



MARINE MAMMAL COMMISSION

16 May 2019

Ms. Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by Avangrid Renewables, LLC (Avangrid) under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA). Avangrid is seeking authorization to take small numbers of marine mammals by harassment incidental to marine site characterization surveys off the coast of North Carolina to support the development of an offshore wind project. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 25 April 2019 notice (84 Fed. Reg. 17384) requesting comments on its proposal to issue the authorization, subject to certain conditions.

Background

Avangrid is proposing to conduct high-resolution geophysical (HRG) surveys to support the siting, design, and deployment of up to three meteorological data buoys. The surveys would also be used to obtain baseline seabed/sub-surface sediment data to support the siting of a proposed wind farm. The surveys would occur during the day and at night for approximately 37 days beginning on or after 1 June 2019. HRG survey equipment proposed for use includes an ultra-short baseline (USBL) positioning system, shallow-and medium-penetration type sub-bottom profilers (SBP), a multibeam echosounder, and side-scan sonar.

NMFS preliminarily has determined that the proposed activities temporarily would modify the behavior of small numbers of nine marine mammal species. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for disturbance will be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

- using vessel-based observers to monitor the exclusion zones¹ and the Level B harassment zone² for 30 minutes before, during, and for 30 minutes after the HRG surveys;
- using standard pre-clearance, ramp-up, and delay procedures³;
- using shutdown procedures if a marine mammal is sighted within or approaching the designated exclusion zones;
- using delay and shut-down procedures if a species for which authorization has not been granted, or if a species for which authorization has been granted but the authorized number of takes has been met, approaches or is observed within the Level B harassment zone;
- using night-vision equipment (with infrared capabilities) to detect marine mammals during nighttime operations;
- using standard vessel strike avoidance procedures during all survey activities;
- reporting injured and dead marine mammals to the Office of Protected Resources and the Southeast Regional Stranding Coordinator using NMFS's phased approach and suspending activities, if appropriate; and
- submitting field and technical reports and a final comprehensive report to NMFS.

Source level information

The estimated Level B harassment zone for the parametric SBP was 135 m, based on modeling. The Commission notes that the model-based estimate is much larger than the 10-m zone for parametric SBPs based on sound source measurements conducted by other operators⁴. The discrepancy between modeled and measured Level B harassment zones for the parametric SBPs raises concerns regarding the accuracy of Avangrid's estimate—concerns that could be addressed through greater transparency of information collected by industry operators regarding measured source levels and extents of the various harassment zones. The Commission encourages NMFS and industry to work together to share information obtained from sound source measurements for parametric SBPs (and other novel sources) to assist in the development of source level standards to achieve greater consistency and accuracy in estimating Level A and B harassment zones for HRG surveys.

Appropriate Level B harassment thresholds

The general Level B harassment thresholds currently relate only to impulsive and continuous sources. NMFS's characterization of the parametric SBPs and chirps as impulsive sources for the purpose of estimating the extent of the Level B harassment thresholds is incorrect. Parametric SBPs and chirps are neither impulsive nor continuous sources, rather they are non-impulsive, intermittent sources. Researchers have observed that various species of marine mammals, including harbor

¹ The proposed exclusion zones, referenced in section 4(c) of the proposed authorization, are greater than the estimated Level A harassment zones and are based on conditions in the lease issued by the Bureau of Ocean Energy Management. The exclusion zones are 500 m for North Atlantic right whales, 200 m for sei and fin whales, and 100 m for other large cetaceans.

² The Level B harassment zone is 200 m for the sparker.

³ A 30-minute clearance time will be implemented before operations commence; clearance times after a shutdown would be 15 minutes for small delphinoid cetaceans and 30 minutes for large whales.

⁴ Based on information provided by NMFS to the Commission, which is not publicly available.

porpoises, respond to sound from sources with similar characteristics⁵ at received levels below 160 dB re 1 μ Pa⁶. The Commission has noted in previous letters regarding this matter⁷ that the behavior thresholds currently used by NMFS do not reflect the current state of understanding regarding the temporal and spectral characteristics of various sound sources and their impacts on marine mammals, and 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. 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 intermittent, non-impulsive sources (i.e., parametric SBPs, chirps, echosounders, and other sonars).

