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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RTID 0648-XR106

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Floating Dry Dock Project at Naval Base San Diego in San Diego, California

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 the U.S. Navy (Navy) to incidentally take, by Level B harassment, one species of marine mammal during the Floating Dry Dock Project at Naval Base San Diego in San Diego, California.

DATES: This Authorization is effective from September 15, 2020 through September 14, 2021.

FOR FURTHER INFORMATION CONTACT: Wendy Piniak, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the authorization, 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/national/marine-mammal-*

protection/incidental-take-authorizations-construction-activities. In case of problems accessing these documents, please call the contact listed above.

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 issued or, if the taking is limited to harassment, a notice of a proposed IHA may be 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 November 26, 2019, NMFS received a request from the Navy for an IHA to take marine mammals incidental to the Floating Dry Dock Project at Naval Base San Diego in San Diego, California. We received a revised application on February 10, 2020. The application was deemed adequate and complete on March 17, 2020. The Navy's request is for take of a small number of California sea lions by Level B harassment only. Neither the Navy nor NMFS expects serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of Activity

Overview

The Navy requested authorization for take of marine mammals incidental to in-water activities associated with the Floating Dry Dock Project at Naval Base San Diego in San Diego, California. The Navy plans to construct a floating dry dock and associated pier-side access in the south-central portion of San Diego Bay. The floating dry dock is needed to ensure the Naval Base San Diego's capability to conduct berth-side repair and maintenance of vessels. Implementation of the project requires installation of two mooring dolphins, including vertical and angled structural piles, as well as fender piles, installation of a concrete ramp wharf and vehicle bridge, and dredging at the floating dry dock location. In-water construction will include installation of a maximum of 56 24-inch concrete piles using impact pile driving and high-pressure water jetting and a maximum of 20 24-inch steel pipe piles using impact and vibratory pile driving. Sounds produced by these activities may result in take, by Level B harassment, of marine mammals located

in San Diego Bay, California. In-water pile-driving activities are anticipated to occur for 60 days during the period from September 15, 2020 to September 14, 2021.

Dates and Duration

In-water activities (pile installation) associated with the project are anticipated to begin September 15, 2020, and be completed by September 14, 2021. Pile driving activities will occur for 60 days during the planned project dates. In-water activities will occur during daylight hours only.

Detailed Description of Specific Activity

A detailed description of the planned activities is provided in the **Federal Register** notice announcing the proposed IHA (85 FR 21179; April 16, 2020). Since that time, the Navy has revised the number of 24-inch steel pipe piles required for the project (and therefore the number of days required to complete the project), and the revised description of this component of the project (construction of two mooring dolphins) is provided below. No other revisions have been made to the Navy's planned activities. Please refer to the proposed IHA **Federal Register** notice for a detailed description of the activity.

The Navy will construct a floating dry dock and associated pier-side access in the south-central portion of San Diego Bay. Implementation of the project requires in-water activities that will produce sounds that may result in take of marine mammals located in the San Diego Bay including dredging, installation of two mooring dolphins, including vertical and angled structural piles, as well as fender piles, and installation of a concrete ramp wharf and vehicle bridge. Two mooring dolphins will be located forward and aft of the dry dock. The mooring dolphins will each be supported by up to 16 vertical 24-inch

octagonal concrete piles (32 total) installed using impact pile driving and high-pressure water jetting. The aft mooring dolphin would also require approximately two 24-inch angled steel pipe piles. Up to eight additional 24-inch steel pipe piles are anticipated to be required for each of the forward and aft mooring dolphins (16 total, rather than the 8 described in the **Federal Register** notice announcing the proposed IHA (85 FR 21179; April 16, 2020)). Cast-in-place reinforced concrete caps, 9.1 by 9.1 m (30 by 30 ft), will be installed at each mooring dolphin location. Grippers will be secured to the dolphins' concrete pile caps and used to hold the floating dry dock in position. Construction materials will be delivered by truck and the piles would be installed using a floating crane and an impact or vibratory pile driver aided by jetting methods. Fender piles associated with the aft mooring dolphin will consist of two steel pipe piles, 24-inches in diameter or less. All steel pipe piles will initially be installed using vibratory pile driving, followed by the use of an impact pile driver.

Pile driving activities are planned to occur from September 15, 2020 through September 14, 2021. The total number of pile driving days will not exceed 60 days (rather than the 50 days described in the **Federal Register** notice announcing the proposed IHA (85 FR 21179; April 16, 2020)) during this time period.

