including application procedures and timelines, delegation and revocation of permits to and between eligible entities, monitoring, periodic review, and geographic, seasonal take, and species-specific considerations. Pursuant to section 120(f)(2)(C), on June 4, 2019, NMFS issued a Decision Memorandum to fulfill this statutory requirement by establishing application requirements and program implementation procedures for prospective and approved authorizations issued to an eligible entity under section 120(f). Permits issued under section 120(f) may only authorize take of sea lions that are not listed under the ESA, or designated as a depleted or strategic stock under the MMPA.

On August 21, 2024, NMFS received an application pursuant to section 120(f) from the following entities: Oregon Department of Fish and Wildlife, the Washington Department of Fish and Wildlife, the Idaho Department of Fish and Game, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, the Confederated Tribes and Bands of the Yakama Nation, and the Willamette Committee [2] (hereafter referred to as the ''Eligible Entities''). The Eligible Entities requested authorization to intentionally take, by lethal methods, California sea lions and Steller sea lions that are located in the mainstem of the Columbia River between river mile 112 and river mile 292 (McNary Dam), or in any tributary to the Columbia River that includes spawning habitat of threatened or endangered salmon or steelhead (*Onchorynchus* spp.) to reduce or eliminate sea lion predation on the following species that are listed as threatened or endangered under the ESA: Lower Columbia River Chinook salmon (*O. tshawytscha*), Snake River Fall-run Chinook salmon, Snake River Spring/Summer-run Chinook salmon, Upper Columbia River Spring-run Chinook salmon, Upper Willamette River Chinook salmon, Lower Columbia River steelhead, Middle Columbia River steelhead, Snake River Basin steelhead, Upper Columbia River steelhead, Upper Willamette River steelhead, Columbia River chum salmon (*O. keta*), Lower Columbia River coho salmon (*O. kisutch*), Snake River sockeye salmon (*O. nerka*), the southern distinct population segment of eulachon (*Thaleichthys pacificus*), and species of lamprey or sturgeon that are not listed as threatened or endangered but are listed as a species of concern by the state of Oregon. California sea lions and Steller sea lions (Eastern stock) are not listed under the ESA nor are they designated as a depleted or strategic stock under the MMPA. In response to the Eligible Entities' August 21, 2024, MMPA section 120(f) application requesting NMFS renew their August 14, 2020, MMPA section 120(f) permit for a period of 5 years. In their application, the Eligible Entities only requested to take the balance of animals left over from the August 14, 2020, permit. Thus, we are giving them all the removal authority they are currently asking for. To date, the Eligible Entities have removed 116 CSL and 114 SSL. Thus, the remaining balance of sea lions that the Eligible Entities would be authorized to remove over the next 5 years would be 424 CSL and 62 SSL.

On September 3, 2024, NMFS provided the above-mentioned Eligible Entities a letter acknowledging receipt of their application and a determination that the application produced sufficient evidence of the problem interaction to warrant establishing a Task Force. On March 30, 2025, NMFS published a notice in the **Federal Register** (90 FR 14119) requesting public comment on the application, and any additional information NMFS should consider in making its decision. As required under the MMPA, after the close of the public comment period NMFS convened the Columbia River Basin Task Force on May 28, 2025. The Task Force meeting was open to the public.

The Task Force completed and submitted its report to NMFS on July 25, 2025. All Task Force members present at the meeting (12 of 20) recommended that NMFS approve the Eligible Entities' application. All decision documents, including a copy of the authorization, are available on NMFS' West Coast Region web page (see **ADDRESSES**).

Findings

NMFS didn't engage in informal consultation or prepare an Environmental Assessment for this permit, but rather determined the existing compliance documents were sufficient and did not require supplementation.

Based on these requirements, NMFS has determined that the requirements of section 120(f) of the MMPA have been met and it is therefore reasonable to issue a permit to the Eligible Entities authorizing them to remove (*i.e.,* place in permanent captivity or kill) no more than 424 California sea lions and no more than 62 Steller sea lions (eastern stock) through August 22, 2030.

Dated: September 2, 2025

Kim Damon-Randall,

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

[FR Doc. 2025–16995 Filed 9–4–25; 8:45 am]

BILLING CODE 3510–22–P

[2] The Willamette Committee fulfills the requirements for an eligible entity under section 120(f)(6)(A)(iii) of the MMPA. Pursuant to this section of the statute, the Committee members include the Oregon Department of Fish and Wildlife, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, the Confederated Tribes of the Grand Ronde Community, and the Confederated Tribes of the Siletz Indians of Oregon. The Confederated Tribes of the Grand Ronde Community and the Confederated Tribes of the Siletz Indians of Oregon will coordinate and conduct lethal removal activities in the Willamette River Basin with the member co-managers, but not elsewhere in the Columbia River Basin.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XE969]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Pier 171 Repair and Replacement Project in Newport, Rhode Island.

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

ACTION: Notice; proposed incidental harassment authorization; request for comments on proposed authorization and possible renewal.

SUMMARY: NMFS has received a request from the U.S. Navy for authorization to take marine mammals incidental to Pier 171 Repair and Replacement Project in Newport, Rhode Island (RI). Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS is also requesting comments on a possible one-time, 1-year renewal that could be issued under certain circumstances and if all requirements are met, as described in Request for Public Comments at the end of this notice. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorization and agency responses will be summarized in the final notice of our decision.

DATES: Comments and information must be received no later than October 6, 2025.

ADDRESSES: Comments should be addressed to Permits and Conservation

Division, Office of Protected Resources, National Marine Fisheries Service and should be submitted via email to *ITP.gatzke@noaa.gov.* Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act.* In case of problems accessing these documents, please call the contact listed below.

Instructions: NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments, including all attachments, must not exceed a 25-megabyte file size. All comments received are a part of the public record and will generally be posted online at *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act* without change. All personal identifying information (*e.g.,* name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

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

SUPPLEMENTARY INFORMATION:

Background

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

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (collectively referred to as ''mitigation''); and requirements pertaining to the monitoring and reporting of the takings. The definitions of all applicable MMPA statutory terms used above are included in the relevant sections below and can be found in section 3 of the MMPA (16 U.S.C. 1362) and NMFS regulations at 50 CFR 216.103.

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 issuance of an IHA) with respect to potential impacts on the human environment.

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

Summary of Request

On February 27, 2025, NMFS received a request from U.S. Navy (Navy) for an IHA to take marine mammals incidental to the Pier 171 Repair and Replacement Project in Newport, RI. Following NMFS' review of the application, the Navy submitted a revised version deemed adequate and complete on June 23, 2025. The Navy is requesting incidental take of 7 species of marine mammals, by Level B harassment only. Neither the Navy nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of Proposed Activity

Overview

The Navy is proposing the Stillwater Basin Upgrade Project (project) located at Naval Station Newport (NAVSTA Newport), Stillwater Basin in Coddington Cove, Newport, RI. The project consists of partial demolition, repair, and replacement of the deteriorating and unstable Pier 171. Pier 171 was originally constructed in 1943 and is primarily used to berth Naval Undersea Warfare Center (NUWC) Division Newport vessels. Figure 1 provides a site overview and the site location.

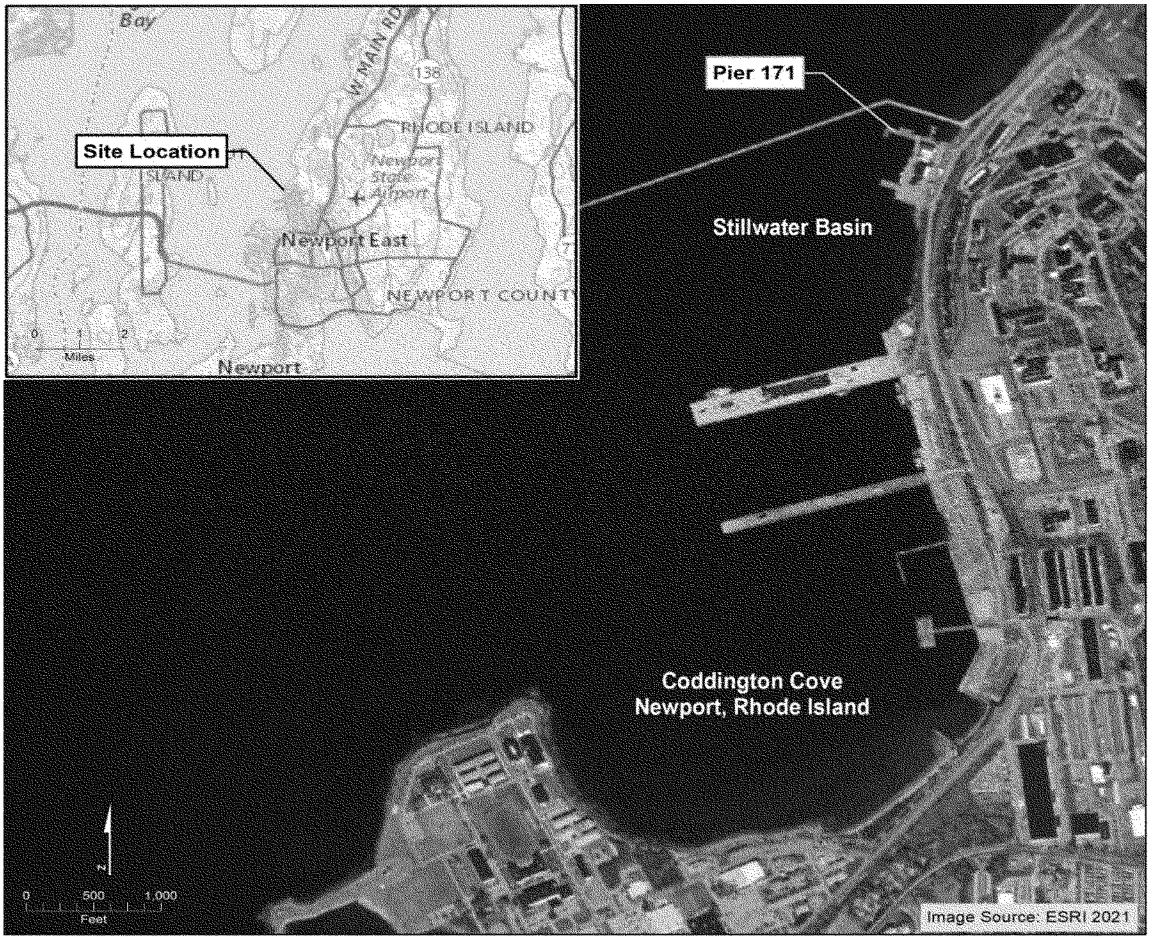

Figure 1. Project Location Map, Coddington Cove and Stillwater Basin, Naval Station Newport, RI.

Dates and Duration

The proposed IHA would be valid for the statutory maximum of 1 year from the date of effectiveness, and would become effective upon written notification from the applicant to NMFS but not beginning later than 1 year from the date of issuance or extending beyond 2 years from the date of issuance. Pier 171 is the northernmost pier within Stillwater Basin and the Navy proposes to conduct in-water activities from March 1, 2026–February 28, 2027.

Specific Geographic Region

Coddington Cove, RI is a protected embayment on the western side of Aquidneck Island in Narragansett Bay. The cove is protected immediately north of Pier 171 by a 1.2 kilometer (km) (4,000 foot (ft)) long rubble-mound breakwater, and to the south by the Coddington Point peninsula (Figure 1). The cove covers an area of 5.5 square km (km^2) (1.6 square nautical miles) with water depths up to 15 m (50 ft). The area is a restricted area and is closed to all commercial and recreational vessel traffic, unless authorized by the appropriate personnel (33 CFR 334.81). According to a 2015 bathymetric survey, water depths in the proposed project area are less than 34 ft (10 m) mean lower low water (NAVFAC 2015). Water depths in the pier are maintained via periodic dredging to accommodate the berthing of large ships.

Water temperature ranges from 36 degrees Fahrenheit (°F; 2 degrees Celsius (°C)) in winter to 68 °F (20 °C) in summer, with salinity about 31 parts per thousand (ppt). Substrate surrounding the timber piles of the pier include chunks of asphalt, sand, shell, mud, silt, and natural fluvial deposits. Proposed repairs would occur in these shallow nearshore waters (less than 34 ft; 10 m).

