E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 217

[Docket No. 230508-0126]

RIN 0648-BL81

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to U.S. Navy Construction of the Pier 3 Replacement Project at Naval Station Norfolk

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

ACTION: Final rule; notification of issuance of Letter of Authorization.

SUMMARY: NMFS, upon request from the U.S. Navy (Navy), hereby issues regulations to govern the unintentional taking of marine mammals incidental to construction activities associated with the replacement of Pier 3 at Naval Station (NAVSTA) Norfolk in Norfolk, Virginia over the course of 5 years (2023-2028). These regulations, which allow for the issuance of a Letter of Authorization (LOA) for the incidental take of marine mammals during the described activities and specified timeframes, 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, as well as requirements pertaining to the monitoring and reporting of such taking.

DATES: This rule is effective from [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER], through May 18, 2028.

ADDRESSES: A copy of the Navy's application and any 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-us-navy-*

replacement-pier-3-naval-station-norfolk-norfolk. In case of problems accessing these documents, please call the contact listed below.

FOR FURTHER INFORMATION CONTACT: Kim Corcoran, Office of Protected Resources, NMFS, *ITP.corcoran@noaa.gov*, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Purpose and Need for Regulatory Action

We received an application from the Navy requesting 5-year regulations and authorization to take multiple species of marine mammals. This rule establishes a framework under the authority of the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361 *et seq.*) to allow for the authorization of take by Level A and Level B harassment of marine mammals incidental to the Navy's construction activities related to the replacement of Pier 3 at Naval Station Norfolk in Norfolk, Virginia. Please see **Background** below for definitions of harassment.

Legal Authority for the Action

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1371(a)(5)(A)) directs the Secretary of Commerce 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 for up to 5 years if, after notice and public comment, the agency makes certain findings and issues regulations that set forth permissible methods of taking pursuant to that activity and other means of effecting the "least practicable adverse impact" on the affected species or stocks and their habitat (see the discussion below in the **Mitigation** section), as well as monitoring and reporting requirements. Section 101(a)(5)(A) of the MMPA and the implementing regulations at 50 CFR part 216, subpart I provide the legal basis for issuing this rule containing 5-year regulations, and for any subsequent LOAs. As directed by this legal authority, this rule contains mitigation, monitoring, and reporting requirements.

Summary of Major Provisions Within the Rule

Following is a summary of the major provisions of this rule regarding Navy construction activities. These measures include:

- Required monitoring of the construction areas to detect the presence of marine mammals before beginning construction activities;
- Shutdown of construction activities under certain circumstances to avoid injury of marine mammals; and
- Soft start for impact pile driving to allow marine mammals the opportunity to leave the area prior to beginning impact pile driving at full power.

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 April 8, 2022, NMFS received a request from the Navy for authorization to take marine mammals incidental to construction activities related to the replacement of Pier 3 at Naval Station Norfolk in Norfolk, Virginia. Following NMFS' review of the application, the Navy provided responses to questions on June 3, 2022, and August 29, 2022. A revised version of the application was submitted on September 22, 2022. The application was deemed adequate and complete on September 26, 2022, and published in the **Federal Register** for public review and comment on October 7, 2022 (87 FR 60998). We did not receive substantive comments on the notice of receipt (NOR).

On March 9, 2023, NMFS published a notice of proposed rulemaking in the **Federal Register** (88 FR 14560). The regulations are valid for 5 years (2023-2028) from the date of issuance, and authorize the Navy to take five species of marine mammals by Level B harassment and, for a subset of these species, Level A harassment incidental to construction activities related to the replacement of Pier 3 at Naval Station Norfolk, Norfolk, Virginia. Neither the Navy nor NMFS expect serious injury or mortality to marine mammals to result from this activity, and none has been authorized.

NMFS previously issued an Incidental Harassment Authorization (IHA) (87 FR 15945, March 21, 2022) to the Navy for authorization to take marine mammals during the first year of the construction project described in this rule. Upon request from the Navy, NMFS modified the 2022 IHA (88 FR 2880, January 18, 2023) to include concurrent pile driving and drilling activities due to a change in the contractor's construction plan that was not initially analyzed in the initial activity. This rule could not be completed prior to expiration of the Navy's modified 2022 IHA and, therefore, the Navy requested issuance of a renewal IHA associated with continued work towards completion of year 1 of the

construction project. The requested renewal IHA was issued on March 30, 2023 (88 FR 20133, April 5, 2023). As required, the Navy provided monitoring reports (available at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-replacement-pier-3-naval-station-norfolk-norfolk-virginia*) that confirm that it has implemented the required mitigation and monitoring, and also show that no impacts of a scale or nature not previously analyzed or authorized have occurred as a result of the activities conducted. No changes were made from the proposed to the final rule.

Description of the Activity

Overview

The Navy is currently conducting, and will continue, the replacement of Pier 3 at NAVSTA Norfolk, in Norfolk, VA. The aforementioned 2022 IHA (as modified) and subsequent renewal covered the first year of project activities, and this rule covers the remaining activities for the pier replacement. During this period demolition and construction activities will occur at existing Pier 3, new Pier 3, CEP-176 wharf, CEP-102 relieving platform, and on a fender system of CEP-175 bulkhead (See Figure 1). Activities under the rule include both vibratory pile driving and removal, impact pile driving, and pre-drilling (hereafter, referred to as "drilling"). Sounds resulting from pile driving, drilling, and removal may result in the incidental take of marine mammals by Level A and Level B harassment in the form of auditory injury or behavioral harassment.

Dates and Duration

The regulations are valid for a period of 5 years (2023-2028). The specified activities may occur at any time during the 5-year period of validity of the regulations. The Navy expects pile driving and drilling for the entire project to occur on approximately 513 non-consecutive days over a 4-year duration, with the greatest amount of work occurring during Year 4 (approximately 204 days). However, in the event of

unforeseen delays, the project may occur over the full 5-year duration of this rule. The Navy plans to conduct all work during daylight hours.

Specific Geographic Region

Pier 3 at NAVSTA Norfolk is located at the confluence of the Elizabeth River, James River, Nansemond River, LaFeyette River, Willoughby Bay, and Chesapeake Bay (Figure 2).

Anthropogenic sound is a significant contributor to the ambient acoustic environment surrounding NAVSTA Norfolk, as it is located in close proximity to shipping channels as well as several Port of Virginia facilities with frequent vessel traffic that altogether have an annual average of 1,788 vessel calls (Port of Virginia, 2021). Other sources of human-generated underwater sound not specific to naval installations include sounds from echosounders on commercial and recreational vessels, industrial ship noise, and noise from recreational boat engines. Additionally, on average, maintenance dredging of the navigation channel occurs every 2 years (USACE and Port of Virginia, 2018).