Mitigation, monitoring, and reporting measures are described in detail later in this document (please see **Mitigation and Monitoring and Reporting**).

Comments and Responses

A notice of NMFS' proposal to issue an IHA to the Navy was published in the **Federal Register** on April 16, 2020 (85 FR 21179). That notice described, in detail, the Navy's proposed activity, the marine mammal species that may be affected by the

activity, the anticipated effects on marine mammals and their habitat, proposed amount and manner of take, and proposed mitigation, monitoring and reporting measures. During the 30-day public comment period NMFS received a comment letter from the Marine Mammal Commission (Commission); the Commission's recommendations and our responses are provided here, and the comments have been posted online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities*.

Comment 1: The Commission recommends that NMFS revise its standard condition for ceasing in-water heavy machinery activities (Condition 4(a) in the IHA) to include, as examples, movement of the barge to the pile location, positioning of the pile on the substrate, use of barge-mounted excavators, and dredging in all draft and final incidental take authorizations.

Response: NMFS appreciates the recommendation but disagrees that a comprehensive listing of potential activities for which the measure is appropriate is necessary, and does not adopt the recommendation.

Comment 2: The Commission notes that the Level B harassment zone is more than 2.5 km for vibratory pile driving and more than 1.8 km during impact driving of 24-inch piles. In both circumstances, California sea lions would not be sighted at the extents of the Level B harassment zones if only one Protected Species Observer (PSO) was located at the pile-driving location in the near field. They note that a second vessel-based PSO should monitor the extent of the Level B harassment zone during impact pile driving as well as during vibratory pile driving. Given that impact pile driving of 24-inch steel piles would occur after the piles have been driven with the vibratory hammer, it would be

practicable for the vessel-based PSO to remain on station and continue to monitor until impact pile driving is finished and the pile is driven to depth. The Commission recommends that NMFS include in condition 5(a) of the final authorization the requirement that the Navy use one land-based and one-vessel-based PSO to monitor for marine mammals during both vibratory and impact pile driving of 24-inch steel piles.

Response: NMFS disagrees with the Commission's rationale and assertion that the measure is practicable, and does not adopt the recommendation. We have included in the authorization that the Navy must include extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible in the draft and final reports. Though as the Commission notes, vibratory and impact pile driving may occur in succession, this may not always be the case (for example, when switching hammer types). Given the condition to extrapolate takes, it is not necessary to require that the entire Level B zone be visible or monitored during all activities.

Comment 3: The Commission noted that NMFS indicated in the **Federal Register** notice that pile installation would only occur during daylight hours and that pile driving would only be conducted at least 30 minutes after sunrise and up to 30 minutes before sunset, when visual monitoring of marine mammals can be conducted. However, they stated that NMFS did not stipulate in the draft authorization that activities must occur during daylight hours only, nor that activities must be conducted during periods of good visibility and stated that, if poor environmental conditions restrict full visibility of the shutdown zone, pile installation must be delayed. The Commission recommends that NMFS include (1) in the final authorization the requirements that the Navy conduct pile-

driving activities during daylight hours only and, if the entire shut-down zone(s) is not visible, delay or cease pile-driving activities until the zone(s) is visible and (2) standard conditions consistently in all draft and final authorizations involving pile-driving activities.

Response: We do not fully concur with the Commission's recommendations, or with their underlying justification, and do not adopt them as stated. While the Navy has no intention of conducting pile driving activities at night, it is unnecessary to preclude such activity should the need arise (*e.g.*, on an emergency basis or to complete driving of a pile begun during daylight hours, should the construction operator deem it necessary to do so). Further, as stated above, while acknowledging that prescribed mitigation measures for any specific action (and an associated determination that the prescribed measures are sufficient to achieve the least practicable adverse impact on the affected species or stocks and their habitat) are subject to review by the Commission and the public, any determination of what measures constitute "standard" mitigation requirements is NMFS' alone to make. Even in the context of measures that NMFS considers to be "standard" we reserve the flexibility to deviate from such measures, depending on the circumstances of the action. We disagree with the statement that a prohibition on pile driving activity outside of daylight hours is necessary to meet the MMPA's least practicable adverse impact standard, and the Commission does not justify this assertion.

