DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 217

[250630–0117]

RIN 0648–BM30

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Port of Alaska Modernization Program Phase 2B: Cargo Terminals Replacement Project in Anchorage, Alaska

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

ACTION: Final rule.

SUMMARY: NMFS, upon request from the Don Young Port of Alaska (POA), hereby promulgates regulations to govern the taking of marine mammals incidental to the Cargo Terminals Replacement (CTR) project at the existing port facility in Anchorage, Alaska over the course of 5 years. These regulations, which allow for the issuance of a Letter of Authorization (LOA) for the incidental take of marine mammals during the specified activities in the specified geographical region (see Description of the Specified Activities section) during the effective dates of the regulations, prescribe the permissible methods of taking and other means of effecting the least practicable adverse impact on marine mammal species or stocks and their habitat, as well as requirements pertaining to the monitoring and reporting of such taking.

DATES: Effective from March 1, 2026 through February 28, 2031.

ADDRESSES: Electronic copies of the application and supporting documents, the proposed rule and associated public comments, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-port-alaskas-construction-activities-port-alaska-modernization.* In case of problems accessing these documents, please call the contact listed below.

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

SUPPLEMENTARY INFORMATION:

Purpose of Regulatory Action

These regulations, promulgated under the authority of the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361 *et seq.*), establish a framework for NMFS to authorize the take of marine mammals incidental to construction activities associated with the CTR project (Phase 2B of the POA's Modernization Program) in Anchorage, Alaska.

Legal Authority for the Action

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1371(a)(5)(A)) directs the Secretary of Commerce, 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 for up to 5 years if, after notice and public comment, the agency makes certain findings and promulgates regulations that set forth permissible methods of taking pursuant to that activity and other means of effecting the ''least practicable adverse impact'' on the affected species or stocks and their habitat (see Mitigation section), as well as monitoring and reporting requirements.

Summary of Major Provisions Within the Rule

Following is a summary of the major provisions of this rule regarding POA's activities. These measures include:

- Prescribing permissible methods of taking of small numbers of 7 species (10 stocks) of marine mammals by Level B harassment, and for a subset of those (6 species comprising 9 stocks) by Level A harassment, incidental to the CTR project;
- Monitoring of the construction areas to detect the presence of marine mammals before beginning construction activities;
- Establishment of shutdown zones equivalent to the estimated Level B harassment zone for Cook Inlet beluga whales (CIBW);
- Establishment of shutdown zones for other species;
- Use of bubble curtains for all impact and vibratory driving of permanent (72-inch (in) (1.83 meter (m)) piles in more than 3 m of water depth in all months;
- Soft start for impact pile driving to allow marine mammals the opportunity to leave the area prior to beginning impact pile driving at full power; and
- Submittal of monitoring reports, including a summary of marine mammal species and behavioral observations, construction shutdowns or delays, and construction work completed.

Through adaptive management, the regulations will allow NMFS Office of Protected Resources to modify (*e.g.,* remove, revise, or add to) the existing mitigation, monitoring, or reporting measures summarized above and required by the LOA.

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 promulgated or an incidental harassment authorization is issued.

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). If such findings are made, NMFS must prescribe permissible methods of taking; other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as ''mitigation''); and requirements pertaining to the monitoring and reporting of the takings. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On January 3, 2023, NMFS received a request from the POA for regulations and a subsequent LOA to take marine mammals incidental to construction activities related to the POA Modernization Program (PAMP) Phase 2B: CTR project at the POA in Anchorage, Alaska. NMFS provided comments on the application on March 3, 2023 and provided additional comments to POA in response to new information on April 20, 2023 and May 18, 2023. After POA submitted a revised application on October 13, 2023 and responded to additional questions sent on December 20, 2023, NMFS determined the application was adequate and complete on February 12, 2024.

On March 4, 2024, we published a notice of receipt (NOR) of application in the **Federal Register** (89 FR 15548),

requesting comments and information during a 30-day public comment period related to the POA's request. We received 1 comment letter from the Center for Biological Diversity (CBD) and considered the comments in that letter during development of the proposed rule. On October 28, 2024, we published the proposed rule in the **Federal Register** (89 FR 85686) and requested comments and information from the public. NMFS reviewed the submitted material and considered it for promulgation of these regulations.

Description of the Specified Activities

The POA, located on Knik Arm in upper Cook Inlet, was constructed primarily in the 1960s and is currently in poor condition and substantially past its initial design life. The CTR project includes construction of two new terminals (T1 and T2), which include planned wharves and access trestles. The two new terminals will be located 140 feet (ft) (42.7 m) seaward of the existing general cargo terminals (T1, T2, and T3). The CTR project also includes demolition of the existing Petroleum, Oil, and Lubricants Terminal 1 (POL1) and T1, T2, and T3. In-water pile installation will include both temporary (24-in (0.61m) or 36-in (0.91 m)) and permanent (72-in (1.83 m)) steel pipe piles by impact and vibratory hammers. Removal of temporary piles (24- or 35-in) and existing structures (16-in (0.41 m) to 42-in (1.07 m) steel pipe piles) will be primarily by cutting; dead-pull and vibratory extraction methods may also be used. Existing piles may also be left standing in their current positions. In-water work associated with the CTR project will include installation of approximately 275 permanent piles and 450 temporary piles and vibratory extraction of approximately 46 temporary piles. Work will occur on approximately 337 nonconsecutive days between the months of March and November in 2026 through 2030. The specified geographical region encompasses the land occupied by the POA, as well as the shoreline and waters extending from the POA across Knik Arm, northeast towards Wasilla, and southwest towards Fire Island and the Little Susitna River delta.

A detailed description of the specified activities is provided in the proposed rule (89 FR 85686, October 28, 2024). Since that time, POA has not modified their planned activities. Please refer to the proposed rule (89 FR 85686) for more information on the specified activities.

Comments and Responses

NMFS published the proposed rule in the **Federal Register** on October 28, 2024 (89 FR 85686), beginning a 30-day comment period. It described, in detail, the POA's specified activities, the marine mammal species that may be affected by the activities, and the anticipated effects on marine mammals. In that document, we requested public input on the request for authorization described therein, our analyses, preliminary determinations, and the proposed regulations and requested that interested persons submit relevant information, suggestions, and comments.

During the 30-day public comment period, NMFS received comments from the POA, the Alaska Department of Fish and Game (ADF&G), the CBD, Friends of Animals, and five anonymous members of the public. After conclusion of the comment period on January 1, 2025, we received an additional comment from Chickaloon Village Traditional Council (CVTC). Our responses to relevant substantive comments are below. We have not responded to comments that failed to raise a significant point for us to consider (*e.g.,* comments that are out of scope of the proposed rule or that call for mitigation, monitoring, or reporting measures already included in the proposed rule). Furthermore, if a comment received was unclear, NMFS does not include it here as it could not determine whether it raised a significant point for NMFS to consider. The comments and recommendations are available online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-port-alaskas-construction-activities-port-alaska-modernization.* Please see the comment submissions for full details regarding the recommendations and supporting rationale.

Comment 1: ADF&G commented that CIBW are ''known to travel into Knik Arm to forage, particularly in the months of June through August.'' ADF&G suggests that activities taking place in these months should be temporarily halted while CIBW are ''in proximity,'' and notes that it supports the use of ''certified marine mammal observers.''

Response: NMFS agrees that shutdowns of certain activities when marine mammals enter specified areas where they may be impacted and the use of approved Protected Species Observers (PSO) are appropriate and essential mitigation measures for the POA's activities and are included in the suite of prescribed mitigation measures for these Incidental Take Regulations (ITR). While ADF&G does not define what they mean by ''in proximity,'' pile driving at the CTR project will be required to temporarily shut down in all months when CIBWs approach or are observed within the modeled Level B harassment isopleths (*see* Mitigation section). We note that CIBW presence in Knik Arm is highest during the months of August through October (McGuire *et al.* 2020; Castellote *et al.* 2020), rather than June through August as suggested by ADF&G.

Comment 2: The POA submitted a letter stating that the combined effects of certain proposed mitigation measures, specifically requirements to (1) employ a bubble curtain during vibratory temporary pile driving and extraction during the months of August through October and (2) shut down when CIBWs enter the predicted Level B harassment zone ''will create undue hardship'' to the CTR project. POA also asserts that these measures offer ''no proven added benefit'' for CIBW and that additional time required for implementation of these measures will prevent the completion of the CTR project on time, increasing the risk of a critical facility failure. The letter states that the North Extension Stabilization—Phase 1 (NES1) project faced significant delays associated with shutdown requirements during the 2024 construction season due to high CIBW presence. The POA requests that NMFS either (1) remove the requirement to use a bubble curtain during vibratory driving of temporary piles in the months of August through October, or (2) incorporate consideration of frequency sensitivity to its calculations of estimated Level B harassment isopleths. The POA states that use of the bubble curtain would differentially affect frequency content to which CIBW are more sensitive and, therefore, estimated Level B harassment isopleths would be smaller than calculated by NMFS (see Comment 3).

Response: NMFS agrees, in part, with the POA's comments. The proposed mitigation requirement at issue was for the use of bubble curtains during vibratory driving of temporary piles in the months of historically high CIBW presence (August through October; bubble curtains were not proposed for use in other months for this activity). Other proposed mitigation requirements for CIBWs include shutdown zones equal to the predicted Level B harassment zone and the use of bubble curtains during all impact and vibratory driving of permanent piles in waters deeper than 3 m in all months. Notably, the POA presents practicability concerns regarding the likelihood of

increased operational impacts (*i.e.,* financial costs and potential need for additional construction seasons) associated with delays that may result from increased CIBW presence. These concerns, when considered in conjunction with the relatively lower assumed effectiveness of the proposed requirement to use bubble curtains during vibratory driving, lead to NMFS' determination that the POA provided a compelling justification for modification of the proposed mitigation requirements, as discussed below.

Sightings of CIBW at and around the POA during 2024 were between 53 and 330 percent higher than the prior construction period for the Petroleum and Cement Terminals (PCT) project in 2020–2021 in the months of June, July, and August. Pile driving activities associated with the NES1 project were shut down or delayed for a total of 228.5 hours over the course of the construction season, equivalent to nearly 23 ten-hour workdays. This increase relative to expectations in time lost to shutdowns was due in part to delays in starting the NES1 project that pushed the start of construction from April to the end of May, when CIBW presence is higher. However, NMFS acknowledges that increased occurrence of CIBW at the site during the early summer contributed to unanticipated project delays. Reasons for the increased CIBW presence at and around the POA are uncertain at this time but could include changes to prey availability throughout upper Cook Inlet or other factors and may persist into the time period covered by this rule. NMFS acknowledges the POA's concerns about the time required to deploy bubble curtains around each pile and regarding the effectiveness of bubble curtains at reducing sound energy in the far-field. Previous measurements conducted at POA showed that use of the bubble curtain did not effectively reduce actual distances to the 120 dB RMS threshold due to the prevalence of sound energy below 100 Hz. While use of a bubble curtain effectively reduces the sound pressure level (SPL) any marine mammal in the CTR project area would experience from any sound source, the use of a bubble curtain during vibratory pile driving is not common. Bubble curtains are most effective at reducing the injurious components of impulsive sounds, including sharp rise times and high peak pressures associated with impact pile driving (CALTRANS, 2020). While they can be used to reduce SPLs associated with continuous noise sources, such as vibratory pile driving, the benefits to species, including fishes and marine mammals, are fewer because of the less injurious nature of the sound sources.

