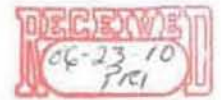




MARINE MAMMAL COMMISSION



16 June 2010

Mr. P. Michael Payne, Chief
Permits, Conservation, and Education Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application from Neptune LNG LLC seeking an incidental harassment authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act. The applicant is requesting a one-year authorization to harass small numbers of various species of seals, toothed whales, and baleen whales, including North Atlantic right whales, incidental to the commissioning and operation (including maintenance and repair activities) of its offshore liquefied natural gas facility (Neptune Deepwater Port) in Massachusetts Bay. The Commission also has reviewed the National Marine Fisheries Service's 6 May 2010 *Federal Register* notice (75 Fed. Reg. 24906) soliciting comments on the application and on its intent to promulgate regulations governing the taking of marine mammals incidental to full port operations and any major repairs that may be necessary to the port facility over a five-year period. The Commission offers the following recommendations and rationale.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service issue the requested incidental harassment authorization, provided that—

- the monitoring and mitigation measures proposed by the Service and the applicant are implemented to mitigate the risk of ships colliding with North Atlantic right whales and other cetacean species; and
- the new section 7 consultation on the project is completed and concludes that the cumulative effects of the proposed action, in combination with other activities in the action area, are not likely to jeopardize the continued existence of the North Atlantic right, humpback, fin, sperm, sei, or blue whales.

RATIONALE

In June 2008 the Service issued a one-year authorization to Neptune LNG LLC to take by Level B harassment marine mammals incidental to the construction of the port. In June 2009 the Service issued a second one-year authorization to take marine mammals by Level B harassment incidental to the completion of construction and beginning of operations. That authorization expires on 30 June 2010. The Commission provided comments on the first two incidental take applications from Neptune (letters of 20 March 2008 and 8 June 2009, enclosed) and on the Service's notices of

intent to promulgate regulations under section 101(a)(5)(A) of the Act to authorize the taking of marine mammals incidental to operation and maintenance of the port over a five-year period.

The *Federal Register* notice for the current application indicates that the proposed authorization, if issued, would cover activities for a third year, including commissioning and operation of Neptune's second shuttle and regasification vessel, initial operation of the port, and maintenance of and repairs to the port facility. Those activities would generate noise exceeding 120 dB re 1 μ Pa (rms), with the loudest source resulting from the use of thrusters by vessels maneuvering and maintaining position at the port. The notice states that an analysis by JASCO Research Limited (presumably LGL and JASCO Research 2005), which assumed the use of four thrusters (two bow, two stern) at 100 percent power during all four seasons, indicated that the one-third (1/3)-octave band source levels for the thrusters ranged from 148.5 dB re 1 μ Pa at 1 m at 2,000 Hz to 174.5 dB re 1 μ Pa at 1 m at 10 Hz. The *Federal Register* notice and supplemental information provided with the application (e.g., "Assessment of the Effects of Underwater Noise from Thrusters to be Used on the Neptune LNG Project, 2nd Supplementary Biological Effects Report" [LGL Limited 2009]), indicate that additional measurements of the underwater noise emanating from the thrusters of the project's newly constructed shuttle and regasification vessel have been made (Samsung 2009), which formed the basis for new transmission loss modeling by JASCO Applied Sciences (Gaboury and Carr 2009). According to that modeling, the 120-dB radius from thruster use is estimated to be 3 km, creating a maximum zone of influence of 29 km². This zone is smaller than the one that was used to estimate the level of take in the previous incidental harassment authorization and reflects measurements from the type of vessel that would be used at the Neptune port facility.

The *Federal Register* notice also identifies the large construction-type dynamic positioning vessels that would be used for a major repair of the subsea pipeline or unloading facility as another potential sound source, although the applicant considers it unlikely that any such repair would be needed. LGL's 2009 report states that under a worst-case scenario, the noise generated by such activities would be expected to produce received noise levels of 120 dB that would extend out from 6.5 to 7.6 km and encompass areas ranging from 120 km² to 152 km². The application states that if a major repair requires the use of large construction-type derrick barges, protocols similar to those employed during the construction phase of the project would be followed. If a repair cannot be scheduled during the optimal seasonal window between May 1 and November 30 (e.g., in response to an immediate emergency or when needed to restore gas flow to end-users), additional mitigation measures would be adopted to protect the North Atlantic right whales, other marine mammals, and sea turtles.

