defines ''harassment'' as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

On January 19, 2021, we issued a final rule with regulations to govern the unintentional taking of marine mammals incidental to geophysical survey activities conducted by oil and gas industry operators, and those persons authorized to conduct activities on their behalf (collectively ''industry operators''), in U.S. waters of the Gulf of Mexico (GOM) over the course of 5 years (86 FR 5322; January 19, 2021). The rule was based on our findings that the total taking from the specified activities over the 5-year period will have a negligible impact on the affected species or stock(s) of marine mammals and will not have an unmitigable adverse impact on the availability of those species or stocks for subsistence uses. The rule became effective on April 19, 2021.

Our regulations at 50 CFR 217.180 *et seq.* allow for the issuance of LOAs to industry operators for the incidental take of marine mammals during geophysical survey activities and prescribe the permissible methods of taking and other means of effecting the least practicable adverse impact on marine mammal species or stocks and their habitat (often referred to as mitigation), as well as requirements pertaining to the monitoring and reporting of such taking. Under 50 CFR 217.186(e), issuance of an LOA shall be based on a determination that the level of taking will be consistent with the findings made for the total taking allowable under these regulations and a determination that the amount of take authorized under the LOA is of no more than small numbers.

Summary of Request

On September 27, 2023, NMFS issued an LOA to TGS (88 FR 68106, October 3, 2023) to take marine mammals incidental to a three-dimensional (3D) ocean bottom node (OBN) survey in the Green Canyon, Ewing Bank, and Atwater Valley protraction areas, including approximately 380 lease blocks. Approximate water depths of the survey area range from 150 to 2,000 meters (m). See section F of the LOA application for a map of the area. Additional description of the planned survey, as well as analysis related to the issuance of that LOA, is available in TGS' LOA application and the aforementioned **Federal Register** notice of issuance.

On December 20, 2023, TGS requested the transfer of the LOA to its partner in the planned survey effort (WesternGeco). WesternGeco confirmed to NMFS that it similarly requested transfer of the LOA. With the transfer of the LOA, WesternGeco agrees to comply with the associated terms, conditions, stipulations, and restrictions of the original LOA. No other changes were requested. The revised LOA remains effective through September 28, 2024.

The revised LOA sets forth only a change in the LOA holder's name. There are no other changes to the LOA as described in the October 3, 2023, **Federal Register** notice of issuance (88 FR 68106): the specified activity; estimated take by incidental harassment; and small numbers analysis and determination; and the period of effectiveness remain unchanged and are herein incorporated by reference.

Authorization

NMFS is changing the name of the holder of the LOA from ''TGS'' to ''WesternGeco''.

Dated: January 24, 2024.

Catherine Marzin,

Deputy Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2024–01743 Filed 1–29–24; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XD639]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Pacific Gas & Electric Sediment Remediation Project, San Francisco Bay

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to Pacific Gas & Electric (PG&E) to incidentally harass marine mammals during construction activities associated with a sediment remediation project in San Francisco Bay.

DATES: The authorization is effective from May 1, 2024 to April 30, 2025.

ADDRESSES: Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-pacific-gas-electric-sediment-remediation-project-san.* In case of problems accessing these documents, please call the contact listed below.

FOR FURTHER INFORMATION CONTACT: Kristy Jacobus, Office of Protected Resources, NMFS, (301) 427–8401.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the ''take'' of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed IHA is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as ''mitigation''); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On May 4, 2023, NMFS received a request from PG&E for an IHA to take marine mammals incidental to a Sediment Remediation Project in Remedial Response Areas A and B, Piers

39 to 43½, San Francisco Bay. Following NMFS' review of the application, PG&E submitted additional information on July 25, 2023 and September 26, 2023 and subsequently submitted a revised application on November 16, 2023, which was deemed adequate and complete. PG&E's request is for take of seven species (eight stocks) of marine mammals by Level B harassment only. Neither PG&E nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate. There are no changes from the proposed IHA to the final IHA.

This IHA will cover 1 year of a larger project for which PG&E intends to request take authorization for subsequent facets of the project if necessary. The larger 5 to 7 year project involves construction to remediate contaminated sediment.

Description of Activity

Overview

PG&E is remediating sediments impacted with polycyclic aromatic hydrocarbons (PAHs) in San Francisco Bay around the area offshore of Pier 43½ to the east of Pier 45 and offshore area of Pier 43. The Project is expected to occur over a period of 5 to 7 years, and this IHA will authorize take associated with Year 1 only. PG&E expects that Year 1 will include installation of hydroacoustic data collection piles; installation of piles to attach a turbidity curtain; dredging of impacted sediment; installation of sediment pins to promote slope stability; capping of impacted sediment to be left in place; placement of armoring as needed; and temporary relocation of the Red and White Fleet (RWF). The project's planned activities that have the potential to take marine mammals, by Level B only, include impact installation and vibratory removal of composite piles; vibratory installation and removal of H-piles or steel shell piles less than or equal to 24 inches (61 cm) in diameter; vibratory installation and removal of 36-inch steel guide piles; vibratory and impact installation of 24-inch steel fender piles; vibratory removal of the 24-inch fender piles; and vibratory and impact installation of timber piles. In-water construction is expected to occur over 50 non-consecutive days over 1 year.

A detailed description of the planned construction project is provided in the **Federal Register** noticed for the proposed IHA (88 FR 82836, November 27, 2023). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specific activity.

Comments and Responses

A notice of NMFS' proposal to issue an IHA to PG&E was published in the **Federal Register** on November 27, 2023 (88 FR 82836). That notice described, in detail, PG&E's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. In that notice, we requested public input on the request for authorization described therein, our analyses, the proposed authorization, and any other aspect of the notice of proposed IHA, and requested that interested persons submit relevant information, suggestions, and comments.

