



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

Kathryn Purcell
Port of San Francisco
Pier 1, The Embarcadero
San Francisco, CA 94111

Dear Ms. Purcell:

Enclosed is an Incidental Harassment Authorization (IHA) issued to the Port of San Francisco, under the authority of Section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*), to harass small numbers of marine mammals, by Level B harassment, incidental to the Mission Bay Ferry and Water Taxi Landing Project in San Francisco Bay, California from June 1, 2019 to May 31, 2020.

You are required to comply with the conditions contained in the IHA. In addition, you must submit reports to the National Marine Fisheries Service's (NMFS) Office of Protected Resources within 90 days of its completion. The IHA requires monitoring of marine mammals by qualified individuals before, during, and after pile driving, vibratory removal, and drilling activities and reporting of marine mammal observations, including species, numbers, and behavioral modifications potentially resulting from this activity.

If you have any questions concerning the IHA or its requirements, please contact Gray Redding, Office of Protected Resources, NMFS, at 301-427-8412.

Sincerely,

OCT 16 2018


for Donna S. Wieting
Director, Office of Protected Resources

Enclosures



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INCIDENTAL HARASSMENT AUTHORIZATION

The Port of San Francisco (Port) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to pile driving, pile removal, and drilling in San Francisco Bay, California, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from June 1, 2019 to May 31, 2020.
2. This IHA is valid only for impact pile driving, vibratory pile driving, vibratory pile removal, and down the hole drilling activities associated with the Mission Bay Ferry and Water Taxi Landing Project in San Francisco Bay, CA.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of the Port, its designees, and work crew personnel operating under the authority of this IHA.
 - (b) The species authorized for taking are the gray whale (*Eschrichtius robustus*), bottlenose dolphin (*Tursiops truncatus*), harbor porpoise (*Phocoena phocoena*), California sea lion (*Zalophus californianus*), northern fur seal (*Callorhinus ursinus*), Pacific harbor seal (*Phoca vitulina richardii*), and northern elephant seal (*Mirounga angustirostris*)
 - (c) The taking, by Level B harassment only, is limited to the species listed in condition 3(b). See Table 1 (attached) for numbers of take authorized.
 - (d) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in condition 3(b) of the Authorization or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (e) The Port must conduct briefings between construction supervisors and crews, marine mammal monitoring team, and Port staff prior to the start of all activities, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.
 - (f) Activities authorized under this IHA may only occur during daylight hours.

4. Mitigation Measures

The holder of this Authorization is required to implement the following mitigation measures:

- (a) For all pile driving/removal, drilling, and in-water heavy machinery work, the Port of San Francisco must implement a shutdown zone around the pile or work



zone. If a marine mammal comes within or approaches the shutdown zone, such operations must cease. See Table 2 for minimum radial distances required for shutdown zones;

- (b) After a shutdown or delay occurs, activities can only begin after the animal is observed leaving the shutdown zone or has not been observed for 15 minutes;
- (c) The Port of San Francisco must use sound attenuation devices including a bubble curtain during all impact pile driving and a caisson sleeve during drilling. The Port of San Francisco must implement the following bubble curtain performance standards:
 - (i) The bubble curtain must distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column;
 - (ii) The lowest bubble ring must be in contact with the mudline for the full circumference of the ring, and the weights attached to the bottom ring must ensure 100 percent mudline contact. No parts of the ring or other objects shall prevent full mudline contact; and
 - (iii) The selected contractor must ensure that personnel are trained in the proper balancing of air flow to the bubblers and must require that construction contractors submit an inspection/performance report for approval by the Port within 72 hours following the performance test. Corrections to the attenuation device to meet the performance standards must occur prior to impact driving;
- (d) The Port of San Francisco must use a soft-start procedure for impact pile driving. During a soft start, The Port of San Francisco is required to provide an initial set of three strikes from the impact hammer at 40 percent energy, followed by a 30-second waiting period, then two subsequent 3–strike sets. This soft-start must be applied prior to beginning pile driving activities each day or when impact pile driving hammers have been idle for more than 30 minutes;
- (e) If a species enters or approaches the Level B harassment zone and that species is either not authorized for take or its authorized takes are met, activities must shut down immediately using delay and shut-down procedures; and
- (f) The Port of San Francisco must establish monitoring locations as described below.