The monitoring and mitigation measures to be implemented as part of the proposed activities include the following:

- all repair vessels of 300 gross tons or more will operate at speeds of 10 knots or less;
- all repair vessels less than 300 gross tons carrying supplies or crew between shore and the repair site will be required to contact the appropriate authority or the construction site

- before leaving shore to check for reports of recent right whale sightings and, except when required for navigation safety, restrict speeds to 10 knots or less within five miles of any recent right whale sighting location and within any existing Dynamic Management Area;
- all related vessels transiting through the Cape Cod Canal and Cape Cod Bay between 1 January and 15 May will reduce speeds to 10 knots or less and follow the recommended routes charted by the National Oceanic and Atmospheric Administration to reduce risks to right whales from shipping traffic and to avoid aggregations of right whales in the eastern portion of Cape Cod Bay;
 - whenever possible, maintenance activities and needed repairs will be scheduled to occur between May 1 and November 30 to avoid or minimize disturbance to North Atlantic right whales. If repairs cannot be scheduled during this period, additional mitigation measures would be adopted;
 - repair vessels and shuttle and regasification vessels will transit at 10 knots or less during the following seasons to reduce the likelihood and severity of ship strikes of right whales: Cape Cod Bay seasonal management area from 1 January through 15 May, which includes all waters in Cape Cod Bay, extending to all shorelines of the Bay; Off Race Point seasonal management area year round; and the Great South Channel seasonal management area from 1 April through 31 July; and
 - a passive acoustic detection network (consisting of autonomous recording units and near-real-time auto-detection buoys) will be deployed and maintained along a portion of the Boston Traffic Separation Scheme and in the vicinity of the Neptune port. The applicant has engaged the Cornell University Bioacoustic Research Program and the Woods Hole Oceanographic Institution to develop, implement, collect, and analyze the acoustic data obtained from deployment of the autonomous recording units and near-real-time auto-detection buoys, to prepare reports, and to maintain the passive acoustic detection network. The passive acoustic monitoring system would remain in place to measure the actual output of port operations and to alert the Service to any unanticipated adverse effects of port operations, such as large-scale abandonment of the area by right whales or other marine mammals or acoustic impacts greater than predicted by modeling.

The National Marine Fisheries Service has preliminarily determined that, with the implementation of the proposed mitigation and monitoring measures, the planned operation of the Neptune port, including repair and maintenance activities, likely will result in the incidental take of small numbers of marine mammals by Level B harassment only, and would not 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, and that the total taking from Neptune's proposed activities will have a negligible impact on the affected marine mammal species or stocks. The Marine Mammal Commission concurs with the need for those measures and recommends that the National Marine Fisheries Service include all of them in any incidental harassment authorization.

Also, the *Federal Register* states that on 2 March 2010 the Maritime Administration and the U.S. Coast Guard requested re-initiation of the section 7 consultation originally concluded in January 2007. The agencies requested the re-initiation because they determined that certain routine

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operations and maintenance activities, inspections, surveys, and unplanned repair work on the Neptune deepwater port pipelines, flowlines, and other components (including buoys, risers/umbilicals, mooring systems, and subsea manifolds) may constitute a modification of the expected operations not previously considered in the 2007 consultation and biological opinion. Also, construction of the port facility will be completed by summer 2010, and therefore would no longer be part of the proposed action. In light of those changes, the Marine Mammal Commission concurs with the need to re-initiate section 7 consultation and recommends that the National Marine Fisheries Service complete the consultation and issue the incidental harassment authorization only if the resulting biological opinion concludes that the cumulative effects of the proposed action, in combination with other activities in the action area, are not likely to jeopardize the continued existence of the North Atlantic right, humpback, fin, sperm, sei, or blue whales. The *Federal Register* notice states that the new consultation will be concluded prior to deciding whether to issue the requested incidental harassment authorization, and the Commission concurs that doing so is appropriate.

Please contact me if you have questions concerning our recommendations.

Sincerely,


Timothy J. Ragen, Ph.D.
Executive Director

Enclosures

Literature Cited

- Gaboury, I., and S. Carr. 2009. Neptune Deep Water Port: Assessment of underwater noise from LNG carrier weathervaning on the mooring. Report by JASCO Applied Sciences, Halifax, NS for Ecology and Environment, Inc., Lancaster, NY, 11 p.
- LGL and JASCO Research. 2005. Assessment of the effects of underwater noise from the proposed Neptune LNG Project. Report by LGL Limited, King City, ON and JASCO Research Ltd. Halifax, NS for Ecology and Environment, Inc., Arlington, VA, 234 p.
- LGL Limited. 2009. Assessment of the effects of underwater noise from thrusters to be used on the Neptune LNG Project. 2nd Supplementary Biological Effects Report. 3 December 2009. LGL Limited environmental research associates, King City, Ontario, Canada.
- Samsung. 2009. Underwater noise measurements for HN1688 145,000 m³ LNG SRV. Report by Samsung Ship Model Basin, Daejeon, Korea for Neptune LNG Project, Boston, MA, 29 p.