Detailed Description of the Specified Activity

This construction project involves the proposed repair and replacement of Pier 171 within Coddington Cove (Figure 1) from March 1, 2026 through February 28, 2027. The Navy originally proposed the Stillwater Basin Upgrade Project located at Naval Station Newport (NAVSTA Newport) in 2023, but the project was postponed. The project consists of partial demolition, repair, and replacement of the deteriorating and unstable Pier 171, with approximately 37 total days of pile driving. Pier 171 was originally constructed in 1943 and is primarily used to berth Naval Undersea Warfare Center (NUWC) Division Newport vessels. Upgrades to this L-shaped pier are necessary to support the Large Displacement Unmanned Underwater Vehicle (LDUUV) and the Extra Large Unmanned Underwater Vehicle (XLUUV) Programs. As part of these program requirements, Pier 171 requires the ability to support a gross vehicle weight limit of 20,000 pounds (lb; 9,072 kilograms (kg)). The existing 166 12-inch (in) to 14-in (30–35 cm) timber piles will be repaired and/or replaced with approximately 165 12-in to 14-in (30–35 cm) timber piles, with fender systems located along both the north and south sides of the pier. Stressors that may cause incidental take during this project would include vibratory pile driving, with the option for impact pile driving if necessary. Table 1 presents a summary of the proposed construction. Section 1 of the Navy's IHA application provides detailed description of the treatments proposed to fortify this structure, along with diagrams of two considered bid options. NMFS refers the reader to this material for more description (*https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities*).

TABLE 1—ESTIMATED PLANNED CONSTRUCTION

Method of timber pile driving	Approximate maximum number of piles	Pile strikes per pile	Pile-driving minutes per pile	Maximum number of piles installed or removed each day	Maximum number of days of pile-driving/ removal required
Removal Vibratory	166	NA	10	16	13
Installation Vibratory	165	NA	1	8	24
Installation Impact		75	NA		

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

Description of Marine Mammals in the Area of Specified Activities

Information regarding population trends and threats for the following species may be found in NMFS' Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments)* and more general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS' website (*https://www.fisheries.noaa.gov/find-species).* Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the reader to these descriptions, instead of reprinting the information.

Table 2 lists all species or stocks for which take is expected and proposed to be authorized for this activity and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is anticipated or proposed to be authorized here, PBR and annual serious injury and mortality (M/SI) from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments 2023 (Hayes *et al.* 2024). All values presented in table 2 are the most recent available at the time of publication (including from the draft 2024 SARs) and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 2—STATUS OF MARINE MAMMAL SPECIES [a] LIKELY TO OCCUR NEAR THE PROJECT AREA

Common name	Scientific name	Stock	ESA/MMPA status; strategic (Y/N) [b]	Stock abundance (CV, N_{min}, most recent abundance survey) [c]	PBR	Annual M/SI [d]
Order Artiodactyla—Cetacea—Superfamily Odontoceti (toothed whales, dolphins, and porpoises						
Family Delphinidae:						
Atlantic white-sided dolphin	*Leucopleurus* [e] *acutus*	Western North Atlantic	-, -, N	93,233 (0.71, 54,443, 2021).	544	28
Common dolphin/Short beaked.	*Delphinus delphis delphis*	Western North Atlantic	-, -, N	93,100 (0.56, 59,897, 2021).	1,452	414
Family Phocoenidae (porpoises):						
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/Bay of Fundy	-, -, N	85,765 (0.53, 56,420, 2021).	649	145
Order Carnivora—Superfamily Pinnipedia						
Family Phocidae (earless seals):						
Gray seal [f]	*Halichoerus grypus*	Western North Atlantic	-, -, N	27,911 (0.20, 23,624, 2021).	1,512	4,570
Harbor seal	*Phoca vitulina*	Western North Atlantic	-, -, N	61,336 (0.08, 57,637, 2018).	1,729	339
Harp seal	*Pagophilus groenlandicus*	Western North Atlantic	-, -, N	7.6 M (UNK, 7.1, 2019)	426,000	178,573

TABLE 2—STATUS OF MARINE MAMMAL SPECIES [a] LIKELY TO OCCUR NEAR THE PROJECT AREA—Continued

Common name	Scientific name	Stock	ESA/MMPA status; strategic (Y/N) [b]	Stock abundance (CV, N_{min}, most recent abundance survey) [c]	PBR	Annual M/SI [d]
Hooded seal	*Cystophora cristata*	Western North Atlantic	-, -, N	593,500 (UNK, UNK, 2005).	UNK	1,680

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

[b] 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.

[c] NMFS' marine mammal SARs can be found online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.* CV is the coefficient of variation; N_{min} is the minimum estimate of stock abundance. In some cases, CV is not applicable.

[d] 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.

[e] Genus Reclassification for Atlantic white-sided dolphins (Society for Marine Mammalogy, 2025). The Society for Marine Mammalogy (SMM) Taxonomy Committee completed the annual 2025 Taxonomic review of the Official List of Marine Mammal Species and Subspecies, announcing reclassification updates on July 21, 2025. Following work by Galatius et al. (2025) and Vollmer et al. (2019), the Committee implemented major revisions to the genera within the subfamily Lissodelphininae. The Atlantic white-sided dolphin (formerly *Lagenorhynchus acutus*) has been reassigned to the genus *Leucopleurus,* now *Leucopleurus acutus.* (Society for Marine Mammalogy (2025) List of Marine Mammal Species and Subspecies—Updated July 2025; available at *https://marinemammalscience.org/;* July 21, 2025).

[f] NMFS' stock abundance estimate (and associated Potential Biological Removal value) applies to the U.S. population only. Total stock abundance (including animals in Canada) is approximately 394,311. The annual M/SI value given is for the total stock.

As indicated above, all seven species (with seven managed stocks) in Table 2 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. While several species of whales have been documented seasonally in New England waters, the spatial occurrence of these species is such that take is not expected to occur, and they are not discussed further beyond the explanation provided here. The humpback (*Megaptera novaeangliae*), fin (*Balaenoptera physalus*), sei (*Balaenoptera borealis*), sperm (*Physeter macrocephalus*) and North Atlantic right whales (*Eubaleana glacialis*) occur seasonally in the Atlantic Ocean, offshore of RI. However, due to the relatively shallow depths of Narragansett Bay and nearshore location of the project area, these marine mammals are unlikely to occur in the project area. Therefore, the Navy did not request, and NMFS is not proposing to authorize takes of these species.

Marine mammal observation data is available from previous projects in and around NAVSTA Newport. A recent construction project within Coddington Cove to build a pier for NOAA ships included pile driving and removal from June 2024–January 2025. The monitoring report included 3 sightings of unidentified dolphins, including a pod of 5 animals on August 28, 2024, 10 animals on November 4, 2024 off Taylor Point (about 3 miles (4.8 km) WSW of the pier), and 1 animal on November 25, 2024 (Werre, 2025). The report also included a detection of 12 common dolphins off Taylor Point on November 1, 2024 (Werre 2025). Monitoring did not result in any confirmed harbor porpoise, gray seal, harp seal, or hooded seal sightings (Werre 2025). However, harbor seals were the most prevalent observed protected species, accounting for 26 of the 31 total seal detections and 80 of the 109 total individual protected species detected, with the first detection on November 1, 2024 and regular occurrences through January 2025 (Werre 2025).

Harbor seals are also common in Narragansett Bay, with over 22 documented haul-out sites. Results from the bay-wide count for 2019 recorded 572 harbor seals, which also included counts from Block Island (DeAngelis 2020). During a 1-day Narragansett Bay-wide count in 2025, there were at least 551 seals observed with all 22 haul-out sites represented (The Jamestown Press 2025). This is an increase from 2021 when 357 seals were counted and above the average of 427 calculated for years prior (Save the Bay 2022).

The Three Sisters seal haulout is the closest to the project area, just over 1 mile (1.6 km) south of the pier on the open water edge of Coddington Cove. In RI waters, harbor seals prefer to haul out on isolated intertidal rock ledges and outcrops. Numerous Naval Station employees have reported seals hauled out on The Sisters haulout, which is approximately 1,066.8 m (3,500 ft) from the proposed project area (see Figure 4–1 of the application) (NUWC Division, 2011). This haulout site has been studied by the NUWC Division Newport since 2011 and has demonstrated a steady increase in use during winter months when harbor seals are present in the Bay. Harbor seals are rarely observed at The Sisters haulout in the early fall (September–October) but sighted in consistent numbers in mid-November (0–10 animals) and are regularly observed with a gradual increase of more than 20 animals until numbers peak in the upper 40s during March, typically at low tide. The number of harbor seals begins to decline in April, and by mid-May are no longer observed hauled out (DeAngelis, 2020).

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 or hear over the same frequency range (*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.*). Subsequently, NMFS (2018, 2024) 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 composite audiograms, previous analyses in NMFS (2018), and/or data from Southall *et al.* (2007, 2019). We note the names of two hearing groups and the generalized hearing ranges of all marine mammal hearing groups have been recently updated (NMFS, 2024) as reflected below in table 3. Of the species potentially present in the action area, white-sided and common dolphins are considered high-frequency (HF) cetaceans, and harbor porpoise are considered very high-frequency (VHF) cetaceans. Harbor, gray, hooded and harp seals are phocid pinnipeds.

TABLE 3—MARINE MAMMAL HEARING GROUPS

[NMFS, 2024]

Hearing group	Generalized hearing range *
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 36 kHz.
High-frequency (HF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz.
Very High-frequency (VHF) cetaceans (true porpoises, *Kogia,* river dolphins, *Cephalorhynchid, Lagenorhynchus cruciger* & *L. australis*).	200 Hz to 165 kHz.
Phocid pinnipeds (PW) (underwater) (true seals)	40 Hz to 90 kHz.
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 68 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 may not be as broad. Generalized hearing range chosen based on ~65 dB threshold from composite audiogram, previous analysis in NMFS 2018, and/or data from Southall *et al.* 2007; Southall *et al.* 2019. Additionally, animals are able to detect very loud sounds above and below that "generalized" hearing range.

For more detail concerning these groups and associated generalized hearing ranges, please see (NMFS, 2024) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

This section includes a summary and provides a discussion of the ways in which components of the specified activity may impact marine mammals and their habitat. The Estimated Take of Marine Mammals section later in this document includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The Negligible Impact Analysis and Determination section considers the content of this section, the Estimated Take of Marine Mammals section, and the Proposed Mitigation section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and whether those impacts are reasonably expected to, or reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

Acoustic effects on marine mammals during the specified activity are expected to potentially occur from impact and vibratory pile installation and removal. The effects of underwater noise from the Navy's proposed activities have the potential to result in Level B harassment of marine mammals in the action area.

The proposed activities would result in the construction and placement of up to 331 pilings, 166 of which will be temporary. There are a variety of types and degrees of effects to marine mammals, prey species, and habitat that could occur as a result of the Project. Below we provide a brief description of the types of sound sources that would be generated by the project, the general impacts from these types of activities, and an analysis of the anticipated impacts on marine mammals from the project, with consideration of the proposed mitigation measures.

Underwater noise data collected at NUWC during testing indicated that true ambient conditions (without static from the source) of underwater noise are approximately 120 to 123 decibels (dB) referenced to a pressure of 1 micropascal (re 1 µPa) root mean square (RMS) (Iafrate, 2017). The test site was directly adjacent to the wharf at Stillwater and 1.5 m (5 ft) below the surface. NUWC personnel indicated that a recording in the open water and at greater depth would likely be less (Iafrate, 2017). Because the proposed repairs would occur in shallow nearshore waters, for purposes of this analysis, ambient underwater noise in the project area is considered to be 120 dB RMS.

Description of Sound Sources for the Specified Activities

Activities associated with the project that have the potential to incidentally take marine mammals though exposure to sound would include impact and vibratory hammering. Impact hammers typically operate by repeatedly dropping and/or pushing a heavy piston onto a pile to drive the pile into the substrate. Sound generated by impact hammers is impulsive, characterized by rapid rise times and high peak levels, a potentially injurious combination (Hastings and Popper, 2005). Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the substrate. Vibratory hammers typically produce less sound (*i.e.,* lower levels) than impact hammers. Peak sound pressure levels (SPLs) may be 180 dB or greater but are generally 10 to 20 dB lower than SPLs generated during impact pile driving of the same-sized pile (Oestman *et al.,* 2009; California Department of Transportation (CALTRANS), 2015, 2020). Sounds produced by vibratory hammers are non-impulsive; compared to sounds produced by impact hammers, the rise time is slower, reducing the probability and severity of injury, and the sound energy is distributed over a greater amount of time (Nedwell and Edwards, 2002; Carlson *et al.,* 2005).

The likely or possible impacts of the Navy's proposed activities on marine mammals could involve both non-acoustic and acoustic stressors. Potential non-acoustic stressors could result from the physical presence of the equipment and personnel; however, given there are no known pinniped haul-out sites within one mile of the pier, visual and other non-acoustic stressors would be limited, and any impacts to marine mammals are expected to primarily be acoustic in nature.

Potential Effects of Underwater Sound on Marine Mammals

The introduction of anthropogenic noise into the aquatic environment from impact and vibratory hammering is the primary means by which marine mammals may be harassed from the Navy's specified activity. Anthropogenic sounds cover a broad range of frequencies and sound levels and can have a range of highly variable impacts on marine life from none or minor to potentially severe responses depending on received levels, duration of exposure, behavioral context, and various other factors. Broadly, underwater sound from active acoustic sources, such as those in the Project, can potentially result in one or more of the following: temporary or permanent hearing impairment, non-auditory physical or physiological effects, behavioral disturbance, stress, and masking (Richardson *et al.,* 1995; Gordon *et al.,* 2003; Nowacek *et al.,* 2007; Southall *et al.,* 2007; Götz *et al.,* 2009).