The most effective mitigation measure for CIBWs included in these regulations is the requirement to implement a shutdown of pile driving activities at the predicted Level B harassment isopleth during vibratory and impact pile driving. This measure minimizes the potential for disruption of CIBW behavioral patterns by avoiding to the extent practicable exposure to sound exceeding harassment thresholds during pile driving. While bubble curtains effectively reduce vibratory pile driving noise levels at frequencies to which CIBWs are sensitive (*i.e.,* frequencies over 1,000 Hz) (Castellote et al. 2014; Illingworth and Rodkin 2021a) at any given distance, a shutdown upon occurrence of CIBW within the estimated Level B harassment zone is the most effective way of minimizing impacts to CIBW. For other species, while the predicted Level A harassment zones exceed the required shutdown zones during concurrent vibratory driving scenarios, the likelihood of these species approaching to within 165 m of the incident piles during concurrent driving is minimal. As documented by previous measurements of sound propagation in Cook Inlet, broadband sound levels at the predicted Level B harassment isopleth are driven by frequencies below 100 hertz (Hz), which are outside of the range of CIBWs' peak hearing sensitivity, indicating that the predicted Level B harassment zone is likely a conservative estimate for impacts to CIBW. Additionally, as shown by summer 2024 monitoring data and previous monitoring reports from 2020 and 2021, unattenuated vibratory pile driving in the vicinity of the POA does not prevent CIBW from approaching and passing the POA (61N Environmental 2021, 2022a, 2022b, 2025). NMFS, therefore, believes the risk that unattenuated vibratory pile driving would meaningfully impact CIBW behavioral patterns is low.

Given the documented practicability issues that the POA referenced in its comment letter and the other, more effective mitigation measures required, NMFS agrees with the POA's request to remove the requirement for the use of bubble curtains during vibratory installation and extraction of temporary piles in the months of August through October for the CTR project. NMFS has determined, based on the practicability concerns presented by POA and the relatively low effectiveness of this requirement during time periods when fewer CIBW are present at the POA, that the prescribed mitigation measures as modified remain sufficient to effect the least practicable adverse impact on the affected marine mammal stocks.

Comment 3: The POA stated that calculation of the estimated Level B harassment isopleths should account for the hearing sensitivity of beluga whales. The POA suggested that NMFS apply the weighting functions used in the 2024 Updated Technical Guidance to the analysis of the Level B isopleths to reflect the reduction in sound energy expected at certain frequencies that belugas are sensitive to as a result of employing a bubble curtain during vibratory pile driving of temporary piles.

Response: As noted by the POA, the estimated Level B harassment distances for sound from pile driving activities are based on unweighted broadband sound levels. However, use of the weighting functions recommended by POA relate specifically to the susceptibility to noise induced hearing loss for different groups of marine mammals and, therefore, are used for evaluation of potential auditory injury (which falls under Level A harassment) or temporary threshold shift (NMFS 2024). Thus, that weighting is not appropriate to consider in evaluating the potential for behavioral harassment (which falls under Level B harassment) as the POA recommends. Beluga hearing measurements indicate they can detect sounds from 4 Hz to 130 kilohertz (kHz) (Southall *et al.* 2019) and vibratory pile driving sound is thus within the hearing range of this species. Even assuming use of a broader weighting function that is more appropriate for consideration with behavioral harassment (Southall *et al.* 2007), only a minimal reduction would occur (*e.g.,* less than −5 dB weighting at 100 Hz). Therefore, NMFS does not agree with the POA's recommendation to reduce the size of the shutdown zones based on the POA's approximations of beluga hearing sensitivity.

Comment 4: The CBD asserts that NMFS' small numbers determination is arbitrary, unlawful, unreasonable, and improper. It states that NMFS' determination is based on an unlawful interpretation of what constitutes a small number that is contrary to the plain meaning of the phrase and NMFS failed to consider the species' endangered status.

Response: NMFS has provided a reasoned approach to small numbers, as described in full in the final rule, ''Taking Marine Mammals incidental to Geophysical Surveys Related to Oil and Gas Activities in the Gulf of Mexico'' (86 FR 5322, 5438, January 19, 2021). NMFS makes its small numbers findings

based on an analysis of whether the number of individuals authorized to be taken annually from a specified activity is small relative to the most appropriate estimate of stock size. CBD cites *NRDC* v. *Evans,* 279 F.Supp. 2d 1129 (N.D. Cal. 2003) to support its position. However, CBD's reading of that case is inaccurate. In *Evans,* the court ruled that the negligible impact determination and the small numbers analysis must be undertaken separately, but the court specifically ''does not require defendants to set an absolute numerical limit'' for small numbers (*Id.* at 1152). Following that case, NMFS undertook separate small numbers findings from its negligible impact determinations, analyzing in each case whether the numbers were small relative to the stock or population size (the ''proportional approach'').

We note that in this final rule, based on the best available scientific information for CIBW occurrence in the CTR project area (*i.e.,* NES1: POA Construction Monitoring 61N Environmental, 2025), the number of estimated takes of CIBWs increased from 90 to 118, amounting to 35.6 percent of the stock if each take accrued to a new individual (table 19). While NMFS typically presumes that each take is of a different individual, in this case, due to the CTR project location and feeding grounds in the upper Arm near Eagle Bay, we expect some individuals could be taken more than once. Thus, the actual number of individuals affected is expected to be fewer than 118 and the maximum annual number of animals taken from this stock is considered small relative to the relevant stock's abundance.

We disagree with CBD's assertion that NMFS' small number determination for CIBWs should consider the status of the species. The argument to establish a small numbers threshold on the basis of stock-specific context is unnecessarily duplicative of the required negligible impact finding, in which relevant biological and contextual factors are considered in conjunction with the number of takes and would conflate the two distinct standards (see *NRDC* v. *Evans,* 279 F.Supp. at 1153).

Comment 5: CBD contends that NMFS's small numbers and negligible impact determinations are arbitrary because NMFS failed to evaluate the finding that noise from tugboats and cargo/tanker vessels are the highest noise threats to CIBWs according to NMFS' Recovery Plan for CIBWs (NMFS, 2016). CBD further states that NMFS failed to account for take from all project activities, including soft starts.

Response: NMFS' Recovery Plan (NMFS, 2016) ranks noise from tugboats and cargo/tanker vessels as the most important sources that could potentially interfere with CIBW recovery based on signal characteristics and spatio-temporal acoustic footprint. Specifically, NMFS (2016) identified propeller cavitation (the formation of bubbles in a liquid) and engine noise including azimuth/bow thruster noise from tugboats as concerning. However, notably, the Recovery Plan is referencing vessel noise as a whole across all vessels and the entirety of Cook Inlet, not POA's specified activity in the specified geographic region (*i.e.,* a heavily utilized port), which is a small portion of overall tugboat use in Cook Inlet throughout the year.

As described in the proposed rule (89 FR 85686, October 28, 2024) and this final rule, the POA is an industrialized area that regularly sees traffic from vessels ranging in size from a few meters to large cargo ships that dock and move cargo at the POA. Tugboats are required to assist in docking larger vessels and moving barges and construction equipment in the vicinity. As such, vessel noise is and has been part of the soundscape in Knik Arm at least since the opening of the POA facility on the same site in 1961 while the decline in the CIBW stock did not begin until the 1990s (NMFS 2016). The sound source levels of vessel activities range widely according to the type of vessel, and level of operational effort, with full power output and higher speeds generating more propeller cavitation and hence greater sound source levels than lower power output and lower speeds. Vessel movement around the POA is typically slow due to the needs of port operations, high vessel traffic, and a narrow navigational channel. The vessels required to support pile driving and extraction activities during the CTR project would be similar in type to those already operating at the POA during previous construction projects (*i.e.,* Petroleum and Cement Terminals (PCT), South Floating Dock (SFD), and NES1), and would not add significantly to the average sound levels from previous summer seasons during which CIBW continued to frequent Knik Arm and the general vicinity of the port (61N Environmental, 2021, 2022a, 2022b, 2025). It is important to note that there are multiple contextual factors (including the signal characteristics (*i.e.,* impulsivity, intensity, frequency, and duration) and the spatio-temporal (*i.e.,* space and time) acoustic footprint of POA's activity as well as bearing and distance, predictability of source movement, and likelihood of habituation to routine vessel traffic) that minimize the likelihood of behavioral disturbance even if a marine mammal is exposed to elevated sound levels relative to background sound levels. CIBWs regularly approach and pass the POA during normal port operations and during previous construction and dredging operations. While they are exposed to sounds from vessel traffic, the POA represents a small and relatively low-quality portion of the habitat, and the typical behaviors seen in the area are traveling and milling (61N Environmental 2020, 2021a, 2021b, 2025; Easley-Appleyard and Leonard 2022). No measurable increase in vessel traffic is expected at the POA as a result of the CTR project (POA 2024). Take by Level B harassment as a result of vessel noise is not considered reasonably likely to occur based on the long-term industrial nature of the area and the similarity of the expected vessel noise sources (*i.e.,* tugboats, barges, and small support vessels) to the existing vessel noise (*i.e.,* tugboats, barges, support vessels, and container ships) at the POA.

Additionally, the NMFS Alaska Regional Office's (AKRO) Biological Opinion under section 7 of the Endangered Species Act (ESA), which addressed the impacts of the CIBW take NMFS is authorizing in the context of both the environmental baseline and the cumulative effects (including vessel noise), found that it is not likely to jeopardize the continued existence of CIBWs or to destroy or adversely modify their designated Critical Habitat.

CBD states that NMFS failed to analyze potential take by Level B harassment from soft starts, a required mitigation measure during impact pile installation. Soft starts are required, among other reasons, to minimize the chances of injurious Level A harassment during exposure to impulsive sounds by first introducing lower-level sounds to the environment, allowing animals to move away from the sound source before the hammer energy increases to full power. In the case of CIBW, the shutdown zone established at the threshold for Level B harassment exceeds the predicted Level A harassment zone in all cases, and pile driving work (including soft starts) would be delayed upon observation of a CIBW approaching or within the shutdown zone. Thus, no Level B harassment of CIBW is expected from soft starts. For other marine mammal species, the predicted Level A harassment zone from impact driving of 72-in piles exceeds the Level B harassment and established shutdown

zone thresholds. Exposure during a soft-start procedure would occur within the predicted Level A harassment zone, and observations of animals within the Level A harassment zone during a soft-start and or subsequent impact driving would be recorded as a potential take by Level A harassment.

Comment 6: Friends of Animals states that the proposed rule underestimates the effects of noise from the CTR project because NMFS did not consider the unlikely scenario of a third ''spread'' (*i.e.,* construction crew and associated equipment) of construction equipment working simultaneously at the POA during the CTR project.

Response: As stated in the POA's application and the proposed rule, POA plans to operate no more than two vibratory hammers simultaneously. POA does not anticipate concurrent driving using three spreads for several reasons. First, the construction sequencing for pile installation and extraction involves long periods of equipment positioning, pile placement, bubble curtain placement (when required), and short periods of active pile driving. Pile sequencing requires that temporary piles are installed as a template, then larger permanent piles are installed, and then the temporary piles are removed. This required sequence plays out many times in this order during the construction season.

Comment 7: CBD and Friends of Animals assert that NMFS' negligible impact determination is improper and arbitrary because it fails to account for ''harassment by noise,'' including vessel noise, in-water pile cutting, onshore demolition, and other construction activities that generate noise and that NMFS has no rational basis for concluding that the take proposed for authorization has no greater than a negligible impact on the species. CBD also asserts that NMFS's negligible impact determination is improper because it fails to consider cumulative impacts from other phases of the PAMP.

Response: As described in the Description of Specified Activities section of the proposed rule (89 FR 85686, October 28, 2024), NMFS does not expect take of marine mammals from these activities because of the industrialized soundscape of the Port. CBD has not provided additional information for NMFS to consider to support its claim that take will occur from these activities. Furthermore, in the Negligible Impact Analysis and Determination section of the proposed rule and this final rule, we describe how the take estimated and authorized for POA's construction activity will have a negligible impact on all of the affected species or stocks, including CIBWs. We discuss how this determination is based upon, among other things, the number of takes of each stock that might be exposed to increased noise in each year and over the course of the 5-year ITR, the comparatively low intensity of behavioral harassment that might result from an instance of take that could occur within that year, and the likelihood that the mitigation measures required further lessen the likelihood, magnitude, or severity of exposures.