MARINE MAMMAL COMMISSION
4340 East-West Highway, Room 700
Bethesda, MD 20814-4447

8 June 2009

Mr. P. Michael Payne, Chief
Permits, Conservation, and Education Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application from Neptune LNG, LLC, seeking an incidental harassment authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act. The applicant is requesting a one-year authorization to harass small numbers of various species of seals, toothed whales, and baleen whales, including North Atlantic right whales, incidental to the construction and operation of an offshore liquefied natural gas (LNG) port in Massachusetts Bay. The Commission also has reviewed the National Marine Fisheries Service's 8 May 2009 *Federal Register* notice (74 Fed. Reg. 21648) soliciting comments on the application. On 20 March 2008 the Commission provided comments (copy enclosed) on the initial application and on the Service's notice of intent to promulgate regulations under section 101(a)(5)(A) of the Act to authorize the take of marine mammals incidental to operation and maintenance of the port over a five-year period. The Service issued an incidental harassment authorization for construction of the port in June 2008, which is effective through June 2009. The proposed authorization, if issued, would cover activities for an additional year, through completion of construction and, possibly, initial operation of the port. The Commission offers the following recommendations and rationale regarding the current application.

RECOMMENDATION

The Marine Mammal Commission recommends that the National Marine Fisheries Service issue the requested incidental harassment authorization, subject to the mitigation, monitoring, and reporting measures identified in the *Federal Register* notice.

RATIONALE

The *Federal Register* notice states that port and pipeline construction will generate noise exceeding 120 dB re 1 μ Pa (rms), with the loudest source being vessel thrusters used for dynamic positioning. During construction activities in 2008 and 2009, the supply vessel will have made approximately 51 round trips, and the crew and survey vessel will have made approximately 360 round trips for a combined total of 411 round trips or 822 transits. The applicant expects construction to be completed in September 2009, but port operations likely would not begin until the spring of 2010 at the earliest. The proposed incidental authorization, if issued, would cover construction activities in 2009-2010 and initial operation of the port in 2010. Once the port is operational, additional vessels will be employed, thereby generating additional noise during

regasification of liquefied natural gas and positioning with vessel thrusters. These vessels would make relatively few trips in the early stages of operation but are expected to increase to 50 round trips annually to provide a continuous supply of natural gas to the pipeline when in full operation. This means 100 transits annually or an average of one transit every 3.65 days.

The Service expects that, at most, the noise from these vessels and port operations would cause local, short-term displacements of some marine mammals, with no more than a negligible impact on any individual animal or stock. The Service also concludes that the implementation of the proposed mitigation measures (i.e., visual observations and passive acoustic monitoring) would ensure that no marine mammals would be injured or killed by vessel traffic or other activities. Based on that conclusion, the Service is not planning to authorize any such injury or mortality.

The Marine Mammal Commission concurs with the Service's preliminary assessment, in large part because of the measures that the Service and the applicant intend to implement to mitigate the risk of ships colliding with North Atlantic right whales and other cetacean species. As described in the *Federal Register* notice, such measures include the following:

- all construction vessels of 300 gross tons or greater will operate at speeds of 10 knots or less and vessels of less than 300 gross tons carrying supplies or crew between shore and the construction site must contact the appropriate authority or the construction site before leaving shore to check for reports of recent right whale sightings and, consistent with navigation safety, restrict speeds to 10 knots or less within five miles of the location of any recent right whale sighting;
- vessels transiting through the Cape Cod Canal and Cape Cod Bay between 1 January and 15 May will reduce speeds to 10 knots or less, follow the recommended routes charted by the National Oceanic and Atmospheric Administration to reduce risks to right whales from shipping traffic, and avoid aggregations of right whales in the eastern portion of Cape Cod Bay; and
- construction and support vessels will transit at speeds of 10 knots or less in the following areas and seasons; the southeast U.S. seasonal management area from 15 November through 15 April; the mid-Atlantic seasonal management area from 1 November through 30 April; the Cape Cod Bay seasonal management area from 1 January through 15 May; the Off Race Point seasonal management area year-round; and the Great South Channel seasonal management area from 1 April through 31 July.

