UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
1315 East-West Highway
Silver Spring, Maryland 20910

INCIDENTAL HARASSMENT AUTHORIZATION

Pacific Gas & Electric (PG&E) and its designees are hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to incidentally harass marine mammals, under the following conditions:

1. This incidental harassment authorization (IHA) is valid from May 1, 2025-April 30, 2026.

2. This IHA authorizes take incidental to pile installation and removal activities, as specified in PG&E's IHA application, associated with Sediment Remediation Project in Remedial Response Areas A and B, Piers 39 to 43 ½, in San Francisco Bay. Hereafter (unless otherwise specified) the term "pile driving" is used to refer to both pile installation and pile removal.

3. General Conditions

   (a) A copy of this IHA must be in the possession of the Holder of the Authorization (Holder), supervisory construction personnel, lead protected species observers (PSOs), and any other relevant designees of the Holder operating under the authority of this IHA at all times that activities subject to this IHA are being conducted.

   (b) The species and/or stocks authorized for taking are listed in Table 1. Authorized take, by Level B harassment only, is limited to the species and numbers listed in Table 1.

   (c) The taking by Level A harassment, serious injury or death of any of the species listed in Table 1 or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA. Any taking exceeding the authorized amounts listed in Table 1 is prohibited and may result in the modification, suspension, or revocation of this IHA.

   (d) The Holder must ensure that construction supervisors and crews, the monitoring team, and relevant PG&E staff are trained prior to the start of activities subject to this IHA, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work.

4. Mitigation Requirements

(a) The Holder must employ PSOs and establish monitoring locations as described in section 5 of this IHA and the Marine Mammal Monitoring Plan (Monitoring Plan; attached). The Holder must monitor the project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions.

(b) Monitoring must take place from 30 minutes prior to initiation of pile driving activity (i.e., pre-start clearance monitoring) through 30 minutes post-completion of pile driving activity.

(c) Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones indicated in Table 2 are clear of marine mammals. Pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals.

(d) If a marine mammal is observed entering or within the shutdown zones indicated in Table 2, pile driving activity must be delayed or halted. Pile driving must be commenced or resumed as described in condition 4(e) of this IHA.

(e) If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone indicated in Table 2 or 15 minutes have passed without re-detection of the animal.

(f) The Holder must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of three strikes at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. A soft start must be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer.

(g) The Holder must use a bubble curtain during impact pile driving of steel piles. The bubble curtain must be operated as necessary to achieve optimal performance. At a minimum, the Holder must adhere to the following performance standards:

i. The bubble curtain must distribute air bubbles around 100 percent of the piling circumference for the full depth of the water column.

ii. The lowest bubble ring must be in contact with the substrate for the full circumference of the ring, and the weights attached to the bottom ring shall ensure 100 percent substrate contact. No parts of the ring or other objects shall prevent full substrate contact.

iii. Air flow to the bubblers must be balanced around the circumference of the pile.

(h) Pile driving activity must be halted (as described in condition 4(d) of this IHA) upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the harassment zone (as shown in Table 2).

(i) The Holder, construction supervisors and crews, PSOs, and relevant PG&E staff must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 meters of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction.

5. Monitoring Requirements

(a) Marine mammal monitoring must be conducted in accordance with the conditions in this section and the Monitoring Plan (attached) and this IHA.

(b) Monitoring must be conducted by qualified, NMFS-approved PSOs, in accordance with the following conditions:

i. PSOs must be independent of the activity contractor (for example, employed by a subcontractor) and have no other assigned tasks during monitoring periods.

ii. At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

iii. Other PSOs may substitute other relevant experience, education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

iv. Where a team of three or more PSOs is required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

v. PSOs must be approved by NMFS prior to beginning any activity subject to this IHA.

(c) The Holder must establish monitoring locations at clear vantage points as described in the Monitoring Plan (attached). For all pile driving activities, a minimum of one PSO must be assigned to each active pile driving location to monitor the shutdown zones.

(d) PSOs must record all observations of marine mammals, regardless of distance from the pile being driven, as well as the additional data indicated in section 6 of this IHA.

(e) Acoustic monitoring must be conducted in accordance with the Acoustic Monitoring Plan (attached).

i. The Holder must conduct sound source level measurements during installation of a minimum of three turbidity curtain piles (Steel H-piles or steel shell piles ≤24 inches).

ii. The Holder must conduct sound source level measurements during installation of a minimum of twelve of the 16-inch timber or composite tapered sediment pin piles.

iii. The Holder must conduct sound source level measurements during installation of a minimum of two each of the 36-inch steel shell piles and 24-inch steel shell piles required for RWF temporary relocation.

iv. The Holder must conduct sound source level measurements for installation and removal of all 18-inch composite hydroacoustic data collection test piles.

(f) The harassment and/or shutdown zones (Table 2) may be modified with NMFS' approval following NMFS' acceptance of acoustic monitoring data.

6. Reporting

(a) The Holder must submit its draft report(s) on all monitoring conducted under this IHA within 90 calendar days of the completion of monitoring or 60 calendar days prior to the requested issuance of any subsequent IHA for construction activity at the same location, whichever comes first. A final report must be prepared and submitted within 30 calendar days following receipt of any NMFS comments on the draft report. If no comments are received from NMFS within 30 calendar days of receipt of the draft report, the report shall be considered final.