We describe the more severe effects of certain non-auditory physical or physiological effects only briefly as we do not expect that use of impact and vibratory hammers are reasonably likely to result in such effects (see below for further discussion). Potential effects from impulsive sound sources can range in severity from effects such as behavioral disturbance or tactile perception to physical discomfort, slight injury of the internal organs and the auditory system, or mortality (Yelverton *et al.,* 1973). Non-auditory physiological effects or injuries that theoretically might occur in marine mammals exposed to high level underwater sound or as a secondary effect of extreme behavioral reactions (*e.g.,* change in dive profile as a result of an avoidance reaction) caused by exposure to sound include neurological effects, bubble formation, resonance effects, and other types of organ or tissue damage (Cox *et al.,* 2006; Southall *et al.,* 2007; Zimmer and Tyack, 2007; Tal *et al.,* 2015). The Project activities considered here do not involve the use of devices such as explosives or mid-frequency tactical sonar that are associated with these types of effects.

In general, animals exposed to natural or anthropogenic sound may experience physical and psychological effects, ranging in magnitude from none to severe (Southall *et al.,* 2007, 2019). Exposure to anthropogenic noise has the potential to result in auditory threshold shifts and behavioral reactions (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, changes in dive behavior). It can also lead to non-observable physiological responses, such an increase in stress hormones. Additional noise in a marine mammal's habitat can mask acoustic cues used by marine mammals to carry out daily functions, such as communication and predator and prey detection.

The degree of effect of an acoustic exposure on marine mammals is dependent on several factors, including, but not limited to, sound type (*e.g.,* impulsive vs. non-impulsive), signal characteristics, the species, age and sex class (*e.g.,* adult male vs. mom with calf), duration of exposure, the distance between the noise source and the animal, received levels, behavioral state at time of exposure, and previous history with exposure (Wartzok *et al.,* 2004; Southall *et al.,* 2007). In general, sudden, high-intensity sounds can cause hearing loss as can longer exposures to lower-intensity sounds. Moreover, any temporary or permanent loss of hearing, if it occurs at all, will occur almost exclusively for noise within an animal's hearing range. We describe below the specific manifestations of acoustic effects that may occur based on the activities proposed by the Navy.

Richardson *et al.* (1995) described zones of increasing intensity of effect that might be expected to occur in relation to distance from a source and assuming that the signal is within an animal's hearing range. First (at the greatest distance) is the area within which the acoustic signal would be audible (potentially perceived) to the animal but not strong enough to elicit any overt behavioral or physiological response. The next zone (closer to the receiving animal) corresponds with the area where the signal is audible to the animal and of sufficient intensity to elicit behavioral or physiological responsiveness. The third is a zone within which, for signals of high intensity, the received level is sufficient to potentially cause discomfort or tissue damage to auditory or other systems. Overlaying these zones to a certain extent is the area within which masking (*i.e.,* when a sound interferes with or masks the ability of an animal to detect a signal of interest that is above the absolute hearing threshold) may occur; the masking zone may be highly variable in size.

Below, we provide additional detail regarding potential impacts on marine mammals and their habitat from noise in general, starting with hearing impairment, as well as from the specific activities the Navy plans to conduct, to the degree it is available.

Hearing Threshold Shifts. NMFS defines a noise-induced threshold shift (TS) as a change, usually an increase, in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2018, 2024). The amount of threshold shift is customarily expressed in dB. A TS can be permanent or temporary. As described in NMFS (2018, 2024) there are numerous factors to consider when examining the consequence of TS, including, but not limited to, the signal temporal pattern (*e.g.,* impulsive or non-impulsive), likelihood an individual would be exposed for a long enough duration or to a high enough level to induce a TS, the magnitude of the TS, time to recovery (seconds to minutes or hours to days), the frequency range of the exposure (*i.e.,* spectral content), the hearing frequency range of the exposed species relative to the signal's frequency spectrum (*i.e.,* how animal uses sound within the frequency band of the signal; *e.g.,* Kastelein *et al.,* 2014), and the overlap between the animal and the source (*e.g.,* spatial, temporal, and spectral).

Auditory Injury (AUD INJ). NMFS (2024) defines AUD INJ as damage to the inner ear that can result in destruction of tissue, such as the loss of cochlear neuron synapses or auditory neuropathy (Houser 2021; Finneran 2024). AUD INJ may or may not result in a permanent threshold shift (PTS). PTS is subsequently defined as a permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2024). PTS does not generally affect more than a limited frequency range, and an animal that has incurred PTS has some level of hearing loss at the relevant frequencies; typically, animals with PTS or other AUD INJ are not functionally deaf (Au and Hastings, 2008; Finneran, 2016). Available data from humans and other terrestrial mammals indicate that a 40-dB threshold shift approximates AUD INJ onset (see Ward *et al.,* 1958, 1959; Ward, 1960; Kryter *et al.,* 1966; Miller, 1974; Ahroon *et al.,* 1996; Henderson *et al.,* 2008). AUD INJ levels for marine mammals are estimates, as with the exception of a single study unintentionally inducing PTS in a harbor seal (*Phoca vitulina*) (Kastak *et al.,* 2008), there are no empirical data measuring AUD INJ in marine mammals largely due to the fact that, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing AUD INJ are not typically pursued or authorized (NMFS, 2024).

Temporary Threshold Shift (TTS). TTS is a temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2024), and is not considered an AUD INJ. Based on data from marine mammal TTS measurements (see Southall *et al.,* 2007, 2019), a TTS of 6 dB is considered the minimum threshold shift clearly larger than any day-to-day or session-to-session variation in a subject's normal hearing ability (Finneran *et al.,* 2000, 2002; Schlundt *et al.,* 2000). As described in Finneran (2015), marine mammal studies have shown the amount of TTS increases with the 24-hour cumulative sound exposure level (SEL_{24}) in an accelerating fashion: at low exposures with lower SEL_{24}, the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher SEL_{24}, the growth curves become steeper and approach linear relationships with the sound exposure level (SEL).

Depending on the degree (elevation of threshold in dB), duration (*i.e.,* recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to more impactful (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animal is traveling through the open ocean, where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more severe impacts. We note that reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.,* 2007), so we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

Many studies have examined noise-induced hearing loss in marine mammals (see Finneran (2015) and Southall *et al.* (2019) for summaries). TTS is the mildest form of hearing impairment that can occur during exposure to sound (Kryter, 2013). While experiencing TTS, the hearing threshold rises, and a sound must be at a higher level in order to be heard. In terrestrial and marine mammals, TTS can last from minutes or hours to days (in cases of strong TTS) (Finneran 2015). In many cases, hearing sensitivity recovers rapidly after exposure to the sound ends. For cetaceans, published data on the onset of TTS are limited to captive bottlenose dolphin (*Tursiops truncatus*), beluga whale (*Delphinapterus leucas*), harbor porpoise (*Phocoena phocoena*), and Yangtze finless porpoise (*Neophocoena asiaeorientalis*) (Southall *et al.,* 2019). For pinnipeds in water, measurements of TTS are limited to harbor seals (*Phoca vitulina*), elephant seals (*Mirounga angustirostris*), bearded seals (*Erignathus barbatus*) and California sea lions (*Zalophus californianus*) (Kastak *et al.,* 1999, 2007; Kastelein *et al.,* 2019b, 2019c, 2021, 2022a, 2022b; Reichmuth *et al.,* 2019; Sills *et al.,* 2020). TTS was not observed in spotted (*Phoca largha*) and ringed (*Pusa hispida*) seals exposed to single airgun impulse sounds at levels matching previous predictions of TTS onset (Reichmuth *et al.,* 2016). These studies examine hearing thresholds measured in marine mammals before and after exposure to intense or long-duration sound exposures. The difference between the pre-exposure and post-exposure thresholds can be used to determine the amount of threshold shift at various post-exposure times.

The amount and onset of TTS depends on the exposure frequency. Sounds below the region of best sensitivity for a species or hearing group are less hazardous than those near the region of best sensitivity (Finneran and Schlundt, 2013). At low frequencies, onset-TTS exposure levels are higher compared to those in the region of best sensitivity (*i.e.,* a low frequency noise would need to be louder to cause TTS onset when TTS exposure level is higher), as shown for harbor porpoises and harbor seals (Kastelein *et al.,* 2019a, 2019c). Note that in general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran, 2015). In addition, TTS can accumulate across multiple exposures, but the resulting TTS will be less than the TTS from a single, continuous exposure with the same SEL (Mooney *et al.,* 2009; Finneran *et al.,* 2010; Kastelein *et al.,* 2014, 2015). This means that TTS predictions based on the total, SEL_{24} will overestimate the amount of TTS from intermittent exposures, such as sonars and impulsive sources. Nachtigall *et al.* (2018) describe measurements of hearing sensitivity of multiple odontocete species (bottlenose dolphin, harbor porpoise, beluga, and false killer whale (*Pseudorca crassidens*)) when a relatively loud sound was preceded by a warning sound. These captive animals were shown to reduce hearing sensitivity when warned of an impending intense sound. Based on these experimental observations of captive animals, the authors suggest that wild animals may dampen their hearing during prolonged exposures or if conditioned to anticipate intense sounds. Another study showed that echolocating animals (including odontocetes) might have anatomical specializations that might allow for conditioned hearing reduction and filtering of low-frequency ambient noise, including increased stiffness and control of middle ear structures and placement of inner ear structures (Ketten *et al.,* 2021). Data available on noise-induced hearing loss for mysticetes are currently lacking (NMFS, 2024). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species.

Relationships between TTS and AUD INJ thresholds have not been studied in marine mammals, and there are no measured PTS data for cetaceans, but such relationships are assumed to be similar to those in humans and other terrestrial mammals. AUD INJ typically occurs at exposure levels at least several dB above that inducing mild TTS (*e.g.,* a 40-dB threshold shift approximates AUD INJ onset (Kryter *et al.,* 1966; Miller, 1974), while a 6-dB threshold shift approximates TTS onset (Southall *et al.,* 2007, 2019). Based on data from terrestrial mammals, a precautionary assumption is that the AUD INJ thresholds for impulsive sounds (such as impact pile driving pulses as received close to the source) are at least 6 dB higher than the TTS threshold on a peak-pressure basis and AUD INJ cumulative sound exposure level thresholds are 15 to 20 dB higher than TTS cumulative sound exposure level thresholds (Southall *et al.,* 2007, 2019). Given the higher level of sound or longer exposure duration necessary to cause AUD INJ as compared with TTS, it is considerably less likely that AUD INJ could occur.

Behavioral Effects. Exposure to noise also has the potential to behaviorally disturb marine mammals to a level that rises to the definition of harassment under the MMPA. Generally speaking, NMFS considers a behavioral disturbance that rises to the level of harassment under the MMPA a non-minor response—in other words, not every response qualifies as behavioral disturbance, and for responses that do, those of a higher level, or accrued across a longer duration, have the potential to affect foraging, reproduction, or survival. Behavioral disturbance may include a variety of effects, including subtle changes in behavior (*e.g.,* minor or brief avoidance of an area or changes in vocalizations), more conspicuous changes in similar behavioral activities, and more sustained and/or potentially severe reactions, such as displacement from or abandonment of high-quality habitat. Behavioral responses may include changing durations of surfacing and dives, changing direction and/or speed; reducing/increasing vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); eliciting a visible startle response or aggressive behavior (such as tail/fin slapping or jaw clapping); and avoidance of areas where sound sources are located. In addition, pinnipeds may increase their haul out time, possibly to avoid in-water disturbance (Thorson and Reyff, 2006).

Behavioral responses to sound are highly variable and context-specific and any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.,* 1995; Wartzok *et al.,* 2004; Southall *et al.,* 2007, 2019; Weilgart, 2007; Archer *et al.,* 2010). Behavioral reactions can vary not only among individuals but also within an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.,* 2012), and can vary depending on characteristics associated with the sound source (*e.g.,* whether it is moving or stationary, number of sources, distance from the source). In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater sound than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans. Please see Appendices B and C of Southall *et al.* (2007) and Gomez *et al.* (2016) for reviews of studies involving marine mammal behavioral responses to sound.

Habituation can occur when an animal's response to a stimulus wanes with repeated exposure, usually in the absence of unpleasant associated events (Wartzok *et al.,* 2004). Animals are most likely to habituate to sounds that are predictable and unvarying. It is important to note that habituation is appropriately considered as a ''progressive reduction in response to stimuli that are perceived as neither aversive nor beneficial,'' rather than as, more generally, moderation in response to human disturbance (Bejder *et al.,* 2009). The opposite process is sensitization, when an unpleasant experience leads to subsequent responses, often in the form of avoidance, at a lower level of exposure.