During the 30-day public comment period, NMFS received comments from Turtle Island Restoration Network (TIRN) and a letter from the U.S. Geological Survey stating that they had no comments. In addition, a comment was received from a private citizen expressing general opposition to PG&E, which is not related to NMFS' proposed action. All relevant, substantive comments, and NMFS' responses, are provided below. The comments and recommendations are available online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-pacific-gas-electric-sediment-remediation-project-san.* Please see the comment submission for full details regarding the recommendations and supporting rationale.

Comment 1: TIRN asserts that NMFS failed to adequately consider the potential for delayed mortality of marine mammals or the potential long-term impacts of underwater noise on the ecosystem as a whole, and states that NMFS ''must require PG&E to submit a request for authorization of incidental Level A harassment takes of marine mammals.''

Response: We first note that TIRN conflates take by Level A harassment and mortality and serious injury. As defined by the MMPA, Level A harassment means ''any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild'' (16 U.S.C. 1362(18)(A)). Serious injury is defined as ''any injury that will likely result in mortality'' under NMFS' MMPA implementing regulations (50 CFR 216.3). Level A harassment does not include serious injury or mortality, and serious injury or mortality cannot be authorized through an IHA.

NMFS acknowledges that pile driving can impact marine mammals' ability to detect prey and can impact marine mammal prey in the vicinity of the project area, as discussed in the **Federal Register** notice for the proposed IHA (88 FR 82836, November 27, 2023). However, NMFS expects these effects to be temporary and disagrees that these impacts are likely to result in long-term disruption or result in delayed mortality. TIRN suggests, without evidence, that the specified activity is likely to reduce the ability for marine mammals to hunt to the extent that such behavioral effects may lead to delayed mortality. Any effects to marine mammals' ability to hunt or detect prey are expected to be temporary, *e.g.,* on the order of minutes to hours, due to marine mammals' transient nature, likelihood to avoid disturbance, the short duration of construction, and the mitigation used which will reduce marine mammals' exposure to pile driving noise. Mortality can result if marine mammal foraging behavior is impeded, but such an extreme result would require complete cessation of foraging over an extended period of time. There is no potential for such impacts to result from this activity given the short durations over which bouts of activity will occur and unimpeded access to other areas of equal foraging value. The most likely impact to fishes from pile driving are expected to be temporary behavioral avoidance, and any behavioral avoidance by fish of the disturbed area would still leave significantly large potential areas in the nearby vicinity for marine mammals to forage. Further discussion of the expected short-term impacts to marine mammals and prey can be found in the Potential Effects of Specified Activities on Marine Mammals and Their Habitat in the **Federal Register** notice for the proposed IHA (88 FR 82836, November 27, 2023).

NMFS disagrees that long-term disruptions and delayed mortality of marine mammals are likely to occur as a result of PG&E's project and, therefore, authorization of Level A harassment or serious injury or mortality is not appropriate.

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the reader to these descriptions, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS'

Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS' website (*https://www.fisheries.noaa.gov/find-species*).

Table 1 lists all species or stocks for which take is expected and authorized for this activity, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' U.S. Pacific and Alaska SARs. All values presented in table 1 are the most recent available at the time of publication and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 1—MARINE MAMMAL SPECIES LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES [1]

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (Y/N) [2]	Stock abundance (CV, N_{min}, most recent abundance survey) [3]	PBR	Annual M/SI [4]
Family Delphinidae:						
Bottlenose dolphin	*Tursiops truncatus*	Coastal California	-,-,N	453 (0.06, 346, 2011)	2.7	≥2.0
Family Phocoenidae (porpoises):						
Harbor porpoise	*Phocoena phocoena*	San Francisco-Russian River	-,-,N	7,777 (0.62, 4811, 2017)	73	≥0.4
Order Carnivora—Pinnipedia						
Family Otariidae (eared seals and sea lions):						
California Sea Lion	*Zalophus californianus*	United States	-,-,N	257,606 (N/A, 233,515, 2014)	14,011	≥321
Northern Fur Seal	*Callorhinus ursinus*	California	-,-,N	14,050 (0.03, 7,524, 2013)	451	1.8
Northern Fur Seal	*Callorhinus ursinus*	Eastern North Pacific	-, D, Y	626,618 (0.2, 530,376, 2021)	11,403	373
Steller Sea Lion	*Eumetopias jubatus*	Eastern North Pacific	-,-,N	43,201 (N/A, 43,201, 2017)	2,592	112
Family Phocidae (earless seals):						
Harbor Seal	*Phoca vitulina*	California	-,-,N	30,968 (N/A, 27,348, 2014)	1,641	43
Northern Elephant Seal	*Mirounga angustirostris*	California Breeding	-,-,N	187,386 (N/A, 85,369, 2013)	5,122	13.7

[1] Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy (*https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/;* Committee on Taxonomy (2022)).

[2] Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[3] NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports.* CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance.

[4] These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, vessel strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range.

As indicated above, all seven species (with eight managed stocks) in table 1 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. Gray whales and humpback whales rarely enter the Bay but may occasionally pass offshore of the Project Area. However, if either of these species are to approach the Level B harassment zone construction will be shutdown. Therefore, no take is expected of these species, and these species will not be discussed further.

A detailed description of the of the species likely to be affected by the sediment remediation project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (88 FR 82836, November 27, 2023); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (*https://www.fisheries.noaa.gov/find-species*) for generalized species accounts.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized

composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in table 2.

TABLE 2—MARINE MAMMAL HEARING GROUPS

[NMFS, 2018]

Hearing group	Generalized hearing range *
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz.
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz.
High-frequency (HF) cetaceans (true porpoises, *Kogia,* river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*).	275 Hz to 160 kHz.
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz.
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz.

* Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al.* 2007) and PW pinniped (approximation).