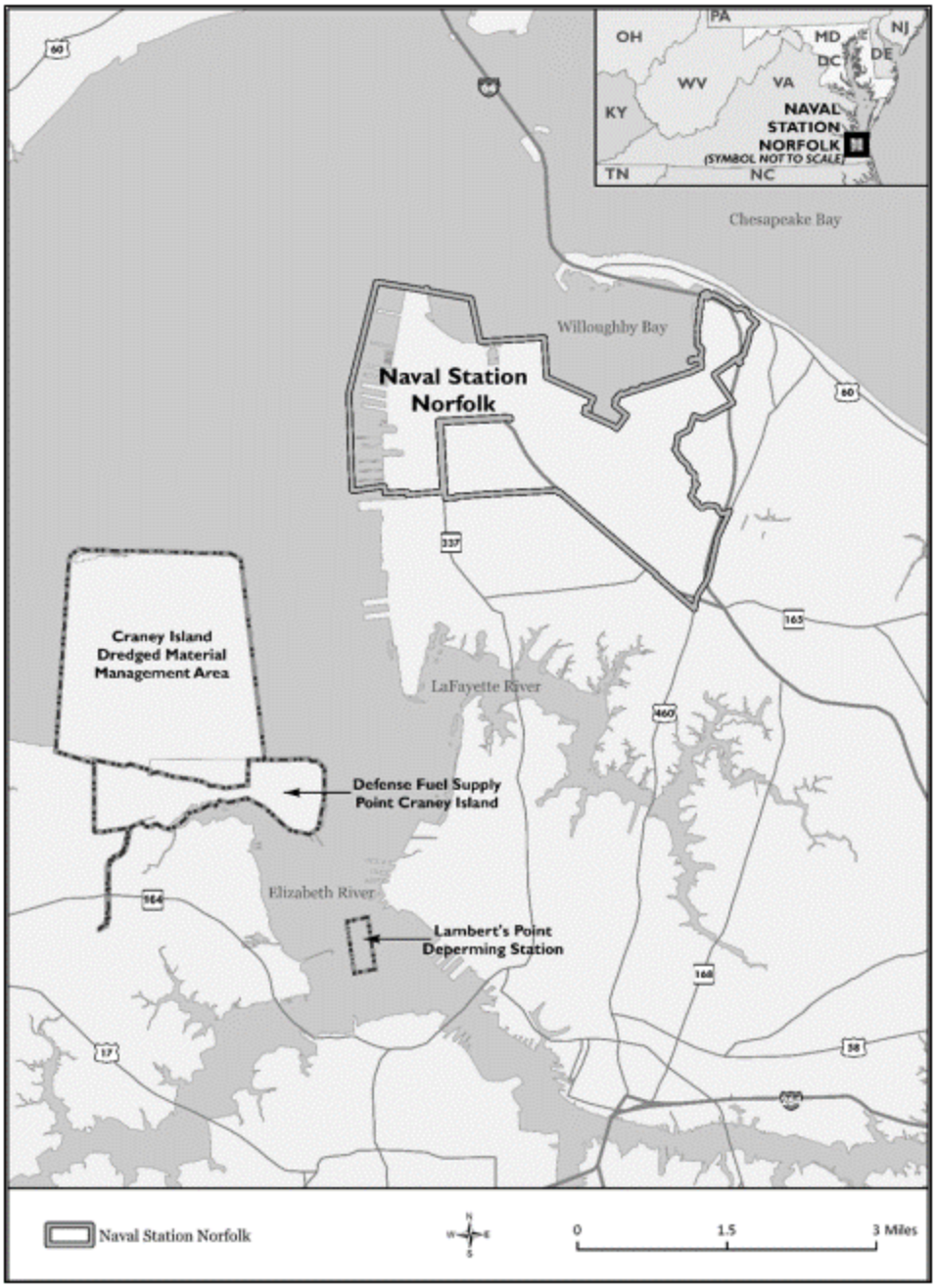

Figure 1 -- Site Location Map for NAVSTA Norfolk in Norfolk, Virginia

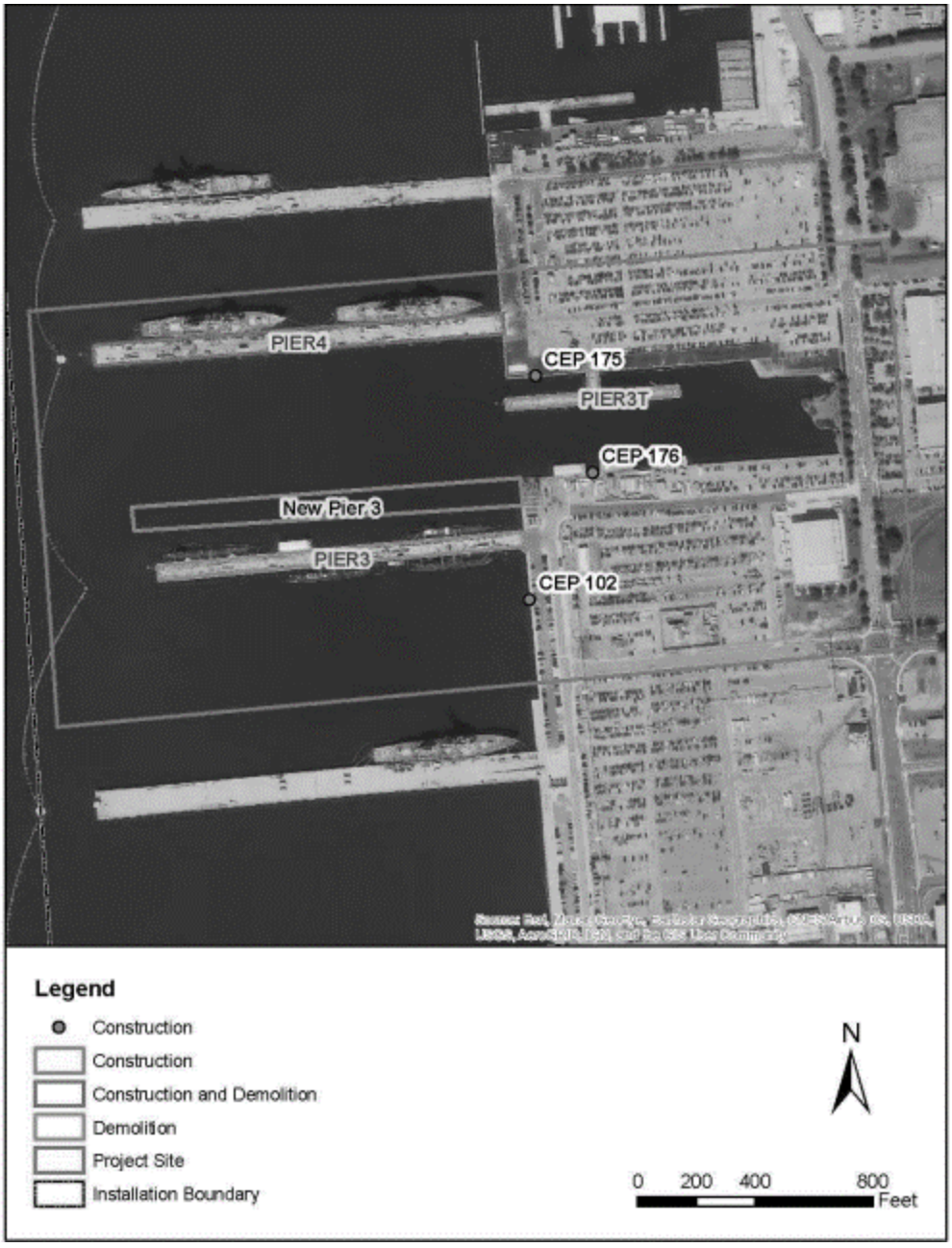

Figure 2 -- Project Site Map at NAVSTA Norfolk in Norfolk, Virginia

Detailed Description of Specific Activity

The project involves the replacement of Pier 3 at NAVSTA waterfront. The existing Pier 3 will be completely demolished and a new Pier 3 will be constructed immediately north of the existing location (Figure 2). The project scope for the replacement of Pier 3 under this rule will also include construction of new CEP-176 wharf, construction of new CEP-102 relieving platform, and construction of a portion of fender system at CEP-175. The project includes six phases, the first of which has begun under the previously issued IHA (87 FR 15945, March 21, 2022). A preliminary work schedule and activity details for the work under this rule are provided in Table 1. In-water construction activities, including pile driving, pile removal, and drilling are described in detail below:

Pile Removal – Piles are anticipated to be removed with a vibratory hammer, however, direct pull or clamshell removal may be used depending on site conditions. All three pile removal methods are described below. Take is not expected to occur for clamshell and direct pull removal, therefore they will not be described past what is provided below nor included in our analysis:

- Vibratory Extraction – This method uses a barge-mounted crane with a vibratory driver to remove all pile types. The vibratory driver is a large mechanical device (5 to 16 tons (4.5 to 14.5 metric tons)) suspended from a crane by a cable and positioned on top of a pile. The pile is then loosened from the sediments by activating the driver and slowly lifting up on the driver with the aid of the crane. Once the pile is released from the sediments, the crane continues to raise the driver and pull the pile from the sediment. The driver is typically shut off once the pile is loosened from the sediments. The pile is then pulled from the water and placed on a barge. Vibratory extraction usually takes between less than 1 minute (for timber piles) to 30 minutes per pile depending on the pile size, type, and substrate conditions;

- Clamshell – In cases where use of a vibratory driver is not possible (*e.g.*, when the pile may break apart from clamp force and vibration), a clamshell apparatus may be lowered from the crane in order to remove pile stubs. The use and size of the clamshell bucket would be minimized to reduce the potential for generating turbidity during removal; and
- Direct Pull – Piles may be removed by wrapping the piles with a cable or chain and pulling them directly from the sediment with a crane. In some cases, depending on access and location, piles may be cut at or below the mudline.

Pile Installation – Pile installation/removal would occur using land-based or barge-mounted cranes, as appropriate. Concrete piles would be installed using an impact hammer. Steel piles and polymeric piles can be installed using an impact hammer or vibratory hammer. Hammers can be steam, air, or diesel drop, single-acting, double-acting, differential-acting, or hydraulic type. Additionally, pre-drilling may occur for installation of concrete piles and at locations where there may be a higher likelihood of obstructions or where soil layers are harder to penetrate. Drilling is not permitted for installation of steel piles on this project or for concrete piles at Pier 3 because hard soil layers are not expected at these locations.

Table 1 provides the estimated construction schedule and production rates for the construction activities considered for this rulemaking beginning with Year 2. As indicated above, Year 1 of the Pier 3 replacement project was authorized under the 2022 IHA and subsequent renewal. Therefore, Year 2 of the project aligns with year 1 of the rule. Some project elements will use only one method of pile installation (*e.g.*, impact hammer or vibratory hammer or impact hammer and drilling), but all methods have been analyzed. The method of installation will be determined by the construction crew once demolition and installation has begun.

Table 1 -- Preliminary Construction Schedule for In-Water Activities

Year***	Activity	Total Number of Piles	Activity Component	Method	Daily Rate	Total Days	Total Days per year
Year 2	CEP-176 Bulkhead	103	42-inch Steel Pipe Bearing Piles	Install: Impact or Vibratory	4 piles/day	26	
Year 2	CEP-176 Bulkhead	221	28-inch sheet piles	Install: Impact or Vibratory	14 piles/day	16	
Year 2	CEP-176 Bulkhead	9	13-inch polymeric fender piles	Install: Impact or Vibratory*	5 piles/ day	2	
Year 2	CEP-102 Platform phase 2	11	24-inch square precast concrete bearing piles	Install: Impact*	2 piles/day	6	185
Year 2	Pier 3	280	24-inch square precast concrete	Install: Impact	4 piles/day	70	
Year 2	CEP-102 Platform phase 2	6	18-inch square precast concrete fender piles	Install: Impact	4 piles/day	2	
Year 2	Pier 3	250	24-inch square precast concrete bearing piles	Install: Impact	4 piles/day	63	
Year 3	Pier 3	409	24-inch square precast concrete fender files	Install: Impact*	6 piles/day	69	
Year 3	Pier 3	18	18-inch steel pipe fender piles	Install: Impact	6 piles/day	3	
Year 3	CEP-102 Platform South Portion	26	42-inch steel pipe bearing piles	Install: Impact or Vibratory	2 piles/day	13	
Year 3	CEP-102 Platform South Portion	53	28-inch steel sheet piles	Install: Impact or Vibratory	14 piles/day	4	
Year 3	CEP-102 Platform South Portion	26	18-inch square precast concrete fender piles**	Extract: Vibratory	9 piles/day	3	92
Year 4	CEP-102 Platform South Portion	40	24-inch square precast concrete bearing piles	Install: Impact*	2 piles/day	20	204

Year 4	Existing Pier 3	624	14-inch timber fender piles**	Extract: Vibratory	25 piles/day	25	
Year 4	CEP-102 Platform South Portion	25	18-inch square precast concrete fender piles	Install: Impact*	4 piles/day	7	
Year 4	CEP-102 Platform Center Portion	50	42-inch steel pipe bearing piles	Install: Impact or Vibratory	2 piles/day	25	
Year 4	Existing Pier 3	72	24-inch square precast concrete fender piles**	Extract: Vibratory	12 piles/day	6	
Year 4	CEP-102 Platform Center Portion	102	28-inch steel sheet piles	Install: Impact or Vibratory	14 piles/day	8	
Year 4	CEP-102 Platform Center Portion	36	18-inch square precast concrete fender piles**	Extract: Vibratory	9 piles/day	4	
Year 4	Existing Pier 3	873	16-inch and 18-inch square precast concrete bearing piles**	Extract: Vibratory	10 piles/day	88	
Year 4	CEP-102 Platform Center Portion	41	24-inch square precast concrete bearing piles	Install: Impact*	2 piles/day	21	
Year 5	Existing Pier 3	30	16- and 18-inch square precast bearing piles**	Extract: Vibratory	10 piles/day	3	
Year 5	CEP-102 Platform Center Portion	32	24-inch square precast bearing piles	Install: Impact*	2 piles/day	16	
Year 5	CEP-102 Platform Center Portion	50	18-inch square precast concrete fender piles	Install: Impact*	4 piles/day	13	32
Total Piles Installed:		1726					
Total Piles Removed:		1661					513

Note: Estimated construction schedule. Delays may occur due to equipment failure or weather.
*Pre-drilling is permitted to assist with pile installation.
**Denotes piles removed.
***Year 2 refers to the second year of the Pier 3 replacement project, however it is considered as Year 1 under this 2023 rule.

Concurrent Activities – In order to maintain project schedules, it is likely that multiple pieces of equipment would operate at the same time within the project area. Table 2 provides a summary of the possible equipment combinations by structure and construction year where a maximum of four in-water activities may be occurring simultaneously. As mentioned above, the method of installation, and whether concurrent pile driving scenarios will be implemented, will be determined by the construction crew once the project has begun. Therefore, the total take estimate reflects the worst case scenario for the project.