NMFS' negligible impact finding considers a number of parameters including, for example, the nature of the activities (*e.g.,* duration, sound source), effects/intensity of the taking, the context of takes, and mitigation. For CIBWs, NMFS considered data from previous similar construction activities, including previous phases of the PAMP. POA's previous monitoring efforts have yielded data showing that CIBWs continue to transit past the POA in construction seasons, and that behavioral responses to noise include reduced vocalizations, faster swim speeds, and increased group cohesion (61N Environmental 2020, 2021a, 2021b, 2025; Easley-Appleyard and Leonard 2022). Any disturbance that may occur is anticipated to be limited to behavioral changes such as increased swim speeds, changes in diving and surfacing behaviors, and alterations to communication signals, not the loss of foraging capabilities or the abandonment of critical habitat. Given these anticipated impacts, none of which would be expected to impact the fitness or reproduction of any individual marine mammals, much less adversely impact annual rates of recruitment or survival of CIBWs, NMFS' independent evaluation of the best scientific evidence in this case supports our negligible impact determination.

Neither the MMPA nor NMFS' implementing regulations require consideration of the take resulting from other activities in the negligible impact analysis. The preamble for NMFS' implementing regulations (54 FR 40338, September 29, 1989) states, in response to comments, that the impacts from other past and ongoing anthropogenic activities are to be incorporated into the negligible impact analysis via their impacts on the baseline. Consistent with that direction, NMFS has factored into its negligible impact analysis the impacts of other past and ongoing anthropogenic activities via their impacts on the baseline. The preamble of NMFS' implementing regulations also addresses cumulative effects from future, unrelated activities. Such effects are not considered in making the negligible impact determination under section 101(a)(5) of the MMPA. NMFS considers: (1) cumulative effects that are reasonably foreseeable when preparing a National Environmental Policy Act (NEPA) analysis; and (2) reasonably foreseeable cumulative effects under section 7 of the ESA for ESA-listed species, as appropriate. Accordingly, our analysis under NEPA in the final EA and consultation under Section 7 of the ESA does consider the cumulative impacts from nearby activities, including past and future phases of the PAMP. Further, the ESA Biological Opinion concluded that the CTR project is not likely to jeopardize the continued existence of CIBWs or to destroy or adversely modify designated CIBW critical habitat.

Comment 8: CBD asserts that NMFS's negligible impact determination for all species relies on mitigation measures that depend upon the efficacy of visual monitoring measures that it claims are unreliable in Cook Inlet. CBD states that NMFS failed to acknowledge the difficulty of visually observing marine mammals via traditional aerial and boat-based surveys in year-round conditions.

Response: NMFS disagrees that the mitigation and monitoring measures are ineffective, and CBD provides no additional information to support its claim. CBD's comment focuses on Cook Inlet as a whole as opposed to Knik Arm where the POA has a demonstrated history of successfully implementing a rigorous monitoring program during recent construction projects (*i.e.,* PCT, SFD, and NES1). Monitoring data from these projects provides evidence that their PSOs are capable of observing CIBWs out to 11,138-m from the CTR project site under good conditions, which is greater than any of the shutdown zones included in this rulemaking. Additionally, POA must delay pile installation if PSOs cannot effectively monitor the CIBW shutdown zone (*i.e.,* the largest shutdown zone) due to environmental conditions.

The proposed rule (89 FR 85686, October 28, 2024) and this final rule incorporate mitigation measures that are similar or identical to the measures required during the previous successful monitoring efforts. Additionally, the regulations require pile driving efforts to pause after completion of the current pile segment if weather or other conditions prevent PSOs from effectively observing the entire shutdown zone. These regulations require a minimum of four PSO stations and that at each station, at least two PSOs must be on watch at any given time. Further, the PSO stations must be

located so that the PSOs can fully monitor the shutdown zones and call for activities to be delayed when CIBWs are entering or observed within the Level B harassment zones. Observers will be positioned on stable land-based platforms, with suitable equipment, and will not be attempting to detect CIBWs in weather conditions deemed hazardous or which obscure the shutdown zones. Ice floes may occasionally be observed at the beginning and end of the construction season but are unlikely to significantly interfere with visual observations because construction work is impeded by ice and would not occur in conditions with high levels of ice.

NMFS has considered realistic assumptions of PSO effectiveness based on the precise configuration of the POA's visual monitoring program, as demonstrated during the PCT, SFD, and NES1 projects (61N Environmental, 2020, 2021a, 2021b, 2025). As part of the estimated take calculations for CIBW, NMFS first calculated the estimated take in the absence of mitigation measures and then applied a correction factor based on the most conservative estimate of potentially realized takes (68 percent) (61N Environmental 2025) from previous monitoring reports. The effectiveness of PSOs has thus been included in our analysis in both the proposed and final rules. This correction factor was not applied to other species authorized for take.

NMFS's Negligible Impact Determination relies on required mitigation measures being implemented by PSOs in order to limit the amount of noise to which CIBW may be exposed. Given the sizes of injurious (*i.e.,* Level A harassment) and behavioral (*i.e.,* Level B harassment) harassment zones in relation to the demonstrated visual range of PSOs, NMFS remains confident that the POA will effectively reduce the potential for exposure to noise sufficient to cause Level A harassment to zero. While PSOs may not spot some whales before they enter the Level B harassment zone, the intensity of take by Level B harassment is expected to be low, consisting of, at worst, temporary modifications in behavior while the whales transit through the area around POA on their way to foraging grounds in upper Knik Arm or out into greater Cook Inlet. Therefore, NMFS does not anticipate adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects).

Comment 9: CBD and Friends of Animals assert that NMFS should defer authorization of incidental take of CIBWs unless and until NMFS has a better understanding of the reasons the species is failing to recover. They state that until it does so, NMFS has no rational basis for concluding that any number of take constitutes a ''negligible impact'' to the species.

Response: NMFS shares the commenters' concern regarding the impacts of human activities on CIBWs and is committed to supporting the conservation and recovery of the species in accordance with its statutory responsibilities. However, section 101(a)(5)(A) of the MMPA requires upon request by U.S. citizens for NMFS, as delegated by the Secretary of Commerce, to allow the incidental taking of small numbers of marine mammals if it makes the necessary findings, which includes negligible impact. 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).

Based on the best scientific evidence available, NMFS determined that the take, which is by Level B harassment only, incidental to POA's pile installation and removal activities, which is transient and of a generally low intensity, would have a negligible impact on CIBWs. No mortality, serious injury, or Level A harassment incidental to pile installation and removal activities is anticipated or authorized on CIBWs; therefore, no population effects are anticipated. Moreover, POA proposed and NMFS has required in these regulations a rigorous suite of mitigation measures to affect the least practicable adverse impact to CIBWs and other marine mammal species/stocks. The area within which CIBWs and other marine mammals could be exposed to elevated sound levels is limited to relatively low-quality, industrialized habitat primarily used as a travel corridor between foraging areas. No critical foraging grounds (*e.g.,* Eagle Bay, Eagle River, Susitna Delta) would be affected by sound from pile driving.

Results of recent studies provide evidence that the CIBW population increased between 2004 and 2010, declined after 2010, and increased again from 2016 to 2022 (Jacobsen *et al.,* 2020; Shelden and Wade, 2019; Warlick *et al.,* 2024; Goetz *et al.,* 2023). While there is some uncertainty around CIBW population trend analyses, the results of these four studies are consistent in showing general trends. Thus, while Friends of Animals is correct that the status of CIBW abundance is less than certain, recent studies, which NMFS considers the best scientific information available, suggest the population may now be increasing (see Goetz *et al.,* 2023). Additional data in the coming years will help to inform whether the recent positive trend in the CIBW population will continue. NMFS is taking several proactive steps to help protect and better understand the species. For more information, see NMFS' 5-year Priority Action Plan (2021–2025) for CIBWs as part of its Species in the Spotlight initiative (see *https://www.fisheries.noaa.gov/resource/document/species-spotlight-priority-actions-2021-2025-cook-inlet-beluga-whale*).

Furthermore, the ESA Biological Opinion determined that the issuance of the ITR is not likely to jeopardize the continued existence of CIBWs or to destroy or adversely modify CIBW critical habitat. The Biological Opinion also outlined Terms and Conditions and Reasonable and Prudent Measures to reduce impacts, which have been incorporated into the regulations.

Comment 10: CBD commented that NMFS fails to ensure the least practicable adverse impact on CIBWs, the other species or stocks to be taken, and their habitats because NMFS failed to consider requiring several practicable mitigation measures. Friends of Animals recommended that NMFS should require more rigorous mitigation measures but did not provide any examples of such measures.

Response: NMFS has included a suite of mitigation measures designed to effect the least practicable adverse impact on marine mammal species and their habitat and has also included appropriate monitoring and reporting requirements. Prior to starting pile driving activities, POA must conduct pre-clearance monitoring and may only commence activities once the shutdown zones have been monitored for 30 minutes and determined clear of marine mammals. At the start of pile driving, POA must use soft start techniques for impact pile driving (note that soft starts are considered ineffective for vibratory pile driving due to the non-impulsive nature of the sound source). During pile driving activities, POA must employ bubble curtains to reduce noise output in waters deeper than 3 m during all impact pile driving and during vibratory pile driving of permanent piles. If a marine mammal is observed within the shutdown zone, POA is required to halt activities until the animal has voluntarily left or has not been observed for species-specific time periods. Please see the Mitigation section of this final rule for a full description of the required mitigation measures.

Additional noise mitigation methods proposed by CBD included pile caps, dewatered cofferdams, and other physical barrier mitigation. NMFS does not consider pile caps an effective noise mitigation method because pile caps are used to protect piles and equipment during impact pile driving. They are typically made of wood or plastic and are designed to compress and fracture during use, limiting their consistency with respect to noise mitigation and potentially leading to safety issues if replaced during hammer operations (CALTRANS 2020). Additionally, because pile caps are used during most impact driving, any noise mitigation from caps is included in measured source values and proxy source values used in our analysis. Dewatered cofferdams are impracticable due to space restrictions in and around the POA, as well as the extreme environmental conditions in Knik Arm, including high tidal ranges and current velocities, as well as the unpredictable nature of ice movement during winter months. NMFS is not aware of other ''physical barrier mitigation'' methods that have been used during coastal construction projects, and CBD did not provide further examples.

CBD also stated that NMFS failed to consider the least practicable adverse impact to beluga whale habitat in Cook Inlet but neither provides any specific examples of adverse habitat impacts nor suggested mitigation measures. NMFS acknowledges that a minimal amount of low-quality habitat will be lost due to the expansion of the terminal footprint and that water-column noise levels will be increased during construction. While most of the physical and biological features essential to the CIBW critical habitat are found at the POA, and CIBW Biologically Important Area (BIA) includes the waters around the POA, this area represents a very small portion of the overall habitat available and is not known to be an important foraging or resting site for this stock (61N Environmental 2020, 2021a, 2021b, 2025). We anticipate minimal impacts to prey or other habitat features as outlined in the proposed rule (89 FR 85686; October 28, 2024) and this final rule.

Comment 11: CBD commented that NMFS fails to ensure the least practicable adverse impact on CIBWs, the other species or stocks to be taken, and their habitats because NMFS failed to consider requiring the use of passive acoustic monitors (PAM) as a way to evaluate at the end of the construction activities (seasonal or comprehensive) whether CIBWs or other marine mammals went undetected by PSOs during visual monitoring.

Response: NMFS agrees that archival PAM data would be useful in evaluating the presence of CIBWs at the POA and the effectiveness of the PSOs during times of visual observations. While some CIBWs and other marine mammals may not be detected by PSOs before entering the shutdown zones (61N Environmental, 2020, 2021a, 2021b, 2025), the design and deployment of the PAM systems and data analysis is too time- and cost-intensive to be practicable to the POA. An article on NOAA's website illustrates the level of customization, expertise, and difficulty required to assemble a passive acoustic mooring suitable for deployment in Cook Inlet (see *https://www.fisheries.noaa.gov/science-blog/beluga-whale-acoustic-monitoring-survey-post-3*).