The pinniped functional hearing group was modified from Southall *et al.* (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al.,* 2006; Kastelein *et al.,* 2009; Reichmuth and Holt, 2013).

For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

The effects of underwater noise from PG&E's sediment remediation activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the project area. The notice of proposed IHA (88 FR 82836, November 27, 2023) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from PG&E's construction on marine mammals and their habitat. That information and analysis is incorporated by reference into this final IHA determination and is not repeated here; please refer to the notice of proposed IHA (88 FR 82836, November 27, 2023).

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes authorized through the IHA, which will inform both NMFS' consideration of ''small numbers,'' and the negligible impact determinations.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines ''harassment'' as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes will be by Level B harassment only, in the form of disruption of behavioral patterns and/or temporary threshold shift (TTS) for individual marine mammals resulting from exposure to vibratory and impact pile driving. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.,* shutdown) discussed in detail below in the Mitigation section, Level A harassment is neither anticipated nor authorized.

As described previously, no serious injury or mortality is anticipated or authorized for this activity. Below we describe how the take numbers are estimated.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the take estimates.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur permanent threshold shift (PTS) of some degree (equated to Level A harassment).

Level B Harassment—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.,* frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.,* bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.,* Southall *et al.,* 2007, 2021; Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS generally predicts that marine mammals are likely to be behaviorally harassed in a manner considered to be Level B harassment when exposed to underwater anthropogenic noise above root-mean-squared pressure received levels (RMS SPL) of 120 dB (referenced to 1 micropascal (re 1 µPa)) for continuous (*e.g.,* vibratory pile driving, drilling) and above RMS SPL 160 dB re 1 µPa for non-explosive impulsive (*e.g.,* seismic

airguns) or intermittent (*e.g.,* scientific sonar) sources. Generally speaking, Level B harassment take estimates based on these behavioral harassment thresholds are expected to include any likely takes by TTS as, in most cases, the likelihood of TTS occurs at distances from the source less than those at which behavioral harassment is likely. TTS of a sufficient degree can manifest as behavioral harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect important signals (conspecific communication, predators, prey) may result in changes in behavior patterns that would not otherwise occur.

PG&E's activity includes the use of continuous (vibratory pile driving) and impulsive (impact pile driving) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re 1 µPa are applicable.

Level A Harassment—NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). PG&E's activity includes the use of impulsive (impact pile driving) and non-impulsive (vibratory pile driving) sources.

These thresholds are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2018 Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

TABLE 3—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset acoustic thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{pk,flat}$: 219 dB; $L_{E,LF,24h}$: 183 dB	*Cell 2:* $L_{E,LF,24h}$: 199 dB.
Mid-Frequency (MF) Cetaceans	*Cell 3:* $L_{pk,flat}$: 230 dB; $L_{E,MF,24h}$: 185 dB	*Cell 4:* $L_{E,MF,24h}$: 198 dB.
High-Frequency (HF) Cetaceans	*Cell 5:* $L_{pk,flat}$: 202 dB; $L_{E,HF,24h}$: 155 dB	*Cell 6:* $L_{E,HF,24h}$: 173 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{pk,flat}$: 218 dB; $L_{E,PW,24h}$: 185 dB	*Cell 8:* $L_{E,PW,24h}$: 201 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{pk,flat}$: 232 dB; $L_{E,OW,24h}$: 203 dB	*Cell 10:* $L_{E,OW,24h}$: 219 dB.

* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 µPa, and cumulative sound exposure level (L_E) has a reference value of 1µPa^{2}s. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript "flat" is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that are used in estimating the area ensonified above the acoustic thresholds, including source levels and transmission loss coefficient.

The sound field in the project area is the existing background noise plus additional construction noise from the project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.,* pile driving and removal).

The project includes vibratory pile installation and removal and impact pile driving. Source levels for these activities are based on reviews of measurements of the same or similar types and dimensions of piles available in the literature. Source levels for each pile size and activity are presented in table 4. Source levels for vibratory installation and removal of piles of the same diameter are conservatively assumed to be the same.

The majority of source levels were selected from a single source, as shown in table 4 below. For the vibratory installation of 36-inch steel shell piles and vibratory installation of timber piles, NMFS determined it appropriate to use an average of source levels. NMFS reviewed all available monitoring reports of vibratory driving of 36-inch steel piles in San Francisco Bay (Gast &Associated Environmental Consultants, 2021, 2023; Illingworth & Rodkin, 2018, 2020). Averaging of sound levels was performed by first converting from dB to linear units of pressure (Pascals [Pa]), averaging, and converting back to dB. The mean RMS level at 10 meters (m) for San Francisco Bay was approximately 168 dB re 1 µPa RMS. Therefore, NMFS has selected this average value as the most appropriate value for vibratory driving of 36-inch steel pipe piles during the project. With regard to vibratory installation of timber piles, there are limited data available, and none from San Francisco Bay. Therefore, NMFS evaluated all available timber pile data (three projects from Puget Sound, WA, and one project from Norfolk, VA) (Greenbusch Group, 2018; Illingworth and Rodkin, 2017; Laughlin, 2011; U.S. Navy, 2016) and calculated the mean and maximum RMS values for each project and for all projects together. The overall mean RMS value was approximately 158 dB re 1 µPa RMS. NMFS therefore selected this as an appropriate proxy value for vibratory driving of timber piles during the project.

TABLE 4—SOUND SOURCE LEVELS FOR PILE DRIVING ACTIVITIES [1]

Pile type	Method	Peak sound pressure (dB re 1 µPa)	RMS (dB re 1 µPa)	SEL (dB re 1 µPa2 sec)	Source
Hydroacoustic Data Collection					
18-inch composite/plastic	Impact Install	185	160	150	Caltrans, 2020; extrapolated from 13-inch composite.