Table 2 -- Summary of Possible Concurrent Pile Driving Scenarios

Year	Structure	Pile Types	Total Equipment Quantity	Equipment (Quantity)
Year 3	Pier 3	Driving of precast bearing piles	2	Rotary Drill (2)
			2	Impact Hammer (1), Rotary Drill (1)
			2	Impact Hammer (2)
	CEP-102	Driving 42-inch steel pipe and 28-inch steel sheet	2	Vibratory Hammer (2)
			2	Impact Hammer (2)
			2	Vibratory Hammer (1), Impact Hammer (1)
Year 4	Existing Pier 3 and CEP-102	Extraction of 14-inch timber piles from Pier 3 and Driving of 42-inch steel pipe, sheet piles, and precast concrete piles	4	Vibratory Hammer (3), Rotary Drill (1)
			4	Vibratory Hammer (2), Impact Hammer (2), Rotary Drill (1)
			4	Vibratory (1), Impact Hammer (3)
Year 4-Year 5	Existing Pier 3 and CEP-102	Extraction of 16- to 18-inch concrete piles from Pier 3 and Driving of 24-inch precast concrete bearing piles	2	Vibratory Hammer (1), Rotary Drill (1)
			2	Vibratory Hammer (1), Impact Hammer (1)

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

Comments and Responses

NMFS' notice of proposed rulemaking was published in the **Federal Register** on March 9, 2023 (88 FR 14560). That proposed rule described, in detail, the Navy's activities, the marine mammal species that may be affected by the activities, and the anticipated effects on marine mammals. In that proposed rule, 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 rulemaking, and requested that interested persons submit relevant information, suggestions, and comments. The proposed rule was available for a 30-day public comment period.

During the 30-day public comment period, NMFS received one substantive comment submission, from a member of the public. NMFS' responses to the comments in the submission are provided below, and all comments are available online at: *https://www.regulations.gov/document/NOAA-NMFS-2022-0110-0001/comment*.

Comment 1: A member of the public noted that the Navy's construction work has the potential to cause sediment runoff into the marine environment, which can smother marine plants and reduce light availability for primary productivity. The individual indicated agreement with the mitigation measures as outlined in the notice of proposed rulemaking and recommends that extra vegetation be planted and heavy monitoring of substrates occur throughout the project. The individual also noted concerns with the impact of underwater noise on the life history of marine fish species as well as sea turtles.

Response: NMFS appreciates the commenter's engagement in the rulemaking process, but notes that concerns regarding sediment runoff are outside NMFS' purview under the MMPA, except inasmuch as such impacts may affect marine mammal habitat (including prey). Similarly, concerns related to species other than marine mammals (and marine

mammal habitat), such as sea turtles, are outside NMFS' purview under the MMPA. As required under the MMPA, NMFS assessed the impacts of the Navy's construction project on marine mammals and their habitat and made the necessary findings in support of issuance of this rule and subsequent LOA. NMFS notes that mitigation and monitoring prescribed will affect the least practicable adverse impact on marine mammals and their habitat.

As described in the proposed rule (88 FR 14560, March 9, 2023), NMFS finds that the most likely impact to fish (*i.e.*, potential prey) from pile driving activities at the project areas would be temporary behavioral avoidance of the area. The duration of fish avoidance of this area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution and behavior is anticipated. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity.

Construction activities, in the form of increased turbidity, have the potential to adversely affect forage fish in the project area. Forage fish form a significant prey base for many marine mammal species that occur in the project area. Increased turbidity is expected to occur in the immediate vicinity of construction activities. However, suspended sediments and particulates are expected to dissipate quickly within a single tidal cycle. Given the limited area affected, any effects on forage fish are expected to be minor or negligible.

Comment 2: The commenter indicated concern regarding the length of time for which the rule is valid, noting five years is a significant amount of time and believes the regulations should be valid for a shorter period of time so NMFS is able to reevaluate the success of the mitigation and monitoring plan.

Response: MMPA section 101(a)(5)(A) allows the authorization of incidental taking of marine mammals by U.S. citizens incidental to specified activities for up to 5

consecutive years, as requested by the Navy in this case. Therefore, NMFS has determined that 5 years is an appropriate length of time for effectiveness of the rule. Additionally, the regulations governing the take of marine mammals incidental to Navy construction activities contains an adaptive management component. Please see the **Adaptive Management** section for more detail.

Comment 3: The individual recommends that trained professionals report on any harm to marine life, the use of visual and acoustic monitoring techniques, and measures to limit noise pollution in the marine environment.

Response: NMFS concurs with the recommendation to use trained professional protected species observers (PSOs), which were included in the proposed rule as well as this final rule. These PSOs will provide adequate visual monitoring to ensure the Navy complies with the requirements outlined in their issued LOA. The Navy will also collect acoustic data for specified piles as outlined in their Marine Mammal Monitoring Plan. Additionally, the Navy will submit a visual and acoustic monitoring report to NMFS annually, well as a comprehensive report at the conclusion of the five years. Please see the **Mitigation** and **Monitoring and Reporting** sections of this final rule for additional details.

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, incorporated here by reference, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SARs; *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 3 lists all species or stocks for which take is expected and is 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 expected to occur, 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 stocks managed under the MMPA in this region are assessed in NMFS' U.S. Atlantic and Gulf of Mexico SARs. All values presented in Table 2 are the most recent available at the time of publication, including from the draft 2022 SARs, and are available online at: *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*.

Table 3 -- Species Likely Impacted by the Specified Activities

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N)[1]	Stock abundance (CV, Nmin, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Order Cetartiodactyla – Cetacea – Superfamily Mysticeti (baleen whales)						

Family Balaenopteridae (rorquals)						
Humpback whale	*Megaptera novaeangliae*	Gulf of Maine	-, - , Y	1396 (0, 1380, 2016)	22	12.15
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae						
Bottlenose dolphin	*Tursiops truncatus*	Western North Atlantic (WNA) Coastal, Northern Migratory	-, - , Y	6639 (0.41, 4759, 2016)	48	12.2-21.5
		WNA Coastal, Southern Migratory	-, -, Y	3751 (0.6, 2353, 2016)	24	0-18.3
		Northern North Carolina Estuarine	-, -, Y	823 (0.06, 782, 2017)	7.8	7.2-30
Family Phocoenidae (porpoises)						
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/Bay of Fundy	-, -, N	95,543 (0.31, 74,034, 2016)	851	164
Order Carnivora – Superfamily Pinnipedia						
Family Phocidae (earless seals)						
Harbor seal	*Phoca vitulina*	Western North Atlantic	-, -, N	61,336 (0.08, 57,637, 2018)	1729	339
Gray seal[4]	*Halichoerus grypus*	Western North Atlantic	-, -, N	27,300 (0.22, 22,785, 2016)	1458	4453

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-assessment-reports*. CV is coefficient of variation; Nmin is the minimum estimate of stock abundance.

3 - 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, 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.

4 – This stock abundance estimate is only for the U.S. portion of this stock. The actual stock abundance, including the Canadian portion of the population, is estimated to be approximately 424,300 animals. The PBR value listed here is only for the U.S. portion of the stock, while M/SI reflects both the Canadian and U.S. portions.

As indicated above, all five species (with seven managed stocks) in Table 3 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. While North Atlantic right whales (*Eubalaena glacialis*), minke whales (*Balaenoptera acutorostrata acutorostata*), and fin whales (*Balaenoptera physalus*) have been documented in the area, the temporal and/or spatial occurrence of these whales is far outside the area for this project and take is not expected to occur. Therefore, they are not

discussed further beyond the explanation provided in the **Federal Register** proposed rule (88 FR 14560, March 9, 2023).

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** proposed rule (88 FR 14560, March 9, 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** proposed rule for these descriptions. Please also refer to the NMFS website (*https://www.fisheries.noaa.gov/find-species*) for generalized species accounts.

Unusual Mortality Events

An unusual mortality event (UME) is defined under Section 410(6) of the MMPA as a stranding that is unexpected; involves a significant die-off of any marine mammal population; and demands immediate response. Currently, there are active UMEs for northeast pinnipeds (harbor and gray seals) and humpback whales along the East Coast.

Northeast Pinniped UME

Since June 2022, elevated numbers of sick and dead harbor seal and gray seal have been documented along the southern and central coast of Maine from Biddeford to Boothbay (including Cumberland, Lincoln, Knox, Sagadahoc, and York Counties). This event has been declared a UME. Additional information is available at: *https://www.fisheries.noaa.gov/2022-pinniped-unusual-mortality-event-along-maine-coast*.

Atlantic Humpback Whale UME

Since January 2016, elevated humpback whale mortalities have occurred along the Atlantic coast from Maine through Florida. This event was declared an UME in 2017 however. As of April 2023, six humpback whales have been found stranded in Virginia.

A portion of the whales have shown evidence of pre-mortem vessel strike; however, this finding is not consistent across all whales examined, and additional research is needed. Additional information is available at *https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2021-humpback-whale-unusual-mortality-event-along-atlantic-coast.*

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 4.

Table 4 -- 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 the Navy's construction activities have the potential to result in Level A and Level B harassment of marine mammals in the vicinity of the project area. The notice of the proposed rulemaking (88 FR 14560, March 9, 2023) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from the Navy's construction activities on marine mammals and their habitat. That information and analysis is referenced in this final rule and is not repeated here; please refer to the notice of proposed rulemaking (88 FR 14560; March 9, 2023).

Estimated Take

This section provides an estimate of the number of incidental takes that may be authorized under this rule, 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 primarily be by Level B harassment, as noise generated from in-water pile driving (vibratory and impact) and drilling has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for auditory injury (Level A harassment) to result, primarily for high- and low-frequency species and phocids because predicted auditory injury zones are larger than for mid-frequency species. However, auditory injury is unlikely to occur for low- and mid-frequency species as shutdown zones encompass the entirely of the auditory injury zones for all activities (see **Mitigation** section). The mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable.

As described previously, no serious injury or mortality is anticipated or is 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 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.*, impact pile driving) or intermittent (*e.g.*, scientific sonar) sources.

The Navy's construction includes the use of continuous (vibratory pile driving/removal, drilling) and impulsive (impact pile driving) sources, and therefore the 120 and 160 dB re 1 µPa (rms) 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). As previously noted, the Navy's activity includes the use of non-impulsive (vibratory pile driving/removal, drilling) 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: *www.fisheries.noaa.gov/national/marine-mammal-p-rotection/marine-mammal-acoustic-technical-guidance*.

Table 5 -- Thresholds Identifying the Onset of Permanent Threshold Shift

	PTS Onset Acoustic Thresholds* (Received Level)	
Hearing Group	**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.

In order to calculate the distances to the Level A harassment and the Level B harassment sound thresholds for the methods and piles being used in this project, NMFS used acoustic monitoring data from other locations to develop proxy source levels for various pile types (Table 6). Generally we choose source levels from similar pile types and locations (*e.g.*, geology, bathymetry) similar to the project. At this time, NMFS is not aware of reliable source levels available for polymeric piles using vibratory pile installation, therefore source levels for timber pile driving were used as a proxy. Vibratory pile driving of polymeric piles expected to occur under the 2022 IHA has yet to occur and therefore has not been measured. Similarly, the following proxies were used as source levels for piles where no data was available: Source levels from the 48-inch (121.9-cm) steel pile from Naval Base Kitsap at Bangor, Washington (Caltrans 2020) was used as a proxy for 42 inch steel pipe piles (impact); the 30-inch steel pipe pile was used as a proxy for the 28-inch steel sheet pile (impact and vibratory); source levels for timber

piles were used as a proxy for concrete as they are expected to have similar sound levels as they are similarly sized, non-metallic, and will be removed using the same methods.

Very little information is available regarding source levels for in-water drilling activities associated with nearshore pile installation. Measurements made during a pile drilling project in 1-5 m (3-16 ft) depth at Santa Rosa Island, California, by Dazey *et al.* (2012) appear to provide the best available proxy source levels for activities. Dazey *et al.* (2012) reported average rms source levels ranging from 151 to 157 db re 1 µPa during 62 days that spanned all related drilling activities during a single season.