Background acoustic conditions, including flow noise from strong currents, large tidal changes, weather, and normal port operations, along with additional noise from the project (*e.g.,* pile driving) can make it difficult to detect marine mammals during PAM, particularly when the site is known to be noisy (as it is at POA). Further, the data stored on these types of moorings is not accessible until they are retrieved by the researcher who deployed them. Lessons learned from prior sound source verification studies carried out at the POA (*e.g.,* I&R, 2021a, 2022b) indicate that Knik Arm is a very challenging environment in which to collect high quality acoustic data usable by NMFS, the POA, and others due to the presence of strong tidal currents, which can create substantial flow noise in recordings, and prevalent anthropogenic noise, which can mask acoustic signals of interest. Specifically, during the CTR project, multiple barges, tugboats, and other support vessels, which can obscure signals of interest, will be within the CTR project area at all times during the CTR project. As mentioned in the proposed rule (89 FR 85686, October 28, 2024) with respect to near-real-time PAM devices, the constraints of the system design even for archival moored systems and the known challenges of the area make PAM impracticable for the POA.

Comment 12: CBD commented that NMFS fails to ensure the least practicable adverse impact on CIBWs, the other species or stocks to be taken, and their habitats because NMFS failed to consider requiring seasonal restrictions.

Response: Contrary to CBD's assertion, NMFS did consider a seasonal restriction for this project, in addition to the PSO requirements. We note that August through October are months with high CIBW abundance, and NMFS expects that the POA will likely have to shut down pile driving activities more frequently during that time period due to the increased presence of CIBWs in Knik Arm. The POA is planning to complete in-water work as early in the construction season as is practicable. However, due to the scope of the CTR project and the needs of the construction sequencing, it is not practicable to restrict pile driving to any specific time periods or areas (*e.g.,* only allowing pile driving April through July or restricting vibratory driving but not impact driving to such periods). The necessary pile sequencing requires that temporary piles are installed as a template, then larger permanent piles are installed, and then the temporary piles are removed. This required sequence plays out many times, in this order, during the open water construction season. It is therefore not possible for POA to install all of the larger permanent piles during the early season and install temporary piles later in the season; the larger and smaller piles must be alternated.

Furthermore, there are potential consequences of pausing or delaying the construction season, including de-rating the structural capacity of the existing docks, a shutdown of dock operations due to deteriorated conditions, or an actual collapse of one or more dock structures. The potential for collapse increases with schedule delays, due to both worsening deterioration and the higher probability of a significant seismic event occurring. Any of these scenarios could have dire consequences for the populations of Anchorage and Alaska who are served by the POA. In this context, NMFS has determined that the current mitigation and monitoring measures affect the least practicable adverse impact on marine mammal species and stocks.

Comment 13: CBD commented that NMFS fails to ensure the least practicable adverse impact on CIBWs, the other species or stocks to be taken, and their habitats because NMFS failed to consider requiring the use of drones to help detect the presence of marine mammals.

Response: While unmanned aerial vehicles (UAVs) (*i.e.,* drones) have been used in some instances to observe marine mammals, there are logistical reasons why this measure is not practicable for POA to implement for this project. The POA is uniquely situated adjacent to an active military installation and airfield (Joint Base Elmendorf–Richardson (JBER)) and in close proximity to several civilian airports, including Ted Stevens Anchorage International Airport, Merrill

Field Airport, and Lake Hood Seaplane Base (the world's largest and busiest seaplane base). As such, the surrounding airspace is complex and heavily trafficked with general aviation, commercial (including cargo), and military aircrafts.

Flying UAVs at the POA or over Knik Arm would require FAA approval for four different jurisdictions of airspace in the Anchorage Terminal Area (14 CFR part 93 Subpart D). In order to obtain permission for drones, an event specific Notice to Airmen must be approved by the FAA and JBER. The JBER tower requires 48-hour notice prior to launch and 100 percent phone communication during all drone activities. In addition, the drone operator would have to be in constant communication with each respective airspace the drone occupies as it transits between segments over Knik Arm. Previous efforts to conduct surveys using UAV have shown that this is not practicable.

The POA operates a robust marine mammal monitoring program that utilizes multiple stations, big-eye binoculars, theodolites, and cloud-based mapping among four observation stations spaced along a linear distance of about 8.5 kilometers of coastline. It is unlikely drones would provide additional benefit to the monitoring program. The least practical adverse impact to CIBW and other marine mammals is thus achieved through standard PSO requirements already included in the proposed rule, and therefore, NMFS has not required that POA use UAVs to assist in detecting marine mammals during their planned construction activities.

Comment 14: CBD commented that NMFS fails to ensure the least practicable adverse impact on CIBWs, the other species or stocks to be taken, and their habitats because NMFS failed to consider requiring the use of bubble curtains in all months and water depths. They stated that NMFS should require the POA to employ confined bubble curtains during all pile driving activities in all months and that no justification was given for not requiring the use of a bubble curtain in waters less than 3 m deep. CVTC stated that bubble curtains should be required for all impact or vibratory driving of any pile type (permanent or temporary) of all pile sizes (24-, 36-, and 72-in as well as other sizes) in all water depths (0.1 m and deeper) in all months of the year, and that between August and October two separate and completely overlapping layers of bubble curtains should be required, or that alternatively impact and vibratory driving of any pile type should be prohibited during those months.

Response: NMFS considered the practicability of requiring the POA to use a bubble curtain in all construction months in conjunction with the need for POA to complete most work during the beginning of construction seasons (*i.e.,* in the months of April–July) when CIBWs are less likely to be present at the POA. In the proposed rule (89 FR 85686, October 28, 2024), we acknowledged the use of bubble curtains on all piles has the potential to drive the in-water construction schedule further into the late summer months, which are known for higher CIBW abundance in the CTR project area, thus lengthening the duration of potential interactions between CIBW and in-water work. Given the data from the 2024 NES1 construction project showing increased prevalence of CIBW near the POA and the resulting delays in construction due to work shutdowns (see Comment 2 and Response, above), NMFS determined that use of a bubble curtain for all piles in all months may ultimately result in increased impacts to CIBW by lengthening the total duration of the CTR project over additional years. This final rule maintains the requirement for POA to utilize a bubble curtain during all impact and vibratory driving of permanent 72-in piles in waters deeper than 3 m in all months, reducing the likelihood of auditory injury to all marine mammal species, particularly those for which the Level A harassment isopleth may exceed the shutdown zone. The least practicable adverse impact to CIBW and other marine mammals is thus achieved without requiring the use of bubble curtains during vibratory pile driving. Bubble curtains may be used at the POA and contractor's discretion.

With respect to the depth constraint specified in the proposed ITR, designing a bubble curtain that can handle the rapid rise and fall of the tides is infeasible. The average tidal range in Knik Arm is about 8 m (26 ft) and can be as great as 10.7 m (35 ft) (Lipscomb 1989). This means that when the tide level changes from low to high or from high to low, which takes about 5 hours and 15 minutes, the rate of change can be 1.5 to 2 vertical m (5 to 6.7 ft) per hour. Such a rapid increase and decrease in tide level makes it impossible to increase or decrease the number of rings and keep a bubble curtain system operating under water with full air flow and pressure. If an air hole is above water, it will create an easier route for air release and compromise the air pressure in the entire system. The POA encourages the contractor to install and remove piles at low tide or in the dry, when possible, which greatly reduces sound pressure levels in water. The 3 m cutoff for use of a bubble curtain gives contractors some flexibility to complete a pile installation under rapidly changing conditions.

Similarly, the design of the bubble curtain required for impact and vibratory driving of permanent piles is at the discretion of the contractor for the CTR project. While POA used a confined bubble curtain during the first year of the PCT project, there were significant financial expenses associated with the design and time delays required for operations that were reduced with the use of an unconfined system during the second year of the PCT project. Confined and unconfined bubble curtain systems required an average of 6 and 4 hours, respectively, for deployment and retrieval operations. Utilization of a double bubble curtain, as recommended by CVTC, would increase the costs and delays associated with single curtains. Additionally, requirements for more equipment increase safety concerns associated with deck space on work barges and maneuvering space in and around the POA and the construction site. Therefore, it is impracticable for the POA to implement these suggested mitigation measures except at the discretion of the contractor.

Comment 15: CBD states that NMFS should prepare programmatic NEPA and ESA analyses for its CIBW take authorizations. CBD states that at a minimum, NMFS should analyze the PAMP in a single NEPA and ESA review that considers all cumulative, indirect, and direct environmental effects.

Response: NMFS originally declared its intent to prepare an EIS for take authorizations in Cook Inlet, Alaska (79 FR 61616, October 14, 2014). However, in a 2017 **Federal Register** notification (82 FR 41939, September 5, 2017), NMFS indicated that in part due to a reduced number of incidental take authorization requests in the region, we were postponing any potential preparation of an EIS for take authorizations in Cook Inlet. As stated in the 2017 **Federal Register** notice, NMFS should the number of ITA requests, or anticipated requests, noticeably increase, NMFS will re-evaluate whether preparation of an EIS is necessary. Currently, the number of ITA requests for activities that may affect marine mammals in Cook Inlet is at such a level that preparation of an EIS is not appropriate. Nonetheless, under NEPA, NMFS is required to consider cumulative effects of other potential

activities in the same geographic area, and these are discussed in greater detail in the Final EA prepared for this promulgation of an ITR to the POA for the CTR project, which supports our finding that NMFS' issuance of the POA ITR will not have a significant impact on the human environment.

CBD asserts that NMFS should analyze the PAMP in a single NEPA review, rather than ''segmenting'' the various PAMP phases. NMFS has appropriately analyzed and captured all past, present and reasonably foreseeable future actions under NEPA. This includes the projects associated with the PAMP, which each have independent utility and require separate authorizations and NEPA analyses. The EAs for each PAMP activity appropriately analyze the cumulative, indirect, and direct environmental effects of each specified action. They include an evaluation of each action's affected area, the scale and geographic extent of each action, and the degree of cumulative effects on resources (*e.g.,* the duration of impact, and whether the impacts were adverse and/or beneficial and their magnitude) under NEPA.

NMFS can prepare an EA so long as the record supports the conclusion that potential impacts are not ''significant'' for the purposes of NEPA. Based on the information presented in the application and NMFS' Policy and Procedures for Compliance with the NEPA and Related Authorities (Companion Manual (CM) for NOAA Administrative Order (NAO) 216–6A) (NOAA 2017), sections 3 and 7, NMFS' determination to prepare an EA is appropriate and in compliance with NEPA, NMFS appropriately signed a Finding of No Significant Impact (FONSI) for the promulgation of the ITR for incidental take associated with the POA's CTR project in support of this determination. The FONSI concluded that NMFS' proposed action, the promulgation of an ITR and issuance of an associated LOA to the POA, will not meaningfully contribute to significant impacts to specific resources, given the limited scope of NMFS' action and required mitigation measures. Accordingly, preparation of an EIS for this action is not necessary.

With respect to ESA, while a programmatic approach streamlines the procedures and time involved in consultations for broad agency programs or multiple similar, frequently occurring, or routine actions with predictable effects on listed species and/or critical habitat, it is discretionary. This approach depends on knowing with reasonable certainty the broad types of actions and the expected impacts to the species. In Cook Inlet, NMFS consults on a wide variety of activities, including coastal construction, oil and gas exploration and extraction, research, and military readiness efforts. The variety of actions and potential impacts is such that NMFS is unable to conduct a programmatic Section 7 consultation for all actions that may impact CIBW. While a programmatic consultation for similar types of actions (*i.e.,* coastal construction) could be considered, NMFS still lacks relevant details such as project duration and design specifics for projects like the PAMP, which are funded and designed in phases. The timeline for the CTR project's funding and design, in combination with the vulnerability of this critical infrastructure to seismic events, makes a programmatic consultation impractical.

