or reduced to minimal safe operating power. The speed and activity restrictions shall continue until either the observed marine mammal has been confirmed outside and on a path away from 100 m from the activity or 30 minutes have passed without another confirmed detection.
- (d) All project vessels will remain at least 500 m away from any North Atlantic right whale and at least 100 m away from all other marine mammals. If a marine mammal approaches a stationary vessel, that vessel will sit idle or turn off engines until the marine mammal has left the designated zone or 30 minutes have passed without another confirmed detection.
- (e) All vessels shall utilize the International Maritime Organization (IMO)-approved Boston Traffic Separation Scheme (TSS) on their approach to and departure from the Neptune DWP and/or the unscheduled maintenance/maintenance area at the earliest practicable point of transit in order to avoid the risk of whale strikes.
- (f) Repair vessels, DSVs, and HLVs, 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:
- CB 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.
- (g) All vessels transiting to and from the project area 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 Mandatory Ship Reporting Area (MSRA) shall report their activities to WHALESNORTH. Vessel operators shall contact the USCG by standard procedures promulgated through the Notice to Mariner system. Information regarding the geographical boundaries and reporting details can be found at: <http://www.fisheries.noaa.gov/pr/shipstrike/msr.htm>
- (h) Prior to leaving the dock to begin transit, the project vessel must contact one of the PSOs on watch to receive an update of sightings within the visual observation area. If the PSO 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 PSOs on board. PSOs will assess whale activity and visual observation ability at the time of the transit request to clear the barge for release.
- (i) No vessels will transit from shore to the project site during nighttime or when visibility is reduced below 1,000 m, unless an emergency situation requires the vessel to transit during those times. Should transit at night be required, the maximum speed will be 5 knots (9.3 km/hr).
- (j) All vessels will consult Navigational Telex (NAVTEX), NOAA Weather Radio, the NOAA Right Whale Sighting Advisory System (SAS) or other means to obtain current large whale sighting information.
- (k) If member of the crew visually detects a marine mammal within the ZOI (3.45 km), they will alert the lead PSO on watch who shall then relay the sighting information to the other vessels to document take, determine if mitigation actions are necessary, as required by this IHA, and ensure action(s) can be taken to avoid physical contact with marine mammals.
- (l) In response to any whale sightings or acoustic detections, and taking into account exceptional circumstances, all vessels shall actively communicate with the lead PSO and will take appropriate actions to minimize the risk of striking whales.
- (m) Neptune must immediately suspend any repair, maintenance, or decommissioning 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.

- (n) 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.
- (o) Transit route, destination, sea conditions and any marine mammal sightings/mitigation actions during watch shall be recorded in the log book.
- (p) The material barges and tugs used in repair, maintenance, and decommissioning 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 shall be 5 knots.
- (q) All repair vessels must maintain a speed of 10 knots or less during daylight hours. All vessels shall operate at 5 knots or less at all times within 5 km of the maintenance, repair, or decommissioning area.

## 5. Monitoring

The holder of this Authorization is required to conduct marine mammal monitoring during port maintenance, repair, and decommissioning. Monitoring and reporting shall be conducted in accordance with the Monitoring Plan.

### Visual Monitoring

- (a) All vessel crew members will undergo environmental training. Crew members who will act as designated watch personnel during heightened awareness conditions will receive specialized observer training.
- (b) All vessel operation requirements, guidelines and mitigation requirements will be clearly posted on the bridge of all project vessels.
- (c) Neptune or its contractor shall provide a half-day training course to designated crew members assigned to the transit barges and other support vessels. This course shall cover topics including, but not limited to, descriptions of the marine mammals found in the area, mitigation and monitoring requirements contained in this Authorization, sighting log requirements, and procedures for reporting injured or dead marine mammals. These designated crew members shall be required to keep watch on the bridge and immediately notify the navigator of any whale sightings. All watch crew shall 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 shall be recorded in the log book.

- (d) Each dynamically positioned (DP) vessel will employ three professional PSOs. Two PSOs will conduct continual visual watches on a shift basis during all daylight hours. Daytime PSOs will monitor the acoustic alert program when not on active visual watch. During the night, one PSO will monitor the acoustic alert program and will scan the area around the vessel using a thermal imaging or similar enhancement device for 15 minutes each hour.
- (e) All professional PSOs will be approved by NMFS prior to the start of the project, will have at least one full year of marine mammal observation experience in the U.S. Atlantic, Pacific, or Gulf of Mexico, and will have experience in acoustic monitoring and baleen whale detection.
- (f) Each non-DP vessel will designate one trained crew member to stand a dedicated watch during all vessel movement and during times of heightened awareness. All designated crew watch personnel will undergo a full day of project-specific mitigation and monitoring training alongside the professional PSOs.
- (g) PSOs will be responsible for advising vessel crew members on the required operating procedures and mitigation measures that are defined in the IHA. PSOs will be responsible for providing the required observation and detection data during the decommissioning activities.
- (h) Neptune shall maintain a passive acoustic monitoring array consisting of four near real-time autonomous recording units (ARUs) strategically placed around the north and south buoys.
- (i) If a whale call detection alert is received, the PSO will review the data and confirm the signal is a whale call. Upon verification, the PSO will monitor the other buoys for call detections. If the PSO verifies detections from two other buoys, then it will be determined that a whale is within the heightened awareness area. Mitigation measures for acoustic detection of whales will be the same as those for visual detection described above.

