



MARINE MAMMAL COMMISSION

22 August 2012

Mr. P. Michael Payne, Chief
Permits and Conservation 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 submitted by the Honolulu Seawater Air Conditioning, LLC, (HSWAC) seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take small numbers of marine mammals by harassment. The taking would be incidental to construction of a seawater air conditioning project in the waters off Honolulu, Hawaii. The incidental harassment authorization would be valid for one year. The Commission also has reviewed the National Marine Fisheries Service's 24 July 2012 notice (77 Fed. Reg. 43259) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service issue the incidental harassment authorization but—

- require HSWAC to conduct in-situ sound measurements during impact and vibratory pile driving at representative depths to 1,128 m offshore
- re-estimate the total number of takes for spinner and pantropical spotted dolphins based on the total number of pile driving days (i.e., 56 days of impact pile driving and 16 days of vibratory pile driving)
- require HSWAC to monitor before, during, and after all ramp-ups of vibratory and impact pile-driving to gather the data needed to determine the effectiveness of this technique as a mitigation measure
- require HSWAC to monitor the Level A and B harassment zones to detect the presence and characterize the behavior of marine mammals during all pile-driving activities that use a vibratory or impact hammer, and
- require HSWAC to monitor for marine mammals not only before and during pile-driving activities, but for 30 minutes after vibratory and impact pile-driving activities have ceased.

RATIONALE

HSWAC plans to construct a district cooling system for commercial and residential properties in Honolulu. During the project, operators would install up to 12 20-in steel test pipe piles, 80 24-in steel sheet piles, and 113 20-in steel permanent pipe piles. The pipe piles would be installed using an impact hammer and the sheet piles would be installed using a vibratory hammer. The test pipe piles would be installed temporarily for resistance testing and then removed using a pull cable. HSWAC would use one hammer at any given time to install piles in waters approximately 46 m in depth during daylight hours only. It expects pile installation and removal to take 72 days (56 days of impact pile driving and 16 days of vibratory pile driving) from October through November 2012 and March through April 2013, weather permitting. If all the permanent pipe piles cannot be installed during the one-year period, HSWAC would apply for another incidental harassment authorization in September 2013.

The Service preliminarily has determined that, at most, the proposed activities temporarily would modify the behavior of small numbers of 17 marine mammal species. The Service anticipates that any impact on the affected species and stocks would be negligible. The Service also does not anticipate any take of marine mammals by death or serious injury and believes that the potential for disturbance would be at the least practicable level because of the proposed mitigation and monitoring measures. Those measures include—

- restricting vibratory pile-driving activities from December 1 through March 31 to protect humpback whales during the peak of the calving season
- using no more than one impact or vibratory hammer at any given time
- conducting in-situ sound propagation measurements during impact installation of the 20-in test pipe piles and vibratory installation of the 24-in sheet piles and adjusting the Level A and B harassment zones, if necessary
- using Service-approved protected species observers to monitor the Level A and B harassment zones 30 minutes prior to and during impact pile driving on all days when impact pile driving occurs
- extending the exclusion zone from 91 to 1,000 m for all large whales from 1 December through 31 March
- using Service-approved protected species observers to monitor the Level B harassment zone 40 minutes prior to and during vibratory pile driving on at least 5 of the 16 days when vibratory pile driving occurs
- using delay and shut-down procedures of 15 minutes for pinnipeds and 60 minutes for cetaceans
- using ramp-up procedures for vibratory and impact pile driving prior to driving each pile, if hammering ceases for more than 15 minutes
- reporting injured and dead marine mammals to the Service and local stranding network using the Service's phased approach and suspending activities, if appropriate, and
- submitting a final report.

In-situ sound measurements

HSWAC would install the 20-in pipe piles and 24-in sheet piles using impact and vibratory hammers. The piles would be installed from 488–1,128 m offshore in water depths up to 46 m. The Service would require HSWAC to conduct in-situ sound measurements during impact and vibratory pile driving and to contact it within 48 hours of taking those measurements in case any adjustments to the Level A and B harassment zones are needed. The Marine Mammal Commission agrees with the need for such on-site assessment and recommends that the National Marine Fisheries Service require HSWAC to conduct in-situ sound measurements during impact and vibratory pile driving at representative depths to 1,128 m offshore. The Commission would be pleased to discuss a proposed acoustic monitoring plan with the Service, including the number of piles that would be monitored and associated distances from shore and water depths.