Comment 4: The Commission states that it is unclear from both the preamble and the draft authorization whether the Navy will keep a running tally of the total Level B harassment takes, including observed and extrapolated takes. They state that it is imperative that the Navy do so to ensure that the takes are within the authorized limits

and the authorized numbers of takes are not exceeded to implement effectively condition 4(h) in the draft authorization. The Commission recommends that NMFS ensure that the Navy keeps a running tally of the total takes, based on observed and extrapolated takes, for Level B harassment consistent with condition 4(h) of the final authorization.

Response: We agree that the Navy must ensure they do not exceed authorized takes but do not concur with the recommendation. NMFS is not responsible for ensuring that the Navy does not operate in violation of an issued IHA.

Comment 5: The Commission recommended that NMFS refrain from issuing renewals for any authorization and instead use its abbreviated **Federal Register** notice process, which is similarly expeditious and fulfills NMFS's intent to maximize efficiencies. If NMFS continues to propose to issue renewals, the Commission recommends that it (1) stipulate that a renewal is a one-time opportunity (a) in all **Federal Register** notices requesting comments on the possibility of a renewal, (b) on its webpage detailing the renewal process, and (c) in all draft and final authorizations that include a term and condition for a renewal and, (2) if NMFS declines to adopt this recommendation, explain fully its rationale for not doing so.

Response: NMFS does not agree with the Commission and, therefore, does not adopt the Commission's recommendation. NMFS will provide a detailed explanation of its decision within 120 days, as required by section 202(d) of the MMPA.

Description of Marine Mammals in the Area of Specified Activities

A detailed description of the species likely to be affected by the Navy's 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 (85 FR 21179; April 16, 2020). 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 the proposed IHA **Federal Register** notice for these descriptions; we provide a summary of marine mammals that may potentially be present in the project area here (Table 1). Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SAR; *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 action, and summarizes information related to the population or stock, including regulatory status under the MMPA and the Endangered Species Act (ESA) and potential biological removal (PBR), where known. For taxonomy, we follow Committee on Taxonomy (2019). 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's SARs). While no 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 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 Stock Assessment Reports (*e.g.*, Carretta *et al.*, 2019). All values presented in Table 1 are the most recent available at the time of publication and are available in the 2018 Final SARs (Carretta *et al.*, 2019) (available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*).

Table 1 -- Marine Mammals Potentially Present Within Central San Diego, California During the Specified Activity

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Order Carnivora – Superfamily Pinnipedia						
Family Otariidae (eared seals and sea lions)						
California sea lion	*Zalophus californianus*	U.S.	-, -, N	257,606 (N/A, 233,515, 2014)	14,011	>321

[1] 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.

[2] NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*. CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable. California sea lion population size was estimated from a 1975-2014 time series of pup counts (Lowry *et al.*, 2017), combined with mark-recapture estimates of survival rates (DeLong *et al.*, 2017, Laake *et al.*, 2018).

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

Habitat

No ESA-designated critical habitat or Biologically Important Areas overlap with the project area.

Potential Effects of Specified Activities on Marine Mammals and their Habitat

Underwater noise from impact and vibratory pile driving activities associated with the planned Floating Dry Dock Project at Naval Base San Diego have the potential to result in harassment of marine mammals in the vicinity of the action area. The **Federal Register** notice for the proposed IHA (85 FR 21179; April 16, 2020) included a discussion of the potential effects of such disturbances on marine mammals and their habitat, therefore that information is not repeated in detail here; please refer to the **Federal Register** notice (85 FR 21179; April 16, 2020) for that information.

Estimated Take

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

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 for individual California sea lions resulting from exposure to pile

driving activities. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.*, shutdown) – discussed in detail below in **Mitigation** section, Level A harassment is neither anticipated nor authorized.

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

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) and the number of days of activities. We note that while these basic factors can contribute to a basic calculation to provide an initial prediction of 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 estimate.

Acoustic Thresholds

Using the best available science, NMFS has developed 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 for non-explosive sources – 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 (*e.g.*, frequency, predictability, duty cycle), the environment (*e.g.*, bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.*, 2007, Ellison *et al.*, 2012). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 decibels (dB) re: 1 micropascal (μPa) root mean square (rms) for continuous (*e.g.*, vibratory pile-driving, drilling) and above 160 dB re: 1 μPa (rms) for non-explosive impulsive (*e.g.*, seismic airguns) or intermittent (*e.g.*, scientific sonar) sources.