As noted above, behavioral state may affect the type of response. For example, animals that are resting may show greater behavioral change in response to disturbing sound levels than animals that are highly motivated to remain in an area for feeding (Richardson *et al.,* 1995; Wartzok *et al.,* 2004; National Research Council (NRC), 2005). Controlled experiments with captive marine mammals have shown pronounced behavioral reactions, including avoidance of loud sound sources (Ridgway *et al.,* 1997; Finneran *et al.,* 2003). Observed responses of wild marine mammals to loud pulsed sound sources (*e.g.,* seismic airguns) have been varied but often consist of avoidance behavior or other behavioral changes (Richardson *et al.,* 1995; Morton and Symonds, 2002; Nowacek *et al.,* 2007).

Available studies show wide variation in response to underwater sound; therefore, it is difficult to predict specifically how any given sound in a particular instance might affect marine mammals perceiving the signal (*e.g.,* Erbe *et al.,* 2019). If a marine mammal does react briefly to an underwater sound by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, let alone the stock or population. If a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.,* Lusseau and Bejder, 2007; Weilgart, 2007; NRC, 2005). However, there are broad categories of potential response, which we describe in greater detail here, that include alteration of dive behavior, alteration of foraging behavior, effects to breathing, interference with or alteration of vocalization, avoidance, and flight.

Avoidance and displacement— Changes in dive behavior can vary widely and may consist of increased or decreased dive times and surface intervals as well as changes in the rates of ascent and descent during a dive (*e.g.,* Frankel and Clark, 2000; Costa *et al.,* 2003; Ng and Leung, 2003; Nowacek *et al.,* 2004; Goldbogen *et al.,* 2013a, 2013b, Blair *et al.,* 2016). Variations in dive behavior may reflect interruptions in biologically significant activities (*e.g.,* foraging) or they may be of little biological significance. The impact of an alteration to dive behavior resulting from an acoustic exposure depends on what the animal is doing at the time of the exposure and the type and magnitude of the response.

Disruption of feeding behavior can be difficult to correlate with anthropogenic sound exposure, so it is usually inferred by observed displacement from known foraging areas, the appearance of secondary indicators (*e.g.,* bubble nets or sediment plumes), or changes in dive behavior. Acoustic and movement bio-logging tools also have been used in some cases to infer responses to anthropogenic noise. For example, Blair *et al.* (2015) reported significant effects on humpback whale foraging behavior in Stellwagen Bank in response to ship noise including slower descent rates, and fewer side-rolling events per dive with increasing ship nose. In addition, Wisniewska *et al.* (2018) reported that tagged harbor porpoises demonstrated fewer prey capture attempts when encountering occasional high-noise levels resulting from vessel noise as well as more vigorous fluking, interrupted foraging, and cessation of echolocation signals observed in response to some high-noise vessel passes. As for other types of behavioral response, the frequency, duration, and temporal pattern of signal presentation, as well as differences in species sensitivity, are likely contributing factors to differences in response in any given circumstance (*e.g.,* Croll *et al.,* 2001; Nowacek *et al.,* 2004; Madsen *et al.,* 2006; Yazvenko *et al.,* 2007). A determination of whether foraging disruptions incur fitness consequences would require information on or estimates of the energetic requirements of the affected individuals and the relationship between prey availability, foraging effort and success, and the life history stage of the animal.

Respiration rates vary naturally with different behaviors and alterations to breathing rate as a function of acoustic exposure can be expected to co-occur with other behavioral reactions, such as a flight response or an alteration in diving. However, respiration rates in and of themselves may be representative of annoyance or an acute stress response. Various studies have shown that respiration rates may either be unaffected or could increase, depending on the species and signal characteristics, again highlighting the importance in understanding species differences in the tolerance of underwater noise when determining the potential for impacts resulting from anthropogenic sound exposure (*e.g.,* Kastelein *et al.,* 2001; 2005; 2006; Gailey *et al.,* 2007). For example, harbor porpoise respiration rates increased in response to pile driving sounds at and above a received broadband SPL of 136 dB (zero-peak SPL: 151 dB re 1 micropascal (μPa); SEL of a single strike (SEL_{ss}): 127 dB re 1 μPa^2-s) (Kastelein *et al.,* 2013).

Avoidance is the displacement of an individual from an area or migration path as a result of the presence of a sound or other stressors, and is one of the most obvious manifestations of disturbance in marine mammals (Richardson *et al.,* 1995). For example, gray whales (*Eschrictius robustus*) are known to change direction—deflecting from customary migratory paths—in order to avoid noise from seismic surveys (Malme *et al.,* 1984). Harbor porpoises, Atlantic white-sided dolphins (*Leukopleurus actusus*), and minke whales have demonstrated avoidance in response to vessels during line transect surveys (Palka and Hammond, 2001). In addition, beluga whales in the St. Lawrence Estuary in Canada have been reported to increase levels of avoidance with increased boat presence by way of increased dive durations and swim speeds, decreased surfacing intervals, and by bunching together into groups (Blane and Jaakson, 1994). Avoidance may be short-term, with animals returning to the area once the noise has ceased (*e.g.,* Bowles *et al.,* 1994; Goold, 1996; Stone *et al.,* 2000; Morton and Symonds, 2002; Gailey *et al.,* 2007). Longer-term displacement is possible, however, which may lead to changes in abundance or distribution patterns of the affected species in the affected region if habituation to the presence of the sound does not occur (*e.g.,* Blackwell *et al.,* 2004; Bejder *et al.,* 2006; Teilmann *et al.,* 2006).

A flight response is a dramatic change in normal movement to a directed and rapid movement away from the perceived location of a sound source. The flight response differs from other avoidance responses in the intensity of the response (*e.g.,* directed movement, rate of travel). Relatively little information on flight responses of marine mammals to anthropogenic signals exist, although observations of flight responses to the presence of predators have occurred (Connor and Heithaus, 1996; Bowers *et al.,* 2018). The result of a flight response could range from brief, temporary exertion and displacement from the area where the signal provokes flight to, in extreme cases, marine mammal strandings (England *et al.,* 2001). However, it should be noted that response to a perceived predator does not necessarily invoke flight (Ford and Reeves, 2008), and whether individuals are solitary or in groups may influence the response.

Behavioral disturbance can also impact marine mammals in more subtle ways. Increased vigilance may result in costs related to diversion of focus and attention (*i.e.,* when a response consists of increased vigilance, it may come at the cost of decreased attention to other critical behaviors such as foraging or resting). These effects have generally not been demonstrated for marine mammals, but studies involving fishes and terrestrial animals have shown that increased vigilance may substantially reduce feeding rates (*e.g.,* Beauchamp and Livoreil, 1997; Fritz *et al.,* 2002; Purser and Radford, 2011). In addition, chronic disturbance can cause population declines through reduction of fitness (*e.g.,* decline in body condition) and subsequent reduction in reproductive success, survival, or both (*e.g.,* Harrington and Veitch, 1992; Daan *et al.,* 1996; Bradshaw *et al.,* 1998). However, Ridgway *et al.* (2006) reported that increased vigilance in bottlenose dolphins exposed to sound over a 5-day period did not cause any sleep deprivation or stress effects.

Many animals perform vital functions, such as feeding, resting, traveling, and socializing, on a diel cycle (24-hour cycle). Disruption of such functions resulting from reactions to stressors such as sound exposure are more likely to be significant if they last more than one diel cycle or recur on subsequent days (Southall *et al.,* 2007). Consequently, a behavioral response lasting less than one day and not recurring on subsequent days is not considered particularly severe unless it could directly affect reproduction or survival (Southall *et al.,* 2007). Note that there is a difference between multi-day substantive (*i.e.,* meaningful) behavioral reactions and multi-day anthropogenic activities. For example, just because an activity lasts for multiple days does not necessarily mean that individual animals are either exposed to activity-related stressors for multiple days or, further, exposed in a manner resulting in sustained multi-day substantive behavioral responses.

Physiological stress responses. An animal's perception of a threat may be sufficient to trigger stress responses consisting of some combination of behavioral responses, autonomic nervous system responses, neuroendocrine responses, or immune responses (*e.g.,* Selye, 1950; Moberg, 2000). In many cases, an animal's first and sometimes most economical (in terms of energetic costs) response is behavioral avoidance of the potential stressor. Autonomic nervous system responses to stress typically involve changes in heart rate, blood pressure, and gastrointestinal activity. These responses have a relatively short duration and may or may not have a significant long-term effect on an animal's fitness.

Neuroendocrine stress responses often involve the hypothalamus-pituitary-adrenal system. Virtually all neuroendocrine functions that are affected by stress, including immune competence, reproduction, metabolism, and behavior—are regulated by pituitary hormones. Stress-induced changes in the secretion of pituitary hormones have been implicated in failed reproduction, altered metabolism, reduced immune competence, and behavioral disturbance (*e.g.,* Moberg, 1987; Blecha, 2000). Increases in the circulation of glucocorticoids are also equated with stress (Romano *et al.,* 2004).

The primary distinction between stress (which is adaptive and does not normally place an animal at risk) and ''distress'' is the cost of the response. During a stress response, an animal uses glycogen stores that can be quickly replenished once the stress is alleviated. In such circumstances, the cost of the stress response would not pose serious fitness consequences. However, when an animal does not have sufficient energy reserves to satisfy the energetic costs of a stress response, energy resources must be diverted from other functions. This state of distress will last until the animal replenishes its energetic reserves sufficient to restore normal function.

Relationships between these physiological mechanisms, animal behavior, and the costs of stress responses are well-studied through controlled experiments and for both laboratory and free-ranging animals (*e.g.,* Holberton *et al.,* 1996; Hood *et al.,* 1998; Jessop *et al.,* 2003; Krausman *et al.,* 2004; Lankford *et al.,* 2005; Ayres *et al.,* 2012; Yang *et al.,* 2022). Stress responses due to exposure to anthropogenic sounds or other stressors and their effects on marine mammals have also been reviewed (Fair and Becker, 2000; Romano *et al.,* 2002b) and, more rarely, studied in wild populations (*e.g.,* Romano *et al.,* 2002a). For example, Rolland *et al.* (2012) found that noise reduction from reduced ship traffic in the Bay of Fundy was associated with decreased stress in North Atlantic right whales. In addition, Lemos *et al.* (2022) observed a correlation between higher levels of fecal glucocorticoid metabolite concentrations (indicative of a stress response) and vessel traffic in gray whales. Yang *et al.* (2022) studied behavioral and physiological responses in captive bottlenose dolphins exposed to playbacks of ''pile-driving-like'' impulsive sounds, finding significant changes in cortisol and other physiological indicators but only minor behavioral changes. These and other studies lead to a reasonable expectation that some marine mammals will experience physiological stress responses upon exposure to acoustic stressors and that it is possible that some of these would be classified as ''distress.'' In addition, any animal experiencing TTS would likely also experience stress responses (NRC, 2005), however distress is an unlikely result of this project based on observations of marine mammals during previous, similar construction projects.

Vocalizations and Auditory Masking. Since many marine mammals rely on sound to find prey, moderate social interactions, and facilitate mating (Tyack, 2008), noise from anthropogenic sound sources can interfere with these functions, but only if the noise spectrum overlaps with the hearing sensitivity of the receiving marine mammal (Southall *et al.,* 2007; Clark *et al.,* 2009; Hatch *et* *al.,* 2012). Chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions (Clark *et al.,* 2009). Acoustic masking is when other noises such as from human sources interfere with an animal's ability to detect, recognize, or discriminate between acoustic signals of interest (*e.g.,* those used for intraspecific communication and social interactions, prey detection, predator avoidance, navigation) (Richardson *et al.,* 1995; Erbe *et al.,* 2016). Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction. The ability of a noise source to mask biologically important sounds depends on the characteristics of both the noise source and the signal of interest (*e.g.,* signal-to-noise ratio, temporal variability, direction), in relation to each other and to an animal's hearing abilities (*e.g.,* sensitivity, frequency range, critical ratios, frequency discrimination, directional discrimination, age or TTS hearing loss), and existing ambient noise and propagation conditions (Hotchkin and Parks, 2013).

