24 April 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 the City of Ketchikan (the City) seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA) to take small numbers of marine mammals by harassment. The taking would be incidental to removal of an underwater pinnacle in Ketchikan, Alaska. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 27 March 2019 notice (84 Fed. Reg. 11508) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

Background

The City plans to demolish or remove an underwater pinnacle via confined blasting activities. Those activities could involve up to 60 individual charges with a maximum net explosive weight of 75 lbs/delay that would be detonated every 8 msec for a total of 1 sec. The blasting activities would occur on up to 50 days. All activities would occur during daylight hours[1] only.

NMFS preliminarily has determined that, at most, the proposed activities could cause Level A and/or B harassment of small numbers of nine marine mammal species. NMFS anticipates that any impact on the affected species and stocks would be negligible. NMFS also 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 included—

- conducting test blast monitoring;
- using various delay and shut-down procedures;
- ceasing activities involving heavy equipment if any marine mammal comes within 10 m of the equipment;

[1] From 30 minutes after sunrise until 30 minutes before sunset.

- using three land- and/or barge-based NMFS-approved protected species observers (PSOs) to monitor the Level A and B harassment zones before, during and after confined blasting activities;
- 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 are met, approaches or is observed within the Level B harassment zone;
- reporting injured and dead marine mammals to NMFS and the Alaska Regional Stranding Coordinator using NMFS's phased approach and suspending activities, if appropriate; and
- submitting a final report.

General concerns and comments

The Commission informally noted multiple issues in the City's application, NMFS's *Federal Register* notice, and/or the proposed authorization. Specifically, those issues included—

- omitting Level B harassment (behavior) takes of marine mammals[2];
- basing the number of takes of (1) gray whales on single animals rather than group size, (2) minke whales on a lower frequency of occurrence than is expected in the project area, and (3) Pacific white-sided dolphins and killer whales on smaller group size estimates than could occur[3];
- requiring the City to conduct hydroacoustic monitoring on a test blast rather than an actual blast event[4];
- omitting mitigation measures consistent with previous authorizations for confined blasting activities[5]; and
- omitting information regarding which Native Alaskan communities or entities were contacted and whether any had specific concerns regarding the proposed blasting activities[6].

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[2] Which is discussed in a subsequent section herein.

[3] Based on these issues, NMFS indicated that it would increase the numbers of takes of gray whales from 5 to 10, minke whales from 10 to 20, Pacific white-sided dolphins from 100 to 150, and killer whales from 50 to 70.

[4] NMFS indicated that the City agreed to conduct hydroacoustic monitoring of at least one production blasting event and use both hydrophones and pressure transducers to conduct the measurements. In addition, the Commission informally noted that NMFS should make the City aware of the necessary statistics, metrics, and other required data for reporting such measurements. Those include providing minimums, means, medians, and maximums for root-mean-square sound pressure levels (SPLs), peak SPLs, single-shot sound exposure levels (SELs), and cumulative SELs. The number of delays, net explosive weight per delay, and relevant spectra (including power spectral density reported as dB re 1 $\mu Pa^2/Hz$) should be reported for each event as well. NMFS should include *all* requirements in the final authorization.

[5] For other confined blasting activities, action proponents are required to conduct activities only from 30 minutes after sunrise until 1 hour prior to sunset and only in good visibility conditions. Action proponents also are required to delay activities for at least 30 minutes if an animal is not observed to have left the shut-down zone and to conduct post-activity monitoring for 1 hour rather than 30 minutes after the blast. In addition, action proponents are required to notify (1) NMFS and the local stranding network 24 hours before blasting is planned to occur and after it has occurred and (2) the stranding network immediately if an animal is injured or killed due to blast activities and follow any instructions that the stranding network provides. None of these measures were included in the proposed authorization, but NMFS specified that the measures would be included in the final authorization.

[6] In its application, the City indicated that it had contacted the Alaska Harbor Seal Commission, the Alaska Sea Otter and Steller Sea Lion Commission, and the Ketchikan Indian Community. All of which either had no comment or did not respond. NMFS indicated it would include the relevant information in the preamble to the final authorization.

NMFS indicated that it plans to fix most of these deficiencies in the final incidental harassment authorization.

Behavior threshold for blasting activities

For explosive activities, NMFS generally uses a behavior threshold that is 5 dB less than the temporary threshold shift (TTS) threshold. That value was derived from observed onset behavioral responses of captive bottlenose dolphins during non-impulsive TTS testing[7] (Schlundt et al. 2000). The justification for that threshold is questionable, but of greater concern is that NMFS, based on assertions from the Navy, continues to conclude that marine mammals do not exhibit behavioral responses to 'single' detonations[8] (83 Fed. Reg. 52407 and Department of the Navy 2017)[9]. Although there are no data to substantiate those assertions, the Navy's, and thus NMFS's, main justification hinges on use of the same supposition for previous ship shock trial final rules in 1998, 2001, and 2008. The Commission contends that NMFS should not continue to ascribe validity to assumptions that are not based on actual data.