Spinner and pantropical spotted dolphin takes

The Service noted in the *Federal Register* notice that spinner and pantropical spotted dolphins are distributed in the coastal waters of Hawaii and that they rest in nearshore shallow waters during the day and feed in offshore deeper waters at night. It also noted that spinner dolphins typically remain within 8 km of the shore around Oahu. The Service estimated the number of takes of the two species for vibratory pile driving but it did not estimate the number of takes associated with impact pile driving for either species. Instead, it assumed no takes would occur because the two species prefer deeper waters and impact pile driving would occur in shallower waters with a relatively small Level B harassment zone (i.e., 1 km). In the Commission's view, that assumption is inconsistent with the Service's own information regarding the distribution and habitat use patterns (i.e., daily inshore movements) of both spinner and pantropical spotted dolphins. The failure to estimate takes associated with impact pile driving effectively reduced the estimated total number of takes by a factor of 4.5.

In addition, the Service stated in correspondence with the Commission that the take estimate associated with vibratory pile driving for spinner dolphins is conservative enough to account for all pile driving activities (impact and vibratory) because of the small Level B harassment zone, the limited amount of impact pile driving per day (four 15-min periods), the use of average pod size to determine the take estimate (based on visual observations around the entire island of Oahu), and the implementation of soft-starts for all impact pile driving. The Commission appreciates the difficulty of estimating the number of takes that may occur as a result of the two activities (i.e., impact versus vibratory pile driving). Nonetheless, it believes that the estimates should be based, to the best of the Service's and applicant's abilities, on the actual methods used and the number of days each method would be used. Such an approach is more consistent with the Service's past practice, takes into account the different methods involved, and provides a more accurate basis for estimating total takes. Furthermore, it is consistent with the approach the Service used for estimating takes for other small cetacean species, including bottlenose dolphins. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service re-estimate the total number of takes for spinner and pantropical spotted dolphins based on the total number of pile driving days (i.e., 56 days of impact pile driving and 16 days of vibratory pile driving).

Mitigation and monitoring measures

The Service would require the operators to implement ramp-up procedures prior to driving each pile if more than 15 minutes have passed since they drove their last pile. The Commission supports that measure, but again notes that the effectiveness of ramp-up as a mitigation measure has yet to be empirically verified. Therefore, the Marine Mammal Commission repeats its recommendation that the National Marine Fisheries Service require HSWAC to monitor before, during, and after all ramp-ups of vibratory and impact pile driving to gather the data needed to determine the effectiveness of this technique as a mitigation measure.

The proposed authorization included monitoring by protected species observers to implement shut-down or delay procedures, validate take estimates, and document marine mammal responses to the activities. However, the authorization would require monitoring of the Level B harassment zones for a minimum of five of the 16 days of vibratory pile driving. The Service did not provide a rationale for not including continuous monitoring in the proposed authorization. In the past, the Service has indicated that it would not require continuous observations during vibratory pile driving because it believes that the sound levels from those activities would not cause Level A harassment or mortality, the operators would be able to determine adequately the number of animals taken, and they should be able to determine actual impacts by correcting for observer effort (77 Fed. Reg. 32573).

For a number of reasons, the Commission believes that protected species observers should be monitoring the construction sites during all activities (i.e., vibratory and impact pile driving). Marine mammal responses to vibratory pile driving are not well studied and continuous monitoring is the only way to ensure that unexpected responses are detected, documented, and evaluated. Intermittent or infrequent observations may be sufficient for characterizing what might be called “normal” responses, but the Service also should want to know if, on occasion, these activities cause stronger and more significant responses. Finally, monitoring during all pile-driving activities (i.e., during impact and vibratory hammer use) is the only way for the operators and the Service to be confident that they are causing the least practicable impact. For all of these reasons, the Marine Mammal Commission recommends that the National Marine Fisheries Service require HSWAC to monitor the Level A and B harassment zones to detect the presence and characterize the behavior of marine mammals during all pile-driving activities that use a vibratory or impact hammer.

The Service also proposed to require HSWAC to monitor only before and during pile-driving activities. That is, no post-activity monitoring would be required. The Service based that proposal on the application from HSWAC, which did not include post-activity monitoring. The Commission is unsure why the Service is deferring to HSWAC regarding mitigation and monitoring requirements. The Service, as the regulatory agency, is responsible for requiring applicants to implement appropriate mitigation and monitoring measures. Post-activity monitoring is a standard practice and has been included in other incidental harassment authorizations for pile-driving and -removal activities. Such monitoring is needed to ensure that marine mammals are not 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. Post-activity monitoring is the best way, and in some situations may be the only reliable way, to detect certain

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impacts. Accordingly, the Marine Mammal Commission recommends that the Service require HSWAC to monitor for marine mammals not only before and during pile-driving activities, but for 30 minutes after vibratory and impact pile-driving activities have ceased.

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

Sincerely,

A handwritten signature in blue ink that reads "Timothy J. Ragen". The signature is written in a cursive style with a prominent horizontal line at the beginning.

Timothy J. Ragen, Ph.D.
Executive Director