While a programmatic approach is currently not possible, the ESA requires consideration of cumulative impacts during the preparation of the Biological Opinion (BiOp). The NMFS Alaska Regional Office issued a BiOp concluding that the take, by harassment, of CIBW, humpback whales (Mexico-North Pacific DPS and Western North Pacific DPS), and Steller sea lions (Western DPS) would not jeopardize the continued existence of those stocks and the takings would not adversely modify critical habitat. The full analysis supporting these conclusions can be found in the BiOp (NMFS, 2025).

Comment 16: CBD and Friends of Animals believe the draft EA for the CTR project fails to comply with the requirements of NEPA. They stipulate that the draft EA fails to consider a reasonable range of alternatives and to consider impacts of vessel noise associated with the CTR project and lacks a meaningful environmental and cumulative impacts analysis. Friends of Animals recommended that NMFS should conduct a more comprehensive assessment of the cumulative effects related to noise, habitat degradation, chemical exposure, mortality, stranding, climate change, and migration of the species and its prey, specifically mentioning potential synergistic effects of noise and toxic chemical exposure.

Response: In accordance with the NEPA, NMFS is required to consider a reasonable range of alternatives to a Proposed Action, as well as a No Action Alternative. Reasonable alternatives are viable options for meeting the purpose and need for the proposed action. The evaluation of alternatives under NEPA assists NMFS with understanding, and as appropriate, minimizing impacts through an assessment of alternative ways to achieve the purpose and need for our Proposed Action. Reasonable alternatives are carried forward for detailed evaluation under NEPA while alternatives considered but determined not to meet the purpose and need are not carried forward. For the purposes of this EA, an alternative will only meet the purpose and need if it satisfies the requirements of section 101(a)(5)(A) of the MMPA.

In accordance with NOAA's implementing procedures, the CM for NAO 216–6A, Section 6.B.i, NMFS is defining the No Action alternative as not authorizing the requested incidental take of marine mammals under Section 101(a)(5)(A) of the MMPA. This is consistent with our statutory obligation under the MMPA to either: (1) deny the requested authorization; or (2) grant the requested authorization and prescribe mitigation, monitoring, and reporting requirements. The Preferred Alternative (*i.e.,* promulgation of the ITR) includes mandatory mitigation, monitoring, and reporting requirements for POA to achieve the MMPA standard of effecting the least practicable adverse impact on each species or stock of marine mammal and their habitat, paying particular attention to rookeries, mating grounds, and other areas of similar significance. Since NMFS is required to prescribe mitigation to effect the least practicable adverse impact on marine mammals, mitigation that reduces impacts on marine mammals is inherently included in Alternative 2 (the proposed action) and is included as part of the analysis of alternative(s) in the Environmental Consequences chapter in the EA. NMFS described both the No Action Alternative and Preferred Alternative in the EA. We have also included an ''Alternatives Considered but Eliminated from Further Consideration'' section in the final EA that considered whether other alternatives could meet the purpose and need while supporting this applicant's proposal to replace the existing cargo terminals at the POA. There is no requirement under NEPA to consider more than two alternatives or to consider alternatives that are substantially similar to other alternatives or which have substantially similar consequences. NMFS' range of alternatives is based on the proposed action and the purpose and need, which are linked to NMFS' authorities under the MMPA. For the purposes of analysis under NEPA in the EA, an alternative will only meet the purpose and need if it satisfies the requirements under section 101(a)(5)(A) of the MMPA. Therefore, NMFS determined that, based on our authorities and criteria under the MMPA, which included

criteria regarding mitigation measures, appropriate considerations were applied to identify which alternatives to carry forward for analysis.

NMFS considered vessel noise as a component of the acoustic environment in Cook Inlet and near the POA in section 3.2.3.3 of the Draft EA. We have revised the final EA to more explicitly discuss the potential impacts of vessel noise; however, these additions do not change the conclusions reached in the Draft EA.

CBD asserts that NMFS ''fails to disclose or analyze the unique threat that the cumulative effects of multiple stressors have on'' CIBWs. NMFS evaluated the cumulative impacts of multiple stressors associated with the past, present, and reasonably foreseeable future actions in the action area, including projects associated with other PAMP phases, vessel noise (*e.g.,* commercial shipping traffic and vessel noise associated with the CTR project), vessel traffic in Knik Arm, and research activities in Section 4.8 of the EA. Vessel operations at the POA are not expected to measurably increase as a result of the CTR project (POA 2024). As stated in the EA, while consideration of activities in sum suggests an increase in industrialization of Cook Inlet, many of the past, present, and reasonably foreseeable future actions are spatially and temporally limited and do not permanently reduce or degrade the habitat available to marine mammals or their prey species. While the CTR project would add an incremental contribution to the combined environmental impacts of other past, present, and reasonably foreseeable future actions; those direct and indirect adverse impacts are expected to be mainly short-term, localized, and minor, as described in the EA. None of the take authorized by NMFS in other ITAs would overlap in time or space with impacts from the CTR project.

NMFS appreciates Friends of Animals' recommendation for conducting a more comprehensive study of cumulative effects of the various stressors on CIBW. While Friends of Animals does not provide any new information on cumulative effects, including synergistic effects of marine pollution and noise, this has been studied in other beluga populations. Williams *et al.* (2021) found that in St. Lawrence River belugas, the combined effects of proximate threats such as ocean noise, prey limitation, and contaminants were less significant that the potential threats from global climate change and the resulting expected changes to habitat. Of note, while the Recovery Plan for the Cook Inlet Beluga Whale cited by Friends of Animals identifies pollution as a threat, it notes that available information indicates that the magnitude of the pollution threat to CIBW appears low, though not all pollutants to which CIBW are exposed have been studied in that environment. NMFS has revised the EA to include more information on the potential for exposure to contaminants to harm the health of CIBW.

Comment 17: CTVC states that the POA should cover the costs of having NMFS study the noise protections offered by the bubble curtains including during different water temperatures, sediment loads, water currents, and other factors which may affect the protections for whales and that NOAA NMFS and the Port of Alaska should meet annually to discuss methods and devices for protection of whales that can be implemented in subsequent months/years of the CTR project.

Response: Per section 101(a)(5)(A) of the MMPA, NMFS can require holders of issued authorizations to conduct monitoring for marine mammals during the specified activities, but it cannot require an applicant to fund specific NMFS studies. The POA has previously completed hydroacoustic monitoring of pile driving activities during the PCT project, including the effectiveness of bubble curtains, as part of required monitoring. In the proposed ITR, NMFS considered the mitigatory value of additional hydroacoustic monitoring and determined that more data would not significantly add to the value of the current dataset. If POA elects to conduct hydroacoustic monitoring, NMFS will include those data in future analyses.

Adaptive management is a key part of the ITR process (see § 217.18 Modifications of Letters of Authorization of the new regulatory text provided by this final rule). The POA submits monitoring reports to NMFS recording marine mammal sightings during each year of the CTR project. For the CTR project, weekly reports are required. NMFS tracks these reports and estimates take numbers for each species during the construction season. NMFS may modify LOA mitigation, monitoring, or reporting measures if doing so creates a reasonable likelihood of more effectively accomplishing the goal of the measure. Additionally, any new technologies or methods for reducing impact on marine mammals can be cause to update the required mitigations set forth in these regulations.

Changes From the Proposed Rule

There have been several changes from the proposed rule in this final rule. First, NMFS finalized the draft 2024 Updated Technical Guidance referenced in the proposed rule on October 24, 2024 (89 FR 84872). The incorporation of this updated guidance did not change the estimated take of marine mammals or the shutdown zones because the proposed rule analyzed the draft Updated Technical Guidance in anticipation of its incorporation in the final rule. Consistent with the Updated Technical Guidance, nomenclature changes have been made to the final rule: mid-frequency cetaceans have been re-classified as high-frequency cetaceans, and high-frequency cetaceans have been updated to very-high-frequency (VHF) cetaceans.

Secondly, NMFS has incorporated the most recent sighting data (from 2024) into our analysis of the sighting rate bins, and thus, the estimated take (see tables 13 and 17 in this notice). Take estimates for all years increased due as a result of inclusion of these updated data in the analysis. Additionally, NMFS has concurred with the change requested by the POA in their public comment letter (see *Comment 2* and *Response,* above) and removed the proposed requirement for the use of bubble curtains during vibratory driving of temporary (24-in or 36-in) piles, which was proposed to be implemented during the months of August through October. The removal of the bubble curtain requirement does not affect estimated take because attenuated and unattenuated vibratory pile driving isopleths both occurred in the same sighting rate bin in the estimated take analysis (see Estimated Take for more information).

Thirdly, NMFS has added the Western North Pacific (WNP) stock of humpback whale (*Megaptera novaengliae*) to this rule (see table 1). The POA did not request, and thus NMFS did not propose, take of the WNP stock of humpback whales because few individuals from this stock are estimated to occur in Cook Inlet (NMFS, 2025). However, as a result of NMFS' section 7 consultation under the ESA, impacts to the WNP stock were analyzed jointly with the impacts to the Mexico-North Pacific stock. Estimated take for this species has not changed because take was not delegated to stock level because it is not possible to identify humpback whales by stock in the field. In Cook Inlet, humpback populations are approximately 89 percent Hawaii DPS individuals, 11 percent Mexico DPS individuals, and less than one percent WNP DPS individuals (NMFS 2025).

Finally, the regulatory text in the proposed rule omitted language related

to qualifications of PSOs, which was included in the text of the rule and a requirement that PSO data be submitted in a queryable format, which was not. The regulatory language and text of the rule have been revised accordingly.

There are also several typographical errors in the Proposed Rule that are corrected in this notice. First, in the Summary of Major Provisions Within the Proposed Rule section, the proposed rule stated that shutdown zones for non-CIBW species would be equivalent to or greater than the estimated Level A harassment zones. This should have read ''Establishment of shutdown zones equivalent to or greater than the estimated Level A harassment zones during vibratory pile driving; and at a practicable distance during impact driving for other species.'' The shutdown zones for non-CIBW species during impact driving do not exceed the Level A harassment isopleths, as PSOs are unlikely to see some species at such distances. This was accurately described in the Mitigation section of the proposed rule.

Second, two errors were present in the ''Number of Days over 5 Years'' column in table 1 of the proposed rule. The number of days of temporary pile installation should be 159 instead of 144, and the number of days of temporary pile removal should be 19 instead of 15. The correct number of days was used in the take estimation and thus these corrections do not affect the take estimates.

Third, discussion of ensonified area within the Estimated Take section of the proposed rule (89 FR 85686, October 28, 2024) stated that ''for vibratory driving during the CTR Project, it is assumed that a well-designed and robust bubble curtain system will achieve a mean reduction of 7 dB at the source.'' This statement should have specified that the assumption applied only to 72-in permanent piles during vibratory driving, and that measurements of attenuated installation and extraction of temporary (24-in and 36-in) piles were used in the analysis.

Fourth, tables 15 and 16 of the proposed rule had an incorrect Level B harassment distance for vibratory removal (attenuated) of a 24-in pile; the table read 2,583 m when the correct distance is 2,089 m. This is corrected in table 10 of this final rule.

Finally, due to a rounding error, the Level A take estimates for harbor seals and harbor porpoise in table 25 (99 and 16, respectively) of the proposed rule did not match the values shown in tables 21 and 22 (98 and 15, respectively). The values in tables 21 and 22 were correct. The total maximum annual take estimates have been adjusted in table 19 of this final rule.