Proposed one-year authorization renewals

NMFS has indicated that it may issue a second one-year⁸ incidental harassment authorization renewal for this and other future authorizations if various criteria are met and after an expedited public comment period of 15 days (see 84 Fed. Reg. 17405 and the proposed authorization for details). The Commission agrees that NMFS should take appropriate steps to streamline the authorization process under section 101(a)(5)(D) of the MMPA to the extent possible. However, the Commission is concerned that the renewal process proposed in the *Federal Register* notice is inconsistent with the statutory requirements—section 101(a)(5)(D)(iii) clearly states that proposed authorizations are subject to a 30-day comment period⁹.

Another potentially significant issue with the proposed 15-day comment period is the burden that it places on reviewers, who will need to review the original authorization and supporting documentation¹⁰, the draft monitoring report(s), the renewal application or request¹¹, and the proposed authorization and then formulate comments very quickly. Depending on how frequently NMFS invokes the renewal option, how much the proposed renewal or the information on which it is based deviates from the original authorization, and how complicated the activities and the taking authorization is, those who try to comment on all proposed authorizations and renewals, such as the Commission, would be hard pressed to do so within the proposed 15-day comment period. Therefore, the Commission recommends that NMFS refrain from using the proposed renewal process for Avangrid's authorization. The renewal process should be used sparingly and selectively,

⁵ Including acoustic deterrent devices, acoustic harassment devices, pingers, echosounders, and sonars.

⁶ See 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, Carlström et al. 2002, Johnston 2002, Morton and Symonds 2002, Kastelein et al. 2005, Barlow and Cameron 2003, Kastelein et al. 2006a and b, Carretta et al. 2008, Carlström et al. 2009, Götz and Janik 2010, Lurton and DeRuiter 2011, Brandt et al. 2012 and 2013, Götz and Janik 2013, Hastie et al. 2014, Kastelein et al. 2015a and b, and Tougaard et al. 2015.

⁷ See the Commission's most recent [1 May 2019 letter](#).

⁸ NMFS informed the Commission that the renewal would be issued as a one-time opportunity, after which time a new authorization application would be required. NMFS has yet to specify this in any *Federal Register* notice detailing the new proposed renewal process but should do so.

⁹ See also the legislative history of section 101(a)(5)(D), which states "...in some instances, a request will be made for an authorization identical to one issued the previous year. In such circumstances, the Committee expects the Secretary to act expeditiously in complying with the notice and comment requirements." (H.R. Rep. No. 439, 103d Cong., 2d Sess. 29 (1994)). The referenced "notice and comment requirements" specify a 30-day comment period.

¹⁰ Including the original application, hydroacoustic and marine mammal monitoring plans, take estimation spreadsheets, etc.

¹¹ Including any proposed changes or any new information.

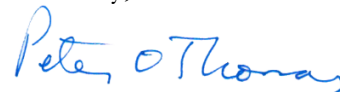
by limiting its use only to those proposed incidental harassment authorizations that are expected to have the lowest levels of impacts to marine mammals and that require the least complex analyses. Notices for other types of activities should not even include the possibility that a renewal might be issued using the proposed foreshortened 15-day comment period. If NMFS intends to use the renewal process frequently *or* for authorizations that require a more complex review or for which much new information has been generated (e.g., multiple or extensive monitoring reports), the Commission recommends that NMFS provide the Commission and other reviewers the full 30-day comment opportunity set forth in section 101(a)(5)(D)(iii) of the MMPA.

