



MARINE MAMMAL COMMISSION

24 July 2015

Ms. Jolie Harrison, Chief
Permits and Conservation Division
National Marine Fisheries Service
Office of Protected Resources
1315 East-West Highway, Room 13635
Silver Spring, MD 20910

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the May 2015 application submitted by ExxonMobil Alaska LNG LLC (AK LNG) seeking an incidental harassment authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA). AK LNG is seeking authorization to take small numbers of marine mammals by harassment incidental to a geophysical and geotechnical (G&G) survey in Cook Inlet, Alaska, during the 2015 open-water season. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 30 June 2015 notice (80 Fed. Reg. 37466) announcing receipt of the application and proposing to issue the authorization subject to certain conditions.

Background

AK LNG is proposing to conduct a G&G survey in Cook Inlet which would include portions of both upper and lower Cook Inlet. AK LNG would survey two areas: a pipeline area in the upper inlet encompassing approximately 541 km² and a marine terminal area in the lower inlet encompassing approximately 371 km². Geophysical survey equipment proposed for use that would require an incidental harassment authorization includes sub-bottom profilers (both the chirp and boomer types), a 60-in³ airgun (which would be limited to the marine terminal area), and a vibrocore (which would be limited to the pipeline area). The activities would start on or after 7 August and would occur for a total of 84 days.

NMFS preliminarily has determined that the proposed activities could modify temporarily the behavior of small numbers of up to four species of marine mammals, but that the total taking would have a negligible impact on the affected species or stocks. NMFS does not anticipate any take of marine mammals by death or serious injury. It believes that the potential for temporary or permanent hearing impairment will be at the least practicable level because of AK LNG's proposed mitigation measures. The mitigation, monitoring, and reporting measures include—

- (1) using vessel-based observers to monitor exclusion zones (based on Level A harassment thresholds of 190 and 180 dB re 1 μ Pa) and a disturbance zone (based on Level B harassment threshold of 160 dB re 1 μ Pa) (a) during daytime operations and (b) for at least 30 minutes prior to and during start-ups of sound sources day or night;
- (2) using standard ramp-up, delay, power-down, and shut-down procedures;

- (3) prohibiting start-up of survey operations during nighttime or low-light hours after a shut-down;
- (4) implementing additional delay and shut-down procedures if a beluga whale or an aggregation of five or more killer whales or harbor porpoises is observed approaching or within the disturbance zone;
- (5) restricting operations from occurring within 16 km of the mean higher high water line of the Susitna Delta¹ from 15 April to 15 October;
- (6) ceasing seismic survey operations if authorized numbers of takes for any marine mammals are met or exceeded;
- (7) altering vessel speed or course to avoid having a marine mammal enter the relevant exclusion zone;
- (8) alerting NMFS immediately if 10 beluga whales have been detected in the disturbance zone during survey operations;
- (9) reporting injured and dead marine mammals to NMFS and the Alaska Regional Stranding Coordinators using NMFS's phased approach and suspending activities, if appropriate; and
- (10) submitting field and technical reports and a final comprehensive report to NMFS.

Inadequate basis for issuance of beluga whale incidental take authorizations

As indicated in previous letters regarding proposed incidental harassment authorizations for other sound producing activities in Cook Inlet², the Commission remains concerned about the potential impacts of such activities on the endangered Cook Inlet beluga whale population, which continues to decline. The Commission has recommended that NMFS defer issuance of incidental take authorizations and regulations until it has better information on the cause or causes of the ongoing decline of beluga whales and has a reasonable basis for determining that authorizing additional takes by harassment would not contribute to or exacerbate that decline. Given the precarious status of the Cook Inlet beluga whale population, any activity that may contribute to or worsen the observed decline should not be viewed as having a negligible impact on the population.

Consistent with these concerns, and for the additional reasons outlined herein, the Commission once again recommends that NMFS defer issuance of any incidental take authorizations or regulations to AK LNG or any other applicant proposing to conduct sound-producing activities in Cook Inlet until such time that NMFS can, with reasonable confidence, support a conclusion that those activities would affect no more than a small number of Cook Inlet beluga whales and have no more than a negligible impact on the population. That conclusion should be based on clear and consistent criteria regarding the MMPA's small numbers and negligible impact standards, which currently do not exist. Therefore, the Commission further recommends that, before issuing any further authorizations such as the one requested here, NMFS develop a policy that sets forth clear criteria and/or thresholds for determining what constitutes small numbers and negligible impact for the purpose of authorizing incidental takes of marine mammals. The Commission would welcome the opportunity to discuss that policy as it is being developed.

¹ From the Beluga River to the Little Susitna River.