Description of Marine Mammals in the Specified Geographical Region

There are seven species, comprising 10 stocks, of marine mammals that may be found in upper Cook Inlet during the proposed construction and demolition activities. Sections 3 and 4 of the POA's application and request for regulations summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the reader to these descriptions, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SARs) (see *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 at: *https://www.fisheries.noaa.gov/find-species.*

Table 1 lists all species or stocks for which take is likely and may be authorized for the specified activities and summarizes information related to the population or stock, including regulatory status under the MMPA and 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'' (16 U.S.C. 1362(20)). While no serious injury or mortality is anticipated or proposed to be authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' U.S. Alaska and Pacific SARs (*e.g.,* Carretta, *et al.,* 2023; Young *et al.,* 2023, 2024). Values presented in table 1 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-assessment-reports.*

TABLE 1—SPECIES LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES

Common name	Scientific name	MMPA stock	ESA/ MMPA status; strategic (Y/N) [1]	Stock abundance N_{best}, (CV, N_{min}, most recent abundance survey) [2]	PBR	Annual M/SI [3]
Order Cetartiodactyla—Cetacea—Superfamily Mysticeti (baleen whales)						
Family Eschrichtiidae:						
Gray whale	*Eschrichtius robustus*	Eastern N Pacific	-/-; N	26,960 (0.05, 25,849, 2016)	801	131
Family Balaenopteridae (rorquals):						
Humpback whale	*Megaptera novaeangliae*	Hawaii	-, -, N	11,278 (0.56, 7,265, 2020)	127	27.09
		Mexico-North Pacific	T, D, Y	N/A (N/A, N/A, 2006)	[4] UND	0.57
		Western North Pacific [5]	E,D,Y	1,084 (0.088, 1,007, 2006)	3.4	5.82
Order Cetartiodactyla—Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae:						
Killer whale	*Orcinus orca*	Eastern North Pacific Alaska Resident.	-/-; N	1,920 (N/A, 1,920, 2019)	19	1.3

TABLE 1—SPECIES LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES—Continued

Common name	Scientific name	MMPA stock	ESA/ MMPA status; strategic (Y/N) [1]	Stock abundance N_{best}, (CV, N_{min}, most recent abundance survey) [2]	PBR	Annual M/SI [3]
		Eastern North Pacific Gulf of Alaska, Aleutian Islands and Bering Sea Transient.	-/-; N	587 (N/A, 587, 2012)	5.9	0.8
Family Monodontidae						
Beluga whale	*Delphinapterus leucas*	Cook Inlet	E/D; Y	331 (0.076, 311, 2022)	0.62	0
Family Phocoenidae (porpoises):						
Harbor porpoise	*Phocoena phocoena*	Gulf of Alaska	-/-; Y	31,046 (0.214, N/A, 1998)	[4] UND	72
Order Carnivora—Superfamily Pinnipedia						
Family Otariidae (eared seals and sea lions):						
Steller sea lion	*Eumetopias jubatus*	Western	E/D; Y	49,837 (N/A, 49,837 2022)	299	267
Family Phocidae (earless seals):						
Harbor seal	*Phoca vitulina*	Cook Inlet/Shelikof Strait	-/-; N	28,411 (N/A, 26,907, 2018)	807	107

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

[2] NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.* CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable (N.A.).

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

[4] UND means undetermined.

[5] PBR in U.S. waters = 0.2, M/SI in U.S. waters = 0.06.

A detailed description of marine mammals in the specified geographic region, including brief introductions to the species and relevant stocks (with the exception of the WNP stock of humpback whales), as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the proposed rule (89 FR 85686, October 28, 2024). Please refer to the proposed rule (89 FR 85686, October 28, 2024) for full descriptions of all species.

The WNP stock is fully aligned with the WNP DPS and the stock range includes humpback whales in the Mariana Archipelago, as they are known to be part of this DPS based on both photographic identification matches and genetics (Hill et al. 2020). It consists of two units: the Philippines/Okinawa—North Pacific unit and the Marianas/Ogasawara—North Pacific unit. The units are managed as a single stock at this time, due to a lack of data available to separately assess them (NMFS 2023a, NMFS 2019, NMFS 2022d). Recognition of these units is based on movements and genetic data (Oleson *et al.* 2022). Whales in the Philippines/Okinawa—North Pacific unit winter near the Philippines and in the Ryukyu Archipelago and migrate to summer feeding areas primarily off the Russian mainland (Oleson *et al.* 2022). Whales that winter off the Mariana Archipelago, Ogasawara, and other areas not yet identified and then migrate to summer feeding areas off the Commander Islands, and to the Bering Sea and Aleutian Islands comprise the Marianas/Ogasawara—North Pacific unit.

Since the publication of the proposed rule in October 2024, two marine mammal entanglement or stranding events have been documented. On October 1, 2024, PSOs working on the POA's North Extension Stabilization (NES) project spotted a CIBW entangled in an unknown object (possibly a tire inner-tube) near the POA (61N Environmental, 2025). The whale was sighted again on October 2 but was not seen after that time. Video footage of the individual was taken, and the whale was determined to be a subadult, at least 7 years old (NMFS, 2024). The entanglement was determined to be life-threatening, but the whale was not seen after October 2, and no disentanglement effort was possible. This is the third known entanglement of a free-swimming CIBW; the others were observed in 2005 and 2010. There is no evidence that the entanglement material originated at the POA or that the pile driving occurring at the time of the observation contributed in any way to the entanglement or subsequent behavior. The POA implements measures to ensure construction materials and waste products do not enter Cook Inlet. The impacts of this entanglement were limited to the entangled individual, and NMFS does not believe that this type of event is likely to recur as a result of the POA's planned activities.

In November 2024, a deceased juvenile fin whale (*Balaenoptera physalus*) stranded close to Anchorage. Fin whales are common in lower Cook Inlet but uncommon in the upper inlet and the carcass is likely to have been moved to the upper inlet by tidal currents. Therefore, while NMFS acknowledges that there is a possibility of a fin whale approaching Anchorage during the CTR project, we do not believe that take of this species is reasonably likely to occur in the specified geographic region. Fin whales were excluded from further analysis in the proposed rule, and NMFS finds that this new information does not influence its conclusions regarding fin whales.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical

modeling, *etc.*). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2018, 2024) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 dB threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained.

On May 3, 2024, NMFS published and solicited public comment on its draft Updated Technical Guidance (89 FR 36762), which includes updated hearing ranges and names for the marine mammal hearing groups. This guidance was finalized on October 24, 2024 (89 FR 84872) with no substantive changes. In the proposed rulemaking, we considered both the 2018 and 2024 Technical Guidance in our effects and estimated take analysis. Therefore, the estimated take analysis in the proposed rule based on the draft 2024 Technical Guidance incorporates the best available scientific information and is carried forward in this final rule. Table 2 shows the updated hearing groups included in the 2024 Updated Technical guidance.

TABLE 2—MARINE MAMMAL HEARING GROUPS

[NMFS 2024]

Hearing group	Generalized hearing range *
UNDERWATER:	
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.
IN-AIR:	
Phocid pinnipeds (PA) (true seals)	42 Hz to 52 kHz.
Otariid pinnipeds (OA) (sea lions and fur seals)	90 Hz to 40 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 frequency ranges, please see NMFS (2024) for a review of available information.

Potential Effects of the Specified Activity on Marine Mammals and Their Habitat

The effects of underwater noise from the POA's construction activities have the potential to result in harassment of marine mammals in the vicinity of the CTR project area. The proposed rule (89 FR 85686, October 28, 2024) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from pile installation and extraction activities on marine mammals and their habitat. There is no newly available relevant information that would change our analyses or the results thereof. Please refer to the proposed rule (89 FR 85686, October 28, 2024) for the potential effects of the POA's activities on marine mammals and their habitat.

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes that may be authorized through issuance of a LOA, 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 (*i.e.,* 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 (*i.e.,* Level B harassment).

Authorized takes will primarily be by Level B harassment, as use of the acoustic sources (*i.e.,* vibratory and impact pile driving) has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for auditory injury (AUD INJ) constituting Level A harassment to result, primarily for very high frequency (VHF) cetaceans and phocids because predicted AUD INJ zones are larger than for high-frequency cetaceans and otariids. AUD INJ is unlikely to occur for mysticetes, high-frequency cetaceans, and otariids due to measures described in the Mitigation section. The required mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable. As described previously, no serious injury or mortality is anticipated or authorized for this activity. Below, we describe how the authorized take numbers were estimated.

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

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the

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

The POA's planned activity includes the use of continuous (vibratory pile driving) and intermittent (impact pile driving) noise 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; NMFS, 2024) identifies dual criteria to assess AUD INJ (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (*i.e.,* impulsive or non-impulsive). These thresholds are provided in the tables below. The references, analysis, and methodology used in the development of the thresholds 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.*

The POA's planned activity includes the use of impulsive (impact pile driving) and non-impulsive (vibratory driving) sources.

TABLE 3—NMFS' 2024 THRESHOLDS IDENTIFYING THE ONSET OF AUDITORY INJURY (AUD INJ)

Hearing group	AUD INJ acoustic thresholds* (received level)	
	Impulsive	Non-impulsive
UNDERWATER:		
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{p,0\text{-pk,flat}}$: 222 dB; $L_{E,p,LF,24h}$: 183 dB	*Cell 2:* $L_{E,p,LF,24h}$: 197 dB.
High-Frequency (HF) Cetaceans	*Cell 3:* $L_{p,0\text{-pk,flat}}$: 230 dB; $L_{E,p,LF,24h}$: 193 dB	*Cell 4:* $L_{E,p,HF,24h}$: 201 dB.
Very High-Frequency (VHF) Cetaceans	*Cell 5:* $L_{p,0\text{-pk,flat}}$: 202 dB; $L_{E,p,VHF,24h}$: 159 dB	*Cell 6:* $L_{E,p,VHF,24h}$: 181 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{p,0\text{-pk.flat}}$: 223 dB; $L_{E,p,PW,24h}$: 183 dB	*Cell 8:* $L_{E,p,PW,24h}$: 195 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{p,0\text{-pk,flat}}$: 230 dB; $L_{E,p,OW,24h}$: 185 dB	*Cell 10:* $L_{E,p,OW,24h}$: 199 dB.
IN–AIR:		
Phocid Pinnipeds (PA) (In-Air)	*Cell 11:* $L_{p,0\text{-pk.flat}}$: 162 dB; $L_{E,p,PA,24h}$: 140 dB	*Cell 12:* $L_{E,p,PA,24h}$: 154 dB.
Otariid Pinnipeds (OA) (In-Air)	*Cell 13:* $L_{p,0\text{-pk,flat}}$: 177 dB; $L_{E,p,OA,24h}$: 163 dB	*Cell 14:* $L_{E,p,OA,24h}$: 177 dB.

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

Note: Peak sound pressure (L_{pk}) has a reference value of 1 µPa, and cumulative sound exposure level (L_E) has a reference value of 1µPa^{2}s. In this table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI, 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for NMFS' 2018 Technical Guidance. Hence, the subscript ''flat'' is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

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

The sound field in the CTR project area is the existing background noise plus additional construction noise from the CTR project. Marine mammals are expected to be affected via sound generated by the primary components of the CTR project (*i.e.,* impact pile removal and vibratory pile installation and removal). Calculation of the area ensonified by the pile driving activities is dependent on the background sound levels at the CTR project site, the source levels of the activities, and the estimated transmission loss coefficients for the activities at the site. These factors are addressed in order, below.

Background Sound Levels at the Port of Alaska—As discussed in the Specified Geographic Region section of the proposed rule (89 FR 85686, October 28, 2024), the POA is an industrial facility in a location with high levels of commercial vessel traffic, port operations (including dredging), and extreme tidal flow. Previous measurements of background noise at the POA have recorded a background SPL of 122.2 dB RMS (Austin *et al.,*

2016). NMFS concurs that this SPL reasonably represents background noise near the CTR project area, and therefore, we have used 122.2 dB RMS as the threshold for Level B harassment (instead of 120 dB RMS).

Sound Source Levels of CTR Activities. The intensity of pile driving sounds is greatly influenced by factors such as the type of piles (*e.g.,* material and diameter), hammer type, and the physical environment (*e.g.,* sediment type) in which the activity takes place. In order to calculate the distances to the Level A harassment and the Level B harassment sound thresholds for the methods and piles being used in this project, we used acoustic monitoring data from sound source verification studies (both at the POA and elsewhere) to develop proxy source levels for the various pile types, sizes and methods (tables 9 and 10).