Table 6 -- Project Sound Source Levels and Proxy Source Levels Used for Acoustic Modeling

Pile Type	Pile Size (inch)	Method	Peak SPL (re 1 µPa (rms))	RMS SPL (re 1 µPa (rms))	SEL (re 1 µPa (rms))	Source
Steel Pipe Pile	42	Impact	213	190	177	Caltrans 2020
		Vibratory	N/A	168	N/A	Sitka 2017
Steel Sheet	28	Impact[1]	211	196	181	NAVFAC SW 2020
		Vibratory[2]	N/A	167	167	Navy 2015
Concrete Pile	24	Impact	189	176	163	Illingworth and Rodkin 2017
		Vibratory Removal[3]	185	162	157	Caltrans 2020
Concrete Pile	18	Impact[3]	185	166	154	Caltrans 2020
		Vibratory Removal[4]	185	162	157	Caltrans 2020
Polymeric Pile	13	Impact	177	153	--	Denes *et al.*, 2016
		Vibratory[5]	185	162	157	Caltrans 2020
Timber Pile	14	Vibratory Install/Removal	185	162	157	Caltrans 2020
N/A[6]	"Multiple pile sizes"[6]	Drilling	N/A	154	N/A	Dazey *et al.*, 2012

1. A source level value for impact pile driving of 28-inch steel sheet piles could not be found so a value for a 30-inch steel pipe pile has been used as a proxy (NAVFAC SW, 2020 [p.A-4]).
2. A source level value for vibratory pile driving of 28-inch steel sheet piles could not be found so a value for a 30-inch steel pipe pile has been used as a proxy (Navy, 2015 [p. 14]).
3. Data on vibratory extraction of concrete piles is not available, however source levels are expected to be similar to the levels produced by timber piles as they are similar in size, material and removal method.
4. Proxy data for 18-inch octagonal piles.
5. Vibratory proxy for polymeric/plastic piles is unavailable; we assume SPL to be consistent with timber.
6. See Table 2 for pile types/size that may use drilling, as needed.

Table 7 -- Source Level Matrix for Concurrent Activities

Pile Diameter		42 -inch Steel Pipe	28 -inch Steel Pipe	14 -inch Timber	14 -inch Polymeric	24 -inch Concrete	18 -inch Concrete	14 -inch Timber	Multiple
	SSL	168	167	162	162	162	162	162	154
42 -inch Steel Pipe	168	171	171	169	169	169	169	169	168
28 -inch Steel Pipe	167	171	170	168	168	168	168	168	167
14 -inch Timber	162	169	168	165	165	165	165	165	163
14 -inch Polymeric	162	169	168	165	165	165	165	165	163
24 -inch Concrete	162	169	168	165	165	165	165	165	163
18 -inch Concrete	162	169	168	165	165	165	165	165	163
14 -inch Timber	162	169	168	165	165	165	165	165	163
Multiple	154	168	167	163	163	163	163	163	157

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 (2018) 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, removal, and drilling, 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. Inputs used in the optional User Spreadsheet tool are reported in Table 1 and Table 2, and source levels used in the User Spreadsheet are reported in Table 6. The resulting isopleths are reported in Table 7 (impact pile driving), Table 8 (vibratory pile driving/removal, and drilling), and Table 9 (concurrent pile driving scenarios) below.

Table 8 -- Level A and Level B Harassment Isopleths for Impact Pile Driving

Year	Pile Driving Site	Source	Level A Harassment Isopleths (m)				Level B (Behavioral) (m)
			LF	MF	HF	Phocids	
Year 2	CEP-176	42-inch Steel Pipe	1482	53	1766	793	1,000
		28-inch Steel Sheets	1783	63	2123	954	2512
	CEP-175	13-inch Polymeric Piles	17	1	20	9	3
	CEP-102	24-inch Square Precast Concrete	117	4	139	63	117
		18-inch Square Precast Concrete	7	0	9	4	25
	Pier 3 (bearing piles)	24-inch Square Precast Concrete	254	9	302	136	117
Year 3	Pier 3 (Fender Piles)	24-inch Square Precast Concrete	37	1	44	20	117
		18-inch Steel Pipe	661	24	788	354	25
	CEP-102	42-inch Steel Pipe	1002	36	1193	536	1000
		28-inch Steel Sheet	1783	63	2123	954	2512
Year 4	CEP-102	24-inch Square Precast Concrete	117	4	139	63	117
		18-inch Square Precast Concrete	7	0	9	4	25
		42-inch Steel Pipe	1002	36	1193	536	1000
		28-inch Steel Sheet	1783	63	2123	954	2512

		24-inch Square Precast Concrete	117	4	139	63	117
Year 5	CEP-102	18-inch Square Precast Concrete	7	0	9	4	25

Table 9 -- Level A and Level B Harassment Isopleths for Vibratory Pile Driving, Removal, and Drilling

Year	Pile Driving Site	Source	Level A Harassment Isopleths (m)[1]				Level B
			LF	MF	HF	Phocids	Behavioral (m)
Year 2	CEP-176	42-inch Steel Pipe (Vibratory)	127	11	188	77	15,849
		28-inch Steel Sheet (Vibratory)	100	9	147	61	13594
	CEP-175	13-inch Polymeric Piles (Vibratory)	15	1	22	9	6310
	CEP-102	24-inch Square Precast Concrete (Drilling)	1	0	1	0	1848
		18-inch Square Precast Concrete (Drilling)	1	0	1	0	1848
Year 3	Pier 3 (Fender Piles)	24-inch Square Precast Concrete (Drilling)	1	0	1	1	1848
	CEP-102	42-inch Steel Pipe (Vibratory Install)	80	7	118	49	15849
		28-inch Steel Sheet Piles (Vibratory)	100	9	147	61	13594
		18-inch Square Precast Concrete (Vibratory Extraction)	35	3	51	21	6310
Year 4	CEP-102	24-inch Square Precast Concrete (Drilling)	1	0	1	0	1848
		14-inch Timber (Vibratory Extraction)	68	6	101	41	6310
		18-inch Square Precast Concrete (Drilling)	1	0	1	0	1848
		42-inch Steel Pipe (Vibratory)	80	7	118	49	15849
		28-inch Steel Sheet (Vibratory)	100	9	147	61	13594
		18-inch Square Precast Concrete (Vibratory Extraction)	35	3	51	21	6310

	Existing Pier 3	24-inch Square Precast Concrete (Vibratory Extraction)	42	4	62	25	6310
		16-inch and 18-inch Square Precast Concrete (Vibratory Extraction)	37	3	55	23	6310
Year 5	CEP-102	24-inch Square Precast Concrete (Drilling)	1	0	1	0	1848
		18-inch Square Precast Concrete (Drilling)	1	0	1	0	1848
	Existing Pier 3	16-inch and 18-inch Square Precast Concrete (Vibratory Extraction)	37	3	55	23	6310

Table 10 -- Level A and Level B Harassment Isopleths for Concurrent Pile Driving and Drilling Scenarios

Year	Pile Driving Site	Source	Level A Harassment Isopleths (m)				Level B
			LF	MF	HF	Phocids	Behavioral (m)
2	CEP-176 Bulkhead	Install of 42-inch steel pipe and 28-inch steel sheets	549	49	811	334	25,119
2	CEP-176 Bulkhead	Install of two 42-inch steel pipe piles	320	28	472	194	25,119
2	CEP-176 and CEP-102	Install of 42-inch steel pipe and 24-inch Square precast concrete	166	15	246	101	15,849
2	CEP-176 and CEP-175	Install of 42-inch steel pipe piles and 13-inch polymeric piles	254	23	376	155	18,478
3	Pier 3	Install of 24-inch Square precast concrete fender piles using two drills	2	0.1	2	1	2,929
3	CEP-102 Bulkhead	Install of 42-inch steel pipe and 28-inch steel sheets	507	45	750	308	25,119
4	Existing Pier 3 CEP-102 Platform	Extraction of 14-inch timber piles, install of 42-inch steel pipe and 28-inch steel sheets, and rotary drilling of 24-inch Square precast concrete	981	87	1450	596	25,119
5	Existing Pier 3 CEP-102 Platform	Concurrent extraction of 16- and 18-inch Square precast concrete and rotary drilling of 24-inch Square precast concrete	77	7	114	47	7,356

The maximum distance to the Level A harassment threshold during construction would be during the impact driving of 28-inch (71-cm) steel sheets at CEP-176 and CEP-102 (1,783 m for humpback whale; 63 m for bottlenose dolphin; 2,123 m for harbor porpoises; and 954 m for pinnipeds). The largest calculated Level B harassment isopleth extends out to 25,119 m, which would result from concurrent pile driving of the scenarios presented in Table 10. While 25,119 m may not be an attainable observable distance in all directions, the Level B harassment zone will be monitored to the maximum extent possible.

Marine Mammal Occurrence and Take Estimation

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

Humpback Whale

Humpback whales occur in the mouth of the Chesapeake Bay and nearshore waters of Virginia during winter and spring months. Several satellite tagged humpback whales were detected west of the Chesapeake Bay Bridge Tunnel, including two individuals with locations near NAVSTA Norfolk and Joint Expeditionary Base Little Creek (Aschettino *et al.*, 2017). Group size was not reported in these surveys, however most whales detected were juveniles. Although two individuals were detected in the vicinity of the project activities, there is no evidence that they linger for multiple days. Because no density estimates are available for the species in this area, the Navy estimated one potential sighting of a group of average size (two individuals) every 60 days of pile driving. Therefore, given the number of project days expected in each year (Table 1), NMFS has authorized a total of 19 takes by Level B harassment of humpback whale over

the 5-year authorization, with no more than 7 takes by Level B harassment in a given year.

The largest Level A harassment zone for low-frequency cetaceans extends approximately 1783 m from the source during impact pile driving of the 28-inch steel sheet piles (Table 8). The Navy will shut down if a humpback whale is sighted within any of the Level A harassment zones for all activities, as indicated in Table 11. Therefore, the Navy did not request, and NMFS did not authorize, take by Level A harassment of humpback whales.

Bottlenose Dolphin

The expected number of bottlenose dolphins in the project area was estimated using inshore seasonal densities provided in Engelhaupt *et al.* (2016) from vessel line-transect surveys near NAVSTA Norfolk and adjacent areas near Virginia Beach, Virginia, from August 2012 through August 2015 (Engelhaupt *et al.*, 2016). This density includes sightings inshore of the Chesapeake Bay from NAVSTA Norfolk west to the Thimble Shoals Bridge, and is the most representative density for the project area. To calculate potential Level B harassment takes of bottlenose dolphin, NMFS conservatively multiplied the density of 1.38 dolphins per square kilometer (/km^2) (from Englehaupt *et al.*, 2016) by the largest Level B harassment isopleth for each project location (Table 8, 9, and 10), and then by the number of days associated with that activity (Table 1). For example, to calculate Level B harassment takes associated with work at the existing Pier 3 in year 2, NMFS multiplied the density (1.38 dolphins/km^2) by the largest Level B harassment zone for impact pile driving on the 24-inch concrete bearing piles at the new Pier 3 (0.043 km^2) by the proportional number of pile driving days for that activity (70 days) for a total of 4 Level B harassment takes at Pier 3, for that activity in year 1. Takes by Level B harassment were calculated for both individual pile driving activities and concurrent pile driving activities, as authorized takes are conservatively based on the

scenario that produces more takes by Level B harassment (Table 11). Therefore, NMFS authorized 28,480[1] takes by Level B harassment of bottlenose dolphin across all 5 years, with no more than 13,190 takes in a given year.