² See the Commission's 21 October 2011, 9 January 2013, 31 January 2014, 4 April 2014, 9 May 2014, 14 September 2014, 13 April 2015, 20 April 2015, and 14 July 2015 letters.

Information to assess and manage threats

The Commission is concerned that NMFS is continuing to propose and issue authorizations for the incidental taking of Cook Inlet beluga whales without adequate consideration of the combined or cumulative impacts of current and planned activities on this population. This concern was raised most recently in the Commission's 14 July 2015 letter providing comments on NMFS's Draft Cook Inlet Beluga Whale Recovery Plan. In its comments, the Commission recommended that NMFS develop a comprehensive research and monitoring program to guide recovery efforts, including an expansion of both population monitoring and research to assess and manage threats. The Commission also recommended that NMFS place annual limits on the total number and types of incidental takes authorized, based on the most recent population estimate. In addition, NMFS should issue its programmatic environmental impact statement (EIS) on the issuance of incidental take authorizations in Cook Inlet (notice of intent published on 14 October 2014, 79 Fed. Reg. 61616).

The Commission believes that expanded research and monitoring would provide NMFS with a stronger foundation from which to establish annual limits on authorized takes of beluga whales and ensure that proposed authorizations meet the MMPA's negligible impact and small take requirements. For these reasons, the Commission recommends that NMFS implement the beluga whale recovery plan, issue its programmatic EIS, and establish annual limits on the total number and types of takes that are authorized for sound-producing activities in Cook Inlet before issuing any additional incidental take authorizations or regulations.

If NMFS decides to issue the requested authorization, notwithstanding the Commission's recommendation against doing so, the Commission has several additional concerns regarding the proposed authorization. These include inaccuracies in the number of beluga whales estimated to be exposed to survey activities, the species requested to be authorized for taking, and the appropriate threshold used to determine the size of the disturbance zone. As outlined herein, these deficiencies may undermine the bases upon which NMFS has made its small numbers and negligible impact determinations. The Commission provides the following comments and further recommendations regarding these and other concerns with NMFS's proposed incidental harassment authorization.

Re-evaluation of take estimates for beluga whales

The *Federal Register* notice refers to density estimates in Tables 5, 6, and 7. However, these density estimates are not consistent across the Tables. NMFS has since clarified that the density estimates in Table 7 are correct, with the exception of the density estimate for beluga whales in the upper inlet (the pipeline survey area), which should be 0.012 whales/km². Recalculating the exposure estimate for beluga whales with that revised density estimate results in an estimated take of more than 30 whales for all sound sources, which is more than twice NMFS's proposed authorization of 14 whales, as indicated in Table 8 of the *Federal Register* notice³. The Commission provided NMFS with notice of this discrepancy and NMFS subsequently indicated that it would limit the number of authorized takes of beluga whales to 30, as it has done for other G&G surveys in Cook Inlet, and require AK LNG to shut down its operations once that number has been reached.

³ NMFS has since clarified that the exposure estimates for all species are incorrect in Table 8.

Although NMFS has indicated that it would use an adaptive management cap of 30 takes for this survey, the Commission believes that a more precautionary approach is needed. As recommended above, NMFS should establish annual limits on the total number and type of takes that are authorized for sound-producing activities in Cook Inlet before issuing any additional incidental take authorizations or regulations for activities there. The establishment of total annual inlet-wide limits would provide a basis for determining at what point the combined impact of all human activities occurring in Cook Inlet would be having more than a negligible impact on the beluga whale population. The current approach of evaluating the impact of activities on a survey-by-survey basis largely ignores the combined or cumulative impacts on the beluga whale population when several surveys take place in the same area and in similar timeframes over the course of the year.

In addition, the Commission believes that more than doubling the number of authorized beluga whale takes from 14 to 30 represents more than just an administrative correction. Therefore, the Commission recommends that NMFS provide public notice of the revised number of beluga whale takes that the agency proposes to authorize for this survey along with a revised analysis of whether the proposed activities would affect no more than a small number of beluga whales and have no more than a negligible impact on the whales when considering all other planned and authorized sound-producing activities in Cook Inlet.

Appropriate threshold for disturbance zone

NMFS has proposed to authorize takes associated with the use of sub-bottom profilers, which it has characterized as impulsive relative to the Level B harassment threshold of 160 dB re 1 μ Pa. However, researchers have observed that various species of marine mammals respond to sound from sources with similar characteristics (including acoustic deterrent devices, acoustic harassment devices, pingers, echosounders, and multibeam sonars) at received levels below 160 dB re 1 μ Pa⁴. Previous Commission letters to NMFS regarding the use of sub-bottom profilers have pointed out that those sources are not impulsive and have temporal and spectral characteristics which suggest that a lower, more precautionary Level B harassment threshold of 120 dB re 1 μ Pa would be more appropriate than the 160-dB re 1 μ Pa threshold used by NMFS. However, NMFS refuses to incorporate the Commission's recommendation to use the more conservative harassment threshold for sub-bottom profilers⁵.