TABLE 4—SOUND SOURCE LEVELS FOR PILE DRIVING ACTIVITIES [1]—Continued

Pile type	Method	Peak sound pressure (dB re 1 μPa)	RMS (dB re 1 μPa)	SEL (dB re 1 μPa2 sec)	Source
18-inch composite/plastic	Vibratory Removal	N/A	152	N/A	WSDOT, 2012; 13-inch composite used as proxy.
Turbidity Curtain					
Steel H-Pile	Vibratory Install and Removal	N/A	143	N/A	Caltrans, 2020.
Steel Shell Pile ≤24-inches	Vibratory Install and Removal	N/A	153	N/A	Caltrans, 2020; 24-inch pipe pile used as proxy.
RWF Relocation					
24-inch steel shell	Vibratory Installation and Removal	N/A	153	N/A	Caltrans, 2020.
24-inch steel shell	Impact Installation [2]	208	193	178	Illingworth & Rodkin, Inc. 2014.
36-inch steel shell	Vibratory Installation and Removal	N/A	168	N/A	Gast & Associated Environmental Consultants, 2021, 2023; Illingworth and Rodkin, 2018, 2020. See explanation above.
Slope Stabilization					
14 to 16 inch Timber	Vibratory	N/A	158	N/A	Greenbusch Group, 2018; Illingworth and Rodkin, 2017; Laughlin, 2011; U.S. Navy 2016. See explanation above.
14 to 16 inch Timber	Impact	184	157	145	Caltrans, 2020.
14 to 16-inch Composite	Vibratory	N/A	152	N/A	WSDOT, 2012. 13-inch composite used as proxy.
14 to 16-inch Composite	Impact	177	153	145	Caltrans, 2020.

[1] All values are at 10 m from the source.
[2] PG&E will use a bubble curtain attenuation system for impact pile driving of the RWF 24-inch steel shell piles, and we conservatively assumes a 5 dB reduction in source level from those presented here due to use of the attenuation system.

Level B Harassment Zones—Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition topography. The general formula for underwater TL is:

$TL = B * Log10 (R_1/R_2)$,

where
TL = transmission loss in dB;
B = transmission loss coefficient;
R_1 = the distance of the modeled SPL from the driven pile; and
R_2 = the distance from the driven pile of the initial measurement.

The recommended TL coefficient for most nearshore environments is the practical spreading value of 15. This value results in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions, known as practical spreading. As is common practice in coastal waters, here we assume practical spreading (4.5 dB reduction in sound level for each doubling of distance) for all impact and vibratory installation and removal of piles with the exception of vibratory installation and removal of the 36-inch steel pipe piles in the RWF Relocation. Illingworth & Rodkin conducted hydro-acoustic monitoring for the 2017 WETA Downtown San Francisco Ferry Terminal Expansion Project and calculated a TL coefficient of 18.7 for vibratory installation of 36-inch steel shell piles (Illingworth & Rodkin, 2018). Given the proximity to the project area, PG&E determined that 18.7 was an appropriate transmission coefficient to use for the vibratory installation of the 36-inch steel shell pile, and NMFS concurs.

The ensonified area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources such as pile driving, the optional User Spreadsheet tool predicts the distance at which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur PTS. Source levels are provided above in table 4. Inputs used in the optional User Spreadsheet tool are provided below in table 5. Resulting estimated Level A and B harassment isopleths are provided in table 6.

TABLE 5—USER SPREADSHEET INPUTS (SOURCE LEVELS PROVIDED IN TABLE 4)

Pile type	Method	Duration	Piles/day
Hydroacoustic Data Collection			
18-inch composite/plastic	Impact Install	400 strikes/pile	10
18-inch composite/plastic	Vibratory Removal	20 minutes	10

TABLE 5—USER SPREADSHEET INPUTS (SOURCE LEVELS PROVIDED IN TABLE 4)—Continued

Pile type	Method	Duration	Piles/day
Turbidity Curtain			
Steel H-Pile	Vibratory	10 minutes	4
Steel Shell Pile ≤24-inches	Vibratory	10 minutes	4
RWF Relocation			
24-inch steel shell	Vibratory	10 minutes	4
24-inch steel shell	Impact	400 strikes/pile	4
36-inch steel shell	Vibratory	20 minutes	4
Sediment Pin Installation			
Timber	Vibratory	20 minutes	20
Timber	Impact	400 strikes/pile	20
14 to16-inch Composite	Vibratory	20 minutes	10
14 to 16-inch Composite	Impact	400 strikes/pile	10

TABLE 6—LEVEL A HARASSMENT AND LEVEL B HARASSMENT ISOPLETHS FROM VIBRATORY AND IMPACT PILE DRIVING

Pile type & method	Level A/PTS isopleth (m)					Level B Isopleth (m)	Level B area of ensonification (km^2)
	Hearing groups						
	Cetaceans			Pinnipeds			
	LF	MF	HF	Phocids	Otariids		
Hydroacoustic Data Collection Piles							
18-inch composite (Impact)	16	<1	19	9	<1	10	<0.01
18-inch Composite (Vibratory)	4	<1	6	3	<1	1,360	3.58
Turbidity Curtain							
Steel H-Pile (Vibratory)	<1	0	<1	<1	<1	341	0.29
Steel Shell Pile ≤ 24-inches (Vibratory)	2	<1	4	2	<1	1,585	4.61
RWF Temporary Relocation Piles							
24-inch Steel Shell Pile (Vibratory)	2	<1	4	2	<1	1,585	4.54
24-inch Steel Shell Pile (Impact, Attenuated)*	294	11	351	158	12	736	1.06
36-inch Steel Shell Pile (Vibratory)	20	3	28	14	2	3,688	23.46
Sediment Pins							
14 to 16-inch Timber Pile (Vibratory)	16	2	23	10	1	3,415	19.17
14 to 16-inch Timber Pile (Impact)	12	<1	14	6	<1	6	<0.01
14 to 16-inch Composite Pile (Vibratory)	4	<1	6	3	<1	1,360	3.2
14 to 16-Inch Composite Pile (Impact)	7	<1	9	4	<1	3.4	<0.01

*5 dB reduction in sound due to use of bubble curtain assumed.