The POA collected sound measurements during pile installation and removal for 3 seasons (Austin *et al.* 2016; Illingworth & Rodkin (I&R) 2021a, 2021b); a summary of these data and findings can be found in appendix A of the POA's application.

Vibratory Driving—NMFS concurs that the source levels in the POA's LOA application for vibratory installation and removal of all pile types are appropriate to use for calculating harassment isopleths for the POA's proposed CTR activities (tables 4 and 5). The sound levels for vibratory removal are based on an analysis done for the POA's NES1 IHA (89 FR 2832, January 14, 2024) and are partially based on sound source verification data measured at the POA during the PCT project (Illingworth & Rodkin, 2021a). Interestingly, the analyzed RMS SPL for the unattenuated vibratory removal of 24-in (61-cm) piles was much louder than the unattenuated vibratory removal of 36-in piles (91-cm), and even louder than the unattenuated vibratory installation of 24-in piles. Illingworth & Rodkin (2023) suggest that at least for data recorded at the POA, the higher 24-in (61-cm) removal levels are likely due to the piles being removed at rates of 1,600 to 1,700 revolutions per minute (rpm), while 36-in (91-cm) piles, which are significantly heavier than 24-in (61-cm) piles), were removed at a rate of 1,900 rpm. The slower rates combined with the lighter piles would cause the hammer to easily ''jerk'' or excite the 24-in (61-cm) piles as they were extracted, resulting in a louder rattling sound and louder sound levels. This did not occur for the 36-in (91-cm) piles, which were considerably heavier due to increased diameter, longer length, and greater thickness.

The TPP found that for vibratory installation of 48-in piles, an air bubble curtain provided about a 9-dB reduction at 10 m. An 8-dB reduction at close-in positions was estimated for vibratory pile driving that occurred during the PCT project in 2021 (I&R 2021b). The PCT 2020 measurements indicated 2 to 8 dB reduction for the 48-in piles at 10 m, but no apparent broadband reduction was found in the far-field at about 2,800 m (I&R 2021a). Far-field sound levels were characterized by very low frequency sound at or below 100 Hz, causing broadband measurements to remain above the ambient RMS level at approximately 2.8km from the source. However, levels at frequencies above 100 Hz were effectively reduced by the bubble curtain system. Because CIBW are most sensitive to frequencies over 100 Hz, NMFS considers the use of bubble curtains during vibratory driving to be a useful mitigation measure for CIBW.

Based on the aforementioned measurements conducted at POA, for vibratory driving during the CTR project, it is assumed that a well-designed and robust bubble curtain system will achieve a mean reduction of 7 dB at the source for 72-in piles, which are the only pile type for which site-specific measurements are unavailable. Bubble curtains will also reduce sound levels at frequencies over 100 Hz at longer ranges. The POA will use a bubble curtain when water depth is greater than 3 m during vibratory installation of all permanent (72-in) piles during all months of construction. The POA may, at its discretion, employ bubble curtains during vibratory driving of temporary piles to reduce the size of the required shutdown zones.

Impact Driving—NMFS concurs that the source levels proposed by the POA for impact installation of all pile types are appropriate to use for calculating harassment isopleths for the POA's planned CTR activities (tables 4 and 5). Impact driving of temporary piles (24-in and 36-in piles) is not currently planned; however, in the unlikely event that vibratory driving is insufficient to stabilize a temporary pile, impact driving may be necessary. Sound source verification studies at the POA during the PCT project did not measure unattenuated impact driving of 24-in or 36-in piles; therefore, proxy sound levels from Navy (2015) are used.

The TPP measured reductions of 9 to 12 dB for a 48-in pile installed with an impact hammer using a confined air bubble curtain. The PCT 2020 measurements (I&R 2021a) found reductions of about 10 dB when comparing the attenuated conditions that occurred with that project to unattenuated conditions for the TPP. The TPP did not report the reduction in sound levels in the acoustic far field; however, the computed distances to 125 dB RMS isopleths were essentially reduced by half with the bubble curtain (from 1,291 to 698 m).

It is currently unclear whether the POA's planned bubble curtain system for the CTR project will be confined or unconfined; confined systems are typically more effective, especially in sites like Knik Arm, with high current velocity. Therefore, for impact pile installation for the CTR project, it is assumed that a well-designed and robust bubble curtain system will achieve a mean reduction of 7 dB from the source. The POA plans to use a bubble curtain system on all permanent piles in all months, which will be installed with both vibratory and impact hammers. The bubble curtain by necessity will be installed around each permanent pile as it is moved into position, and therefore, the bubble curtain will be available as a mitigation measure to reduce sound levels throughout each driving event for permanent 72-in piles when water depth is greater than 3 m. To account for piles driven in water less than 3 m deep, NMFS has estimated approximately 0.5 unattenuated 72-in piles will be driven (approximately 43 minutes of impact driving and 5 minutes of vibratory driving) each month.

Concurrent Activities—The POA plans to concurrently operate up to 2 hammers to install or extract piles at different parts of the CTR project site, in order to reduce the need for pile driving during months of high CIBW presence. When 2 noise sources have overlapping sound fields, the sources are considered additive and combined using the rules of dB addition. For addition of 2 simultaneous sources, the difference between the 2 sound source levels is calculated, and if that difference is between 0 and 1 dB, 3 dB are added to the higher sound source levels; if the difference is between 2 and 3 dB, 2 dB are added to the highest sound source levels; if the difference is between 4 and 9 dB, 1 dB is added to the highest sound source levels; and with differences of 10 or more dB, there is no addition. For two simultaneous sources of different type (*i.e.,* impact and vibratory driving), there is no sound source addition. Possible concurrent scenarios and the predicted source values and transmission loss coefficients for these combinations are shown in table 6.

Transmission Loss—For all piles driven with an active bubble curtain (*i.e.,* ''attenuated'' impact and vibratory

driving), and for unattenuated impact installation, the POA proposed to use 15 as the *TL* coefficient, meaning they assume practical spreading loss (*i.e.,* the POA assumes $TL = 15*\text{Log}_{10}(\text{range})$); NMFS concurs with this value and has assumed practical spreading loss for all (attenuated impact and vibratory) driving and unattenuated impact driving.

The *TL* coefficient that the POA proposed for unattenuated vibratory installation and removal of piles is 16.5 (*i.e.,* $TL = 16.5*\text{Log}_{10}(\text{range})$). This value is an average of measurements obtained from 2, 48-in (122-cm) piles installed via an unattenuated vibratory hammer in 2016 (Austin *et al.,* 2016). To assess the appropriateness of this *TL* coefficient to be used for the CTR project, NMFS examined and analyzed additional *TL* measurements recorded at the POA. This includes a *TL* coefficient of 22 (deep hydrophone measurement) from the 2004 unattenuated vibratory installation of one 36-in (91-cm) pile at Port MacKenzie, across Knik Arm from the POA (Blackwell, 2005), as well as *TL* coefficients ranging from 10.3 to 18.2 from the unattenuated vibratory removal of 24-in (61-cm) and 36-in (91-cm) piles and the unattenuated vibratory installation of one 48-in (122-cm) pile at the POA in 2021 (I&R 2021, 2023). To account for statistical interdependence due to temporal correlations and equipment issues across projects, values were averaged first within each individual project, and then across projects. The mean and median value of the measured *TL* coefficients for unattenuated vibratory piles in Knik Arm by project are equal to 18.9 and 16.5, respectively. NMFS therefore used the project median *TL* coefficient of 16.5 during unattenuated vibratory installation and removal of all piles during the CTR project. This value is representative of all unattenuated vibratory measurements in the Knik Arm, *i.e.,* including data from POA and Port MacKenzie. Further, 16.5 is the mean of the 2016 measurements, which were made closer to the CTR project area than other measurements and were composed of measurements from multiple directions (both north and south/southwest).

In certain scenarios, the POA may perform concurrent vibratory driving of 2 piles. The POA proposed, and NMFS concurs, that in the event that both piles are unattenuated, the *TL* coefficient will be 16.5; if both piles are attenuated, the *TL* coefficient will be 15. In the event that 1 pile is attenuated and 1 is unattenuated, the POA proposed a *TL* coefficient of 15.75 to be used in the acoustic modeling. NMFS evaluated the contributions of one attenuated and one unattenuated vibratory-driven pile to the sound field (assuming a 7-dB reduction in source level due to the bubble curtain for the attenuated source) and determined that the unattenuated source would likely dominate the received sound field. Therefore, the POA's proposed *TL* coefficient is conservative, and NMFS concurs with this value.

TABLE 4—SUMMARY OF UNATTENUATED IN-WATER PILE DRIVING PROXY LEVELS

[at 10 m]

Vibratory hammer					
Method and pile type	dB RMS			TL coefficient	Data source for source levels
24-in steel installation	161			16.5	U.S. Navy 2015.
24-in steel removal	169				NMFS average 2023; see 89 FR 2832.
36-in steel installation	166				U.S. Navy 2015.
36-in steel removal	159				NMFS average 2023; see 89 FR 2832.
72-in steel	171				I&R 2003, unpublished data for Castrol Oil berthing dolphin in Richmond, CA.
Impact hammer					
	dB RMS	dB SEL	dB peak	TL coefficient	Data source for source levels
24-in steel	193	181	210	15.0	U.S. Navy 2015.
36-in steel	193	184	211		U.S. Navy 2015.
72-in steel	203	191	217		I&R model. Estimate based on interpolation of data for piles 24 to 144 in diameter.

TABLE 5—SUMMARY OF ATTENUATED IN-WATER PILE DRIVING PROXY LEVELS

[at 10 m]

Vibratory hammer					
Method and pile type	dB RMS			TL coefficient	Reference for proxy levels
24-in steel installation	158.5			15.0	I&R 2021a (measured).
24-in steel removal	157				I&R 2021a (measured).
36-in steel installation	160.5				I&R 2021a, 2021b (measured).
36-in steel removal	154				I&R 2021a (measured).
72-in steel	164				Assumed 7-dB reduction supported by I&R 2021a.
Impact hammer					
	dB RMS	dB SEL	dB peak	TL coefficient	Reference for proxy levels
24-in steel	186	174	203	15.0	Assumed 7-dB reduction supported by I&R 2021a.

	Impact hammer				
	dB RMS	dB SEL	dB peak	TL coefficient	Reference for proxy levels
36-in steel	186	177	204		Assumed 7-dB reduction supported by I&R 2021a.
72-in steel	196	184	210		Assumed 7-dB reduction supported by Caltrans Compendium (2020).

TABLE 6—SOURCE VALUES FOR POTENTIAL CONCURRENT DRIVING SCENARIOS [1]

Activity	Method	Pile type/size [2]	Attenuated or unattenuated	Proxy source value			TL coefficient	# Piles per day [3]
				dB RMS	dB SEL	dB peak		
Concurrent Driving. (2 sources)	Vibratory/Vibratory	36-in and 36-in	Attenuated/Attenuated	163.5			15	8
			Attenuated/Unattenuated	169			15.75	8
			Unattenuated/Unattenuated	171			16.5	8
	Vibratory/Impact [1]	36in and 72in	Attenuated/Attenuated	166			15	7
			Unattenuated/Attenuated	169			15.75	7
		36in and 72in	Attenuated/Attenuated	160.5/196	–/184	–/210	15/15	8
			Unattenuated/Attenuated	166/196	–/184	–/210	16.5/15	7

[1] Concurrent vibratory and impact driving source values and TL coefficients are the same as for the piles driven individually (shown in tables 4 and 5), with no adjustments for concurrent driving. The Level A harassment isopleths would be determined by the calculated impact pile driving isopleths, and Level B harassment isopleth would be generated by vibratory pile driving.

[2] POA may elect to use either 36-in or 24-in temporary piles; as 36-in piles are more likely and estimated to have larger ensonified areas, we have used these piles in our analyses of concurrent activities.

[3] Piles per day were calculated as the maximum daily number of each type of pile (24-in and 36-in = 4 piles per hammer per day; 72-in piles = 3 piles per day) with complete overlap for 45 minutes of driving with the largest possible combined source value, a scenario that would over-estimate duration of noise production given the estimated time required to drive 72-in piles with a vibratory hammer (10 minutes).