Navy's activity includes the use of continuous (vibratory pile driving) and impulsive (impact pile driving) sources, and therefore the 120 and 160 dB re: 1 μPa (rms) thresholds are applicable. However, background (ambient) noise in the south-central San Diego Bay was measured at 126 dB re: 1 μPa (L50) in 2019 (Dahl and Dall'Osto 2019), therefore, 126 dB re: 1 μPa was used to calculate the Level B harassment isopleth.

Level A harassment for non-explosive sources - 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). Navy's planned activity includes the use includes the use of continuous (vibratory pile driving) and impulsive (impact 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 2 -- Thresholds Identifying the Onset of Permanent Threshold Shift

	PTS Onset Thresholds* **(Received Level)**	
Hearing Group	**Impulsive**	**Non-impulsive**
Low-Frequency (LF) Cetaceans	$L_{p,0\text{-pk,flat}}$: 219 dB $L_{E,p,\text{LF,24h}}$: 183 dB	$L_{E,p,\text{LF,24h}}$: 199 dB
Mid-Frequency (MF) Cetaceans	$L_{p,0\text{-pk,flat}}$: 230 dB $L_{E,p,\text{MF,24h}}$: 185 dB	$L_{E,p,\text{MF,24h}}$: 198 dB
High-Frequency (HF) Cetaceans	$L_{p,0\text{-pk,flat}}$: 202 dB $L_{E,p,\text{HF,24h}}$: 155 dB	$L_{E,p,\text{HF,24h}}$: 173 dB
Phocid Pinnipeds (PW) (Underwater)	$L_{p,0\text{-pk.flat}}$: 218 dB $L_{E,p,\text{PW,24h}}$: 185 dB	$L_{E,p,\text{PW,24h}}$: 201 dB
Otariid Pinnipeds (OW) (Underwater)	$L_{p,0\text{-pk,flat}}$: 232 dB $L_{E,p,\text{OW,24h}}$: 203 dB	$L_{E,p,\text{OW,24h}}$: 219 dB

* Dual metric 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 are recommended for consideration.

Note: Peak sound pressure level ($L_{p,0\text{-pk}}$) has a reference value of 1 µPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1µPa^{2}s. In this table, thresholds are abbreviated to be more reflective of International Organization for Standardization standards (ISO 2017). The subscript "flat" is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals (*i.e.*, 7 Hz to 160 kHz). 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 weighted 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 thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds, which include 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. Pile driving generates underwater noise that can potentially result in disturbance to marine mammals in the project area. The maximum (underwater) area ensonified is determined by the topography of the San Diego Bay including hard structures directly to the south of the project site. Additionally, vessel traffic and other commercial and industrial activities in the project area may contribute to elevated background noise levels which may mask sounds produced by the project.

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 and topography. The general formula for underwater TL is:

$TL = B * Log_{10} (R_1/R_2)$, where

TL = transmission loss in dB

B = transmission loss coefficient; for practical spreading equals 15

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

This formula neglects loss due to scattering and absorption, which is assumed to be zero here. The degree to which underwater sound propagates away from a sound source is dependent on a variety of factors, most notably the water bathymetry and presence or absence of reflective or absorptive conditions including in-water structures and sediments. Spherical spreading occurs in a perfectly unobstructed (free-field) environment not limited by depth or water surface, resulting in a 6 dB reduction in sound

level for each doubling of distance from the source (20*log[range]). Cylindrical spreading occurs in an environment in which sound propagation is bounded by the water surface and sea bottom, resulting in a reduction of 3 dB in sound level for each doubling of distance from the source (10*log[range]). A practical spreading value of fifteen is often used under conditions, such as the project site where water increases with depth as the receiver moves away from the shoreline, resulting in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions. Practical spreading loss is assumed here.

The intensity of pile driving sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity takes place. In order to calculate distances to the Level A harassment and Level B harassment thresholds for the 24-inch octagonal concrete piles and the 24-inch steel pipe piles planned in this project, acoustic monitoring data from other locations were used. Empirical data from recent sound source verification (SSV) studies reported in CALTRANS (2015) were used to estimate sound source levels (SSLs) for impact pile driving. For impact pile driving of 24-inch octagonal concrete piles measurements from San Francisco Bay, California were used (SELs-s: 166 dB re: 1 μPa^2s; SPLrms: 176 dB re: 1 μPa; SPLpeak: 188 dB re: 1 μPa) (CALTRANS, 2015). For impact pile driving of 24-inch steel pipe piles measurements from Carquinez Bay, California were used (SELs-s: 178 dB re: 1 μPa^2s; SPLrms: 194 dB re: 1 μPa; SPLpeak: 207 dB re: 1 μPa) (CALTRANS, 2015). For vibratory pile driving of 24-inch steel pipe piles, average data collected from four projects (three in Washington and one in California) involving 16 and 24-inch piles

reported by United States Navy (2015) were used. The highest project average SPLrms of 162 dB re: 1 μPa was selected as the most reasonable proxy for 24-inch steel pipe piles.