Marine mammals vocalize for different purposes and across multiple modes, such as whistling, echolocation click production, calling, and singing. Changes in vocalization behavior in response to anthropogenic noise can occur for any of these modes and may result from a need to compete with an increase in background noise or may reflect increased vigilance or a startle response. For example, in the presence of potentially masking signals, humpback whales and killer whales (*Orcinus orca*) have been observed to increase the length of their songs (Miller *et al.,* 2000; Fristrup *et al.,* 2003) or vocalizations (Foote *et al.,* 2004), respectively, while North Atlantic right whales (*Eubalaena glacialis*) have been observed to shift the frequency content of their calls upward while reducing the rate of calling in areas of increased anthropogenic noise (Parks *et al.,* 2007). Fin whales (*Balaenoptera physalus*) have also been documented lowering the bandwidth, peak frequency, and center frequency of their vocalizations under increased levels of background noise from large vessels (Castellote *et al.* 2012). Other alterations to communication signals have also been observed. For example, gray whales, in response to playback experiments exposing them to vessel noise, have been observed increasing their vocalization rate and producing louder signals at times of increased outboard engine noise (Dahlheim and Castellote, 2016). Alternatively, in some cases, animals may cease sound production during production of aversive signals (Bowles *et al.,* 1994, Wisniewska *et al.,* 2018).

Under certain circumstances, marine mammals experiencing significant masking could also be impaired from maximizing their performance fitness in survival and reproduction. Therefore, when the coincident (masking) sound is human-made, it may be considered harassment when disrupting or altering critical behaviors. It is important to distinguish TTS and PTS, which persist after the sound exposure, from masking, which occurs during the sound exposure. Because masking (without resulting in TS) is not associated with abnormal physiological function, it is not considered a physiological effect, but rather a potential behavioral effect (though not necessarily one that would be associated with harassment).

The frequency range of the potentially masking sound is important in determining any potential behavioral impacts. For example, low-frequency signals may have less effect on high-frequency echolocation sounds produced by odontocetes but are more likely to affect detection of mysticete communication calls and other potentially important natural sounds such as those produced by surf and some prey species. The masking of communication signals by anthropogenic noise may be considered as a reduction in the communication space of animals (*e.g.,* Clark *et al.,* 2009) and may result in energetic or other costs as animals change their vocalization behavior (*e.g.,* Miller *et al.,* 2000; Foote *et al.,* 2004; Parks *et al.,* 2007; Di Iorio and Clark, 2010; Holt *et al.,* 2009). Masking can be reduced in situations where the signal and noise come from different directions (Richardson *et al.,* 1995), through amplitude modulation of the signal, or through other compensatory behaviors, including modifications of the acoustic properties of the signal or the signaling behavior (Hotchkin and Parks, 2013). Masking can be tested directly in captive species (*e.g.,* Erbe, 2008), but in wild populations it must be either modeled or inferred from evidence of masking compensation. There are few studies addressing real-world masking sounds likely to be experienced by marine mammals in the wild (*e.g.,* Branstetter *et al.,* 2013).

Masking occurs in the frequency band that the animals utilize, and is more likely to occur in the presence of broadband, relatively continuous noise sources such as vibratory pile driving. Energy distribution of pile driving sound covers a broad frequency spectrum, and is anticipated to be within the audible range of marine mammals present in the proposed action area. Since noises generated from the proposed construction activities are mostly concentrated at low frequencies (< 2 kHz), these activities likely have less effect on mid-frequency echolocation sounds produced by odontocetes (toothed whales). However, lower frequency noises are more likely to affect detection of communication calls and other potentially important natural sounds such as surf and prey noise. Low-frequency noise may also affect communication signals when they occur near the frequency band for noise and thus reduce the communication space of animals (*e.g.,* Clark *et al.,* 2009) and cause increased stress levels (*e.g.,* Holt *et al.,* 2009). Unlike TS, masking, which can occur over large temporal and spatial scales, can potentially affect the species at population, community, or even ecosystem levels, in addition to individual levels. Masking affects both senders and receivers of the signals, and at higher levels for longer durations, could have long-term chronic effects on marine mammal species and populations. However, the noise generated by the Navy's proposed activities will only occur intermittently, across an estimated 37 days during the authorization period in a relatively small area focused around the proposed construction site. Thus, while the Navy's proposed activities may mask some acoustic signals that are relevant to the daily behavior of marine mammals, the short-term duration and limited areas affected make it very unlikely that the fitness of individual marine mammals would be impacted.

While in some cases marine mammals have exhibited little to no obviously detectable response to certain common or routine industrialized activities (Cornick *et al.,* 2011; Horley and Larson, 2023), it is possible some animals may at times be exposed to received levels of sound above the Level B harassment thresholds during the proposed project. This potential exposure in combination with the nature of planned activity (*e.g.,* vibratory pile driving, impact pile driving) means it is possible that take by Level B harassment could occur over the total estimated period of activities; therefore, NMFS in response to the Navy's IHA application proposes to authorize take by Level B harassment from the Navy's proposed construction activities.

Airborne Acoustic Effects. Pinnipeds that occur near the project site could be exposed to airborne sounds associated with construction activities that have the potential to cause behavioral harassment, depending on their distance from these activities. Airborne noise would primarily be an issue for pinnipeds that are swimming or hauled out near the project site within the range of noise levels elevated above airborne acoustic harassment criteria. Although pinnipeds are known to haul-out regularly on man-made objects, we believe that incidents of take resulting solely from airborne sound are unlikely due to the proximity between the proposed project area and the known haulout sites (Figure 4–1 of application). Cetaceans are not expected to be exposed to airborne sounds that would result in harassment as defined under the MMPA.

We recognize that pinnipeds in the water could be exposed to airborne sound that may result in behavioral harassment when looking with their heads above water. Most likely, airborne sound would cause behavioral responses similar to those discussed above in relation to underwater sound. For instance, anthropogenic sound could cause hauled-out pinnipeds to exhibit changes in their normal behavior, such as reduction in vocalizations, or cause them to flush from haulouts, temporarily abandon the area, and or move further from the source. However, these animals would previously have been 'taken' because of exposure to underwater sound above the behavioral harassment thresholds, which are in all cases larger than those associated with airborne sound. Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. Therefore, we do not believe that authorization of incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further here.

Potential Effects on Marine Mammal Habitat

The Navy's proposed activities could have localized, temporary impacts on marine mammal habitat, including prey, by increasing in-water SPLs. Increased noise levels may affect acoustic habitat and adversely affect marine mammal prey in the vicinity of the project areas (see discussion below). Elevated levels of underwater noise would ensonify the project areas where both fishes and mammals occur and could affect foraging success. Additionally, marine mammals may avoid the area during the proposed construction activities; however, displacement due to noise is expected to be temporary and is not expected to result in long-term effects to the individuals or populations.

The total area likely impacted by the Navy's activities is relatively small compared to the available habitat in Narragansett Bay. Avoidance by potential prey (*i.e.,* fish) of the immediate area due to increased noise is possible. The duration of fish and marine mammal avoidance of this area after tugging stops is unknown, but a rapid return to normal recruitment, distribution, and behavior is anticipated. Any behavioral avoidance by fish or marine mammals of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity.

The proposed project will occur within the same footprint as existing marine infrastructure. The nearshore and intertidal habitat where the proposed project will occur is an area of relatively high marine vessel traffic. Most marine mammals do not generally use the area within the footprint of the project area. Temporary, intermittent, and short-term habitat alteration may result from increased noise levels during the proposed construction activities. Effects on marine mammals will be limited to temporary displacement from pile installation and removal noise, and effects on prey species will be similarly limited in time and space.

Water quality—Temporary and localized reduction in water quality will occur as a result of in-water construction activities. Most of this effect would occur during the installation and removal of piles when bottom sediments are disturbed. The installation and removal of piles would disturb bottom sediments and may cause a temporary increase in suspended sediment in the project area. During pile extraction, sediment attached to the pile moves vertically through the water column until gravitational forces cause it to slough off under its own weight. The small resulting sediment plume is expected to settle out of the water column within a few hours. Studies of the effects of turbid water on fish (marine mammal prey) suggest that concentrations of suspended sediment can reach thousands of milligrams per liter before an acute toxic reaction is expected (Burton, 1993).

Effects to turbidity and sedimentation are expected to be short-term, minor, and localized. Turbidity within the water column has the potential to reduce the level of oxygen in the water and irritate the gills of prey fish species in the proposed project area. However, turbidity plumes associated with the project would be temporary and localized, and fish in the proposed project area would be able to move away from and avoid the areas where plumes may occur. Therefore, it is expected that the impacts on prey fish species from turbidity, and therefore on marine mammals, would be minimal and temporary. In general, the area likely impacted by the proposed construction activities is relatively small compared to the available marine mammal habitat in Narragansett Bay.

Potential Effects on Prey. Sound may affect marine mammals through impacts on the abundance, behavior, or distribution of prey species (*e.g.,* crustaceans, cephalopods, fishes, zooplankton). Marine mammal prey varies by species, season, and location and, for some, is not well documented. Studies regarding the effects of noise on known marine mammal prey are described here.

Fishes utilize the soundscape and components of sound in their environment to perform important functions such as foraging, predator avoidance, mating, and spawning (*e.g.,* Zelick *et al.,* 1999; Fay, 2009). Depending on their hearing anatomy and peripheral sensory structures, which vary among species, fishes hear sounds using pressure and particle motion sensitivity capabilities and detect the motion of surrounding water (Fay *et al.,* 2008). The potential effects of noise on fishes depends on the overlapping frequency range, distance from the sound source, water depth of exposure, and species-specific hearing sensitivity, anatomy, and physiology. Key impacts to fishes may include behavioral responses, hearing damage, barotrauma (pressure-related injuries), and mortality.

Fish react to sounds that are especially strong and/or intermittent low-frequency sounds, and behavioral responses such as flight or avoidance are the most likely effects. Short duration, sharp sounds can cause overt or subtle changes in fish behavior and local distribution. The reaction of fish to noise depends on the physiological state of the fish, past exposures, motivation (*e.g.,* feeding, spawning, migration), and other environmental factors. (Hastings and Popper, 2005) identified several studies that suggest fish may relocate to avoid certain areas of sound energy. Additional studies have documented effects of pile driving on fishes (*e.g.* Scholik and Yan, 2001, 2002; Popper and Hastings, 2009). Several studies have demonstrated that impulse sounds might affect the distribution and behavior of some fishes, potentially impacting foraging opportunities or increasing energetic costs (*e.g.,* Fewtrell and McCauley, 2012; Pearson *et al.,* 1992; Skalski *et al.,* 1992; Santulli *et al.,* 1999; Paxton *et al.,* 2017). However, some studies have shown no or slight reaction to impulse sounds (*e.g.,* Peña *et al.,* 2013; Wardle *et al.,* 2001; Jorgenson and Gyselman, 2009; Cott *et al.,* 2012). More commonly, though, the impacts of noise on fishes are temporary.

SPLs of sufficient strength have been known to cause injury to fishes and fish mortality (summarized in Popper *et al.,* 2014). However, in most fish species, hair cells in the ear continuously regenerate and loss of auditory function likely is restored when damaged cells are replaced with new cells. Halvorsen *et al.* (2012b) showed that a TTS of 4 to 6 dB was recoverable within 24 hours for one species. Impacts would be most severe when the individual fish is close to the source and when the duration of exposure is long. Injury caused by barotrauma can range from slight to severe and can cause death, and is most likely for fish with swim bladders. Barotrauma injuries have been documented during controlled exposure to impact pile driving (Halvorsen *et al.,* 2012a; Casper *et al.,* 2013, 2017).

Fish populations in the proposed project area that serve as marine mammal prey could be temporarily affected by noise from pile installation and removal. The frequency range in which fishes generally perceive underwater sounds is 50 to 2,000 Hz, with peak sensitivities below 800 Hz (Popper and Hastings, 2009). Fish behavior or distribution may change, especially with strong and/or intermittent sounds that could harm fishes. High underwater SPLs have been documented to alter behavior, cause hearing loss, and injure or kill individual fish by causing serious internal injury (Hastings and Popper, 2005).

Zooplankton is a food source for several marine mammal species, as well as a food source for fish that are then preyed upon by marine mammals. Population effects on zooplankton could have indirect effects on marine mammals. Data are limited on the effects of underwater sound on zooplankton species, particularly sound from construction (Erbe et al., 2019). Popper and Hastings (2009) reviewed information on the effects of human-generated sound and concluded that no substantive data are available on whether the sound levels from pile driving, seismic activity, or any human-made sound would have physiological effects on invertebrates. Any such effects would be limited to the area very near (1 to 5 m) the sound source and would result in no population effects because of the relatively small area affected at any one time and the reproductive strategy of most zooplankton species (short generation, high fecundity, and very high natural mortality). No adverse impact on zooplankton populations is expected to occur from the specified activity due in part to large reproductive capacities and naturally high levels of predation and mortality of these populations. Any mortalities or impacts that might occur would be negligible.

The greatest potential impact to marine mammal prey during construction would occur during impact and vibratory pile driving. However, the duration of impact pile driving would be limited to the final stage of installation (''proofing'') after the pile has been driven as close as practicable to the design depth with a vibratory driver. In-water construction activities would only occur during daylight hours, allowing fish to forage and transit the project area in the evening. Vibratory pile driving would possibly elicit behavioral reactions from fishes such as temporary avoidance of the area but is unlikely to cause injuries to fishes or have persistent effects on local fish populations. Construction also would have minimal permanent and temporary impacts on benthic invertebrate species, a marine mammal prey source. In addition, it should be noted that the area in question is low-quality habitat since it is already highly developed and experiences a high level of anthropogenic noise from normal operations and other vessel traffic.