In addition, the *Federal Register* notice states that two National Marine Fisheries Service-approved observers would be onboard all onsite construction vessels to detect marine mammals and sea turtles present within 0.8 km (one-half mile) of work sites during daylight hours. If a right whale were to approach within 457 m (500 yd) of the construction vessel, or if any other cetacean or sea turtle were to approach within 91 m (100 yd) of the vessel, all activities emitting noise with a source level greater than 120 dB would be suspended until visual sightings confirmed that the animals had moved beyond those distances. The *Federal Register* notice also states that an autonomous, near-real-time passive acoustic monitoring system with six buoys would be operated at all times during

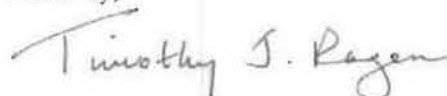
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construction to supplement visual monitoring efforts. The passive acoustic monitoring system would remain in place for five years to monitor the actual acoustic output of port operations and to alert the Service to any unanticipated adverse effects of port operations, such as large-scale abandonment of the area by right whales or other marine mammals or greater acoustic impacts than has been predicted through modeling. Finally, the notice indicates that weekly reports on marine mammal mitigation efforts would be provided to the Service throughout the construction phase.

In light of these measures, the Marine Mammal Commission recommends that the National Marine Fisheries Service issue the requested incidental harassment authorization, subject to the mitigation, monitoring, and reporting measures identified in the *Federal Register* notice.

Please contact me if you have questions concerning our comments or recommendation.

Sincerely,

A handwritten signature in cursive script that reads "Timothy J. Ragen". The signature is written in black ink and is positioned above the printed name and title.

Timothy J. Ragen, Ph.D.
Executive Director

Enclosure

Marine Mammal Commission
4340 East-West Highway, Room 700
Bethesda, MD 20814-4447

20 March 2008

Mr. P. Michael Payne
Chief, Permits Division
National Marine Fisheries Service
Office of Protected Resources
1315 East-West Highway, Room 13635
Silver Spring, MD 20910

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application from Neptune LNG, LLC, seeking an incidental harassment authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act. The applicant is requesting a one-year authorization to harass small numbers of various species of seals, toothed whales, and baleen whales, including North Atlantic right whales, incidental to the construction and operation of an offshore liquefied natural gas (LNG) facility in Massachusetts Bay. The Commission also has reviewed the National Marine Fisheries Service's 19 February 2008 *Federal Register* notice soliciting comments on the application and on its intent to promulgate regulations under section 101(a)(5)(A) of the Act, which would authorize the take of marine mammals incidental to specified activities for a five-year period. Based on its review, the Commission offers the following recommendations and rationale.

RECOMMENDATIONS

Based on the information in the application and the *Federal Register* notice, the Marine Mammal Commission recommends that the National Marine Fisheries Service issue the requested incidental harassment authorization provided that all mitigation, monitoring, and reporting measures identified in the *Federal Register* notice are included in the authorization. The Commission also recommends that (1) the Service condition the authorization to postpone the onset of construction in Massachusetts Bay in 2009 until June 1 and require passive acoustic monitoring at all times, and (2) the Service reevaluate the numbers of animals likely to be taken incidentally to the covered activities (as the Service has proposed in the *Federal Register* notice).

RATIONALE

In its preliminary determination, the Service concluded that the impact of construction of the proposed facility would result, at most, in temporary behavioral modifications of small numbers of marine mammals that are in close proximity to the activity. Such impacts would result from noise, principally from use of positioning thrusters on construction barges and tankers carrying liquefied natural gas. The Service expects such effects to cause a local, short-term displacement of some marine mammals with no more than a negligible impact on any individual animals or stocks. Given the identified mitigation measures, the Service also expects that no marine mammals will be injured or killed as a result of vessel traffic or other activities, and no authorizations for such effects are being sought. Also, the identified mitigation measures should result in relatively low noise levels and

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a small zone of impact; thus, the Service has preliminarily determined that the potential for temporary or permanent hearing impairment of any marine mammals is negligible. With several caveats, the Marine Mammal Commission concurs with this assessment and recommends that the National Marine Fisheries Service issue the requested incidental harassment authorization provided that all mitigation, monitoring, and reporting measures identified in the *Federal Register* notice are included in the authorization.