Marine Mammal Occurrence

In this section we provide information about the occurrence of marine mammals, including density or other relevant information which will inform the take calculations.

Because reliable marine mammal density information is not available for the San Francisco Bay, several datasets were used to attain estimates of the abundance of marine mammals in the Bay. Datasets used included 5 years of sighting and stranding data from The Marine Mammal Center (TMMC) (NMFS, 2021a); 5 years of sighting and stranding data from the California Academy of Sciences (CAS) (NMFS, 2021b); citizen-reported live sightings from *iNaturalist.org;* 5 days of sighting data during sediment investigation in 2020 during the initial phase of the project (Haase, 2021); and counts from haulouts. Data from all sources, when available, were considered. Depending on the distribution of sightings and granularity of data, different sources have been used to estimate the number of individuals of each species with the potential to occur in vicinity of the project. The largest ensonified area is during vibratory installation of 36-inch steel shell piles, which results in a 3,688 m isopleth and 23.46 kilometers squared (km^2) area of ensonification.

Harbor Seal

Harbor seals in the Bay forage mainly within 7.0 miles (mi; (11.3 km)) of their primary haulout site (Grigg *et al.* 2012), and often within just 1 to 3 miles (1 to 5 km) (Torok, 1994). The only harbor seal haulout within 7 miles (11.3 km) of the project site is Yerba Buena Island (YBI), which is 3.1 mi (5 km) to the east of the Project Area. Noise from the project is not expected to reach the haulout, however, harbor seals that use this haulout are likely to forage within ensonified areas from the project. Harbor seal take estimates were based on observations conducted by Marine Mammal Observers (MMOs) over a 5 day period in 2020, during sediment investigation in the initial phase of the project, within remedial response areas A, B, and C (See Haase, 2021). A maximum of 20 harbor seals were observed per day. PG&E therefore estimates 20 harbor seals per day within

the project area per day. NMFS concurs with this assumption.

Northern Elephant Seal

TMMC recorded 903 elephant seals in the Bay from 2016 to 2021 (NMFS, 2021a). The CAS reported an additional 6 for a total of 909 over 5 years in the Bay from 2016 to 2021 (NMFS, 2021b), yielding an average of 0.5 elephant seals per day. To ensure sufficient authorization of take of northern elephant seals, PG&E assumed 0.5 elephant seals will occur in the area per day (*i.e.,* one elephant seal every 2 days). NMFS concurs with this assumption.

California Sea Lion

The Pier 39 K-Dock haulout is the only regularly used California Sea Lion haulout in the vicinity of the Project Area, adjacent to Area C. The Sea Lion Center at Pier 39 regularly counted the sea lions at K-Dock from 1991 through 2018. From 2016 through 2018, the yearly average ranged from 89 to 229 animals per day. The average per day over all 3 years was 191 sea lions (Pacific Gas & Electric, 2023). Although there are times of the year when the K-dock is unoccupied or there are few individuals present, it is difficult to predict abundance based on time of year. In order to ensure sufficient authorization of sea lions, PG&E is assuming a local abundance estimate of 191 sea lions per day within the estimated harassment area, and NMFS concurs.

Northern Fur Seal

TMMC recorded 44 northern fur seals in the Bay from 2016 to 2021 (NMFS, 2021a). CAS recorded an additional 3 for a total of 47 over 5 years (NMFS, 2021b), yielding 0.03 per day, or approximately 10 per year. In the fall and winter, northern fur seals occasionally strand on YBI and Treasure Island (Pacific Gas & Electric, 2023), approximately 2.0 mi (3.2 km) from the project area. Using PG&E's assumption of approximately 0.03 fur seals per day over the course of 50 days of pile driving plus known fur seal strandings near the project area, NMFS has determined it appropriate to assume five fur seals in the project area during the project time period.

Steller Sea Lion

Steller sea lions are rare in San Francisco Bay. TMMC recorded four Steller sea lions in the Bay from 2016 to 2021 (NMFS, 2021a), while CAS reported no Steller sea lions during this time (NMFS, 2021b). In 2020 and 2021, *INaturalist.org* recorded four Steller sea lions in the Bay. On rare occasions, Steller sea lions are seen on the Pier 39 K-dock haulout. An adult male was spotted there in May 2023 (Segura, 2023) and in previous years a single male Steller sea lion had been observed using the Pier 39 K-dock haulout intermittently during July and August and occasionally September (Pacific Gas & Electric, 2023). Given these known occasional occurrences of the Steller sea lion at Pier 39, PG&E feels it is appropriate to assume five Steller sea lions in the project area during the time period of the project, and NMFS concurs.

Bottlenose Dolphins

Historically, observations of bottlenose dolphins have occurred west of Treasure Island and were concentrated in the Project vicinity along the nearshore area of San Francisco south to Redwood City. Since 2016, one individual has been regularly seen near the former Alameda Air Station and five animals were regularly seen in the summer and fall of 2018 in the same location (Pacific Gas & Electric, 2023). A recent study reports that dolphins have been sighted in the vicinity of the Golden Gate Bridge, around Yerba Buena and Angel Islands, and in the central Bay (Keener *et al.,* 2023). PG&E is assuming that one group of bottlenose dolphins will enter into the project isopleth per month of pile driving, and NMFS concurs. A group size is estimated to be five animals based on sightings of bottlenose dolphins in the Bay (Pacific Gas & Electric, 2023).