Potential Effects on Foraging Habitat

The project is not expected to result in any habitat related effects that could cause significant or long-term negative consequences for individual marine mammals or their populations, since installation and removal of many in-water piles would be temporary and intermittent. The total seafloor area affected by pile installation and removal is a very small area compared to the vast foraging area available to marine mammals outside this project area. The area impacted by the project is relatively small compared to the available habitat just outside the project area, and there are no areas of particular importance that would be impacted by this project. 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. As described in the preceding, the potential for the Navy's construction to affect the availability of prey to marine mammals or to meaningfully impact the quality of physical or acoustic habitat is considered to be insignificant. Therefore, impacts of the project are not likely to have adverse effects on marine mammal foraging habitat in the proposed project area.

In summary, given the relatively small areas being affected, as well as the temporary and mostly transitory nature of the proposed construction activities, any adverse effects from the Navy's activities on prey habitat or prey populations are expected to be minor and temporary. The most likely impact to fishes at the project site would be temporary avoidance of the area. 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. Thus, we preliminarily conclude that impacts of the specified activities are not likely to have more than short-term adverse effects on any prey habitat or populations of prey species. Further, any impacts to marine mammal habitat are not expected to result in significant or long-term consequences for individual marine mammals, or to contribute to adverse impacts on their populations.

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes proposed for authorization through the IHA, which will inform NMFS' consideration of ''small numbers,'' the negligible impact determinations, and impacts on subsistence uses.

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 would be by Level B harassment only, as use of the acoustic source (*i.e.,* pile driving) has the potential to result in disruption of behavioral patterns for individual marine mammals. Auditory injury (AUD INJ) (Level A harassment) is unlikely to occur due to mitigation measures. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.,* shutdown) discussed in detail below in the Proposed Mitigation section, Level A harassment is neither anticipated nor proposed to be authorized.

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

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic criteria above which NMFS believes there is some reasonable potential for marine mammals to be behaviorally harassed or incur some degree of AUD INJ; (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 proposed take estimates.

Acoustic Criteria

NMFS recommends the use of acoustic criteria 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 AUD INJ 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 re 1 μPa) for continuous (*e.g.,* vibratory pile driving, drilling) and above RMS SPL 160 dB re 1 μPa for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources. Generally speaking, estimates of take by Level B harassment based on these behavioral harassment thresholds are expected to include any likely takes by TTS as, in most cases, the likelihood of TTS occurs at distances from the source less than those at which behavioral harassment is likely. TTS of a sufficient degree can manifest as behavioral harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect important signals (conspecific communication, predators, prey) may result in changes in behavior patterns that would not otherwise occur.

The Navy's proposed activity includes the use of continuous (vibratory hammer) and impulsive (impact hammer) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re 1 μPa are applicable.

Level A harassment—NMFS' Updated Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0) (Updated Technical Guidance, 2024) identifies dual criteria to assess AUD INJ (Level A harassment) to five different underwater marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive).

The 2024 Updated Technical Guidance criteria include both updated thresholds and updated weighting functions for each hearing group. The thresholds are provided in table 3 above. The references, analysis, and methodology used in the development of the criteria are described in NMFS' 2024 Updated Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools.*

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.

To estimate the sound levels during installation and removal of the proposed piles in the project area, proxy source levels for the piles were identified from the literature. Vibratory source levels were based on the data from vibratory pile-driving of timber piles at Norfolk NAVSTA (Illingworth and Rodkin, 2017). Impact pile-driving source levels for timber piles was based on the summary of data for timber piles provided by Caltrans (2020). Table 4 describes the modeled source levels for both types of pile driving proposed for the project activities.

TABLE 4—UNDERWATER NOISE SOURCE LEVELS MODELED FOR IMPACT AND VIBRATORY PILE-DRIVING

Pile type	Method	Source for proxy values used	SPLs or SEL at 10 meters distance		
			Average Peak SPL, dB re 1 μPa	Average RMS SPL, dB re 1 μPa	Average SEL, dB re 1 μPa2-sec
Timber Pile	Impact	Caltrans (2020)	180	170	160
Timber Pile	Vibratory	Illingworth and Rodkin (2017)	NA	162	NA

SPL = Sound Pressure Levels; SEL = Sound Exposure Level; RMS = root mean square; dB re 1 μPa = decibels referenced to 1 micropascal; dB re 1 μPa²-sec = decibels referenced to 1 micropascal squared second; NA = not applicable. All SPLs and SELs are unattenuated.

Pile-driving will generate underwater noise that potentially could result in harassment to marine mammals swimming by the proposed project area. Transmission loss (TL) underwater is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source until the source becomes indistinguishable from ambient sound. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. A ''Practical Spreading'' value of 15 (referred to as ''practical spreading loss'') is widely used for intermediate or spatially varying conditions when actual values for TL are unknown. This value was used to model the estimated range from pile-driving activity to various expected SPLs at potential project structures. This model follows a geometric propagation loss based on the distance from the driven pile, resulting in a 4.5 dB reduction in level for each doubling of distance from the source. In this model, the SPL at some distance away from the source (*e.g.,* driven pile) is governed by a measured source level, minus the TL of the energy as it dissipates with distance. The TL equation is:

$$TL = 15\ log_{10}\ (R_1/R_2)$$

Where:

TL is the transmission in dB,
R_1 is the distance of the modeled SPL from the driven pile, and
R_2 is the distance (usually 10 m) from the driven pile of the initial measurement.

The degree to which underwater noise propagates away from a noise source is dependent on a variety of factors, most notably by bathymetry and the presence or absence of reflective or absorptive conditions, including the water surface and sediment type. The TL model described above was used to calculate the expected noise propagation from both impact and vibratory pile-driving using representative source levels to estimate the harassment or area exceeding the noise criteria. These zones are based on the pile location within the construction area with the greatest anticipated noise propagation.

The Navy used NMFS Technical Guidance, revised in 2024 (NMFS 2024a) to calculate the maximum distance to AUD INJ onset and behavioral onset associated with vibratory and impact pile-driving. The NMFS Multi-species calculator tool was used to calculate the distances to the AUD INJ isopleth based on the SEL_{24} thresholds and the behavioral thresholds for the three hearing groups are provided in Table 5 and Table 6 for vibratory and impact pile removal and installation activities, respectively. Calculated distances to Level B (behavioral) thresholds are large but do not account for attenuation from intersecting landmasses, which would reduce the overall area of potential impact to the Region of Influence (ROI). Level A (AUD INJ onset) and Level B (behavioral) thresholds have the potential to be exceeded within the entire ROI.

Adjusted maximum distances are provided for the behavioral thresholds where the extent of noise reaches land prior to reaching the calculated radial distance to the threshold. Areas encompassed within the threshold (harassment zone) were calculated using the location of a representative pile. Sound source locations were chosen to model the greatest possible affected areas.

As shown in Table 5, the maximum radial distance (which would occur from the removal/installation of the outermost pile) to the Level A harassment isopleth (AUD INJ onset) for non-impulsive noise (vibratory pile-driving) would be approximately 16.9 m (55.4 ft) for harbor porpoise, 7.9 m (25.9 ft) for Atlantic white-sided and short-beaked common dolphins, and 87.3 ft (26.6 m) for seals. The maximum radial distance to the Level B harassment isopleth for all marine mammals would be 3.9 mi (6.31 km).

TABLE 5—CALCULATED MAXIMUM DISTANCES CORRESPONDING TO MMPA THRESHOLDS FOR UNDERWATER SOUND FROM NON-IMPULSIVE NOISE

[Vibratory pile] [1]

Timber pile	Injury (AUD INJ onset) Level A			Behavioral disturbance Level B
	High-frequency cetaceans 201 dB SEL_{CUM} threshold radial distance/area	Very high-frequency cetaceans 181 dB SEL_{CUM} threshold radial distance/area	Phocid pinnipeds 195 dB SEL_{CUM} threshold radial distance/area	All marine mammals 120 dB RMS threshold baseline radial distance/area [1]
Removal	7.9 m/196.1 m^2	16.9 m/897.2 m^2	26.6 m/2,222.3 m^2	6,310 m/7,810 m^2.
Installation	1.1 m/3.8 m^2	2.3 m/16.6 m^2	3.6 m/40.7 m^2	6,310 m/7,810 m^2.

As shown in Table 6, the maximum distance to AUD INJ onset for impact pile-driving would be approximately 32.1 m (105.3 ft) for harbor porpoise, 2.6 m (8.5 ft) for Atlantic white-sided and short-beaked common dolphins, and 18.4 m (60.4 ft) for seals. The maximum radial distance to the impulsive behavioral disturbance threshold (160 dB RMS) would be approximately 46 m (150 ft) for all marine mammals.

TABLE 6—CALCULATED MAXIMUM DISTANCES CORRESPONDING TO MMPA THRESHOLDS FOR UNDERWATER SOUND FROM IMPULSIVE NOISE

[Impact pile-driving] [1]

Timber pile	Injury (AUD INJ onset) Level A			Behavioral disturbance Level B
	High-frequency cetaceans 193 dB SEL_{CUM} threshold radial distance/area	Very high-frequency cetaceans 159 dB SEL_{CUM} threshold radial distance/area	Phocid pinnipeds 183 dB SEL_{CUM} threshold radial distance/area	All marine mammals 160 dB RMS threshold radial distance/area
Installation	2.6 m/21.2 m^2	32.1 m/3,237 m^2	18.4 m/1,063.6 m^2	46 m/6,647 m^2.

Marine Mammal Occurrence and Take Estimation

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

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

To determine the number of animals potentially exposed, the following equation was used:

Exposure estimate = (N × harassment zone) × days of pile-driving

Where:

N = density estimate used for each species
Harassment zone = the area where noise exceeds the noise threshold value

The exposure estimate was then rounded to a whole number at the end of the calculation.

The following assumptions were used to calculate potential exposures to impact and vibratory pile removal and installation noise for each threshold:

- Each animal can be taken via Level B harassment once every 24 hrs.
- The installation method that produces the largest harassment zone was used to estimate exposure of marine mammals to noise impacts.
- Days of pile removal/installation were based on the standard average daily production rates, but actual daily production rates may vary. Production rates would be maximized to the extent possible.
- All piles will have an underwater noise disturbance distance equal to the pile that causes the greatest noise disturbance (that is, the pile farthest from shore) installed with the method that has the largest harassment zone. The largest Level B harassment zone will be produced by vibratory driving. In this case, the harassment zone for an impact hammer will be encompassed by the larger behavioral harassment zone from the vibratory driver.

The best available marine mammal density data for the U.S. western North-Atlantic region is the Navy Marine Species Density Database (NMSDD). These values reflect data collected during offshore sightings, so they must be adjusted for inshore waters. Where cetacean density calculations produced a value greater than one but less than the average group size for cetacean species (Oliveira *et al.* 2024), the take estimate was adjusted to that higher value. As cetaceans travel in groups, average group sizes were used as a minimum value to estimate take. NMFS proposes using the average group size for Atlantic white-sided dolphins and common dolphins.

The NMSDD models harbor and gray seals as a guild due to the difficulty in distinguishing these species at sea (Roberts *et al.* 2023). Harbor seals are expected to be the most common pinniped sighted in Narragansett Bay, with a haulout known as The Sisters only 0.9 mi (1.5 km) away from the project site. Harbor seals are rarely observed at The Sisters haul-out from September to October, however, they are regular visitors in mid-November (up to 10 seals per day). These numbers gradually increase, peaking in March (less than 50 individuals per day), and typically at low tide (DeAngelis 2023; Moll *et al.* 2017; Moll 2016). The maximum guild density (0.439 seals/km²) was determined to be appropriate for estimating takes of harbor seal since they are the most common in the Narragansett Bay.

Gray seals are the second most common seal at the project site and, based on stranding records, are commonly observed during spring to early summer and occasionally observed during other months of the year (Kenney, 2020). Therefore, the average density (0.306 species/km²) for the harbor-gray seal guild was used for gray seal occurrence in Narragansett Bay.

Harp seals and hooded seals are considered occasional visitors in Narragansett Bay but much rarer than harbor and gray seals (Kenney, 2015), so the minimum guild density was used to estimate take (0.127 species/km²) for the harp seal. Hooded seals are the rarest pinniped species that is reasonably likely to occur within Narragansett Bay. The Navy proposes, and NMFS concurs, that one hooded seal may occur within the project area over the course of the 37 days of pile driving. Densities used for calculating take are shown in Table 7, while proposed incidental take for the Pier 171 construction activity, including percentage of each stock is represented below in table 8.

