



INCIDENTAL HARASSMENT AUTHORIZATION

Chevron 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 the Richmond Refinery Long Wharf Maintenance and Efficiency Project in San Francisco Bay, California, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from January 1, 2018 through December 31, 2018.
2. Pile-driving activities shall occur between June 1 and November 30.
3. This Authorization is valid only for in-water construction work associated with the Chevron Long Wharf Maintenance and Efficiency Project.
4. General Conditions:
 - (a) A copy of this IHA must be in the possession of Chevron, its designees, and work crew personnel operating under the authority of this IHA.
 - (b) The species authorized for taking by Level B harassment include Pacific harbor seal (*Phoca vitulina*) and California sea lion (*Zalophus Californianus*). Table 1 shows the number of authorized takes permitted for each species.

Table 1. Authorized Level B Takes.

Species	Level B Takes
Harbor seal	24
California sea lion	2

- (c) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in condition 4(b) or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.



- (d) Chevron shall conduct briefings between construction supervisors and crews, marine mammal monitoring team, and staff prior to the start of all in-water pile driving, and when new personnel join the work.

5. Mitigation Measures

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

- (a) Time Restrictions: For all in-water pile driving activities, Chevron shall operate only during daylight hours.
- (b) Establishment of Shutdown zone: For all pile driving activities, Chevron shall establish shutdown zones of 55 m for harbor porpoises and gray whales and 15 m for harbor seals and California sea lions.
- (c) Establishment of Level B harassment zone (ZOI): For all pile driving activities, Chevron shall establish a ZOI of 55 m for species listed in 4(b).
- (d) The shutdown zone and ZOI shall be monitored throughout the time required to install a pile. If an authorized species is observed entering the ZOI, a Level B exposure shall be recorded and behaviors documented. That pile segment shall be completed without cessation, unless the animal approaches the shutdown zone. Pile installation shall be halted before the animal enters the shutdown zone.
- (e) If any marine mammal species other than those listed in condition 3(b) (including but not limited to gray whales and harbor porpoises) or if a species for which authorization has been granted but the number of authorized takes has been met enters or approaches the ZOI all activities shall be shut down until the animal is seen leaving the ZOI or it has not been seen in the shutdown zone for 30 minutes for cetaceans and 15 minutes for pinnipeds.
- (f) Use of Ramp Up/ Soft Start
 - (i) The project shall utilize soft start techniques for all impact pile driving. Chevron shall implement an initial set of three strikes by the hammer at reduced energy, followed by a 30-second waiting period, then two subsequent three- strike sets.
 - (ii) Soft start shall be required at the beginning of each day's impact pile driving work and at any time following a cessation of pile driving of 30 minutes or longer.
 - (iii) If a marine mammal is present within a shutdown zone, ramping up shall be delayed until the animal(s) leaves the relevant

shutdown zone. Activity shall begin only after the MMO has determined, through sighting, that the animal(s) has moved outside the relevant shutdown zone or it has not been seen in the shutdown zone for 30 minutes for cetaceans and 15 minutes for pinnipeds.

- (iv) If an authorized species is present in the ZOI, ramping up shall begin and a Level B take shall be documented. Ramping up shall occur when these species are in the Level B harassment zone whether they entered the Level B zone from the Level A zone, or from outside the project area.
- (g) Pile caps or cushions shall be used during all impact pile-driving activities.
- (h) For in-water heavy machinery work other than pile driving (*e.g.*, standard barges, tug boats, barge-mounted excavators, or clamshell equipment used to place or remove material), if a marine mammal comes within 10 meters, operations shall cease and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions.

6. Monitoring and Reporting

The holder of this Authorization is required to submit a monitoring report to NMFS within 90 days of the completion of marine mammal monitoring, or 60 days prior to the issuance of any subsequent IHA for this project (if required), whichever comes first.