Harbor Porpoise

Harbor porpoises are known to occur in the coastal waters near Virginia Beach (Hayes *et al.*, 2019). Density data for this species within the project vicinity do not exist or were not calculated because sample sizes were too small to produce reliable estimates of density. Harbor porpoise sighting data collected by the U.S. Navy near NAVSTA Norfolk and Virginia Beach from 2012 to 2015 (Engelhaupt *et al.*, 2014; 2015; 2016) did not produce enough sightings to calculate densities. One group of two harbor porpoises was seen during spring 2015 (Engelhaupt *et al.*, 2016). Elsewhere in their range, harbor porpoises typically occur in groups of two to three individuals (Carretta *et al.*, 2001; Smultea *et al.*, 2017).

Because there are no density estimates for the species in the project area, the Navy conservatively estimated one harbor porpoise sighting (of two individuals) once every 60 days of pile driving or drilling. Therefore, the assumption of two individuals per 60 days was used for calculation of take numbers. Total pile driving days for Year 2 will be 185 days, Year 3 will be 92 days, Year 4 will be 204 days, and Year 5 will have 32 days. Takes by Level B harassment were calculated for both individual pile driving activities and concurrent pile driving activities, as authorized takes are conservatively based on the scenario that produced the larger exposure estimate (Table 11). Using the above methodology, NMFS calculated an exposure estimate of 19 incidents of take for harbor porpoises.

[1] Note: This total number of takes by Level B harassment authorized differs from that in the Navy's request for rulemaking. The number presented here conservatively uses exposure estimates for concurrent pile driving scenarios in Year 5, which were higher than those produced for individual pile driving activities.

The largest Level A harassment zone for high-frequency cetaceans is 2,123 m during impact pile driving of the 28-inch steel sheet piles. The Navy will shut down at 500 m for harbor porpoises during the aforementioned activity, in addition to shorter distances where appropriate for other activities as noted in Table 13 as a reasonable area to observe for harbor porpoises and implement shutdown procedures while avoiding an impracticable number of shutdowns. Consequently, the Navy has requested authorization of take by Level A harassment for harbor porpoise during the course of the project. Take by Level A harassment may not actually occur due to the duration of time harbor porpoise would be required to remain within the Level A harassment zone to accumulate enough energy to experience PTS. However, as a precaution NMFS authorized a total of 4 takes by Level A harassment as requested by the Navy (Table 11) with no more than 2 takes by Level A harassment occurring in a given year, and 15 total takes by Level B harassment with no more than 5 takes by Level B harassment occurring in a given year, equaling the aforementioned total of 19 takes over 5 years.

Harbor Seal

The expected number of harbor seals in the project area was estimated using systematic land- and vessel-based survey data for in-water and hauled out seals collected by the Navy at the Chesapeake Bay Bridge Tunnel rock armor and portal islands from 2014 through 2019 (Jones *et al.*, 2020). The average daily seal count from the field season ranged from 8 to 23 seals, with an average of 13.6 harbor seals across all the field seasons.

The Navy expects, and NMFS concurs, that harbor seals are likely to be present from November to April. Consistent with previous nearby projects (87 FR 15945, March 31, 2022; 86 FR 24340, May 6, 2021; 86 FR 17458, April 2, 2021), NMFS calculated take by Level B harassment by multiplying 13.6 seals by the number of pile driving days expected to occur from November through April (seal season): 74 days in Year 2, 23 days

in Year 3, 133 days in Year 4, and 32 days in Year 5. Potential takes by Level A harassment were calculated based on the number of production days within seal season on which the Level A harassment isopleth exceeds the shutdown zone of 200 m (42 days in Year 2; 3 days in Year 3; and 0 days in Year 4 and 5), assuming that approximately 10 percent of harbor seal exposures would be at or above the Level A harassment threshold. Potential takes by Level B harassment were calculated by subtracting the Level A harassment takes estimated per year from the total calculated takes. Consistent with previous species, take estimates are based on the scenario (individual or concurrent) that produced the higher take estimate (Table 11). Therefore, the Navy requested and NMFS authorizeda total of 4,182 takes by Level B harassment and 61 takes by Level A harassment (Table 12).

Gray Seal

Very little information is available about the occurrence of gray seals in the Chesapeake Bay and coastal waters. Although the U.S. population of gray seals may be increasing, there are only a few records available at the known haulout sites in Virginia used by gray seals, strandings are rare, and they have not been reported in shipboard surveys. Assuming that they may utilize the Chesapeake Bay waters, the Navy conservatively estimates one gray seal may be exposed to elevated noise levels for every 60 days of vibratory pile driving during the 6-month period when they are most likely to be present. Similar to harbor seals, the maximum number of pile driving days where gray seals may be exposed during seal season per year were used for calculations. The scenario (concurrent or individual activities) that produced the larger exposure estimate is authorized (Table 11). Therefore, the Navy requested and NMFS authorized five takes by Level B harassment. Given the low likelihood of encountering gray seals during the project and low number of days in which Level A harassment isopleths may exceed shutdown zones, no take by Level A harassment is authorized.

Table 11 -- Calculated Takes by Level A and Level B Harassment for Concurrent and Individual Pile Driving, Removal, and Drilling Scenarios[1]

Year	Species	Individual Activities		Concurrent Activities	
		Level A	Level B	Level A	Level B
2	Humpback whale	*0*	*6*	0	2
	BND - Northern Migratory	0	2,691	*0*	*5,609*
	BND - Southern Migratory				
	BND - NC Estuarine				
	Harbor porpoise	*2*	*4*	0	1
	Harbor seal	*57*	*949*	25	832
	Gray seal	*0*	*1*	0	1
3	Humpback whale	*0*	*3*	0	1
	BND - Northern Migratory	*0*	*3061*	0	1440
	BND - Southern Migratory				
	BND - NC Estuarine				
	Harbor porpoise	*0*	*3*	0	1
	Harbor seal	4	309	*7*	*537*
	Gray seal	0	0	*0*	*1*
4	Humpback whale	*0*	*7*	0	1
	BND - Northern Migratory	*0*	*13190*	0	3023
	BND - Southern Migratory				
	BND - NC Estuarine				
	Harbor porpoise	*2*	*5*	0	1
	Harbor seal	0	*1809*	*26*	232
	Gray seal	*0*	*2*	0	0
5	Humpback whale	0	2	*0*	*3*
	BND - Northern Migratory	0	383	*0*	*6620*
	BND - Southern Migratory				
	BND - NC Estuarine				
	Harbor porpoise	0	1	*0*	*3*
	Harbor seal	0	435	*0*	*1115*

	Gray seal	*0*	*2*	0	1

[1] Potential takes by Level A and Level B harassment are conservatively based on the scenario (individual vs. concurrent pile driving, removal, or drilling) that produced the highest exposure estimate. Therefore, the number of takes by Level A and Level B harassment authorized is *italicized* and used to determine percent of stock.

Table 12 -- Authorized Takes by Level A and Level B Harassment by Species and Stock in Comparison to Stock Abundance

Year	Species	Abundance	Take		Total	Percent of Stock
			Level A	Level B		
2	Humpback whale[a]	1,396	0	6	6	0.43
	BND - Northern Migratory[b,c]	6,639	0	5609	2705	40.74
	BND - Southern Migratory[b,c]	3751			2705	72.10
	BND - NC Estuarine[b,c]	823			200	24.30
	Harbor porpoise	95543	2	4	6	0.01
	Harbor seal	61336	57	949	1006	1.64
	Gray seal	27300	0	1	1	0.00
3	Humpback whale[a]	1396	0	3	3	0.21
	BND - Northern Migratory[b,c]	6639	0	3061	1431	21.55
	BND - Southern Migratory[b,c]	3751			1431	38.15
	BND - NC Estuarine[b,c]	823			200	24.30
	Harbor porpoise	95543	0	3	3	0.00
	Harbor seal	61336	7	537	544	0.89
	Gray seal	27300	0	1	1	0.00
4	Humpback whale[a]	1396	0	7	7	0.50
	BND - Northern Migratory[b,c]	6639	0	13,190	6495	97.83
	BND - Southern Migratory[b,c]	3751			6495	173.15
	BND - NC Estuarine[b,c]	823			200	24.30
	Harbor porpoise	95543	2	5	7	0.01
	Harbor seal	61336	26	1783	1809	2.95
	Gray seal	27300	0	2	2	0.01
5	Humpback whale[a]	1396	0	3	3	0.21

	BND - Northern Migratory[b,c]	6639	0	6620	3210	48.35
	BND - Southern Migratory[b,c]	3751			3210	85.58
	BND - NC Estuarine[b,c]	823			200	24.30
	Harbor porpoise	95543	0	3	3	0.00
	Harbor seal	61336	0	1115	1115	1.82
	Gray seal	27300	0	2	2	0.01

a. West Indies DPS. Please see the Description of Marine Mammals in the **Area of Specified Activities** Section for further discussion.
b. Take estimates are weighted based on calculated percentages of population for each distinct stock, assuming animals present will follow the same probability of presence in the project area. Please see **Small Numbers** section for additional information.
c. Assumes multiple repeated takes of the same individuals from a small portion of each stock as well as repeated takes of Chesapeake Bay resident population (size unknown). Please see **Small Numbers** section for additional information.

Mitigation

In order to issue an LOA under section 101(a)(5)(A) 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.

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

- The Navy will conduct briefings between construction supervisors and crews, the marine mammal monitoring team, and Navy staff 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;
- If a marine mammal comes within 10 m of construction activities, including in-water heavy machinery work not being analyzed in this rule, operations shall cease and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions;
- Pile driving activity must be halted upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or is within the harassment zone.

The following mitigation measures apply to the Navy's in-water construction activities.

Establishment of Shutdown Zones — The Navy will establish shutdown zones for all pile driving and removal and drilling 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 mammal (or in anticipation of an animal entering the defined area). Shutdown zones will vary based on the activity type and marine mammal hearing group (Table 13).

Protected Species Observers (PSOs) — The placement of PSOs during all pile driving and removal and drilling 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 would not be visible (*e.g.,* fog, heavy rain), pile driving and removal and drilling must be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.

Monitoring for Level A and B Harassment — The Navy will monitor the Level B harassment zones (areas where SPLs are equal to or exceed the 160 dB rms threshold for impact pile driving, and the 120 dB rms threshold during drilling and vibratory pile driving and removal) and Level A harassment zones to the extent practicable, and all of the shutdown zones, during all pile driving, removal or drilling days. Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring zones enable PSOs 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 cessation of activity should the animal enter the shutdown zone.

Pre-activity Monitoring — Prior to the start of daily in-water construction activity, or whenever a break in pile driving/removal 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 that 30-minute period. If a marine mammal is observed within the shutdown zones listed in Table 13, pile driving and drilling activity must be delayed or halted. If pile driving and/or drilling is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited

and been visually confirmed beyond the shutdown zones or 15 minutes have passed without re-detection of the animal. When a marine mammal for which Level B harassment take is authorized is present in the Level B harassment zone, activities may begin. 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 — 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.