## 6. Reporting

The holder of this Authorization is required to:

- (a) Submit a draft report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal and acoustic monitoring or sixty days prior to the issuance of any subsequent IHA for this project, whichever comes first. A final report shall be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report

must contain the informational elements described in the Monitoring Plan, at minimum (see attached), and shall also include:

- (i) Location (in longitude and latitude coordinates), time, and the nature of the maintenance and repair activities;
  - (ii) Indication of whether a DP system was operated, and if so, the number of thrusters being used and the time and duration of DP operation;
  - (iii) Marine mammals observed in the within the ZOI (3.45 km in all directions)(number, species, age group, and initial behavior);
  - (iv) The distance of observed marine mammals from the maintenance and maintenance, repair, or decommissioning activities;
  - (v) Changes, if any, in marine mammal behaviors during the observation;
  - (vi) A description of any mitigation measures (power-down, shutdown, etc.) implemented;
  - (vii) Weather condition (Beaufort sea state, wind speed, wind direction, ambient temperature, precipitation, and percent cloud cover etc.);
  - (viii) Condition of the observation (visibility and glare); and
  - (ix) Details of passive acoustic detections and any action taken in response to those detections.
- (b) Reporting injured or dead marine mammals:
- (i) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as an injury (Level A harassment), serious injury, or mortality, Neptune shall immediately cease the specified activities and report the incident to the Office of Protected Resources (301-427-8401), NMFS, and the Greater Atlantic Regional Fisheries Office Stranding Coordinator (978-281-9300). The report must include the following information:
    1. Time and date of the incident;
    2. Description of the incident;
    3. Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
    4. Description of all marine mammal observations and active sound source use in the 24 hours preceding the incident;

5. Species identification or description of the animal(s) involved;
6. Fate of the animal(s); and
7. Photographs or video footage of the animal(s).

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with Neptune to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Neptune may not resume their activities until notified by NMFS.

- (ii) In the event that Neptune discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (e.g., in less than a moderate state of decomposition), Neptune shall immediately report the incident to the Office of Protected Resources, NMFS, and the Greater Atlantic Regional Fisheries Office Stranding Coordinator, NMFS.

The report must include the same information identified in 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with Neptune to determine whether additional mitigation measures or modifications to the activities are appropriate.

- (iii) In the event that Neptune discovers an injured or dead marine mammal, and the lead observer determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Neptune shall report the incident to the Office of Protected Resources, NMFS, and the Greater Atlantic Regional Fisheries Office Stranding Coordinator, NMFS, within 24 hours of the discovery. Neptune shall provide photographs or video footage or other documentation of the stranded animal sighting to NMFS.



7. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.

Dated: October 7, 2016



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

## Attachment 1

Table 1. Number of marine mammals, by species, authorized to be taken during the effective dates of the IHA.

Species	Estimated population (Waring <i>et al.</i> , 2015)	Density	Authorized Takes	% Population
North Atlantic right whale ( <i>Eubalaena glacialis</i> )	476	0.000017	2	0.21
Fin whale ( <i>Balaenoptera physalus</i> )	1,618	0.0034	12	0.12
Humpback whale ( <i>Megaptera novaeangliae</i> )	823	0.0032	10	0.22
Minke whale ( <i>Balaenoptera acutorostrata</i> )	20,741	0.0033	11	0.009
Sei whale ( <i>Balaenoptera borealis</i> )	357	0.000036	2	0.28
Atlantic white-sided dolphin ( <i>Lagenorhynchus acutus</i> )	48,819	0.039	124	0.043
Long-finned pilot whale ( <i>Globicephala melas</i> )	26,535	0.0019	8	0.035
Harbor porpoise ( <i>Phocoena phocoena</i> )	79,883	0.104	328	0.068
Bottlenose dolphin ( <i>Tursiops truncatus</i> )	77,532	0.003	10	0.002
Short beaked common dolphin ( <i>Delphinus delphis</i> )	173,486	0.0071	270*	0.002
Risso's dolphin ( <i>Grampus griseus</i> )	18,250	0.000044	2	0.005
Killer whale ( <i>Orcinus orca</i> )	unk	0.0000089	2	unk
Harbor seal ( <i>Phoca vitulina</i> )	75,834	0.097	305	0.067
Gray sea ( <i>Halichoerus grypus</i> )	unk	0.027	86	unk