The Commission remains concerned that NMFS's behavior thresholds do not reflect the current state of understanding regarding the temporal and spectral characteristics of various sound sources and their impacts on marine mammals. Therefore, the Commission recommends that, until the behavior thresholds are updated, NMFS require applicants to use the 120- rather than 160-dB re 1 μ Pa threshold for acoustic, non-impulsive sources (e.g., sub-bottom profilers/chirps, echosounders, and other sonars including side-scan and fish-finding).

⁴ Based on data from Watkins and Schevill (1975), Olesiuk et al. (1995), Kastelein et al. (1997), Kastelein et al. (2000), Morton (2000), Culik et al. (2001), Kastelein et al. (2001), Calström et al. (2002), Johnston (2002), Morton and Symonds (2002), Kastelein et al. (2005), Barlow and Cameron (2003), Kastelein et al. (2006a and 2006b), Carretta et al. (2008), Calström et al. (2009), Brandt et al. (2012 and 2013), Götz and Janik (2013), Hastie et al. (2014), Tougaard et al. (2015).

⁵ 80 Fed. Reg. 39602.

Potential takes of additional marine mammal species

AK LNG requested takes of three species that commonly occur in upper Cook Inlet (i.e., harbor seals, harbor porpoises, and beluga whales), as well as one less commonly occurring species, the killer whale. AK LNG has not requested an incidental harassment authorization for any of five other less common species (humpback whales, gray whales, minke whales, Dall's porpoises, or Steller sea lions), despite the fact that those species are likely to occur within the proposed project area (Shelden et al. 2013, Lomac-MacNair et al. 2014). AK LNG noted in its application that those species, along with Pacific white-sided dolphins, are occasionally found in lower Cook Inlet but are not regular inhabitants of the project area. NMFS agreed with that determination, stating in the proposed authorization that those species are unlikely to be encountered during this activity in close enough proximity to result in Level B harassment. That statement conflicts with NMFS's recent determinations that other companies conducting seismic surveys during the 2015 open-water season in the same area of Cook Inlet as AK LNG have some likelihood of taking these five additional species by Level B harassment. NMFS provided no clear rationale for this disparity.

Incidental harassment authorizations should include requests for takes of all marine mammals that are likely to occur in the survey area if there is the potential for taking. As such, the Commission recommends that, prior to issuance of the final authorization, NMFS include taking by Level B harassment of humpback whales, gray whales, minke whales, Dall's porpoises, and Steller sea lions and determine whether the proposed survey would affect no more than a small number of those marine mammals and have no more than a negligible impact on the affected stocks.

Mitigation and monitoring measures

NMFS has proposed that AK LNG monitor for marine mammals for 30 minutes before and continuously during geophysical surveys. No post-activity monitoring appears to have been proposed. However, post-activity monitoring is needed to ensure that marine mammals have not been taken in unexpected or unauthorized ways or in unanticipated numbers. Some types of taking (e.g., taking by death or serious injury) may not be observed until after the activity has ceased. Accordingly, the Commission recommends that NMFS require AK LNG to monitor for marine mammals for 30 minutes before the proposed activities begin, while those activities are being conducted, and for 30 minutes after those activities have ceased.

Adequate time for incorporation of public comments before issuance of an authorization

The deadline for comments on the proposed incidental harassment authorization is 30 July 2015, yet NMFS has indicated in the proposed incidental harassment authorization that the effective date would be 7 August 2015. The Commission is concerned that the time between the close of the comment period and the proposed issuance date (6 business days) does not provide adequate opportunity for NMFS to consider, provide responses to, and incorporate any changes prompted by comments from the Commission and the public. This rushed timeframe runs counter to the intent of the MMPA, which provides for meaningful public input on proposed authorizations, and may preclude the implementation of some of our recommendations (notably the revision of take estimates for beluga whales and the subsequent re-evaluation of NMFS's negligible impact determination).

The Commission recognizes that staffing limitations, the growing number of incidental harassment authorization requests, and the complexity of some of those requests may make it difficult for NMFS to publish a proposed authorization in a timely manner. However, the Commission believes that NMFS should not issue authorizations without full consideration of comments received. To ensure effective compliance with both the letter and the spirit of the public review process provided for under the MMPA, the Commission recommends that NMFS allow sufficient time between the close of the comment period and the issuance of an incidental harassment authorization for NMFS to analyze, consider, and respond fully to comments received and incorporate recommended changes, as appropriate.

Please let me know if you have any questions with regard to this letter.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

cc: Jon Kurland, NMFS Alaska Regional Office

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