- (a) Visual Marine Mammal Monitoring and Observation
 - (i) At least two individuals meeting the minimum qualifications below shall monitor the shutdown zones and ZOI from best practicable vantage points during impact pile driving,
 - (ii) Requirements when choosing MMOs are as follows:
 - a. Independent observers (*i.e.*, not construction personnel) are required.
 - b. At least one observer must have prior experience working as an observer.
 - c. Other observers may substitute education (undergraduate degree in biological science or related field) or training for experience.
 - d. Ability to conduct field observations and collect data according to assigned protocols

- e. Experience or training in the field identification of marine mammals, including the identification of behaviors.
 - f. Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
 - g. Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; and marine mammal behavior.
 - h. Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.
 - i. Chevron shall submit observer CVs for NMFS approval.
- (iii) If the exclusion zone is obscured by fog or poor lighting conditions, pile driving shall not be initiated until the exclusion zone is clearly visible. Should such conditions arise while impact driving is underway, the activity shall be halted.
 - (iv) Monitoring shall begin 30 minutes prior to impact pile driving.
 - (v) At the end of the pile-driving day, post-construction monitoring will be conducted for 30 minutes beyond the cessation of pile driving.
- (b) Sound Source Verification
 - (i) Sound source verification (SSV) testing of impact driving shall be conducted. Chevron will record in-situ measurements during installation of four out of eight piles.
 - (ii) The SSV shall be conducted by an acoustical firm with prior experience conducting SSV tests.
 - (iii) NMFS must approve the SSV monitoring plan.

(c) Data Collection

- (i) Observers are required to use approved data forms. Among other pieces of information, Chevron shall record detailed information about any 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. In addition, Chevron shall attempt to distinguish between the number of individual animals taken and the number of incidents of take. At a minimum, the following information shall be collected on the sighting forms:
- a. Date and time that monitored activity begins or ends.
 - b. Weather parameters (*e.g.*, percent cloud cover, percent glare, visibility) and Beaufort sea state.
 - c. Species, numbers, and, if possible, sex and age class of observed marine mammals.
 - d. Construction activities occurring during each sighting.
 - e. Marine mammal behavior patterns observed, including bearing and direction of travel.
 - f. Specific focus should be paid to behavioral reactions just prior to, or during, soft-start and shutdown procedures.
 - g. Location of marine mammal, distance from observer to the marine mammal, and distance from pile driving activities to marine mammals.
 - h. Record of whether an observation required the implementation of mitigation measures, including shutdown procedures and the duration of each shutdown.
 - i. Other human activity in the area.

(d) Reporting Measures

- (i) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as an injury (Level A harassment), serious injury or mortality (*e.g.*, ship-strike, gear interaction, and/or entanglement), Chevron would immediately cease the specified activities and immediately report the incident to the Office of Protected Resources at (301) 427-8408 and the West Coast Regional Stranding Coordinator at

(562) 980-3230. The report would include the following information:

- a. Time, date, and location (latitude/longitude) of the incident.
- b. Name and type of vessel involved.
- c. Vessel's speed during and leading up to the incident.
- d. Description of the incident.
- e. Status of all sound source use in the 24 hours preceding the incident.
- f. Water depth.
- g. Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility).
- h. Description of all marine mammal observations in the 24 hours preceding the incident.
- i. Species identification or description of the animal(s) involved.
- j. Fate of the animal(s).
- k. Photographs or video footage of the animal(s) (if equipment is available).

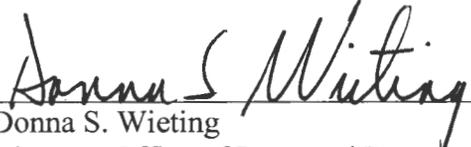
Activities would not resume until NMFS is able to review the circumstances of the prohibited take. NMFS would work with Chevron to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Chevron would not be able to resume their activities until notified by NMFS via letter, email, or telephone.

- (ii) In the event that Chevron discovers an injured or dead marine mammal, and the lead MMO determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.*, in less than a moderate state of decomposition as described in the next paragraph), Chevron would immediately report the incident to the Office of Protected Resources and the West Coast Regional Stranding Coordinator. The report would include the same information identified in the paragraph above. Activities would be

able to continue while NMFS reviews the circumstances of the incident. NMFS would work with Chevron to determine whether modifications in the activities are appropriate.

- (iii) In the event that Chevron discovers an injured or dead marine mammal, and the lead MMO 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), Chevron would report the incident to the Office of Protected Resources and the West Coast Regional Stranding Coordinator, within 24 hours of the discovery. Chevron would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network.

- 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.



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

MAY 12 2017

Date