Adequate opportunity to consider public comments

The Commission has repeatedly expressed concern over NMFS's failure to provide an adequate opportunity for public comment. The opportunity for public comment provided under section 101(a)(5)(D)(iii) of the MMPA should be a meaningful one that allows NMFS sufficient time to not only solicit public comments, but also to analyze, assess, and respond to those comments and revise, as appropriate, its proposed authorization and rationale in light of those comments. Thus, submittal of the necessary documentation by applicants and processing of applications by NMFS must be timelier, thus avoiding abbreviated timeframes in which NMFS is able to consider the comments received. In this instance, the public comment period closes on 28 May 2019, four days before Avangrid's activities are scheduled to begin. Avangrid submitted its application in October 2018, and NMFS deemed it complete in February 2019. It is unclear why NMFS did not publish the proposed authorization sooner. However, since Avangrid's activities are scheduled to begin only a few days after the comment period closes, the Commission is not convinced that NMFS has sufficient time to review the Commission's or the public's comments or to revise the proposed authorization accordingly. Therefore, the Commission recommends that, in the future, NMFS take all steps necessary to ensure that it publishes and finalizes proposed incidental harassment authorizations far enough in advance of the planned start date of the proposed activities to ensure full consideration is given to any and all comments received.

Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director

References

- Barlow, J., and G.A. Cameron. 2003. Field experiments show that acoustic pingers reduce marine mammal bycatch in the California drift gill net fishery. *Marine Mammal Science* 19:265–283.
- Brandt, M.J., C. Höschle, A. Diederichs, K. Betke, R. Matuschek, S. Witte, and G. Nehls. 2012. Far-reaching effects of a seal scarer on harbour porpoises, *Phocoena*. *Aquatic Conservation: Marine and Freshwater Ecosystems* 23:222–232.

- Brandt, M.J., C. Höschle, A. Diederichs, K. Betke, R. Matuschek, and G. Nehls. 2013. Seal scarers as a tool to deter harbour porpoises from offshore construction sites. *Marine Ecology Progress Series* 475:291–302.
- Carlström, J., P. Berggren, F. Dinnézt, and P. Börjesson. 2002. A field experiment using acoustic alarms (pingers) to reduce harbour porpoise by-catch in bottom-set gillnets. *ICES Journal of Marine Science* 59:816–824.
- Carlström, J., P. Berggren, and N.J.C. Tregenza. 2009. Spatial and temporal impact of pingers on porpoises. *Canadian Journal of Fisheries and Aquatic Sciences* 66:72–82.
- Carretta, J.V., J. Barlow, and L. Enriquez. 2008. Acoustic pingers eliminate beaked whale bycatch in a gill net fishery. *Marine Mammal Science* 24:956–961.
- Crocker, S.E., and F.D. Fratantonio. 2016. Characteristics of sounds emitted during high-resolution marine geophysical surveys. Naval Undersea Warfare Center Division, Newport, Rhode Island. 265 pages.
- Culik, B.M., S. Koschinski, N. Tregenza, and G. Ellis. 2001. Reactions of harbor porpoise (*Phocoena phocoena*) and herring (*Clupea harengus*) to acoustic alarms. *Marine Ecology Progress Series* 211:255–260.
- Götz, T., and V.M. Janik. 2010. Aversiveness of sounds in phocid seals: Psycho-physiological factors, learning processes and motivation. *The Journal of Experimental Biology* 213:1536–1548.
- Götz, T., and V.M. Janik. 2013. Acoustic deterrent devices to prevent pinniped depredation: Efficiency, conservation concerns and possible solutions. *Marine Ecology Progress Series* 492:285–302.
- Harvey, J.T., and D. Goley. 2011. Determining a correction factor for aerial surveys of harbor seals in California. *Marine Mammal Science*, 27(4):719-735.
- Hastie, G.D., C. Donovan, T. Götz, and V.M. Janik. 2014. Behavioral responses by grey seals (*Halichoerus grypus*) to high frequency sonar. *Marine Pollution Bulletin* 79:205–210.
- Johnston, D.W. 2002. The effect of acoustic harassment devices on harbor porpoises (*Phocoena phocoena*) in the Bay of Fundy, Canada. *Biological Conservation* 108:113–118.
- Kastelein, R.A., D. de Haan, A.D. Goodson, C. Staal, and N. Vaughan. 1997. The effects of various sounds on harbor porpoise. Pages 367–383 in A.J. Read, P.R. Wiepkema, and P.E. Nachtigall (eds.), *The Biology of the Harbor Porpoise*. De Spil Publishers, Woerden, The Netherlands.
- Kastelein, R.A., H.T. Rippe, N. Vaughan, N.M. Schooneman, W.C. Verboom, and D. de Haan. 2000. The effects of acoustic alarms on the behavior of harbor porpoises in a floating pen. *Marine Mammal Science* 16:46–64.
- Kastelein, R.A., D. DeHaan, N. Vaughan, C. Staal, and N.M. Schooneman. 2001. The influence of three acoustic alarms on the behaviour of harbour porpoises (*Phocoena phocoena*) in a floating pen. *Marine Environmental Research* 52(4):351–371.
- Kastelein, R.A., W.C. Verboom, M. Muijsers, N.V. Jennings, and S. van der Heul. 2005. The influence of acoustic emissions for underwater data transmission on the behaviour of harbor porpoises (*Phocoena phocoena*) in a floating pen. *Marine Environmental Research* 59:287–307.
- Kastelein, R.A., N.V. Jennings, W.C. Verboom, D. de Haan, D., and N.M. Schooneman. 2006a. Differences in the response of a striped dolphin (*Stenella coeruleoalba*) and a harbor porpoise (*Phocoena phocoena*) to an acoustic alarm. *Marine Environmental Research* 61:363–378.
- Kastelein, R.A., S. van der Heul, W.C. Verboom, R.V.J. Triesscheijn, and N.V. Jennings. 2006b. The influence of underwater data transmission sounds on the displacement behaviour of captive harbor seals (*Phoca vitulina*). *Marine Environmental Research* 61:19–39.

