



MARINE MAMMAL COMMISSION

7 March 2016

Ms. Jolie Harrison, Chief
Permits and Conservation Division
National Marine Fisheries Service
Office of Protected Resources (F/PR1)
1315 East-West Highway
Silver Spring, Maryland 20910

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application¹ submitted by ExxonMobil Alaska LNG LLC (EMALL) seeking an incidental harassment authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA). EMALL 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 2016 open-water season. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 5 February 2016 notice (81 Fed. Reg. 6376) announcing receipt of the application and proposing to issue the authorization subject to certain conditions.

Background

EMALL is proposing to conduct a G&G survey in Cook Inlet which would include portions of both upper and lower Cook Inlet. EMALL would survey three areas: a pipeline area in the upper inlet encompassing approximately 795 km², a marine facilities survey area in the lower inlet encompassing approximately 109 km², and a liquefied natural gas carrier (LNGC) approach survey area in the lower inlet encompassing approximately 79 km². Geophysical survey equipment proposed for use includes sub-bottom profilers (both chirp and boomer types), a 60-in³ airgun, and a vibracore. The activities would begin on or after 1 March 2016 and would occur for a total of 102 days (46 days in the pipeline area and 56 days in the marine facilities and LNGC approach survey areas).

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 EMALL's proposed mitigation measures. The mitigation, monitoring, and reporting measures include—

¹ The *Federal Register* notice indicated that NMFS had received the application in October 2015 and deemed the application complete in December 2015. However, the Commission reviewed the version of the application dated January 2016, as posted on the NMFS website.

- (1) using vessel-based observers to monitor exclusion zones (based on Level A harassment thresholds of 190 and 180 dB re 1 μ Pa for pinnipeds and cetaceans, respectively) and a disturbance zone (based on a Level B harassment threshold of 160 dB re 1 μ Pa) (a) during all daytime operations and (b) before and during start-ups day or night;
- (2) using standard ramp-up, delay, power-down, and shut-down procedures;
- (3) requiring the use of passive acoustic monitoring to “clear” the disturbance zone² prior to ramp-up of survey operations during nighttime or low-light hours;
- (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 160-dB re 1 μ Pa disturbance zone;
- (5) restricting operations from occurring within 16 km of the mean higher high water line of the Susitna Delta³ from 15 April to 15 October;
- (6) ceasing seismic survey operations if the authorized numbers of takes of any marine mammal species or stock 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 25 beluga whales have been detected within the relevant 120-dB or 160-dB re 1 μ Pa disturbance zone during survey operations;
- (9) reporting injured and dead marine mammals to the Chief of the Permits and Conservation Division at the NMFS Office of Protected Resources 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 Inlet⁴, the Commission remains concerned about the potential impacts of human activities on the endangered Cook Inlet beluga whale population. 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 decline in the population and, as part of NMFS’s small numbers and negligible impact determinations, has a reasonable basis for determining that authorizing additional takes by harassment would not contribute to or exacerbate that decline. In its response to this recommendation for EMALL’s 2015 activities, NMFS indicated that it had determined that the impacts of the G&G survey program, which are primarily acoustic in nature, would meet those standards based on the best scientific information available (80 Fed. Reg. 50991). NMFS further stated that the issuance of requested incidental harassment authorizations will not contribute to or worsen the observed decline of the Cook Inlet beluga whale population. However, it is not clear how NMFS can make any of those determinations without better information on what factors *are* causing the ongoing decline. Consistent with these concerns, the Commission once again recommends that NMFS defer issuance of any incidental take authorizations or regulations to EMALL or any other applicant proposing to conduct sound-

² Including the Level B harassment zone based on the 120-dB re 1 μ Pa threshold for the vibracore.

³ From the Beluga River to the Little Susitna River.

⁴ 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, 24 July 2015, and 12 January 2016 letters.

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. Such a conclusion should be based on clear and consistent criteria regarding the MMPA's small numbers and negligible impact requirements, the standards for 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 understands that NMFS is in the process of developing such a policy and would like to be informed of its status and expected timeline for external review. The Commission also would welcome the opportunity to discuss that policy as it is being developed.

Programmatic approach

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. In the Commission's 14 July 2015 letter on NMFS's Draft Cook Inlet Beluga Whale Recovery Plan, 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.

NMFS proposed to take a programmatic approach to evaluate the environmental impacts of proposed activities in its 2014 notice of intent to prepare a programmatic environmental impact statement (PEIS) on the issuance of incidental take authorizations in Cook Inlet (79 Fed. Reg. 61616). The Commission continues to believe that the PEIS should be drafted and finalized before any further authorizations are granted. However, since the PEIS has yet to be drafted, NMFS has proposed to take an interim approach for 2016 activities by preparing a draft programmatic environmental assessment (DPEA; 80 Fed. Reg. 48299). Both approaches would allow for a more thorough assessment of both the individual and cumulative impacts of all planned or ongoing activities on Cook Inlet beluga whales and provide NMFS with a stronger foundation on which to determine whether negligible impact determinations are warranted. The Commission understands that the DPEA will be published in the coming weeks, but was not made available prior to publication of the proposed incidental harassment authorization. As such, the Commission and the public did not have sufficient opportunity to evaluate the approach being taken by the DPEA in the context of the proposed action. The Commission therefore recommends that NMFS delay issuance of this or any incidental take authorizations or regulations until sufficient opportunity is provided to the Commission and the public to evaluate NMFS's programmatic approach to authorizing takes of beluga whales associated with sound-producing activities in Cook Inlet. The Commission further notes that the impact of sound-producing activities as analyzed in the DPEA might rise to a level of significance warranting further analyses typically conducted in a PEIS—an issue that should be addressed in the DPEA.