Harbor Porpoise

Harbor porpoises are primarily seen near the Golden Gate Bridge, Marin County, and the city of San Francisco on the northwest side of the Bay (Keener *et al.,* 2012; Stern *et al.,* 2017), in the vicinity of the project area. Limited data exists on the abundance of harbor porpoises in the Bay, and therefore data from MMOs in 2020 was used (see Haase 2021). An individual harbor porpoise was seen in the project zone on 2 of the 5 days, and a group of two individuals was reported on a separate day of the 5 day observation period (Haase, 2021). To ensure sufficient authorization of take of harbor porpoise, it is estimated that two harbor porpoises will occur within the estimated harassment area per day.

Take Estimation

Here we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and is authorized.

Take estimate calculations vary by species. To calculate take by Level B harassment for harbor seals, California sea lions, northern elephant seals, and harbor porpoises, NMFS multiplied the daily occurrence estimates described in the *Marine Mammal Occurrence* section by the number of project days (table 7).

For northern fur seals, PG&E is assuming a total of five animals in the area of the project during the duration of the project, based on sightings in the Bay and known strandings on YBI (see *Marine Mammal Occurrence* above), and is therefore requesting, and NMFS has authorized, take of five northern fur seals by Level B harassment (table 7).

Although Steller sea lions are rare in San Francisco Bay, based on sighting data and known occurrence of Steller sea lions on the Pier 39 K-dock haulout (PG&E, 2023; Segura, 2023), PG&E is conservatively requesting five takes by Level B harassment of Steller sea lions during the time period of the project, and NMFS concurs (table 7).

For bottlenose dolphins, PG&E estimates that one group of five bottlenose dolphins may be taken by Level B harassment per month of pile driving. Based on 5 months of pile driving, NMFS has authorized 25 takes by Level B harassment of bottlenose dolphins.

TABLE 7—AUTHORIZED TAKE BY LEVEL B HARASSMENT AUTHORIZED AND ESTIMATED TAKE AS A PERCENTAGE OF THE POPULATION

Species	Stock	Expected occurrence	Estimated Level B take	Stock abundance *	Percent of stock
Pacific Harbor Seal	California	20 seals per day	1000	30,968	3.2
Northern Elephant Seal ...	California Breeding	0.5 seals per day	25	187,386	0.01
California Sea Lion	United States	191 sea lions per day	9,550	257,606	3.7

TABLE 7—AUTHORIZED TAKE BY LEVEL B HARASSMENT AUTHORIZED AND ESTIMATED TAKE AS A PERCENTAGE OF THE POPULATION—Continued

Species	Stock	Expected occurrence	Estimated Level B take	Stock abundance *	Percent of stock
Northern Fur Seal	California; Eastern North Pacific.	5 seals over project duration.	5	14,050; 626,618	0.04; 0.001
Steller sea lion	Eastern United States	5 sea lions over project duration.	5	43,201	0.01
Bottlenose dolphin	Coastal California	5 dolphins per month of project.	25	453	5.5
Harbor Porpoise	San Francisco-Russian River.	2 porpoises per day	100	7,777	1.3

* NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports.*

Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, NMFS considers two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost and impact on operations.

PG&E must follow mitigation measures as specified below.

PG&E must ensure that construction supervisors and crews, the monitoring team, and relevant PG&E staff are trained prior to the start of all pile driving activities, 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.

Shutdown Zones

PG&E must establish shutdown zones and Level B monitoring zones for all pile driving activities. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity will occur upon sighting of a marine animal (or in anticipation of an animal entering the defined area). Shutdown zones are based on the largest Level A harassment zone for each pile size/type and driving method, and behavioral monitoring zones are meant to encompass Level B harassment zones for each pile size/type and driving method, as shown in table 6. A minimum shutdown zone of 10 m will be required for all in-water construction activities to avoid physical interaction with marine mammals, and the radii of the shutdown zones are rounded to the next largest 10 m interval in comparison to the Level zone for each activity type. Marine mammal monitoring will be conducted during all pile driving activities to ensure that marine mammals do not enter Level A shutdown zones, that marine mammal presence in the isopleth does not exceed authorized take, and to prevent take of the humpback and gray whale. Shutdown zones for each activity type are shown in table 8.

Prior to pile driving, shutdown zones and monitoring zones will be established based on zones represented in table 8. Observers will survey the shutdown zones for at least 30 minutes before pile driving activities start. If marine mammals are found within the shutdown zone, pile driving will be delayed until the animal has moved out of the shutdown zone, either verified by an observer or by waiting until 15 minutes has elapsed without a sighting. If a marine mammal approaches or enters the shutdown zone during pile driving, the activity will be halted. Pile driving may resume after the animal has moved out of and is moving away from the shutdown zone or after at least 15 minutes has passed since the last observation of the animal.

All marine mammals will be monitored in the Level B harassment zones and throughout the area as far as visual monitoring can take place. If a marine mammal enters the Level B harassment zone, in-water activities will continue and PSOs will document the animal's presence within the estimated harassment zone.

If a species for which authorization has not been granted (*i.e.,* gray whale or humpback whale), or a species which has been granted but the authorized takes are met, is observed approaching or within the Level B monitoring zone, pile driving activities will be shutdown immediately. Activities will not resume until the animal has been confirmed to have left the area or 15 minutes has elapsed with no sighting of the animal.