The North Atlantic right whale is the species at greatest risk from the proposed project. The Service's *Federal Register* notice states that, to minimize potential impact on this species, construction work is scheduled to take place over seven months between 29 June 2008 and 28 June 2009. During this period, construction activities would not occur from December 2008 through April 2009, and would resume on 1 May 2009. We note, however, that the Service has proposed vessel speed limits in this area from 1 January to 15 May, indicating that whales may be present into the middle of May. If that is the case, then, given the highly endangered status of the North Atlantic right whale, the Marine Mammal Commission recommends that the Service postpone the beginning of construction activities in 2009 until 1 June, which allows a two-week buffer to increase the likelihood that all whales have left the area.

The *Federal Register* also states that two National Marine Fisheries Service-approved observers would be onboard all onsite construction vessels to detect marine mammals and sea turtles present within 0.8 km (one-half mile) of work sites during daylight hours. If a right whale were to approach within 457 m (500 yd) of the construction vessel, or if any other cetacean or sea turtle were to approach within 91 m (100 yd) of the vessel, all activities emitting noise with a source level greater than 120 dB would be suspended until visual sightings confirmed that the animals had moved beyond those distances. The *Federal Register* notice states that the applicant also will install an autonomous, near-real-time passive acoustic monitoring system with six buoys to detect and generally locate vocalizing cetaceans relative to construction-related sound. Finally, the notice indicates that weekly reports on marine mammal mitigation efforts would be provided to the Service throughout the construction phase.

We note, however, that construction and operational activities producing loud noises could occur at night and under poor sighting conditions when visual detection of animals would be impaired. Even under good sighting conditions, observers are unlikely to see all whales or protected species in the immediate vicinity of the construction site. Passive acoustic detection of vocalizing animals in the immediate vicinity of operations provides an additional, albeit limited, means of detection. Therefore, the Commission recommends that a real-time passive acoustic array be used at all times during the construction period as a supplement to visual monitoring efforts.

In addition to potential impacts related to noise, construction and operation of the facility would increase the number of vessels transiting coastal waters, thereby increasing the risk of ships colliding with North Atlantic right whales and other cetacean species. The *Federal Register* notice identifies several measures intended to mitigate collision risks. Those measures will require that—

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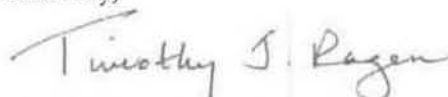
- all construction vessels of 300 gross tons or greater maintain a speed of 10 knots or less and vessels less than 300 gross tons carrying supplies or crew between shore and the construction site must contact the appropriate authority or the construction site before leaving shore for reports of recent right whale sightings and, consistent with navigation safety, restrict speeds to 10 knots or less within five miles of any recent right whale sighting location;
- vessels transiting through the Cape Cod Canal and Cape Cod Bay between 1 January and 15 May reduce speeds to 10 knots or less, follow the recommended routes charted by the National Oceanic and Atmospheric Administration to reduce interactions between right whales and shipping traffic, and avoid aggregations of right whales in the eastern portion of the Cape Cod Bay;
- in the event that the canal is closed during construction, barges must transit around Cape Cod following the Boston Traffic Separation Scheme and comply with all measures in place for the shuttle and regasification vessels when transiting to the port; and
- construction and support vessels transit at 10 knots or less in the following areas and seasons: the southeast U.S. seasonal management area from 15 November through 15 April; the mid-Atlantic seasonal management area from 1 November through 30 April; the Cape Cod Bay seasonal management area from 1 January through 15 May; the Off Race Point seasonal management area year-round; and the Great South Channel seasonal management area from 1 April through 31 July.

The Commission concurs with these proposed measures to mitigate the risk of collision with North Atlantic right whales and other cetacean species.

Finally, the Service's *Federal Register* notice states that "[b]ased on weekly construction reports submitted to NMFS by another LNG facility in Massachusetts Bay, the take levels requested by Neptune seem a bit low. It is likely, based on the observer data and further analysis, that the numbers that would be authorized in the final IHA may be slightly higher than those in this notice of proposed IHA." This being the case, the Marine Mammal Commission concurs with the Service's proposal and recommends that the Service reanalyze marine mammal density in the area, the area to be ensonified to 160 dB, and the number of days that construction activities will occur to derive more accurate estimates of the numbers of marine mammals likely to be taken incidental to construction and operation.

Please contact me if you have questions concerning our comments or recommendations.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director