Table 13 -- Shutdown Zones[1]

LOA Year	Pile type, size, and driving method	Shutdown Distance (m) for Humpback Whales	Shutdown Distance (m) for Harbor Porpoise	Shutdown Distance (m) for all other Species	Level B (Behavioral) Harassment Distance (m) All Marine Mammals
Year 2	Impact Install 42-inch steel pipe piles	1,490	500	200	1,000
	Vibratory Install 42-inch steel pipe piles	140	200	70	2,500
	Impact Install 28-inch steel sheet piles	1,790	500	200	2,500

	Vibratory Install 28-inch steel sheet piles	110	150	80	2,500
	Impact Install 13-inch polymeric piles	20	30	30	30
	Vibratory Install 13-inch polymeric piles	20	30	30	2,500
	Impact Install 24-inch precast concrete bearing piles	260	500	200	117
	Impact Install 18-inch precast concrete fender piles	10	10	10	30
	Pre-drilling	10	10	10	2,500
Year 3	Impact Install 24-inch precast concrete fender piles	40	50	30	120
	Impact Install 18-inch steel piles	700	500	200	30
	Impact Install 42-inch steel pipe piles	1,010	500	200	1,000
	Vibratory Install 42-inch steel pipe piles	90	120	50	2,500
	Impact Install 28-inch steel sheet piles	1,790	500	200	2,500
	Vibratory Install 28-inch steel sheet piles	110	150	70	2,500
	Vibratory Extract 18-inch precast concrete fender piles	40	60	30	2,500
	Pre-drilling	10	10	10	2,500
Year 4	Impact Install 24-inch precast concrete bearing piles	120	150	70	120

	Vibratory Extract 14-inch timber piles	70	110	50	2,500
	Impact Install 18-inch precast concrete fender piles	10	10	10	30
	Impact Install 42-inch steel pipe piles	1,010	500	200	1,000
	Vibratory Install 42-inch steel pipe piles	90	120	50	2,500
	Vibratory Extract 24-inch concrete fender piles	50	70	30	2,500
	Impact Install 28-inch steel sheet piles	1,790	500	200	2,500
	Vibratory Install 28-inch steel sheet piles	120	150	70	2,500
	Vibratory Extract 18-inch precast concrete fender piles	40	60	30	2,500
	Vibratory Extract 16- to 18-inch precast concrete bearing piles	40	60	30	2,500
	Pre-drilling	10	10	10	2,500
Year 5	Vibratory Extract 16- to 18-inch precast concrete bearing piles	40	60	30	2,500
	Impact Install 24-inch precast concrete bearing piles	120	150	70	120
	Impact Install 18-inch precast concrete fender piles	10	10	10	30
	Pre-drilling	10	10	10	2,500

1 - Calculated Level A harassment isopleths for concurrent pile driving were smaller than those calculated for individual impact pile driving, vibratory pile driving and removal, and drilling. Therefore, shutdown zones conservatively reflect individual activity.

Based on our evaluation of the applicant's measures, as well as other measures considered by NMFS, 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 LOA for an activity, section 101(a)(5)(A) 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.

The Navy will submit a Marine Mammal Monitoring Plan to NMFS for approval in advance of the start of construction.

Visual Monitoring

- Marine mammal monitoring during pile driving and removal must be conducted by qualified, NMFS approved PSOs, in accordance 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 must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- Other PSOs may substitute other relevant experience, education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;

- PSOs must be approved by NMFS prior to beginning any activity subject to this rulemaking; and
- Where a team of three or more PSOs is required, a lead PSO or monitoring coordinator must be designated. The lead PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

PSOs must 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.

The Navy must establish the following monitoring locations and visual monitoring of the entire shutdown zones must occur for all pile driving and drilling activities. For all pile driving activities, a minimum of one PSO must be assigned to the active pile driving or drilling location to monitor the shutdown zones and as much of the Level A and Level B harassment zones as possible. If the active project location includes

demolition activities, then the next adjacent pier may be used as an appropriate monitoring location ensuring that the aforementioned criteria is met. Monitoring must be conducted by a minimum of three PSOs for any activity with an associated harassment isopleth over 1,000 m. All other activities will require a minimum of two PSOs. For activities in Tables 8, 9, and 10, with Level B harassment zones larger than 3,000 m, at least one PSO must be stationed on either Pier 14 or the North Jetty to monitor the part of the zone exceeding the edge of the Norfolk Naval Station (see Figure 3). The third PSO for activities whose harassment isopleths exceed 1,000 m will be located on Pier 1. PSOs will be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown/delay procedures (See Figure 3 for representative monitoring locations). If changes are necessary to ensure full coverage of the shutdown zones, the Navy shall contact NMFS to alter PSO locations (*e.g.*, vessel blocking view from pier locations). Additionally, the shutdown/monitoring zones may be modified with NMFS' approval following NMFS' acceptance of an acoustic monitoring report.

Monitoring will be conducted 30 minutes before, during, and 30 minutes after all in water construction activities. In addition, PSOs shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from drilling or 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.

Figure 3 -- Protected Species Observer Locations at Naval Station Norfolk at Norfolk, Virginia

Acoustic Monitoring

The Navy plans to implement *in situ* acoustic monitoring efforts to measure SPLs from in-water construction activities for pile types and methods that have not been previously collected at NAVSTA Norfolk (Table 14). The Navy will collect and evaluate acoustic sound recording levels during pile driving activities. Hydrophones will be placed at locations 33 ft from the noise source and, where the potential for Level A (PTS onset) harassment exists, at a second representative monitoring location that is a distance of 20 times the depth of water at the pile location. For the pile driving events acoustically measured, 100 percent of the data will be analyzed. Please see the Navy's Marine Mammal Monitoring Plan and application for additional detail.

Table 14 -- Hydroacoustic Monitoring Summary

Pile Type[1]	*Count*[2]	*Method of Install/Removal*[2]	*Number Monitored*[2]
18-inch/24-inch concrete	614	Pre-Drilling	5
13-inch Polymeric	9	Vibratory	5
13-inch Polymeric	9	Impact	5
14-inch timber	624	Vibratory Extract	10
16-inch or 18-inch concrete	903	Vibratory Extract	10
18-inch steel pipe	18	Impact	5
18-inch concrete	93	Impact	10
18-inch concrete	62	Vibratory Extract	10
24-inch concrete	1,063	Impact	10
24-inch concrete	72	Vibratory Extract	10
42-inch steel pipe	179	Vibratory	10
42-inch steel pipe	179	Impact	10
28-inch steel sheet	376	Vibratory	10
28-inch steel sheet	376	Impact	10

1. Data has previously been collected on the impact driving of 24-inch concrete piles and timber piles at NAVSTA Norfolk; therefore, no additional data collection will occur for these pile types.
2. Some piles may be either vibratory or pile driving, or a combination of both. Pre-drilling may not be utilized if site conditions do not require it. The hydroacoustic report at the end of construction will clarify which installation method was utilized and monitored for each pile type.

Environmental data shall be collected, including but not limited to, the following: wind speed and direction, air temperature, humidity, surface water temperature, water depth, wave height, weather conditions, and other factors that could contribute to influencing underwater sound levels (*e.g.*, aircrafts, boats, etc.).

Reporting

The Navy is required to submit an annual report on all activities and marine mammal monitoring results to NMFS within 90 days following the end of each construction year. Additionally, a draft comprehensive 5-year summary report must be submitted to NMFS within 90 days of the end of the project. The annual reports will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. Specifically, the report must include:

- Dates and times (begin and end) of all marine mammal monitoring;
- Construction activities occurring during each daily observation period, including: (a) how many and what type of piles were driven or removed and the method

(*i.e.*, impact or vibratory); and (b) the total duration of time for each pile (vibratory driving) or hole (drilling) and number of strikes for each pile (impact driving);

- PSO locations during marine mammal monitoring; and
- 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.

Upon observation of a marine mammal the following information must be reported:

- Name of PSO who sighted the animal(s) and PSO location and activity at the time of sighting;
- Time of sighting;
- 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;
- Distance and location of each observed marine mammal relative to the pile being driven or hole being drilled for each sighting;
- Estimated number of animals (min/max/best estimate);
- Estimated number of animals by cohort (adults, juveniles, neonates, group composition, *etc*.);
- Description of any marine mammal behavioral observations (*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 specified actions that ensured, and resulting changes in behavior of the animal(s), if any.

The acoustic monitoring report must contain the informational elements described in the Marine Mammal Monitoring Plan and, at minimum, must include:

- Hydrophone equipment and methods: Recording device, sampling rate, distance (m) from the pile where recordings were made; depth of water and recording device(s);
- Type and size of pile being driven, substrate type, method of driving during recordings (*e.g.*, hammer model and energy), and total pile driving duration;
- Whether a sound attenuation device is used and, if so, a detailed description of the device used and the duration of its use per pile;
- For impact pile driving and/or drilling (per pile): number of strikes and strike rate; depth of substrate to penetrate; pulse duration and mean, median, and maximum sound levels (dB re: 1 μPa); root mean square sound pressure level (SPL_{rms}); cumulative sound exposure level (SEL_{cum}), peak sound pressure level (SPL_{peak}), and single-strike sound exposure level (SEL_{s-s}); and
- For vibratory driving/removal and/or drilling (per pile): duration of driving per pile; mean, median, and maximum sound levels (dB re: 1 μPa); Root mean square sound pressure level (SPL_{rms}), cumulative sound exposure level (SEL_{cum}), and timeframe over which the sound is averaged.

If no comments are received from NMFS within 30 days, the draft reports will constitute the final reports. If comments are received, a final report addressing NMFS' comments must be submitted within 30 days after receipt of comments. All PSO datasheets and/or raw sighting data must be submitted with the draft marine mammal report.

Reporting of Injured or Dead Marine Mammals

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Navy shall report the incident to NMFS Office of Protected Resources (OPR) (*PR.ITP.MonitoringReports@noaa.gov*), NMFS (301-427-8401), and to the Greater Atlantic Region New England/Mid-Atlantic Stranding Coordinator (866-755-6622) as soon as feasible. 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.

If the death or injury was clearly caused by the specified activity, the Navy must immediately cease the specified activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this rule. The Navy shall not resume their activities until notified by NMFS that they can continue.

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, this introductory discussion of our analysis applies to all the species listed in Table 3, given that many of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. Where there are meaningful differences between species or stocks, or groups of species, in anticipated individual responses to activities, impact of expected take on the population due to differences in population status, or impacts on habitat, they are described independently in the analysis below.

Construction activities associated with the 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 A and Level B harassment from underwater sounds generated by pile driving activities, pile removal, and drilling. Potential takes could occur if marine mammals are present in zones ensonified above the thresholds for Level A and Level B harassment, identified above, while activities are underway.