For the proposed activities, NMFS has estimated that up to 94 beluga whales⁵ could be taken. Because the estimated number of takes is greater than what NMFS stated it would issue “for an endangered population that is not recovering” (81 Fed. Reg. 6397), NMFS has proposed to limit the number of authorized takes of beluga whales to 34⁶, similar to what has been authorized for other G&G surveys in Cook Inlet. Given the large number of human activities occurring and proposed for Cook Inlet, the Commission continues to believe that NMFS should establish annual limits on the total number and type of takes that are authorized for sound-producing activities before issuing any additional incidental take authorizations or regulations. As such, the Commission reiterates its recommendation that NMFS establish annual limits on the total number and type of takes that are authorized for all sound-producing activities in Cook Inlet before issuing any additional incidental take authorizations or regulations.

If NMFS decides once again to issue the requested authorization, notwithstanding the Commission’s recommendation that issuance be deferred, the Commission has the following additional concerns regarding the proposed authorization.

Estimation of takes

The method that NMFS used to estimate the numbers of takes does not account for NMFS’s 24-hour reset policy, resulting in an overestimated number of takes for certain species or stocks (harbor seals) and an underestimated number of takes for all other species and stocks. Specifically, fractions of takes for each species/stock for all of the various activities were summed across days and then rounded up, which runs counter to NMFS’s 24-hour reset policy for enumerating the number of animals that could be taken on a given day. Instead, NMFS should have calculated the daily take estimate (determined by multiplying the mean density by the daily ensonified area for each activity type) and then rounded that to a whole number *before* it multiplied the daily take estimate by the number of days that the associated activities would occur. If NMFS believes that certain species or stocks (i.e., killer whales) have the potential to be taken in circumstances when calculated takes would round down to 0, then it should have followed methods previously implemented by NMFS (80 Fed. Reg. 75380) to use the average group size of killer whales as a proxy for the number of takes. If NMFS believes that killer whales could be taken on each day (or a subset of days) of those activities, then it should have multiplied the average group size by the number of days of activities, as has become standard practice for other types of sound-producing activities. Irrespective of the resolution, the Commission has commented on NMFS’s inconsistent use of its 24-hour reset and standard rounding rules numerous times in the past. Those issues still appear to be unresolved. Therefore, the Commission recommends that NMFS abide by its own policy of a 24-hour reset for enumerating the number of each species or stock that could be taken and standard rounding rules before summing the numbers of takes across days; if model-estimated or calculated takes round down to 0 but that species or stock has the potential to be taken, then group size should be used to inform the take estimates—these methods should be used consistently for all future incidental take authorizations as well.

⁵ The Commission however calculated 99 takes based on NMFS’s proposed take estimation method.

⁶ NMFS would require EMALL to implement delay, power-down, and shut-down procedures if a beluga is observed approaching the 160-dB re 1 μ Pa disturbance zone to reduce the number of beluga takes and to cease its survey operations entirely once the number of authorized takes has been met.

Appropriate threshold for disturbance zone

NMFS has proposed to authorize takes associated with the use of sub-bottom profilers in chirp and boomer modes, both of which NMFS has characterized as impulsive sources 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 Pa⁷. Previous Commission letters to NMFS regarding the use of sub-bottom profilers (specifically chirps) have pointed out that those sources 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 has not incorporated the Commission's recommendation to use the more precautionary harassment threshold for sub-bottom profilers used in chirp mode⁸.

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).

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

The deadline for comments on the proposed incidental harassment authorization is 7 March 2016, yet NMFS has indicated in the proposed incidental harassment authorization that the effective date would be 1 March 2016. We are presuming that EMALL will not be allowed to begin a G&G survey until an authorization has been issued. Nevertheless, the Commission is concerned that NMFS intends to issue an authorization as quickly as possible after the close of the comment period, and not take the time necessary to consider fully, provide adequate responses to, and incorporate any changes prompted by comments from the Commission or the public on the proposed authorization. This rushed time frame runs counter to the intent of the MMPA, which provides for meaningful public input on proposed authorizations, and may impede implementation of some of the recommendations from the Commission, as well as other stakeholders.

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 all proposed authorizations in a timely manner. However, the Commission believes that NMFS should not, as a result, truncate its full review and consideration of

⁷ 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).

⁸ 80 Fed. Reg. 50990.

comments received. In this case, NMFS deemed the application to be complete more than two months ago. 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 proposed effective date of an incidental harassment authorization for NMFS to analyze, consider, and respond fully to comments received from both the Commission and the public and incorporate recommended changes, as appropriate, before an authorization is issued.

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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