TABLE 8—SHUTDOWN ZONES AND LEVEL B MONITORING ZONES BY ACTIVITY

Pile type and method	Shutdown zone for all species (m)	Monitoring zone (m)
Hydroacoustic Data Collection Piles		
18-inch Composite/Plastic (impact)	20	10
18-Inch Composite/Plastic (vibratory removal)	10	1,360
Turbidity Curtain		
Steel H-Pile (Vibratory Install and Removal)	10	341
24-inch steel shell pile (Vibratory install and removal)	10	1,585
RWF Relocation Piles		
24-inch steel shell pile (Vibratory install and removal)	10	1,585
24-inch steel shell pile (impact-attenuated)	360	736
36-inch steel shell pile (vibratory)	30	3,688
Sediment Pins		
14 to 16-inch timber (Vibratory)	30	3,415
14 to 16-inch timber (impact)	20	10
14 to 16-inch composite (impact)	10	10
14 to 16-inch composite (vibratory install)	20	1,360

Protected Species Observers (PSOs)

The placement of PSOs during all pile driving activities (described in the Monitoring and Reporting section) will ensure that the entire shutdown zone is visible. Should environmental conditions deteriorate such that the entire shutdown zone will not be visible (*e.g.,* fog, heavy rain), pile driving will be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.

PSOs will monitor the full shutdown zones and as much of the Level B harassment zones as possible. Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring zones enable observers to be aware of and communicate the presence of marine mammals in the project areas outside the shutdown zones and thus prepare for a potential cessation of activity should the animal enter the shutdown zone.

Pre- and Post-Activity Monitoring

Monitoring must take place from 30 minutes prior to initiation of pile driving activities (*i.e.,* pre-clearance monitoring) through 30 minutes post-completion of pile driving. Prior to the start of daily in-water construction activity, or whenever a break in pile driving of 30 minutes or longer occurs, PSOs will observe the shutdown and monitoring zones for a period of 30 minutes. The shutdown zone will be considered cleared when a marine mammal has not been observed within the zone for a 30-minute period. If a marine mammal is observed within the shutdown zones, pile driving activity will be delayed or halted. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones will commence. A determination that the shutdown zone is clear must be made during a period of good visibility (*i.e.,* the entire shutdown zone and surrounding waters must be visible to the naked eye).

Soft-Start Procedures

Soft-start procedures are used to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, contractors will be required to provide an initial set of three strikes from the hammer at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. Soft start will 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.

Bubble Curtain

A bubble curtain must be employed during all impact pile installation of steel piles less than 24 inches in diameter to interrupt the acoustic pressure and reduce impact on marine mammals. Impact pile driving will not be allowed for 36-inch steel shell piles. The bubble curtain must distribute air bubbles around 100 percent of the piling circumference for the full depth of the water column. The lowest bubble ring must be in contact with the mudline for the full circumference of the ring. The weights attached to the bottom ring must ensure 100 percent substrate contact. No parts of the ring or other objects may prevent full substrate contact. Air flow to the bubblers must be balanced around the circumference of the pile.

Based on our evaluation of the applicant's measures, NMFS has determined that the mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the

most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.,* presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the activity; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and,
- Mitigation and monitoring effectiveness.

Visual Monitoring

Marine mammal monitoring must be conducted in accordance with the conditions in this section and the IHA. Marine mammal monitoring during pile driving activities will be conducted by PSO's meeting NMFS' standards and in a manner consistent with the following:

- PSOs must be independent of the activity contractor (for example, employed by a subcontractor) and have no other assigned tasks during monitoring periods;
- At least one PSO will have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- Other PSOs may substitute education (degree in biological science or related field) or training for experience;
- Where a team of three or more PSOs is required, a lead observer or monitoring coordinator will be designated. The lead observer will be required to have prior experience working as a marine mammal observer during construction;
- PSOs will submit PSO resumes for approval by NMFS 30 days prior to the onset of pile driving; and,
- PSOs must be approved by NMFS prior to beginning any activity subject to the IHA.

PSOs should have the following additional qualifications:

- Ability to conduct field observations and collect data according to assigned protocols;
- Experience or training in the field identification of marine mammals, including the identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- 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, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and
- 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.

PG&E will have between one and three PSOs on site at all times during pile driving activities. One PSO will be designated as the Lead PSO and will receive updates from other PSOs. The Lead PSO will be stationed at the active pile driving rig or at the best vantage point practicable to monitor the shutdown zones and implement shutdown and delay procedures. The other PSOs will be stationed at the best vantage points practicable to observe the monitoring zones. Exact locations will be determined in the field based on the pile driving site, field conditions, and in coordination with contractors, but may include docks, barges, and tower structures. PSOs will be equipped with high quality binoculars or spotting scopes for monitoring and radios and cell phones for maintaining contact with other observers and work crew. Monitoring will be conducted 30 minutes before, during, and 30 minutes after all in-water construction activities. PSOs will record all incidents of marine mammal occurrence, regardless of distance from activity, and will document any behavioral reactions in concert with distance from piles being driven or removed. Pile driving activities include the time to install or remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than 30 minutes.

Data Collection

PSOs will use approved data forms to record the following information:

- Dates and times (beginning and end) of all marine mammal monitoring;
- PSO locations during marine mammal monitoring;
- Construction activities occurring during each daily observation period, including how many and what type of piles were driven or removed and by what method (*i.e.,* impact or vibratory);
- Weather parameters and water conditions;
- The number of marine mammals observed, by species, relative to the pile location and if pile driving or removal was occurring at time of sighting;
- Distance and bearings of each marine mammal observed to the pile being driven or removed;
- Description of marine mammal behavior patterns, including direction of travel;
- Age and sex class, if possible, of all marine mammals observed; and,
- Detailed information about implementation of any mitigation triggered (such as shutdowns and delays), a description of specific actions that ensued, and resulting behavior of the animal if any.

Reporting

PG&E must submit a draft marine mammal monitoring report to NMFS within 90 days after the completion of pile driving activities, or 60 days prior to the requested issuance of any future IHAs for the project, or other projects 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. The marine mammal report will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets and/or raw sighting data. Specifically, the report will include:

- Dates and times (beginning and end) of all marine mammal monitoring;
- Construction activities occurring during each daily observation period including: (a) the number and types of piles driven and the method; and (b) total duration of driving time for each pile (vibratory driving) and number of strikes for each pile (impact driving);

- PSO locations during marine mammal monitoring;
- 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;
- For each observation of a marine mammal the following must be recorded: (a) Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting; (b) time of sighting; (c) 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; (d) distance and location of each observed marine mammal relative to pile being driven or removed for each sighting; (e) estimated number of animals (min/max/best estimate); (f) estimated number of animals by cohort (adults, juveniles, neonates, group composition, *etc.*); (g) animal's closest point of approach and estimated time spent within the harassment zone; (h) 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);
- Number of marine mammals detected within the harassment zones, by species; and,
- 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.