- Kastelein, R.A., L. Hoek, R. Gransier, C.A.F. de Jong, J.M. Terhune, and N. Jennings. 2015a. Hearing thresholds of a harbor porpoise (*Phocoena phocoena*) for playbacks of seal scarer signals, and effects of the signals on behavior. *Hydrobiologia* 756:89–103.
- Kastelein, R.A., L. Helder-Hoek, R. Gransier, J.M. Terhune, N. Jennings, and C.A.F. de Jong. 2015b. Hearing thresholds of harbor seals (*Phoca vitulina*) for playbacks of seal scarer signals, and effects of the signals on behavior. *Hydrobiologia* 756:75–88.
- Lurton, X. and S. DeRuiter. 2011. Sound radiation of seafloor-mapping echosounders in the water column, in relation to the risks posed to marine mammals. *International Hydrographic Review* November: 7–17.
- Morton, A. 2000. Occurrence, photo-identification and prey of Pacific white-sided dolphins (*Lagenorhynchus obliquidens*) in the Broughton Archipelago, Canada 1984–1998. *Marine Mammal Science* 16:80–93.
- Morton, A.B., and H.K. Symonds. 2002. Displacement of *Orcinus orca* (Linnaeus) by high amplitude sound in British Columbia, Canada. *ICES Journal of Marine Science* 59:71–80.
- Olesiuk, P.F., L.M. Nichol, P.J. Swoden, and J.K B. Ford. 1995. Effect of sound generated by an acoustic deterrent device on the abundance and distribution of harbour porpoise (*Phocoena phocoena*) in Retreat Passage, British Columbia. Department of Fisheries and Oceans, British Columbia, Canada, 47 pages.
- Tougaard, J., A.J. Wright, and P.T. Madsen. 2015. Cetacean noise criteria revisited in the light of proposed exposure limits for harbour porpoises. *Marine Pollution Bulletin* 90:196–208.
- Watkins, W.A., and W.E. Schevill. 1975. Sperm whales (*Physeter catodon*) react to pingers. *Deep Sea Research I* 22:123–129.