The Level A harassment zones identified in Tables 6 and 7 are based upon an animal exposed to pile driving or drilling multiple piles per day. Considering the short duration to impact drive each pile and breaks between pile installations (to reset equipment and move pile into place), an animal would have to remain within the area estimated to be ensonified above the Level A harassment threshold for multiple hours. This is highly unlikely given marine mammal movement throughout the area, especially for small, fast moving species such as small cetaceans and pinnipeds. Additionally, no Level A harassment is anticipated for humpback whales due to the required mitigation measures, which we expect the Navy will be able to effectively implement given the majority of the Level A harassment zones are small (under 300 m except for a few activities where additional PSOs will be utilized to cover the entirety of the Level A harassment zone), and high visibility of humpback whales. If an animal was exposed to sufficient accumulated sound energy to incur PTS, the resulting PTS would likely be small (*e.g.*, PTS onset) at lower frequencies where pile driving energy is concentrated, and unlikely to result in impacts to individual fitness, reproduction, or survival.

The nature of activities included in the Navy's pile driving project precludes the likelihood of serious injury or mortality. For all species and stocks, take will occur within a limited, confined area (immediately surrounding NAVSTA Norfolk in the Chesapeake Bay area) of the stock's range. Level A and Level B harassment will be reduced to the level of least practicable adverse impact through use of mitigation measures described herein. Furthermore, the amount of take authorized is extremely small when compared to stock abundance for all species aside from bottlenose dolphins, however take authorized for bottlenose dolphins is still expected to be small relative to the stock abundance as described in the **Small Numbers** section.

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). Individual animals, even if taken multiple times, will most likely move away from the sound source and be temporarily displaced from the areas of pile driving or drilling, although even this reaction has been observed primarily only in association with impact pile driving. The pile driving and drilling activities analyzed here are similar to, or less impactful than, numerous other construction activities conducted along both Atlantic and Pacific coasts, which have taken place with no known long-term adverse consequences from behavioral harassment. Furthermore, many projects similar to this one are also believed to result in multiple takes of individual animals without any documented long-term adverse effects. Level B harassment will be minimized 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, particularly as the project is located on a busy waterfront with high amounts of vessel traffic.

UMEs have been declared for Northeast pinnipeds (including harbor seal and gray seal) and Atlantic humpback whale. However, we do not expect authorized takes to exacerbate or compound upon these ongoing UMEs. As noted previously, no injury, serious injury, or mortality is expected or authorized, and Level B harassment takes of humpback whale, harbor seal and gray seal will be reduced to the level of least practicable adverse impact through the incorporation of the mitigation measures. For the WNA stock of gray seal, the estimated stock abundance is 27,300 (424,300 including estimates in Canadian waters). Given that only 1-2 takes by Level B harassment are authorized for this stock annually, we do not expect this authorization to exacerbate or compound upon the ongoing UME.

For the WNA stock of harbor seals, the estimated abundance is 61,336 individuals. The estimated M/SI (339) is well below the PBR (1,729). As such, the Level B harassment takes of harbor seal are not expected to exacerbate or compound upon the ongoing UMEs.

With regard to humpback whales, the UME does not yet provide cause for concern regarding population-level impacts. Despite the UME, the relevant population of humpback whales (the West Indies breeding population, or DPS) remains healthy.

Prior to 2016, humpback whales were listed under the ESA as an endangered species worldwide. Following a 2015 global status review (Bettridge *et al.*, 2015), NMFS established 14 DPSs with different listing statuses (81 FR 62259, September 8, 2016) pursuant to the ESA. The West Indies DPS, which consists of the whales whose breeding range includes the Atlantic margin of the Antilles from Cuba to northern Venezuela, and whose feeding range primarily includes the Gulf of Maine, eastern Canada, and western Greenland, was delisted. The status review identified harmful algal blooms, vessel collisions, and fishing gear entanglements as relevant threats for this DPS, but noted that all other threats are considered likely to have no or minor impact on population size or the growth rate of this DPS (Bettridge *et al.*, 2015). As described in Bettridge *et al.*, (2015), the West Indies DPS has a substantial population size (*i.e.*, 12,312 (95 percent CI 8,688-15,954) whales in 2004-2005 (Bettridge *et al.*, 2003)), and appears to be experiencing consistent growth. NMFS has authorized no more than 8 takes by Level B harassment annually of humpback whale.

The project is also not expected to have significant adverse effects on affected marine mammals' habitats. 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 mammals' foraging opportunities in a limited portion of the foraging range; but, because of the short duration

of the activities and the relatively small area of the habitat that may be affected (with no known particular importance to marine mammals), 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 any of the species or stocks through effects on annual rates of recruitment or survival:

- No mortality is anticipated or authorized;
- Authorized Level A harassment is of very small amounts and of low degree;
- The intensity of anticipated takes by Level B harassment is relatively low for all stocks;
- The number of anticipated takes is very low for humpback whale, harbor porpoise, and gray seal;
- The specified activity and associated ensonified areas are very small relative to the overall habitat ranges of all species and do not include habitat areas of special significance;
- The lack of anticipated significant or long-term negative effects to marine habitat;
- The presumed efficacy of the mitigation measures in reducing the effects of the specified activity; and
- Monitoring reports from similar work in the Chesapeake Bay have documented little to no effect on individuals of the same species impacted by similar activities.

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 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 maximum annual take of take NMFS authorized for the five marine mammal stocks is below one-third of the estimated stock abundance for all species except for the WNA southern coastal migratory stock and the WNA northern coastal migratory stock of bottlenose dolphins (see Table 12).

There are three bottlenose dolphin stocks that could occur in the project area. Therefore, largest estimated annual take by Level B harassment of 13,190 bottlenose dolphin would likely be split among the western WNA northern coastal migratory stock, the WNA southern coastal migratory stock, and the northern North Carolina Estuarine stock (NNCES). Based on the stocks' respective occurrence in the area, NMFS estimates that there would be no more than 200 takes from the NNCES stock, representing 24 percent of that population, with the remaining takes split evenly between the northern and southern coastal migratory stocks. Based on the consideration of various factors as

described below, we have determined that the number of individuals taken will comprise of less than one-third of the best available population abundance estimate of either coastal migratory stock. Detailed descriptions of the stocks' ranges have been provided in the **Description of Marine Mammals in the Area of Specified Activities** section of the proposed rule.

Both the northern migratory coastal and southern migratory coastal stocks have expensive ranges and they are the only dolphin stocks thought to make broad scale, seasonal migrations in coastal waters of the western North Atlantic. Given the large ranges associated with these two stocks, it is unlikely that large segments of either stock would approach the project area and enter into the Chesapeake Bay. The majority of both stocks are likely to be found widely dispersed across their respective habitat ranges and unlikely to be concentrated in or near the Chesapeake Bay.

Furthermore, the Chesapeake Bay and nearby offshore waters represent the boundaries of the ranges of each of the two coastal stocks during migration. The northern migratory coastal stock is found during warm water months from coastal Virginia, including the Chesapeake Bay and Long Island, New York. The stock migrates south in late summer and fall. During cold water months, dolphins may be found in coastal waters from Cape Lookout, North Carolina, to the North Carolina and Virginia border. During January-March, the southern migratory coastal stock appears to move as far south as northern Florida. From April-June, the stock moves back north to North Carolina. During the warm water months of July-August, the stock is presumed to occupy the coastal waters north of Cape Lookout, North Carolina, to Assateague, Virginia, including the Chesapeake Bay. There is likely some overlap between the northern southern migratory stocks during spring and fall migrations, but the extent of overlap is unknown,

The Chesapeake Bay and waters offshore of the mouth are located on the periphery of the migratory ranges of both coastal stocks (although during different

seasons). Additionally, each of the migratory coastal stocks are likely to be located in the vicinity of the bay for relatively short timeframes. Given the limited number of animals from each migratory coastal stock likely to be found at the seasonal migratory boundaries of their respective ranges, in combination with the short time periods (~2 months) animals might remain at these boundaries, it is reasonable to assume that takes are likely to occur only within some small portion of either of the migratory coastal stocks.

Many of the dolphin observations in the bay are likely repeated sightings of the same individuals. The Potomac-Chesapeake Dolphin Project has observed over 1,200 unique animals since observations began in 2015. Re-sightings of the same individual can be highly variable. Some dolphins are observed once per year, while others are highly regular with greater than 10 sightings per year (Mann, Personal Communication). Similarly, using available photo-identification data, Engelhaupt *et al.*, (2016) determined that specified individuals were often observed in close proximity to their original sighting locations and were observed multiple times in the same season or same year. Ninety-one percent of re-sighted individuals (100 of 110) in the study area were recorded less than 30 km from the initial sighting location. Multiple sightings of the same individual would considerably reduce the number of individual animals that are taken by harassment. Furthermore, the existence of a resident dolphin population in the bay would increase the percentage of dolphin takes that are actually re-sightings of the same individuals.

In summary and as described above, the following factors primarily support our determination regarding the incidental take of small numbers of the affected stocks of a species or stock:

- The take of marine mammal stocks authorized comprises less than 3 percent of any stock abundance (with the exception of the three bottlenose dolphin stocks);

- Potential bottlenose dolphin takes in the project area are likely to be allocated among three distinct stocks;
- Bottlenose dolphin stocks in the project area have extensive ranges and it would be unlikely to find a high percentage of the individuals of any one stock concentrated in a relatively small area such as the project area or the Chesapeake Bay;
- The Chesapeake Bay represents the migratory boundary for each of the specified dolphin stocks and it would be unlikely to find a high percentage of any stock concentrated at such boundaries; and
- Many of the takes will likely be repeats of the same animals and likely from a resident population of the Chesapeake Bay.

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 stock.

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.

Adaptive Management

The regulations governing the take of marine mammals incidental to Navy construction activities will contain an adaptive management component. The reporting requirements associated with this rule are designed to provide NMFS with monitoring data from completed projects to allow consideration of whether any changes are appropriate. The use of adaptive management allows NMFS to consider new information from different sources to determine (with input from the Navy regarding practicability)

on an annual or biennial basis if mitigation or monitoring measures should be modified (including additions or deletions). Mitigation measures could be modified if new data suggests that such modifications would have a reasonable likelihood of reducing adverse effects to marine mammals and if the measures are practicable.

The following are some of the possible sources of applicable data to be considered through the adaptive management process: (1) results from monitoring reports, as required by MMPA authorizations; (2) results from general marine mammal and sound research; and (3) any information which reveals that marine mammals may have been taken in a manner, extent, or number not authorized by these regulations or subsequent LOAs.

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 proposed action (*i.e.*, the promulgation of regulations and subsequent issuance of incidental take authorization) 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 NOAA 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 action qualifies to be categorically excluded from further review under NEPA.

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 ensure 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 LOAs, 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.

Classification

Pursuant to the procedures established to implement Executive Order 12866, the Office of Management and Budget has determined that this rule is not significant.

Pursuant to section 605(b) of the Regulatory Flexibility Act (RFA), the Chief Counsel for Regulation of the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration that this rule, if adopted, would not have significant economic impact on a substantial number of small entities. The Navy is the sole entity that would be subject to the requirements in these regulations, and the Navy is not a small governmental jurisdiction, small organization, or small business, as defined by the RFA. Therefore, a regulatory flexibility analysis is not required and none has been prepared.

This rule does not contain a collection-of-information requirement subject to the provisions of the Paperwork Reduction Act because the applicant is a Federal agency.