For piles requiring use of vibratory pile driving, it is anticipated that 10 minutes (min) per pile will be required. The number of final strikes via impact pile driving for each pile installed would be dependent on the underlying geology and the exact placement of the pile. For example, pile-driving activities associated with the Pier 12 replacement required between 500 and 600 blows per pile (Alberto Sanchez 2019, personal communication). To be conservative, 600 strikes per pile is estimated for impact pile driving.

Navy used NMFS' Optional User Spreadsheet, available at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance,* to input project-specific parameters and calculate the isopleths for the Level A harassment zones for impact and vibratory pile driving. When the NMFS Technical Guidance (2018) was published, in recognition of the fact that ensonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, we developed a User Spreadsheet that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which may result in some degree of overestimate of Level A harassment take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine

these tools, and will qualitatively address the output where appropriate. For stationary sources pile driving, the User Spreadsheet predicts the distance at which, if a marine mammal remained at that distance the whole duration of the activity, it would incur PTS.

Table 3 provides the sound source values and input used in the User Spreadsheet to calculate harassment isopleths for each source type. For impact pile driving, isopleths calculated using the cumulative SEL metric (SELs-s) will be used as it produces larger isopleths than SPLpeak. Isopleths for Level B harassment associated with impact pile driving (160 dB) and vibratory pile driving (126 dB) were also calculated and are can be found in Table 4.

Table 3 -- User Spreadsheet Input Parameters Used for Calculating Harassment Isopleths

User Spreadsheet Parameter	Impact Pile Driving 24-inch octagonal concrete piles	Impact Pile Driving 24-inch steel pipe piles	Vibratory Pile Driving 24-inch steel pipe piles
Spreadsheet Tab Used	E.1) Impact pile driving	E.1) Impact pile driving	A. 1) Vibratory pile driving
Source Level (SELs-s or SPL rms)	166 SELs-s[a]	178 SELs-s[a]	162 dB SPL rms[b]
Source Level (SPLpeak)	188	207	N/A
Weighting Factor Adjustment (kHz)	2	2	2.5
Number of piles per day	3	1	1
Number of strikes per pile	600	600	N/A
Number of strikes per day	1,800	600	N/A
Estimate driving duration (min) per pile	N/A	N/A	10
Activity Duration (h) within 24-h period	N/A	N/A	0.167
Propagation (xLogR)	15 Log R	15 Log R	15 Log R
Distance of source level measurement (meters)	10	10	10

a CATRANS, 2015
b United States Navy, 2015.

Table 4 -- Calculated Distances to Level A Harassment and Level B Harassment Isopleths During Pile Driving

Source	Level A Harassment Zone (meters)	Level B Harassment Zone (meters)	Level B Harassment Zone Ensonified Area (km^2)
	Otariid Pinnipeds	Pinnipeds	Pinnipeds
Impact Pile Driving 24-inch octagonal concrete piles	4	117	0.043
Impact Pile Driving 24-inch steel pipe piles	13	1,848	3.68
Vibratory Pile Driving 24-inch steel pipe piles	<1	2,512	6.94

Source	PTS Onset Isopleth – Peak (meters)
Impact Pile Driving 24-inch octagonal concrete piles	N/A
Impact Pile Driving 24-inch steel pipe piles	N/A

Marine Mammal Occurrence and Take Calculation and Estimation

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations, and how this information is brought together to produce a quantitative take estimate.

No California sea lion density information is available for south San Diego Bay. Potential exposures to impact and vibratory pile driving noise for each threshold for California sea lions were estimated using data collected during a 2010 survey as reported in Sorensen and Swope (2010). The Sorenson and Swope (2010) survey is the only known survey to provide marine mammal observation data below the San Diego Coronado Bridge (in mid San Diego Bay). The single survey was on February 16, 2010. During this survey one single sea lion was observed off Pier 3 and one single sea lion was observed ~600 m from the project site.