Reporting Injured or Dead Marine Mammals

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, PG&E will report the incident to the Office of Protected Resources (OPR) (*PR.ITP.MonitoringReports@noaa.gov*), NMFS 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, PG&E will immediately cease the specified activities until NMFS 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 the IHAs. PG&E will not resume their activities until notified by NMFS. The report will include the following:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and,
- General circumstances under which the animal was discovered.

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through harassment, NMFS considers other factors, such as the likely nature of any impacts or responses (*e.g.,* intensity, duration), the context of any impacts or responses (*e.g.,* critical reproductive time or location, foraging impacts affecting energetics), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338, September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the baseline (*e.g.,* as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, the discussion of our analysis applies to all the species listed in table 1, given that the anticipated effects of this activity on these different marine mammal stocks are expected to be similar. There is little information about the nature or severity of the impacts, or the size, status, or structure of any of these species or stocks that would lead to a different analysis for this activity.

Level A harassment is extremely unlikely given the small size of the Level A harassment isopleths and the required mitigation measures designed to minimize the possibility of injury to marine mammals. No serious injury or mortality is anticipated given the nature of the activity.

Pile driving activities have the potential to disturb or displace marine mammals. Specifically, the project activities may result in take, in the form of Level B harassment from underwater sounds generated from impact and vibratory pile driving activities. Potential takes could occur if individuals move into the ensonified zones when these activities are underway.

The takes by Level B harassment will be due to potential behavioral disturbances. The potential for harassment is minimized through construction methods and the implementation of planned mitigation strategies (see Mitigation section).

Behavioral responses of marine mammals to pile driving at the project site, if any, are expected to be mild and temporary. Marine mammals within the Level B harassment zone may not show any visual cues they are disturbed by activities or could become alert, avoid the area, leave the area, or display other mild responses that are not observable such as changes in vocalization patterns. Given the short duration of noise-generating activities per day and that pile driving and removal will occur over approximately 50 days during a span of 5 months, any harassment will be temporary. There are no other areas or times of known biological importance for any of the affected species.

Take will occur within a limited, confined area of each stock's range. Further, the amount of take authorized is extremely small when compared to stock abundance.

No marine mammal stocks for which incidental take authorization are listed as threatened or endangered under the ESA. Only one stock, the Eastern North Pacific Stock of the northern fur seal, is listed as depleted under the MMPA. However, we do not expect the authorizations in this action to affect the stock. No injury or mortality is authorized, take by Level B harassment is limited (five takes over the duration of the project), and the action should have no effect on the reproduction of this species. In addition, the five authorized takes for the northern fur seal include both the depleted Eastern

North Pacific Stock and the California stock, which is not depleted.

The relatively low marine mammal occurrences in the area, shutdown zones, and planned monitoring make injury takes of marine mammals unlikely. The shutdown zones will be thoroughly monitored before the pile driving activities begin, and activities will be postponed if a marine mammal is sighted within the shutdown zone. There is a high likelihood that marine mammals will be detected by trained observers under environmental conditions described for the project. Limiting construction activities to daylight hours will also increase detectability of marine mammals in the area. Therefore, the mitigation and monitoring measures are expected to eliminate the potential for injury and Level A harassment as well as reduce the amount and intensity of Level B behavioral harassment. Furthermore, the pile driving activities analyzed here are similar to, or less impactful than, numerous construction activities conducted in other similar locations which have occurred with no reported injuries or mortality to marine mammals, and no known long-term adverse consequences from behavioral harassment.

The project is not expected to have significant adverse effects on marine mammal habitat. There are no known Biologically Important Areas (BIAs) or ESA-designated critical habitat within the project area, and the activities will not permanently modify existing marine mammal habitat.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect any of the species or stocks through effects on annual rates of recruitment or survival:

- No serious injury, mortality, or Level A harassment is anticipated or authorized;
- The specified activities and associated ensonified areas are very small relative to the overall habitat ranges of all species;
- The project area does not overlap known BIAs or ESA-designated critical habitat;
- The lack of anticipated significant or long-term effects or marine mammal habitat; and,
- The presumed efficacy of the mitigation measures in reducing the effects of the specified activity.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the total marine mammal take from the activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted previously, only take of small numbers of marine mammals may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

The amount of take NMFS has authorized is below one-third of the estimated stock abundances for stocks (See table 7). These are all likely conservative estimates because they assume all takes are of different individual animals which is likely not the case. Some individuals may return multiple times in a day, but PSOs will count them as separate takes if they cannot be individually identified.

Based on the analysis contained herein of the activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species.

No incidental take of ESA-listed species is authorized or expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our action (*i.e.,* the issuance of an IHA) and alternatives with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NAO 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that the issuance of this IHA qualifies to be categorically excluded from further NEPA review.

Authorization

NMFS has issued an IHA to PG&E for the potential harassment of small numbers of seven marine mammal species incidental to the sediment remediation project in San Francisco Bay, that includes the previously explained mitigation, monitoring, and reporting requirements.

Dated: January 25, 2024.

Catherine G. Marzin,

Acting Director, Office of Protected Resources, National Marine Fisheries Service.

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COMMODITY FUTURES TRADING COMMISSION

Agency Information Collection Activities Under OMB Review

AGENCY: Commodity Futures Trading Commission.

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act of 1995