5. Monitoring

The holder of this Authorization is required to conduct marine mammal monitoring during authorized activities and encouraged to conduct acoustic monitoring of background sound and project activities. Monitoring and reporting must be conducted in accordance with the NMFS approved Monitoring Plan.

- (a) The Port of San Francisco must monitor the Level B harassment zones and shutdown zones shown in Tables 2 and 3 during all activities. Monitoring efforts in the Level B harassment zone can be concentrated in a subset of the zone if it is not feasible to observe the entire zone.
- (b) If waters exceed a sea-state which restricts the observers' ability to make observations within the marine mammal shutdown zone, activities must cease. Activities must not be initiated or continue until the entire largest shutdown zone for the activity is visible.
- (c) Prior to the start of daily in-water construction activity, or whenever a break in activity of 30 minutes or longer occurs, the PSOs must observe the shutdown and monitoring zones for a period of 30 minutes before construction activities can begin.
- (d) If the shutdown zones have been observed to be clear of marine mammals for 30 minutes, in-water construction can commence and work can continue even if visibility becomes impaired within the Level B harassment zone.
- (e) Monitoring must be conducted by qualified PSOs, with minimum qualifications as described below. PSO requirements include:
 - (i) At least one PSO must be on site to actively observe the shutdown and disturbance zones during all pile driving, removal, and drilling. Two PSOs will be required to observe the shutdown and disturbance zones for the first five (5) days of combined pile driving, pile removal, and drilling;
 - (ii) Observers must use their naked eye with the aid of binoculars, and/or a spotting scope during all pile driving and extraction activities;
 - (iii) All PSOs must be positioned in the best vantage point to have an unobstructed view of all water within the shutdown zone and as much of the Level B harassment zone as possible for pile driving/removal and/or drilling;
 - (iv) Observers must be independent (i.e., not construction personnel);
 - (v) At least one PSO must have prior experience working as a marine mammal observer during construction activities;
 - (vi) Other PSOs may substitute education (degree in biological science or related field) or training for experience;
 - (vii) Where a team of three or more PSOs are required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience working as a marine mammal observer during construction;
 - (viii) The Port of San Francisco must submit PSO CVs for approval by NMFS;

- (f) Marine mammal location must be determined using a rangefinder and a GPS or compass;
- (g) Post-construction monitoring must be conducted for 30 minutes beyond the cessation of piling and drilling activities at end of day.

6. Reporting

The holder of this Authorization is required to:

- (a) Submit a draft report on all monitoring conducted under the IHA within ninety (90) calendar days of the completion of marine mammal and acoustic monitoring. A final report must be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report must include:
 - (i) Date and time a monitored activity begins or ends;
 - (ii) Construction activities occurring during each observation period;
 - (iii) Record of implementation of shutdowns, including the distance of animals to the pile and description of specific actions that ensued and resulting behavior of the animal, if any;
 - (iv) An estimated total take extrapolated from the number of marine mammals observed during the course of construction activities, if necessary.
 - (v) Deviation from initial proposal in pile numbers, pile types, average driving/drilling times, etc.;
 - (vi) Weather parameters (*e.g.*, percent cover, visibility);
 - (vii) Water conditions (*e.g.*, sea state, tide state);
 - (viii) Species, numbers, and, if possible, sex and age class of marine mammals;
 - (ix) Description of any observable marine mammal behavior patterns,
 - (x) Distance from pile driving and drilling activities to marine mammals and distance from the marine mammals to the observation point;
 - (xi) Locations of all marine mammal observations; and
 - (xii) Other human activity in the area.

(b) Reporting injured or dead marine mammals:

(i) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as an injury (Level A harassment), serious injury, or mortality, The Port of San Francisco must immediately cease the specified activities and report the incident to the Office of Protected Resources (301-427-8401), NMFS, and the West Coast Stranding Coordinator (866-767-6114), NMFS. The report must include the following information:

1. Time and date of the incident;
2. Description of the incident;
3. Environment conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
4. Description of all marine mammal observations and active sound source use in the 24 hours preceding the incident;
5. Species identification or description of the animal(s) involved;
6. Fate of the animal(s); and
7. Photographs or video footage of the animal(s).