Waiver of Delay in Effective Date

The Assistant Administrator for Fisheries has determined that there is good cause under the Administrative Procedure Act (5 U.S.C. 553(d)(3)) to waive the 30-day delay in the effective date of the measures contained in the final rule. The Navy is the only entity subject to these regulations, and it has informed NMFS that it requests that this final rule take effect as soon as possible. Any further delay in promulgating the final rule

could result in a delay to the project schedule that would extend the completion of the project and cause further risks to the Virginia Class submarines schedule. In addition, in-water work at Pier 3 and associated fender systems are critical to timely completion of the overall project. Delaying the completion of ongoing work will have increased risk on other mission critical work, as some of the construction components cannot begin until others are started or in some cases completed. Moreover, the contractor is onsite and currently working under the existing IHA renewal (88 FR 20133, April 5, 2023). However, this renewal does not include all piles the Navy plans to install or remove within the first year of the rule in order to stay on schedule. Therefore, the Navy is ready to operate under the LOA immediately. For these reasons, the Assistant Administrator finds good cause to waive the 30-day delay in the effective date. In addition, the rule allows authorization of incidental take of marine mammals that would otherwise be prohibited under the statute. Therefore, the rule will relieve restrictions under the MMPA, which provides a separate basis under the Administrative Procedure Act (5 U.S.C. 553(d)(1)) to waive the 30-day delay in effective date.

List of Subjects in 50 CFR Part 217

Exports, Fish, Imports, Indians, Labeling, Marine mammals, Penalties, Reporting and recordkeeping requirements, Seafood, Transportation.

Dated: May 9, 2023.

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Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

For reasons set forth in the preamble, NMFS amends 50 CFR Part 217 as follows:

PART 217 – REGULATIONS GOVERNING THE TAKING AND IMPORTING OF MARINE MAMMALS

1. The authority citation for part 217 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq.*, unless otherwise noted.

2. Revise subpart L to read as follows:

Subpart L – Taking and Importing Marine Mammals Incidental to Navy Construction of the Pier 3 Replacement Project at Naval Station Norfolk at Norfolk, Virginia

Sec.

Subpart L – Taking and Importing Marine Mammals Incidental to U.S. Navy Construction of the Pier 3 Replacement Project at Naval Station Norfolk at Norfolk, Virginia

§ 217.110 Specified activity and geographical region.

(a) Regulations under this subpart apply only to the U.S. Navy (Navy) and those persons it authorizes or funds to conduct activities on its behalf for the taking of marine mammals that occurs in the areas outlined in paragraph (b) of this section and that occurs incidental to construction activities related to the replacement of Pier 3 at Naval Station Norfolk at Norfolk, Virginia.

(b) The taking of marine mammals by the Navy may be authorized in a Letter of Authorization (LOA) only if it occurs at Naval Station Norfolk, Norfolk, Virginia.

§ 217.111 Effective dates.

Regulations under this subpart are effective from [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER], through May 18, 2028.

§ 217.112 Permissible methods of taking.

Under an LOA issued pursuant to §§ 216.106 of this chapter and 217.116, the Holder of the LOA (hereinafter "Navy") may incidentally, but not intentionally, take marine mammals within the area described in 217.110(b) by harassment associated with construction activities related to replacement of Pier 3, provided the activity is in compliance with all terms, conditions, and requirements of the regulations under this subpart and the applicable LOA.

§ 217.113 Prohibitions.

(a) Except for the takings contemplated in § 217.112 and authorized by a LOA issued under §§ 216.106 of this chapter and 217.116, it is unlawful for any person to do any of the following in connection with the activities described in § 217.110:

(1) Violate, or fail to comply with, the terms, conditions, and requirements of this subpart or a LOA issued under §§ 216.106 of this chapter and 217.116;

(2) Take any marine mammal not specified in such LOA;

(3) Take any marine mammal specified in such LOA in any manner other than as specified;

(4) Take a marine mammal specified in such LOA after NMFS determines such taking results in more than a negligible impact on the species or stocks of such marine mammal; or

(5) Take a marine mammal specified in such LOA after NMFS determined such taking results in an unmitigable adverse impact on the species or stock of such marine mammal for taking for subsistence uses.

(b) [Reserved]

§ 217.114 Mitigation requirements.

(a) When conducting the activities identified in §217.110(a), the mitigation measures contained under this subpart and any LOA issued under §§ 216.106 of this chapter and 217.116 must be implemented by the Navy. These mitigation measures include:

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

(2) The Navy must ensure that construction supervisors and crews, the monitoring team, and relevant Navy staff are trained prior to the start of activities subject to any issued LOA, 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.

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

(4) The Navy must employ PSOs and establish monitoring locations as described in the NMFS-approved Marine Mammal Monitoring Plan. The Navy must monitor the project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions.

(5) For all pile driving and drilling activity, the Navy shall implement shutdown zones with radial distances as identified in a LOA issued under § 217.116. If a marine mammal is observed entering or within the shutdown zone, such operations must be delayed or halted.

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

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

(8) Should environmental conditions deteriorate such that marine mammals within the entire shutdown zone would not be visible (*e.g.,* fog, heavy rain, night), the Holder shall delay in-water construction activities until observers are confident marine mammals within the shutdown zone could be detected.

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

(10) Pile driving activity must be halted upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the harassment zone.

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

(b) [Reserved]

§ 217.115 Requirements for monitoring and reporting.

(a) The Navy shall submit a Marine Mammal Monitoring Plan to NMFS for approval in advance of construction. Marine mammal monitoring must be conducted in accordance with the conditions in this section and the NMFS-approved Marine Mammal Monitoring Plan.

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

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

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

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

(4) One PSO must be designated as lead PSO or monitoring coordinator. The lead PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

(5) PSOs must be approved by NMFS prior to beginning any activity subject to any issued LOA.

(6) For all pile driving activities, a minimum of two PSOs shall be stationed at the best vantage points practicable to monitor for marine mammals and implement shutdown/delay procedures.

(7) For all pile driving activities, a minimum of two PSOs shall be stationed at the active pile driving site, docks, or piers to monitor the harassment and shutdown zones, and as described in the Marine Mammal Monitoring Plan. For shutdown zones exceeding

1,000 m, a minimum of three PSOs shall be stationed appropriately, as described in the Marine Mammal Monitoring Plan, to monitor the entire shutdown zone.

(8) The Navy shall monitor the harassment zones to the extent practicable and the entire shutdown zones. The Navy shall monitor at least a portion of the Level B harassment zone on all pile driving days.

(9) The Navy shall conduct hydroacoustic data collection in accordance with a Marine Mammal Monitoring Plan that must be approved by NMFS in advance of construction.

(10) The shutdown/monitoring zones may be modified with NMFS' approval following NMFS' acceptance of an acoustic monitoring report.

(11) The Navy must submit a draft monitoring report to NMFS within 90 calendar days of the completion of each construction year. A draft comprehensive 5-year summary report must also be submitted to NMFS within 90 days of the end of the project. The reports must detail the monitoring protocol and summarize the data recorded during monitoring. Final annual reports and the final comprehensive report must be prepared and submitted within 30 days following resolution of any NMFS comments on the draft report. If no comments are received from NMFS within 30 days of receipt of the draft report, the report must be considered final. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments. The reports must, at minimum, contain the informational elements described below (as well as any additional information described in the Marine Mammal Monitoring Plan), including:

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

(ii) Construction activities occurring during each daily observation period, including the number and type of piles that were driven or removed and by what method

(*i.e.*, impact, vibratory or drilling), total duration of driving time for each pile (vibratory and drilling) and number of strikes for each pile (impact);

(iii) PSO locations during marine mammal monitoring;

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

(v) Upon observation of a marine mammal, the follow information:

(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 the pile being driven 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.); and

(G) Animal's closest point of approach and estimated time spent within the harassment zone.

(vi) 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 form the activity (*e.g.*, no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);

(vii) Number of marine mammals detected within the harassment zones, by species; and

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

(12) The Holder must submit all PSO datasheets and/or raw sighting data within the draft report.

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

(14) The Navy must report hydroacoustic data collected as required by a LOA issued under §§ 216.106 of this chapter and 217.116 and as discussed in the Navy's Marine Mammal Monitoring Plan approved by NMFS.

(15) In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Navy shall report the incident to the Office of Protected Resources, NMFS and to the Greater Atlantic Region New England/Mid-Atlantic Regional Stranding Coordinator as soon as feasible. If the death or injury was clearly caused by the specified activity, the Navy 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 authorization. The Navy must not resume their activities until notified by NMFS. The report must include the following information:

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

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

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

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

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

(vi) General circumstances under which the animal was discovered.

§ 217.116 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to the regulations under this subpart, the Navy must apply for and obtain an LOA.

(b) An LOA, unless suspended or revoked, may be effective for a period of time not to exceed the expiration date of the regulations under this subpart.

(c) If an LOA expires prior to the expiration date of the regulations under this subpart, the Navy may apply for and obtain a renewal of the LOA.

(d) In the event of projected changes to the activity or to mitigation and monitoring measures required by an LOA, the Navy must apply for and obtain a modification of the LOA as described in § 217.116.

(e) The LOA must set forth the following information:

(1) Permissible methods of incidental taking;

(2) Means of effecting the least practicable adverse impact (*i.e.*, mitigation) on the species, its habitat, and on the availability of the species for subsistence uses; and

(3) Requirements for monitoring and reporting.

(f) Issuance of the LOA must be based on a determination that the level of taking must be consistent with the findings made for the total taking allowable under the regulations under this subpart.

(g) Notice of issuance or denial of an LOA must be published in the **Federal Register** within 30 days of a determination.

§ 217.117 Renewals and modifications of Letters of Authorization.

(a) An LOA issued under §§ 216.106 of this chapter and 217.116 for the activity identified in § 217.110(a) may be renewed or modified upon request by the applicant, provided that:

(1) The specified activity and mitigation, monitoring, and reporting measures, as well as the anticipated impacts, are the same as those described and analyzed for the regulations under this subpart; and

(2) NMFS determines that the mitigation, monitoring, and reporting measures required by the previous LOA under the regulations under this subpart were implemented.

(b) For LOA modification or renewal requests by the applicant that include changes to the activity or the mitigation, monitoring, or reporting that do not change the findings made for the regulations or result in no more than a minor change in the total estimated number of takes (or distribution by species or years), NMFS may publish a notice of proposed LOA in the **Federal Register**, including the associated analysis of the change, and solicit public comment before issuing the LOA.

(c) A LOA issued under §§ 216.106 of this chapter and 217.116 for the activity identified in § 217.110(a) may be modified by NMFS under the following circumstances:

(1) NMFS may modify (including augment) the existing mitigation, monitoring, or reporting measures (after consulting with Navy regarding the practicability of the modifications) if doing so creates a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring for the regulations under this subpart;

(i) Possible sources of data that could contribute to the decision to modify the mitigation, monitoring, or reporting measures in a LOA:

(A) Results from Navy's monitoring from previous years;

(B) Results from other marine mammal and/or sound research or studies; and

(C) Any information that reveals marine mammals may have been taken in a manner, extent or number not authorized by the regulations under this subpart or subsequent LOAs; and

(ii) If, through adaptive management, the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS must publish a notice of proposed LOA in the **Federal Register** and solicit public comment;

(2) If NMFS determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in a LOA issued pursuant to §§ 216.106 of this chapter and 217.116, a LOA may be modified without prior notice or opportunity for public comment. Notification would be published in the **Federal Register** within 30 days of the action.

§§ 217.118 - 217.119 [Reserved]

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