TABLE 7—PROPOSED SEASONAL DENSITIES FOR SPECIES IN NARRAGANSETT BAY

Species	Relative and seasonal occurrence in Narragansett Bay [2]	Density in the project [1] area (animals/km²)	Average group size [2]
Atlantic white-sided dolphin	Occasional Summer and Fall	Winter: 0.000 Spring: 0.0000. Summer: 0.0001. Fall: 0.0001.	13
Common dolphin/Short-beaked	Occasional Winter and Fall	Winter: 0.003 Spring: 0.002. Summer: 0.0004. Fall: 0.004.	31
Harbor porpoise	Occasional Winter and Spring	Winter: 0.014 Spring: 0.008. Summer: 0.0001. Fall: 0.0001.	3
Harbor seal	Common Winter, Spring, and Fall	Winter: 0.439 Spring: 0.364. Summer: 0.395. Fall: 0.402.	1
Gray seal	Occasional Spring and Summer	Winter: 0.262 Spring: 0.230. Summer: 0.295. Fall: 0.306..	1
Harp seal	Rare Winter and Spring	Winter: 0.131 Spring: 0.127. Summer: 0. Fall: 0.	1

TABLE 7—PROPOSED SEASONAL DENSITIES FOR SPECIES IN NARRAGANSETT BAY—Continued

Species	Relative and seasonal occurrence in Narragansett Bay [2]	Density in the project [1] area (animals/km²)	Average group size [2]
Hooded seal	Rare Winter and Spring	Winter: 0.0000 Spring: 0.0000. Summer: 0.0000. Fall: 0.0000.	1

[1] Density calculations used the highest seasonal density for cetaceans, maximum density for harbor seals, average for gray seals, and minimum for harp and hooded seals.
[2] The average group size according to summarized AMAPPS data.

TABLE 8—PROPOSED TAKE OF MARINE MAMMALS BY LEVEL B HARASSMENT BY SPECIES, AND PERCENT OF STOCK

Species name	Stock	Stock abundance	Level A (AUD INJ)	Level B (behavioral)	Total proposed take	Proposed take as percentage of stock
Atlantic white-sided dolphin (*Leucopleurus acutus*).	Western North Atlantic Stock	93,233 (CV = 0.71)	0	16	16	.017
Short-beaked common dolphin (*Delphinus delphis delphis*).	Western North Atlantic Stock	93,100 (CV = 0.56)	0	31	31	.033
Harbor porpoise (*Phocoena phocoena*).	Gulf of Maine/Bay of Fundy	85,765 (CV = 0.53)	0	4	4	.005
Harbor seal (*Phoca vitulina vitulina*).	Western North Atlantic Stock	61, 336 (CV = 0.08).	0	127	127	.207
Gray seal (*Halichoerus grypus atlantica*).	Western North Atlantic Stock	27,911 (CV = 0.20)	0	88	88	.315
Harp seal (*Pagophilus groenlandicus*).	Western North Atlantic Stock	7,600,000 (CV = UKN).	0	38	38	.001
Hooded seal (*Cystophora cristata*).	Western North Atlantic Stock	UKN (CV = UKN)	0	1	1	NA

Proposed Mitigation

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

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

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

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

The mitigation requirements described in the following were proposed by the Navy in its adequate and complete application or are the result of subsequent coordination between NMFS and the Navy. The Navy has agreed that all of the mitigation measures are practicable. NMFS has fully reviewed the specified activities and the mitigation measures to determine if the mitigation measures would result in the least practicable adverse impact on marine mammals and their habitat, as required by the MMPA, and has determined the proposed measures are appropriate. NMFS describes these below as proposed mitigation requirements (see section 11 of the Navy's application for more detail) and has included them in the proposed IHA.

In addition to the measures described later in this section, the Navy would follow these general mitigation measures:

- Authorized take, by Level A and Level B harassment only, would be limited to the species and numbers listed in Table 8. Construction activities 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 taking by serious injury or death of any of the species listed in Table 8 or any taking of any other species of marine mammal would be prohibited and would result in the modification, suspension, or revocation of the IHA, if issued. Any taking exceeding the authorized amounts listed in Table 8 would be prohibited and would result in the modification, suspension, or revocation of the IHA, if issued.
- Ensure that construction supervisors and crews, the marine mammal monitoring team, and relevant Navy staff are trained prior to the start of all construction activities, so that responsibilities, communication

procedures, marine mammal monitoring protocol, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work.

- The Navy, construction supervisors and crews, Protected Species Observers (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.
- Employ PSOs and establish monitoring locations as described in Section 5 of the IHA and the Navy's Marine Mammal Monitoring and Mitigation Plan, which would be submitted to NMFS for approval no later than 30 days in advance of construction work. 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. A minimum of two PSOs would be required for all activities; when zones exceed 1,000 m, a minimum of three PSOs would be required.

Additionally, the following mitigation measures apply to the Navy's in-water construction activities:

Establishment of Shutdown Zones—To prevent injury from physical interaction with construction equipment, the Navy proposes a minimum shutdown zone of 10 m (33 ft) be implemented during all in-water construction activities having the potential to affect marine mammals. The Navy would establish shutdown zones with radial distances as identified in Table 9 for all construction activities involving pile driving. If a marine mammal is observed entering or within the shutdown zone indicated in Table 9, pile driving activity must be delayed or halted. If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zones or 15 minutes have passed without re-detection of the animal. If a marine mammal comes within or approaches the shutdown zone indicated in Table 9, such operations must cease. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Shutdown zones would vary based on the activity type and marine mammal hearing group.

TABLE 9—PROPOSED SHUTDOWN ZONES DURING PROJECT ACTIVITIES

Activity	Pile type/size	Shutdown zone (m)		
		HF cetaceans	VHF cetaceans	PW
Impact and vibratory Installation and removal	30–35 cm (12–14 in)	35 m (115 ft).		

Notes: cm = centimeter(s), m = meter(s).

Pre- and Post-Activity Monitoring—Monitoring would take place from 30 minutes prior to initiation of pile driving activity (*i.e.,* pre-start clearance monitoring) through 30 minutes post-completion of pile driving activity. In addition, monitoring for 30 minutes would take place whenever a break in the specified activity (*i.e.,* impact pile driving, vibratory pile driving) of 30 minutes or longer occurs. Pre-start clearance monitoring would be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones indicated in Table 9 are clear of marine mammals. Pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals.

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

NMFS also considered the use of bubble curtains as a mitigation measure. Bubble curtains were deemed not practicable, as they would not be effective in the limited working area of Pier 171. Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has preliminarily determined that the proposed 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.

Proposed Monitoring and Reporting

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

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

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.,* presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the activity; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or

cumulative), other stressors, or cumulative impacts from multiple stressors;

- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

The Navy would abide by all monitoring and reporting measures contained within the IHA, if issued, and their Marine Mammal Monitoring and Mitigation Plan (to be submitted for NMFS approval no later than 30 days prior to the start of construction). A summary of those measures and additional requirements proposed by NMFS is provided below.

Visual Monitoring—A minimum of two NMFS-approved PSOs must be stationed at strategic vantage points for the entirety of active construction operations. PSOs would 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 would have prior experience performing the duties of a PSO during an activity pursuant to a NMFS-issued Incidental Take Authorization (ITA) or Letter of Concurrence (LOC). 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.

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

PSOs would also have the following additional qualifications:

- The 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: (1) the number and species of marine mammals observed; (2) dates and times when in-water construction activities were conducted; (3) dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and (4) marine mammal behavior; and
- The 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 monitoring locations as described in the approved Marine Mammal Monitoring and Mitigation Plan (see figure 11–1 of the Navy's IHA application for map indicating potential locations). For all pile driving activities, a minimum of two PSOs must be assigned to each active pile driving location to monitor the shutdown zones. In order to effectively monitor a zone of 1000 m or more, at least three PSOs would be required. PSOs would record all observations of marine mammals, regardless of distance from the pile being driven, as well as the additional data indicated below and in section 6 of the IHA, if issued.

Acoustic Monitoring

The Navy must establish acoustic monitoring procedures as described in the Acoustic Monitoring Plan (see summary in section 13.4 of the Navy's application) to verify the sound source levels predicted. An acoustic monitoring plan would be submitted to NMFS no later than 60 days prior to the beginning of in-water construction for approval. The Navy proposes to monitor a minimum of 10 percent and up to 16 of each type of piling with at least 2 hydrophones, 1 placed approximately 10 m from the incident pile, and 1 further away in accordance with a hydroacoustic monitoring plan that would be approved by NMFS in advance of construction. The estimated harassment and/or shutdown zones may be modified with NMFS' approval following NMFS' acceptance of an acoustic monitoring report. See section 13 of the Navy's IHA application for more detail.

At minimum, the methodology would include:

- For underwater recordings, a stationary hydrophone system with the ability to measure SPLs will be placed in accordance with NMFS' most recent guidance for the collection of source levels (NMFS, 2012).
- A close-range hydrophone placed at a horizontal distance of 10 m from the pile. Additional hydrophones would be placed at (1) a horizontal distance no less than three times the water depth and (2) in the far field, well away from the source. Hydrophones would be placed at a depth of half the water depth at each measurement location. Exact positioning of the hydrophone(s) would ensure a direct, unobstructed path between the sound source and the hydrophone(s);
- Measurement systems would be deployed using configurations which minimize self or platform noise and ensure stable positioning throughout the recordings;
- The recordings would be continuous throughout each acoustic event for which monitoring is required;
- The SSV measurement systems would have a sensitivity appropriate for the expected SPLs. The frequency range of SSV measurement systems would cover the range of at least 20 Hz to 20 kHz. The dynamic range of the measurement system would be sufficient such that at each location, the signals would avoid poor signal-to-noise ratios for low amplitude signals, and would avoid clipping, nonlinearity, and saturation for high amplitude signals;
- All hydrophones used in SSV measurements systems would be required to have undergone a full system laboratory calibration conforming to a recognized standard procedure, from a factory or accredited source to ensure the hydrophone(s) receives accurate SPLs, at a date not to exceed 2 years before deployment.
- Environmental data would 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 the airborne and underwater SPLs (*e.g.,* aircraft, boats, etc.); and
- The project engineer would supply the acoustics specialist with the substrate composition, hammer model and size, hammer energy settings, depth of drilling, and boring rates and any changes to those settings during the monitoring.

For acoustically monitored construction activities, data from the continuous monitoring locations would be post-processed to obtain the following sound measures:

- Maximum peak sound pressure level recorded for all activities, expressed in dB re 1 μPa. This maximum value will originate from the phase of hammering during which hammer energy was also at maximum.
- From all activities occurring during the time that the hammer was at maximum energy, these additional measures will be made, as appropriate:

◦ mean, median, minimum, and maximum RMS SPL (dB re 1 μPa);
◦ mean duration of a pile strike (based on the 90 percent energy criterion);
◦ number of hammer strikes;
◦ mean, median, minimum, and maximum SEL_{ss} (dB re μPa² sec);
◦ Median integration time used to calculate RMS SPL (for vibratory monitoring, the time period selected is 1-second intervals. For impulsive monitoring, the time period is 90% of the energy pulse duration);
◦ A frequency spectrum (power spectral density) (dB re μPa² per Hz) based on all strikes with similar sound;
◦ Finally, the SEL_{24} would be computed from all the strikes associated with each pile occurring during all phases, *i.e.,* soft start. This measure is defined as the sum of all SEL_{ss} values. The sum is taken of the antilog, with log_{10} taken of result to express (dB re μPa² sec).

Reporting—The Navy would be required to submit an annual draft summary report on all construction activities and marine mammal monitoring results to NMFS within 90 days following the end of construction or 60 calendar days prior to the requested issuance of any subsequent IHA for similar activity at the same location, whichever comes first. The draft summary report would include an overall description of construction work completed, a narrative regarding marine mammal sightings, and associated raw PSO data sheets (in electronic spreadsheet format). 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 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 the sighting;
• Time of the 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 bearing of each observed marine mammal relative to the pile being driven or removed for each sighting;
• Estimated number of animals (min/max/best estimate);
• Estimated number of animals by cohort (*e.g.,* adults, juveniles, neonates, group composition, *etc.*);
• Animal's closest point of approach and estimated time spent within the estimated harassment zone(s);
• Description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
• Number of marine mammals detected within the estimated 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.