Level B Harassment Calculations

The following equation was used to calculate takes by Level B harassment:

Level B harassment estimate = N (number of animals in the ensonified area) * Number of days of noise generating activities.

The available survey data suggests from Sorenson and Swope (2010) suggests two California sea lions could be present each day in the project area, however given the limited data available, to be conservative we have estimated four California sea lions could be present each day.

Level B harassment estimate = 4 (number of animals in the ensonified area) * 60 (Number of days of noise generating activities) = 240.

Note that after the publication of the proposed IHA, the Navy reevaluated the number of required 24-inch steel pipe piles, increasing the maximum number from 10 to 20 24-inch steel pipe piles. This increased the maximum number of days of the project activity from 50 (as presented in the proposed IHA) to 60, and therefore has increased the estimated number of California sea lion takes by Level B harassment from 200 (as presented in the proposed IHA) to 240.

Level A Harassment Calculations

Navy intends to avoid Level A harassment take by shutting down activities if a California sea lion approaches with 25 m of the project site, which encompasses all Level A harassment (PTS onset) ensonification zones described in Table 4. Therefore, no take by Level A harassment is anticipated or authorized.

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, we carefully consider 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, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

In addition to the measures described later in this section, Navy will employ the following standard mitigation measures:

- Conduct briefings between construction supervisors and crews and the marine mammal monitoring team prior to the start of all pile driving activity, and when new personnel join the work, to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures;
- For in-water heavy machinery work other than pile driving (*e.g.*, standard barges, *etc.*), if a marine mammal comes within 10 m, operations shall cease and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions. This type of work could include the following activities: (1) movement of the barge to the pile location; or (2) positioning of the pile on the substrate via a crane (*i.e.*, stabbing the pile);
- Though not required, Navy has indicated that in-water pile driving will only be conducted at least 30 minutes after sunrise and up to 30 minutes before sunset, when visual monitoring of marine mammals can be conducted;
- For those marine mammals for which Level B harassment take has not been requested, in-water pile driving will shut down immediately if such species are observed within or entering the monitoring zone (*i.e.*, Level B harassment zone); and
- If take reaches the authorized limit for an authorized species, pile installation will be stopped as these species approach the Level B harassment zone to avoid additional take.

The following measures apply to Navy's mitigation requirements:

Establishment of Shutdown Zone for Level A Harassment - For all pile driving activities, Navy will establish a shutdown zone. The purpose of a shutdown zone is generally to define an area within which shutdown of activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Conservative shutdown zones of 25 m for impact and vibratory pile driving activities would be implemented for California sea lions. The placement of PSOs during all pile driving activities (described in detail in the **Monitoring and Reporting** section) will ensure shutdown zones are visible.

Establishment of Monitoring Zones for Level B Harassment - Navy will establish monitoring zones to correlate with Level B harassment zones which are areas where SPLs are equal to or exceed the 160 dB re: 1 µPa (rms) threshold for impact pile driving and the 126 dB re: 1 µPa (rms) threshold during vibratory pile driving (Table 5). 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 area outside the shutdown zone and thus prepare for a potential cease of activity should the animal enter the shutdown zone.

Table 5 -- Monitoring and Shutdown Zones for Each Project Activity

Source	Monitoring Zone (m)	Shutdown Zone (m)
Impact Pile Driving 24-inch octagonal concrete piles	120	25
Impact Pile Driving 24-inch steel pipe piles	1,850	25
Vibratory Pile Driving 24-inch steel pipe piles	2,515	25

Soft Start - The use of soft-start procedures are believed 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 strikes from the hammer at reduced energy, with each strike followed by a 30-second waiting period. This procedure will be conducted a total of three times before impact pile driving begins. 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. Soft start is not required during vibratory pile driving activities.

Pre-Activity Monitoring - 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 cleared when a marine mammal has not been observed within the zone for that 30-minute period. If a marine mammal is observed within the shutdown zone, a soft-start cannot proceed until the animal has left the zone or has not been observed for 15 minutes. If the Level B harassment zone has been observed for 30 minutes and non-permitted species are not present within the zone, soft start procedures can commence and work can continue even if visibility becomes impaired within the Level B harassment monitoring zone. When a marine mammal permitted for take by Level B harassment is present in the Level B harassment zone, activities may begin and Level B harassment take will be recorded. If work ceases for more than 30 minutes, the pre-activity monitoring of both the Level B harassment and shutdown zone will commence again.