Activities must not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with the Port of San Francisco to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The Port of San Francisco may not resume their activities until notified by NMFS;

(ii) In the event that the Port of San Francisco discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.*, in less than a moderate state of decomposition), the Port of San Francisco must immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Stranding Coordinator, NMFS;

(iii) The report must include the same information identified in 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with the Port of San Francisco to determine whether additional mitigation measures or modifications to the activities are appropriate;

- (iv) In the event that the Port of San Francisco discovers an injured or dead marine mammal, and the lead observer determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the Port of San Francisco must report the incident to the Office of Protected Resources, NMFS, and the West Coast Stranding Coordinator, NMFS, within 24 hours of the discovery. The Port of San Francisco must provide photographs or video footage or other documentation of the stranded animal sighting to NMFS;
- 7. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.
- 8. Renewals - On a case-by-case basis, NMFS may issue a second one-year IHA without additional notice when 1) another year of identical or nearly identical activities as described in the Specified Activities section is planned or 2) the activities would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that described in the Dates and Duration section, provided all of the following conditions are met:
 - (a) A request for renewal is received no later than 60 days prior to expiration of the current IHA.
 - (b) The request for renewal must include the following:
 - (i) An explanation that the activities to be conducted beyond the initial dates either are identical to the previously analyzed activities or include changes so minor (e.g., reduction in pile size) that the changes do not affect the previous analyses, take estimates, or mitigation and monitoring requirements.
 - (ii) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

- (iii) Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures remain the same and appropriate, and the original findings remain valid.



Donna S. Wieting,
Director, Office of Protected Resources,
National Marine Fisheries Service.

OCT 16 2018

Date

Table 1. Authorized take numbers, by species

Species	Authorized Take (Level B)
Harbor seal (<i>Phoca vitulina</i>)	2799
California sea lion (<i>Zalophus californianus</i>)	114
Harbor porpoise (<i>Phocoena phocoena</i>)	118
Northern elephant seal (<i>Mirounga angustirostris</i>)	3
Northern fur seal (<i>Callorhinus ursinus</i>)	3
Bottlenose dolphin (<i>Tursiops truncatus</i>)	15
Gray whale (<i>Eschrichtius robustus</i>)	3

Table 2. Shutdown Zones.

Source	Shutdown Zones (meters)				
	Low-Frequency Cetaceans (humpback whale, minke whale)	Mid-Frequency Cetaceans (Pacific-white sided dolphin)	High-Frequency Cetaceans (Dall's porpoise, harbor porpoise)	Phocid (harbor seal)	Otariid (sea lion)
In-Water Construction Activities					
In Water Heavy Construction (<i>i.e.</i> , Barge movements, pile positioning, deadpulling, and sound attenuation)	10	10	10	10	10
Vibratory Pile Driving					
Vibratory Pile Driver (Removal of concrete and wood piles)	10	10	10	10	10
Vibratory Pile Driver (Installation of 14-inch steel H piles)	10	10	10	10	10
Vibratory Pile Driver (Installation of 16-inch steel H piles)	10	10	10	10	10
Vibratory Pile Driver (Installation of 30-inch steel piles)	25	10	25	10	10
Vibratory Pile Driver (Installation of 36-inch steel piles)	50	10	75	25	10
Impact Pile Driving					
Impact Pile Driver (16-inch steel piles)	10	10	10	10	10
Impact Pile Driver (20-inch concrete piles)	75	10	75	30	10
Impact Pile Driver (36-inch steel piles)	300	25	300	150	25
Drilling					
24-inch concrete pile (1 pile) (5.5 hours per day)	75	10	50	20	10

Table 3. Monitoring Zones.

Source	Monitoring Zone (meters)
Vibratory Pile Driving	
36-inch steel pile installation	21,544*
30-inch steel pile installation	21,544*
16-inch steel pile installation	3,415*
14-inch steel H pile installation	3,415*
Removal of pre-existing concrete and wood piles	2,154*
Impact Pile Driving	
36-inch steel pile installation	541.2
20-inch concrete pile installation	63.1
16-inch steel pile installation	136
Down the Hole Drilling	
	15,849*

*The monitored radius and area of the Level B harassment zone may vary based on visibility