As it has with other authorizations, NMFS provided no evidence to justify that permanent threshold shift (PTS) and TTS[10] could occur but that an animal would not behaviorally respond to 75 lbs of explosives detonating at once, let alone 4,500 lbs of explosives detonating over 1 sec. NMFS instead indicated that a blasting event would generate sound only for approximately 1 sec, thus, a behavioral response that could rise to the level of take would not be expected to occur[11] (83 Fed. Reg. 11527). That stance is in direct contradiction to NMFS's continued belief[12] that missile launches—which are similarly brief, impulsive in nature, and considered 'single' events[13]—do in fact cause pinnipeds to exhibit behavioral responses (84 Fed. Reg. 321). It is nonsensical for NMFS to assume that pinnipeds would not exhibit a behavioral response to a 'single' detonation while underwater but would exhibit such a response while out of water, particularly since impulsive activities are perceived as being louder and propagate much farther underwater than in air.

For blasting activities, short-term avoidance of the area likely will be the main behavioral response exhibited by both fish and marine mammals. In other recent authorizations involving

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[7] Based on 1-sec tones.
[8] In this instance, a single detonation event consisting of up to 60 separate detonations separated by at least 8 msec each, all of which detonate in 1 sec.
[9] Including certain gunnery exercises that involve several detonations of small munitions within a few seconds.
[10] NMFS also attempts to minimize the fact that PTS and TTS could occur, the only types of takes it plans to authorize. In one section of the *Federal Register* notice, it notes that the City's blasting activities are most likely to cause TTS in a few individual marine mammals, but there could be limited PTS in three species (84 Fed. Reg. 11517). The Commission notes that NMFS proposed to authorize 450 TTS takes and up to 100 PTS takes for harbor seals alone, neither of which comprise a few individuals nor constitute limited takes. It is illogical to conclude that hundreds of animals could exhibit physiological effects but that none would respond behaviorally or avoid the area, especially given that the blasting events would occur in the same area on up to 50 days. NMFS has boxed itself in by refusing to authorize behavior takes (the main type of take likely to actually occur) and having to minimize the possibility that PTS and TTS could occur (the only takes it will authorize).
[11] NMFS referenced Richardson et al. (1995), Gordon et al. (2003), Nowacek et al. (2007), Southall et al. (2007; 84 Fed. Reg. 11518) as supporting that conclusion—some of those references do not even involve detonations and none of them made such assertions.
[12] As confirmed by the data obtained during monitoring such events.
[13] Sonic booms are considered instantaneous sound-emitting events.

detonations, NMFS noted that avoidance is one of the most obvious manifestations of disturbance in marine mammals (Richardson et al. 1995), with animals returning to the area once the noise has ceased (83 Fed. Reg. 52404). NMFS has not stated as much in this authorization, but noted that fish may relocate to avoid certain areas of sound energy but return after the activity ceases (84 Fed. Reg. 11518). In addition to short-term avoidance, if the marine mammals are disturbed when they are resting, nursing, or feeding, those natural behavioral patterns and vital functions would be disrupted as well—thus, constituting Level B harassment. Because the blasting activities have the potential to disturb marine mammals and disrupt natural behavioral patterns, the Commission recommends that NMFS estimate and ultimately authorize behavior takes of marine mammals during *all* activities involving explosives, including those that involve single detonations or single detonation events[14], for this and all future incidental take authorizations. If NMFS again chooses not to implement the Commission's recommendation, the Commission further recommends that NMFS specify in the preamble to the final rule and all future proposed rules the scientific studies that serve as the basis for its continued assumption that behavior takes only occur for multiple detonations and do not occur for what are deemed 'single' detonations.

Proposed one-year authorization renewals

NMFS has indicated that it may issue a second one-year[15] 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. 11528 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 period—and Congressional expectations regarding the length of the comment period when it passed that provision[16].

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 documentation[17], the draft monitoring report(s), the renewal application or request[18], 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.

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[14] Which is what NMFS ascribed as the City's proposed activity. That is, numerous explosives that are detonated over 1 sec or a few seconds.

[15] 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.

[16] See, for example, 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.

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

[18] Including any proposed changes or any new information.

Therefore, the Commission recommends that NMFS refrain from using the proposed renewal process for the City's authorization. The renewal process should be used sparingly and selectively, 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, such as the City's proposed blasting 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 (such as the City's authorization) 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.

The Commission hopes you find its letter useful. Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,

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

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