Due to strong tidal fluctuations and associated currents in San Diego Bay, bubble curtains will not be implemented as they would not be effective in this environment.

Based on our evaluation of the applicant's planned measures, NMFS has determined that the mitigation measures provide the means 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 in the action area. 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 action; 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.

Marine Mammal Visual Monitoring

Monitoring shall be conducted by NMFS-approved observers. Trained observers shall be placed from the best vantage point(s) practicable to monitor for marine mammals and implement shutdown or delay procedures when applicable through communication with the equipment operator. Observer training must be provided prior to project start, and shall include instruction on species identification (sufficient to distinguish the species in the project area), description and categorization of observed behaviors and interpretation of behaviors that may be construed as being reactions to the specified activity, proper completion of data forms, and other basic components of biological monitoring, including tracking of observed animals or groups of animals such that repeat sound exposures may be attributed to individuals (to the extent possible).

Monitoring will be conducted 30 minutes before, during, and 30 minutes after pile driving activities. In addition, observers shall record all incidents of marine mammal

occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from piles being driven. Pile driving activities include the time to install 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.

At least one land-based PSO will be located at the project site, and for the Navy has indicated that when possible and appropriate during vibratory pile driving activities, one additional boat-based PSO will be located at the edge of the Level B harassment isopleth (see Figure 1-2 of the Marine Mammal Monitoring Plan dated March, 2020).

PSOs will scan the waters using binoculars, and/or spotting scopes, and will use a handheld GPS or range-finder device to verify the distance to each sighting from the project site. All PSOs will be trained in marine mammal identification and behaviors and are required to have no other project-related tasks while conducting monitoring. In addition, monitoring will be conducted by qualified observers, who will be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown to the hammer operator. Navy would adhere to the following PSO qualifications:

(i) Independent observers (*i.e.*, not construction personnel) are required;

(ii) At least one observer must have prior experience working as an observer;

(iii) Other observers may substitute education (degree in biological science or related field) or training for experience;

(iv) Where a team of three or more observers are required, one observer shall be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer; and

(v) Navy shall submit observer Curriculum vitaes for approval by NMFS. Additional standard observer qualifications include:

- 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 and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; and marine mammal behavior; 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.

Observers will be required to use approved data forms (see data collection forms in the applicant's Marine Mammal Mitigation and Monitoring Plan). Among other pieces of information, Navy will record detailed information about any implementation of shutdowns, including the distance of animals to the pile and description of specific actions that ensued and resulting behavior of the animal, if any. In addition, Navy will attempt to distinguish between the number of individual animals taken and the number of

incidences of take. We require that, at a minimum, the following information be collected on the sighting forms:

- Dates and times (begin and end) of all 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 during each monitoring period (*e.g.*, wind speed, percent cover, visibility, sea state);
- 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;
- Age and sex class, if possible, of all marine mammals observed;
- PSO locations during marine mammal monitoring;
- Distances and bearings of each marine mammal observed to the pile being driven or removed for each sighting (if pile driving or removal was occurring at time of sighting);
- Description of any marine mammal behavior patterns during observation, including direction of travel and estimated time spent within the Level A and Level B harassment zones while the source was active;
- Number of individuals of each species (differentiated by month as appropriate) detected within the monitoring zone, and estimates of number of marine mammals taken, by species (a correction factor may be applied to total take numbers, as appropriate);

- Detailed information about any implementation of any mitigation triggered (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting behavior of the animal, if any;
- Description of attempts to distinguish between the number of individual animals taken and the number of incidences of take, such as ability to track groups or individuals;
- An extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible; and
- Submit all PSO datasheets and/or raw sighting data (in a separate file from the final report referenced immediately above).

A draft report will be submitted to NMFS within 90 days of the completion of marine mammal monitoring, or 60 days prior to the requested date of issuance of any future IHA for projects at the same location, whichever comes first. The report will include marine mammal observations pre-activity, during-activity, and post-activity during pile driving days (and associated PSO data sheets), and will also provide descriptions of any behavioral responses to construction activities by marine mammals and a complete description of all mitigation shutdowns and the results of those actions and an extrapolated total take estimate based on the number of marine mammals observed during the course of construction. A final report must be submitted within 30 days following resolution of comments on the draft report.

