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

INCIDENTAL HARASSMENT AUTHORIZATION

The U.S. Navy (Navy) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) to take marine mammals incidental to conducting in-water construction work for the Portsmouth Naval Shipyard Dry Dock 1 modification and expansion in Kittery, Maine, contingent upon the following conditions:

1. This incidental harassment authorization (IHA) is valid for one year from the date of issuance.

2. This IHA authorizes take incidental to pile driving, drilling and blasting, as specified in the Navy's February 11, 2021 IHA application, associated with modification and expansion of Portsmouth Naval Shipyard Dry Dock 1 in Kittery, Maine.

3. General Conditions

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

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

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

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

   (e) With the exception of pre-dawn drilling, work must only occur during daylight hours.

4. Mitigation Requirements

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

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

(b) Monitoring must take place from 30 minutes prior to initiation of construction activities (i.e., pre-start clearance monitoring) through 30 minutes post-completion of pile-driving and drilling activities and 60 minutes post-completion of blasting events.

(c) Blasting events must only occur in good visibility conditions and must begin no sooner than 30 minutes after sunrise and end at least 60 minutes before sunset.

(d) The Holder must implement the shutdown zones indicated in Table 2. When construction activities occur concurrently, the largest shutdown distance between/among activity types will trigger shutdown.

(e) If a marine mammal is observed entering or within the shutdown zones, construction activities must be delayed or halted and must be commenced or resumed as described in condition 4(g) of this IHA.

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

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

(h) If conditions (e.g. fog) prevent visual detection of marine mammals after a construction activity has commenced, blasting and impact pile driving must be delayed or halted, but drilling and vibratory pile driving may continue.

(i) The Holder 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.

(j) Stemming procedures must be used for blasting events.

(k) The Holder must deploy a bubble curtain(s) across the entrance openings to the superflood basin during blasting events and nighttime drilling and must ensure that it is operated as necessary to achieve optimal performance, and that no reduction in performance may be attributable to faulty deployment. At a minimum, the Holder must adhere to the following standards:

i. The bubble curtains must distribute air bubbles across 100 percent of the entrance openings for the full depth of the water column.

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

iii. Air flow to the bubblers must be balanced across the entrance openings to the superflood basin.

(l) Construction activities must be halted (as described in condition 4(e) of this IHA) upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, approaching the Level B harassment zone (as shown in Table 3).

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

5. Monitoring Requirements

Marine Mammal monitoring must be conducted in accordance with the conditions in this sections and this IHA:

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

i PSOs must be independent (*i.e.*, not construction personnel) who have no other assigned tasks during monitoring periods.

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

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

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

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

(b) The Holder must establish the following monitoring locations:

i. A minimum of two PSOs must be posted during all construction activities to monitor the shutdown and harassment zones.

ii. PSOs must be stationed at the best possible vantage points in order to properly see the entire shutdown zone(s) and zones associated with behavioral impact thresholds. The specific locations will be a subset of the following:

A. Berth 2

B. Berth 12

C. Isle of Shoals Steamship Company

D. Prescott Park

E. Four Tree Island

F. Peirce Island

G. Boat/barge within the project limits

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

(d) Hydroacoustic monitoring must be conducted in accordance with the Hydroacoustic Monitoring Plan (attached):

ii. Number of construction events to be acoustically monitored:

A. 10, 28-inch Z-shaped sheet piles and 10, 18-inch flat-webbed sheet piles for both impact and vibratory pile driving;

B. 4, 30-inch steel piles for vibratory pile driving;

C. 10, 120 pound blasting events; and

D. 10, 4.5-inch blast charge hole drilling events.

6. Reporting

The holder of this IHA is required to:

(a) Notify NMFS and the Greater Atlantic Regional Stranding Coordinator or local stranding network at least 24 hours prior to commencing blasting events as well as within 24 hours after blasting events cease. If blast events occur on consecutive days, the Holder must communicate how long the blasting is scheduled to last as well as when it has been completed.

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

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

(d) The marine mammal report, at minimum, must include:

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

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

A. The number and type of piles that were driven and the method (e.g., impact, vibratory), the number of blast-charge holes drilled, and the number of blast events;

B. Total duration of driving time for each pile (vibratory driving), number of strikes for each pile (impact driving), and total duration of drilling time.