(b) All draft and final monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov* and *itp.jacobus@noaa.gov*.

(c) The marine mammal report must contain the informational elements described in the Monitoring Plan and, at minimum, must include:

i. Dates and times (begin and end) of all marine mammal monitoring;

ii. Construction activities occurring during each daily observation period, including:

1. The number and type of piles that were driven and the method (e.g., impact, vibratory); and

2. Total duration of driving time for each pile (vibratory driving) and number of strikes for each pile (impact driving).

iii. PSO locations during marine mammal monitoring;

iv. Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;

v. Upon observation of a marine mammal, the following information:

1. Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting;

2. Time of sighting;

3. Identification of the animal(s) (e.g., genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;

4. Distance and location of each observed marine mammal relative to the pile being driven for each sighting;

5. Estimated number of animals (min/max/best estimate);

6. Estimated number of animals by cohort (adults, juveniles, neonates, group composition, etc.);

7. Animal's closest point of approach and estimated time spent within the harassment zone;

8. Description of any marine mammal behavioral observations (e.g., observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (e.g., no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);

vi. Number of marine mammals detected within the harassment zones, by species; and

vii. Detailed information about implementation of any mitigation (e.g., shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.

(d) The Holder must submit all PSO data electronically in a format that can be queried such as a spreadsheet or database (*i.e.*, digital images of data sheets are not sufficient).

(e) The acoustic monitoring report must contain the informational elements described in the Acoustic Monitoring Plan and, at minimum, must include:

i. Hydrophone equipment and methods: recording device, sampling rate, distance (m) from the pile where recordings were made; depth of water and recording device(s);

ii. Type and size of pile being driven, substrate type, method of driving during recordings (e.g., hammer model and energy), and total pile driving duration;

iii. Whether a sound attenuation device is used and, if so, a detailed description of the device used and the duration of its use per pile;

iv. For impact pile driving: Number of strikes and strike rate; depth of substrate to penetrate; pulse duration and mean, median, and maximum sound levels (dB re: 1 µPa): root mean square sound pressure level (SPL_{rms}); cumulative sound exposure level (SEL_{cum}), peak sound pressure level (SPL_{peak}), and single-strike sound exposure level (SEL_{s-s});

v. For vibratory driving/removal(per pile): Duration of driving per pile; mean, median, and maximum sound levels (dB re: 1 µPa): root mean square sound pressure level (SPL_{rms}), cumulative sound exposure level (SEL_{cum}) (and timeframe over which the sound is averaged);

vi. One-third octave band spectrum and power spectral density plot.

(f) Reporting injured or dead marine mammals:

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Holder must report the incident to the Office of Protected Resources (OPR), NMFS (*PR.ITP.MonitoringReports@noaa.gov* and *ITP.jacobus@noaa.gov*) and to the West Coast regional stranding network (866-767-6114) as soon as feasible. If the death or injury was clearly caused by the specified activity, the Holder must immediately cease the activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this IHA. The Holder must not resume their activities until notified by NMFS.

The report must include the following information:

i. Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);

ii. Species identification (if known) or description of the animal(s) involved;

iii. Condition of the animal(s) (including carcass condition if the animal is dead);

iv. Observed behaviors of the animal(s), if alive;

v. If available, photographs or video footage of the animal(s); and

vi. General circumstances under which the animal was discovered.

7. This Authorization may be modified, suspended or revoked if the Holder fails to abide by the conditions prescribed herein (including, but not limited to, failure to comply with monitoring or reporting requirements), or if NMFS determines: (1) the authorized taking is likely to have or is having more than a negligible impact on the species or stocks of affected marine mammals, or (2) the prescribed measures are likely not or are not effecting the least practicable adverse impact on the affected species or stocks and their habitat.

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Kimberly Damon-Randall,
Director, Office of Protected Resources
National Marine Fisheries Service

Table 1. Authorized Incidental Take.

Common name	Scientific name	Stock	Level B harassment
Harbor seal	*Phoca vitulina*	California	1,000
Northern elephant seal	*Mirounga angustirostris*	California breeding	25
California sea lion	*Zalophus californianus*	United States	9,550
Northern fur seal	*Callorhinus ursinus*	California; Eastern North Pacific	5
Steller sea lion	*Eumetopias jubatus*	Eastern United States	5
Bottlenose dolphin	*Tursiops truncatus*	California Coastal	25
Harbor porpoise	*Phocoena phocoena*	San Francisco-Russian River	100

Table 2. Shutdown and Harassment Zones.

Pile size, type, and method	Shutdown Zone for all Species (m)	Harassment Zone (m)
18-Inch Composite, Impact Installation	30	10
18-Inch Composite, Vibratory Removal	10	1,360
Steel H-Pile, Vibratory Installation and Removal	10	341
24-inch Steel Shell Pile, Vibratory Installation and Removal	10	1,585
24-inch Steel Shell Pile, Impact Installation	450	736
36-inch Steel Shell Pile, Vibratory Installation	40	3,688
14-16 inch timber, Vibratory Installation	30	3,415
14-16 Inch Timber, Impact Installation	20	10
14-16 Inch Composite, Impact Installation	10	10
14-16 inch Composite, Vibratory Installation	20	1,360