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the IHA-holder shall report the incident to the Office of Protected Resources (OPR) (301-427-8401), NMFS and to the West Coast Region

Stranding Coordinator (562-980-3230) as soon as feasible. If the death or injury was clearly caused by the specified activity, the IHA-holder must 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 IHA. The IHA-holder must not resume their activities until notified by NMFS. The report must include the following information:

- 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.

NMFS will work with Navy to determine what, if anything, is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Navy must not resume their activities until notified by NMFS.

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 responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), 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's 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 environmental 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).

Pile driving activities associated with the Floating Dry Dock Project, as outlined previously, have the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take, in the form of Level B harassment (behavioral disturbance) from underwater sounds generated from impact and vibratory pile driving. Potential takes could occur if individuals of California sea lions are present in the ensonified zone when these activities are underway.

No mortality or Level A harassment is anticipated or authorized given the nature of the activity and measures designed to minimize the possibility of injury to marine mammals. The potential for harassment is minimized through the construction method and the implementation of the planned mitigation measures (see **Mitigation** section).

The Navy's activities are localized and of relatively short duration (a maximum of 60 days of pile driving for 76 piles). The project area is also very limited in scope

spatially, as all work is concentrated on a single pier. Localized and short-term noise exposures produced by project activities may cause short-term behavioral modifications in pinnipeds. Moreover, the planned mitigation and monitoring measures are expected to further reduce the likelihood of injury, as it is unlikely an animal would remain in close proximity to the sound source, as well as reduce behavioral disturbances.

Effects on individuals that are taken by Level B harassment, on the basis of reports in the literature as well as monitoring from other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.*, Thorson and Reyff, 2006; HDR, Inc., 2012; Lerma, 2014; ABR, 2016). Most likely, individuals will move away from the sound source and be temporarily displaced from the areas of pile driving, although even this reaction has been observed primarily only in association with impact pile driving. The pile driving activities analyzed here are similar to, or less impactful than, numerous other construction activities conducted in California, which have taken place with no known long-term adverse consequences from behavioral harassment. Level B harassment will be reduced to the level of least practicable adverse impact through use of mitigation measures described herein and, if sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activity is occurring. While vibratory pile driving associated with the project may produce sounds above ambient at distances of several kilometers from the project site, thus intruding on some habitat, the project site itself is located in an industrialized bay, and sounds produced by the planned activities are anticipated to quickly become indistinguishable from other background noise in San Diego Bay as they attenuate to near ambient SPLs

moving away from the project site. Therefore, we expect that animals annoyed by project sound would simply avoid the area and use more-preferred habitats.

The project is also not expected to have significant adverse effects on affected marine mammal habitat. The project activities will not modify existing marine mammal habitat for a significant amount of time. The activities may cause some fish to leave the area of disturbance, thus temporarily impacting marine mammal foraging opportunities in a limited portion of the foraging range. However, because of the short duration of the activities, the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

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 the species or stock through effects on annual rates of recruitment or survival:

- No mortality or Level A harassment is anticipated or authorized;
- The anticipated incidents of Level B harassment consist of, at worst, temporary modifications in behavior that would not result in fitness impacts to individuals;
- The specified activity and ensonification area is very small relative to the overall habitat ranges of California sea lions and does not include habitat areas of special significance (*e.g.*, biologically important areas); and
- The presumed efficacy of the planned mitigation measures in reducing the effects of the specified activity to the level of least practicable adverse impact.

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 planned monitoring and mitigation measures, NMFS finds that the total marine mammal take from the planned activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take 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 *Marine Mammal Occurrence and Take Calculation and Estimation* section describes the number of California sea lions that could be exposed to received noise levels that could cause Level B harassment for the Navy's planned activities in the project area site relative to the total stock abundance. Based on the estimated stock abundance presented in the 2018 Final SARs (257,606), our analysis shows that less than 1 percent of the affected stock could be taken by harassment.

Based on the analysis contained herein of the planned 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 would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

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 with respect to environmental consequences 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 NOAA Administrative Order 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 the IHA qualifies to be categorically excluded from further NEPA review.

Endangered Species Act (ESA)

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.

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.

Authorization

NMFS has issued an IHA to the Navy for the incidental take of marine mammals due to in-water construction activities associated with the Floating Dry Dock Project at Naval Base San Diego in San Diego, California from September 15, 2020 to September 14, 2021, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: May 27, 2020.

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Donna S. Wieting,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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