C. The percentage of time that activities (*i.e.*, drilling) occur at night.

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 estimated observable distance;

v. Upon observation of a marine mammal, the following 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 bearing of each marine mammal observed relative to the pile being driven, drilling location, or blasting location for each sighting (if any of these activities were occurring at time of sighting);

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

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

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

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

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

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

(e) The Holder must submit all PSO datasheets and/or raw sighting data as part of the draft and final reports.

(f) The hydroacoustic monitoring report must contain the informational elements described in the Hydroacoustic Monitoring Plan and, at minimum, must include:

ii. Hydrophone equipment and methods: description of hydrophone(s) or pressure sensor; recording device, sampling rate, hydrophone locations (both near- and far-field) and water depths, distance (m) from the acoustic source where recordings were made; depth of water and recording device(s);

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

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

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

vi. For blast events: total number of charges/delays; maximum net explosive weight (NEW) of a single charge and the total NEW of the event; timeframe between delays and total timeframe of the event; total number of blasting events in a given day; time between blast events if two occur within a 24-hour period; impulse in Pa-sec; peak sound pressure level (dB re: 1 µPa) (SPL_{peak}); cumulative sound exposure level (dB re: 1 µPa) (SEL_{cum});

vii. All root mean square sound pressure level (SPL_{rms}) must be based on a time window that contains 90 percent of the acoustic energy.

viii. One-third octave band spectra and power spectral density plots for all acoustically monitored construction events.

(h) Reporting injured or dead marine mammals:

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Holder must immediately report the incident to the Greater Atlantic Regional Stranding Coordinator (866-755-6622) or local stranding network and follow any instructions provided by the Stranding Coordinator or stranding network. In addition, the Holder must immediately report the incident to the Office of Protected Resources (OPR), NMFS (*PR.ITP.MonitoringReports@noaa.gov* and *carter.esch@noaa.gov*). If the death or injury was clearly caused by the specified activity, the Holder 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 IHA. The Holder must not resume their activities until notified by NMFS.

The report must include the following information:

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

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

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

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

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

vi. General circumstances under which the animal was discovered.

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

MARZIN.CATHERINE.G.1365836082 Digitally signed by MARZIN.CATHERINE.G.1365836082 Date: 2021.06.02 15:49:04 -04'00'

Catherin Marzin
Acting Director, Office of Protected Resources
National Marine Fisheries Service

Date

Table 1. Species/stocks and numbers of marine mammals authorized to be taken under this IHA.

Species	Scientific name	Stock	Level A harassment	Level B harassment
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/Bay of Fundy	2	2
Harbor seal	*Phoca vitulina*	Western North Atlantic	12	795
Gray seal	*Halichoerus grypsus*	Western North Atlantic	1	50
Hooded seal	*Cystophora cristata*	Western North Atlantic	0	5
Harp seal	*Pagophilus groenlandicus*	Western North Atlantic	0	5

Table 2. Shutdown distances for various pile driving activities

Pile type, size & driving method	Shutdown distance (m)	
	HF cetacean	Phocid
Vibratory drive 30-inch steel pipe piles	70	30
Vibratory extraction 30-inch steel pipe piles	70	30
Impact drive 28-inch steel sheet piles	110	50
Vibratory drive 28-inch steel sheet piles	25	10
Impact drive 18-inch sheet piles	110	50
Vibratory drive 18-inch sheet piles	15	10
Drilling 4.5-inch blast charge holes	10	10
Blasting 120 lb. charge	Entire ROI*	Entire ROI

*0.335 km^2

Table 3. Marine mammal Level A harassment and Level B harassment zones for monitoring

Pile type, size & driving method	Level A harassment		Level B harassment
	HF cetacean	Phocid	
	Dist. (m)	Dist. (m)	Dist. (m)
Vibratory drive 30-inch steel pipe piles	10	4	Entire ROI*
Vibratory extraction 30-inch steel pipe piles	10	4	Entire ROI
Impact drive 28-inch steel sheet piles	2,056	923	Entire ROI
Vibratory drive 28-inch steel sheet piles	25	10	Entire ROI
Impact drive 18-inch sheet piles	516	232	Entire ROI
Vibratory drive 18-inch sheet piles	14	6	Entire ROI
Drilling 4.5-inch blast charge holes	7	4	Entire ROI
Blasting 120 lb. charge	1,007	110	Entire ROI

*0.418 km^2