Acoustic monitoring report(s) must be submitted on the same schedule as visual monitoring reports *(i.e.,* within 90 days following the completion of construction). The acoustic monitoring report must contain the informational elements described in the Acoustic Monitoring Plan (see summary in section 13.4 of the Navy's application) and, at minimum, must include:

• Hydrophone equipment and methods: (1) recording device, sampling rate, calibration details, distance (m) from the pile where recordings were made; and (2) the depth of water and recording device(s);
• Location, identifier, orientation (*e.g.,* vertical, battered), material, and geometry (shape, diameter, thickness, length) 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, its distance from the pile and hydrophone, and the duration of its use per pile;
• For impact pile driving: (1) number of strikes per day and per pile and strike rate; (2) depth of substrate to penetrate; (3) decidecade (one-third octave) band spectra in tabular and figure formats computed on a per-pulse basis, including the arithmetic mean or median for all computed spectra; (4) pulse duration and median, mean, maximum, minimum, and number of samples (where relevant) of the following sound level metrics: (5) RMS SPL; (6) SEL_{24}, Peak (PK) SPL, and SEL_{ss}; and
• For vibratory driving/removal: (1) duration of driving per pile; (2) vibratory hammer operating frequency; (3) decidecade (one-third octave) band spectra in tabular and figure formats for 1-second windows, including the arithmetic mean or median for all computed spectra; and (4) median, mean, maximum, minimum, and number of samples (where relevant) of the following sound level metrics: 1-sec RMS SPL, SEL_{24} (and timeframe over which the sound is averaged).

If no comments are received from NMFS within 30 days after the submission of the draft summary report, the draft report would constitute the final report. If the Navy received comments from NMFS, a final summary report addressing NMFS' comments would be submitted within 30 days after receipt of comments.

Reporting Injured or Dead Marine Mammals—In the event that personnel involved in the Navy's activities discover an injured or dead marine mammal, the Navy would report the incident to the NMFS Office of Protected Resources (OPR) (*PR.ITP.MonitoringReports@noaa.gov, ITP.gatzke@noaa.gov*) and to the Greater Atlantic Region Regional Stranding Coordinator as soon as feasible. If the death or injury was clearly caused by the specified activity, the Navy would 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 IHA. The Navy would not resume their activities until notified by NMFS. The report would include the following information:

• Description of the incident;
• Environmental conditions (*e.g.,* Beaufort sea state, visibility);
• Description of all marine mammal observations in the 24 hours preceding the incident;
• Photographs or video footage of the animal(s) (if equipment is available);
• 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; and
- General circumstances under which the animal was discovered.

Negligible Impact Analysis and Determination

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

To avoid repetition, the majority of our analysis applies to all the species listed in table 2, 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.

Pile driving activities associated with the Navy's construction project has the potential to disturb or displace marine mammals. Project activities may result in take, in the form of Level B harassment, from underwater sounds generated from pile driving and removal. Potential takes could occur if individuals are present in the ensonified zone when these activities are underway.

No serious injury or mortality would be expected, even in the absence of required mitigation measures, given the nature of the activities. Further, no take by Level A harassment is anticipated due to the application of proposed mitigation measures, such as shutdown zones that encompass the Level A harassment zones. The potential for harassment would be minimized through the construction method and the implementation of the planned mitigation measures (see Proposed Mitigation section).

Proposed takes by Level B harassment would be due to potential behavioral disturbance and TTS. A subset of the individuals that are behaviorally harassed could also simultaneously incur some small degree of TTS for a short duration of time. However, since the hearing sensitivity of individuals that incur TTS is expected to recover completely within minutes to hours, it is unlikely that the brief hearing impairment would affect the individual's long-term ability to forage and communicate with conspecifics, and would therefore not likely impact reproduction or survival of any individual marine mammal, let alone adversely affect rates of recruitment or survival of the species or stock.

Effects on individuals that are taken by Level B harassment in the form of behavioral disruption, on the basis of reports in the literature as well as monitoring from other similar activities, would likely be limited to reactions such as avoidance, increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.,* Thorson and Reyff 2006). Most likely, individuals would simply move away from the sound source and temporarily avoid the area where pile driving is occurring. If sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activities are occurring. We expect that any avoidance of the project areas by marine mammals would be temporary in nature and that any marine mammals that avoid the project areas during construction would not be permanently displaced. Short-term avoidance of the project areas and energetic impacts of interrupted foraging or other important behaviors is unlikely to affect the reproduction or survival of individual marine mammals, and the effects of behavioral disturbance on individuals is not likely to accrue in a manner that would affect the rates of recruitment or survival of any affected stock.

The project is also not expected to have significant adverse effects on affected marine mammals' habitats. No ESA-designated critical habitat or biologically important areas (BIAs) are located within the project area. The project activities would not modify existing marine mammal habitat for a significant amount of time. The activities may cause a low level of turbidity in the water column and some fish may 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. Seasonal nearshore marine mammal surveys were conducted at NAVSTA Newport from May 2016 to February 2017, and several harbor seal haul outs were identified in Narragansett Bay, but no pupping was observed.

For all species and stocks, take would occur within a limited, relatively confined area (Coddington Cove) of the stock's range. Given the availability of suitable habitat nearby, any displacement of marine mammals from the project areas is not expected to affect marine mammals' fitness, survival, and reproduction due to the limited geographic area that would be affected in comparison to the much larger habitat for marine mammals within Narragansett Bay and outside the bay along the Rhode Island coasts. Level B harassment would be reduced to the level of least practicable adverse impact to the marine mammal species or stocks and their habitat through use of mitigation measures described herein.

Some individual marine mammals in the project area, such as harbor seals, may be present and be subject to repeated exposure to sound from pile driving activities on multiple days. However, pile driving and extraction is not expected to occur on every day, and these individuals would likely return to normal behavior during gaps in pile driving activity within each day of construction and in between work days. As discussed above, there is similar transit and haul out habitat available for marine mammals within and outside of the Narragansett Bay along the Rhode Island coast, outside of the project area, where individuals could temporarily relocate during construction activities to reduce exposure to elevated sound levels from the project. Therefore, any behavioral effects of repeated or long duration exposures are not expected to negatively affect survival or reproductive success of any individuals. Thus, even repeated Level B harassment of some small subset of an overall stock is unlikely to result in any effects on rates of reproduction and survival of the stock.

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

- No serious injury or mortality is anticipated or proposed for authorization;
- No Level A harassment is anticipated or proposed for authorization;
- The intensity of anticipated takes by Level B harassment is relatively low for all stocks. Level B harassment would be primarily in the form of behavioral disturbance, resulting in avoidance of the project areas around where impact or vibratory pile driving is occurring, with some low-level TTS that may limit the detection of acoustic cues for relatively brief amounts of time in relatively confined footprints of the activities;
- Nearby areas of similar habitat value (*e.g.,* transit and haul out habitats) within and outside of Narragansett Bay are available for marine mammals that may temporarily vacate the project area during construction activities;
- The specified activity and associated ensonifed areas do not include habitat areas known to be of special significance (BIAs or ESA-designated critical habitat);
- Effects on species that serve as prey for marine mammals from the activities are expected to be short-term and, therefore, any associated impacts on marine mammal feeding are not expected to result in significant or long-term consequences for individuals, or to accrue to adverse impacts on their populations;
- The ensonified areas are very small relative to the overall habitat ranges of all species and stocks, and would not adversely affect ESA-designated critical habitat for any species or any areas of known biological importance;
- The lack of anticipated significant or long-term negative effects to marine mammal habitat; and
- The efficacy of the mitigation measures in reducing the effects of the specified activities on all species and stocks.

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

Small Numbers

As noted previously, only take of small numbers of marine mammals may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers (see 86 FR 5322, January 19, 2021). Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

Table 8 demonstrates the number of instances in which individuals of a given species could be exposed to received noise levels that could cause take of marine mammals. The instances of take NMFS proposes to authorize is below one-third of the estimated stock abundance for all impacted stocks (table 8). In fact, take of individuals is less than 1 percent of the abundance for all affected stocks. The number of animals that we expect to authorize to be taken would be considered small relative to the relevant stocks or populations, even if each estimated take occurred to a new individual. Furthermore, these takes are likely to only occur within a small portion of the stock's range and the likelihood that each take would occur to a new individual is low.

Based on the analysis contained herein of the proposed activity (including the proposed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily finds that small numbers of marine mammals would be taken relative to the population size of the affected species or stocks, with no species take exceeding 0.32 of the best available population abundance estimate.

Unmitigable Adverse Impact Analysis and Determination

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

Endangered Species Act

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

No incidental take of ESA-listed species is proposed for authorization 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.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the Navy for conducting pile driving activity in Newport RI, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. A draft of the proposed IHA can be found at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities*.

Request for Public Comments

We request comment on our analyses, the proposed authorization, and any other aspect of this notice of proposed IHA for the proposed IHA. We also request comment on the potential renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform decisions on the request for this IHA or a subsequent renewal IHA.

On a case-by-case basis, NMFS may issue a one-time, 1-year renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical or nearly identical activities as described in the Description of

Proposed Activity section of this notice is planned or (2) the activities as described in the Description of Proposed Activity section of this notice would not be completed by the time the IHA expires and a renewal would allow for completion of the activities beyond that described in the *Dates and Duration* section of this notice, provided all of the following conditions are met:

• A request for renewal is received no later than 60 days prior to the needed renewal IHA effective date (recognizing that the renewal IHA expiration date cannot extend beyond 1 year from expiration of the initial IHA).

• The request for renewal must include the following:

1. An explanation that the activities to be conducted under the requested renewal IHA are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.,* reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take).

2. A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

• Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

Dated: September 2, 2025.

Kimberly Damon-Randall,

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

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DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. CP24–529–001]

Tennessee Gas Pipeline Company, L.L.C.; Notice of Request for Extension of Time

Take notice that on August 27, 2025, Tennessee Gas Pipeline Company, L.L.C. (Tennessee) requested that the Commission grant an extension of time, until December 31, 2027, to construct and place into service its 507G Line Abandonment Project (Project) located in Acadia, Vermilion, Iberia, and St. Mary Parishes, Louisiana as authorized in the Order Approving Abandonment (Order).[1] The Order required Tennessee to complete abandonment of the facilities within one year of the date of the Order, or by July 24, 2026.

Tennessee states that it is in the process of obtaining permits needed to start the abandonment activities, but it needs more time than originally anticipated to obtain them and to coordinate with landowners to avoid unnecessary crop damage, and to implement measures to protect threatened and endangered species.

This notice establishes a 15-calendar day intervention and comment period deadline. Any person wishing to comment on Tennessee's request for an extension of time may do so. No reply comments or answers will be considered. If you wish to obtain legal status by becoming a party to the proceedings for this request, you should, on or before the comment date stated below, file a motion to intervene in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.214 or 385.211) and the Regulations under the Natural Gas Act (NGA) (18 CFR 157.10).

As a matter of practice, the Commission itself generally acts on requests for extensions of time to complete construction for NGA facilities when such requests are contested before order issuance. For those extension requests that are contested,[2] the Commission will aim to issue an order acting on the request within 45 days.[3] The Commission will address all arguments relating to whether the applicant has demonstrated there is good cause to grant the extension.[4] The Commission will not consider arguments that re-litigate the issuance of the certificate order, including whether the Commission properly found the project to be in the public convenience and necessity and whether the Commission's environmental analysis for the certificate complied with the National Environmental Policy Act (NEPA).[5] At the time a pipeline requests an extension of time, orders on certificates of public convenience and necessity are final and the Commission will not re-litigate their issuance.[6] The Director of the Office of Energy Projects, or his or her designee, will act on all of those extension requests that are uncontested.

In addition to publishing the full text of this document in the **Federal Register**, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the internet through the Commission's Home Page (*http://www.ferc.gov*). From the Commission's Home Page on the internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.

User assistance is available for eLibrary and the Commission's website during normal business hours from FERC Online Support at (202) 502–6652 (toll free at 1–866–208–3676) or email at *ferconlinesupport@ferc.gov,* or the Public Reference Room at (202) 502–8371, TTY (202) 502–8659. Email the Public Reference Room at *public.referenceroom@ferc.gov.*

The Commission strongly encourages electronic filings of comments in lieu of paper using the ''eFile'' link at *http://www.ferc.gov.* In lieu of electronic filing, you may submit a paper copy which must reference the Project docket number.

To file via USPS: Debbie-Anne A. Reese, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426

To file via any other courier: Debbie-Anne A. Reese, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852

The Commission's Office of Public Participation (OPP) supports meaningful public engagement and participation in Commission proceedings. OPP can help members of the public, including landowners, community organizations, Tribal members and others, access publicly available information and navigate Commission processes. For public inquiries and assistance with making filings such as interventions,

[1] *Tennessee Gas Pipeline Company, L.L.C.,* 192 FERC ¶ 61,079 (2025).

[2] Contested proceedings are those where an intervenor disputes any material issue of the filing. 18 CFR 385.2201(c)(1).

[3] *Algonquin Gas Transmission, LLC,* 170 FERC ¶ 61,144, at P 40 (2020).

[4] *Id.* at P 40.

[5] Similarly, the Commission will not re-litigate the issuance of an NGA section 3 authorization, including whether a proposed project is not inconsistent with the public interest and whether the Commission's environmental analysis for the permit order complied with NEPA.

[6] *Algonquin Gas Transmission, LLC,* 170 FERC ¶ 61,144, at P 40 (2020).