Estimated Harassment Isopleths—All estimated Level B harassment isopleths are reported in table 10. At POA, Level B harassment isopleths from the CTR project will be limited in some cases to less than the estimated value by the coastline along Knik Arm along and across from the CTR project site. The maximum predicted isopleth distance for a single pile is 9,069 m during vibratory installation of unattenuated 72-in (182-cm) steel pipe piles. For concurrent driving the maximum isopleth distance is 9,363 m during vibratory driving of two unattenuated 24- or 36-in piles or during vibratory driving of one attenuated (24-, 36-, or 72-in) and one unattenuated (24- or 36-in) pile (tables 15 and 16).

The ensonified area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources, such as pile driving, the optional User Spreadsheet tool predicts the distance at which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur AUD INJ. Inputs used in the optional User Spreadsheet tool and the resulting estimated isopleths are reported in tables 7 through 10, below.

TABLE 7—NMFS USER SPREADSHEET INPUTS FOR 72-IN PERMANENT PILES

	Impact pile driving		Vibratory pile driving	
	Attenuated	Unattenuated [1]	Attenuated	Unattenuated [2]
Spreadsheet Tab Used	E.1) Impact pile driving		A.1) Non-Impul, Stat, Cont.	
Source Level	184 dB SEL	191 dB SEL	164 dB RMS	171 dB RMS
Transmission Loss Coefficient	15	15	15	16.5
Weighting Factor Adjustment (kHz)	2		2.5	
Time to install single pile (minutes)	—		10	
Number of strikes per pile	5,743		—	
Piles per day	1–3	1	3	
Distance of sound pressure level measurement (m)	10			

[1] To account for piles driven in water less than 3 m deep, NMFS has estimated approximately 0.5 unattenuated 72-in piles will be driven (approximately 43 minutes of impact driving and 5 minutes of vibratory driving) each month.

TABLE 8—NMFS USER SPREADSHEET INPUTS FOR TEMPORARY (24- OR 36-IN) PILES

	Vibratory pile driving							
	24-in (61-cm) steel pipe					36-in (91-cm) steel pipe		
	Installation	Removal				Installation	Removal	
		Atten	Unatten	Atten	Unatten		Atten	Unatten
Spreadsheet Tab Used	A.1) Non-Impul, Stat, Cont.							
Source Level (dB RMS)	158.5	161	157	169	160.5	166	154	159
Transmission Loss Coefficient	15	16.5	15	16.5	15	16.5	15	16.5
Weighting Factor Adjustment (kHz)	2.5							
Time to install or remove single pile (minutes)	30		45		30		45	
Number of strikes per pile	—							
Piles per day	4							
Distance of sound pressure level measurement (m)	10							

	Impact pile driving			
	24-in (61-cm) steel pipe		36-in (91-cm) steel pipe	
	Attenuated	Unattenuated	Attenuated	Unattenuated
Spreadsheet Tab Used	E.1) Impact pile driving			
Source Level	174 dB SEL	181 dB SEL	177 dB SEL	184 dB SEL
Transmission Loss Coefficient	15			
Weighting Factor Adjustment (kHz)	2			
Time to install or remove single pile (minutes)	—			
Number of strikes per pile	1,000			
Piles per day	1			
Distance of sound pressure level measurement (m)	10			

TABLE 9—NMFS USER SPREADSHEET INPUTS FOR CONCURRENT VIBRATORY DRIVING

	24- or 36-in AND 24-in or 36-in			24- or 36-in AND 72-in	
	Attenuated/ attenuated	Attenuated/ unattenuated	Unattenuated/ unattenuated	Attenuated/ attenuated	Unattenuated/ attenuated
Spreadsheet Tab Used	Non-Impul, Stat, Cont.				
Source Level (dB RMS)	163.5	170	172	166	170
Transmission Loss Coefficient	15	15.75	16.5	15	15.75
Weighting Factor Adjustment (kHz)	2.5				
Time to install or remove a single pile (minutes)	45				
Number of strikes per pile	—				
Piles per day	8			7	
Distance of sound pressure level measurement (m)	10				

TABLE 10—CALCULATED DISTANCE OF LEVEL A (BASED ON NMFS' 2024 UPDATED TECHNICAL GUIDANCE) AND LEVEL B HARASSMENT ISOPLETHS BY PILE TYPE AND PILE DRIVING METHOD

Activity	Pile type/size	Attenuated or unattenuated	Level A harassment distance (m)					Level B harassment distance (m) all hearing groups [1]
			LF	HF	VHF	PW	OW	
Impact	24-in (61-cm)	Unattenuated	732	94	1,133	651	243	1,585
		Attenuated	250	32	387	222	83	541
	36-in (91-cm)	Unattenuated	1,160	148	1,796	1,031	385	1,585
		Attenuated	397	51	613	352	132	541
	72-in (182-cm)	Unattenuated	10,896	1,390	16,861	9,679	3,608	7,356
		Attenuated (1 pile per day)	3,720	474.7	5,757	3,305	1,232	2,512
		Attenuated (2 piles per day)	5,906	753.5	9,139	5,246	1,956	
		Attenuated (3 piles per day)	7,739	987.4	11,976	6,875	2,563	
Vibratory Installation	24-in (61-cm)	Unattenuated	14.1	5.9	11.8	17.8	6.6	2,247
		Attenuated	10	3.8	8.1	12.8	4.3	2,630
	36-in (91-cm)	Unattenuated	28.4	11.9	23.6	35.7	13.3	4,514
		Attenuated	13.6	5.2	11.1	17.5	5.9	3,575

TABLE 10—CALCULATED DISTANCE OF LEVEL A (BASED ON NMFS' 2024 UPDATED TECHNICAL GUIDANCE) AND LEVEL B HARASSMENT ISOPLETHS BY PILE TYPE AND PILE DRIVING METHOD—Continued

Activity	Pile type/size	Attenuated or unattenuated	Level A harassment distance (m)					Level B harassment distance (m) all hearing groups [1]
			LF	HF	VHF	PW	OW	
	72-in (182-cm)	Unattenuated	24.6	10.3	20.5	31	11.5	9,069
		Attenuated	9.2	3.5	7.5	11.9	4	6,119
Vibratory Removal	24-in (61-cm)	Unattenuated	55.2	23.1	45.9	69.5	25.8	6,861
		Attenuated	10.4	4	8.5	13.4	4.5	2,089
	36-in (91-cm)	Unattenuated	13.7	5.7	11.4	17.2	6.4	1,699
		Attenuated	6.6	2.5	5.4	8.4	2.8	1,318
Concurrent Vibratory/Vibratory.	36-in AND 36-in	Attenuated/Attenuated	44.7	17.2	36.5	57.5	19.4	5,667
		Attenuated/Unattenuated	107.6	43.3	88.8	136.9	48.5	9,363
		Unattenuated/Unattenuated	127.7	53.5	106.3	160.7	59.7	9,069
	36-in AND 72-in	Attenuated/Attenuated	60	23.1	49	77.3	26	8,318
		Unattenuated/Attenuated	98.9	39.8	81.6	125.8	44.6	9,363
Concurrent Vibratory/Impact	36-in AND 72-in	Attenuated/Attenuated (1 pile per day).	3,720	474.7	5,757	3,305	1,232	3,575
		Attenuated/Attenuated (2 piles per day).	5,906	753.5	9,139	5,246	1,956	
		Attenuated/Attenuated (3 piles per day).	7,739	987.4	11,976	6,875	2,563	
		Unattenuated/Attenuated (1 pile per day).	3,720	474.7	5,757	3,305	1,232	4,514
		Unattenuated/Attenuated (2 piles per day).	5,906	753.5	9,139	5,246	1,956	
		Unattenuated/Attenuated (3 piles per day).	7,739	987.4	11,976	6,875	2,563	

[1] Distances to thresholds are as modeled; however, interaction with shorelines would truncate zones. See figures 6–1 through 6–10 in the POA's application for further details.

Marine Mammal Occurrence

In this section, we provide information about the occurrence of marine mammals, including density or other relevant information, which informed the take calculations. Available information regarding marine mammal occurrence and abundance in the vicinity of the POA includes monitoring data from the PCT and SFD projects. These programs produced a unique and comprehensive data set of marine mammal sightings and for CIBWs, locations and movements near the POA (61N Environmental, 2021, 2022a, 2022b; Easley-Appleyard and Leonard, 2022). This is the most current data set available for Knik Arm. During the PCT and SFD projects, the POA's marine mammal monitoring programs included 11 PSOs working from four elevated, specially designed monitoring stations located along a 9-km stretch of coastline surrounding the POA. The number of days data was collected varied among years and projects, with 128 days during PCT Phase 1 in 2020, 74 days during PCT Phase 2 in 2021, and 13 days during SFD in 2022 (see tables 6–15 in the POA's application for additional information regarding CIBW monitoring data). PSOs during these projects used 25-power ''big-eye'' and hand-held binoculars to detect and identify marine mammals and theodolites to track movements of CIBW groups over time and collect location data while they remained in view.

These POA monitoring programs were supplemented in 2021 with a NMFS-funded visual marine mammal monitoring project that collected data during non-pile driving days during PCT Phase 2 (Easley-Appleyard and Leonard, 2022). NMFS replicated the POA monitoring efforts, as feasible, including use of 2 of the POA's monitoring platforms, equipment (Big Eye binoculars, theodolite, 7x50 reticle binoculars), data collection software, monitoring and data collection protocol, and observers; however, the NMFS-funded program utilized only 4 PSOs and 2 observation stations along with shorter (4- to 8-hour) observation periods compared to PCT or SFD data collection, which included 11 PSOs, 4 observation stations, and most observation days lasting close to 10 hours. Despite the differences in effort, the NMFS dataset fills in gaps during the 2021 season and is thus valuable in this analysis. NMFS' PSO's monitored for 231.6 hours on 47 non-consecutive days in July, August, September, and October.

Density data are not available for any of the relevant species in this area; therefore, we have used reasonable yearly, monthly, or hourly occurrence estimates based on the previous POA monitoring datasets for all species. Table 11 shows the estimated occurrence rates for non-CIBW species at the POA; descriptions are provided in the text below.

TABLE 11—ESTIMATED OCCURRENCE FOR NON-CIBW SPECIES AT THE POA

Species	Timeframe	Estimated occurrence rates	Estimated annual occurrence	Estimated 5-year occurrence
Gray whale	Yearly	6/year	6	30
Humpback whale		4/year	4	20
Killer whale		6/year	6	30
Steller sea lion		9/year	9	45
Harbor porpoise	Hourly	0.15/hour	1,314	6,570
Harbor seal		1/hour	8,760	43,800

Gray Whale

Sightings of gray whales in the CTR project area are rare. Few, if any, gray whales are expected to approach the CTR project area. However, based on three separate sightings of single gray whales near the POA in 2020 and 2021 (61N Environmental, 2021, 2022a; Easley-Appleyard and Leonard, 2022), the POA anticipates that up to 6 individuals could occur within estimated harassment zones each year during CTR project activities.

Humpback Whale

Sightings of humpback whales in the CTR project area are rare, and few, if any, humpback whales are expected to approach the CTR project area. However, there have been previous observations of humpback whales near the POA. Based on the 2 sightings in 2017 of what was likely a single individual at the Anchorage Public Boat Dock at Ship Creek (ABR, Inc., 2017) south of the CTR project area, the POA estimated that 6 humpback whales per year may occur in the vicinity of the CTR project. However, given the maximum number of humpback whales observed within a single construction season was two (in 2017), NMFS instead anticipates that only up to 4 humpback whales could be exposed to project-related underwater noise per year during the CTR project.

Killer Whale

Few, if any, killer whales are expected to approach the CTR project area. No killer whales were sighted during previous monitoring programs for POA construction projects, including the 2016 TPP, 2020 PCT, and 2022 SFD projects (Prevel-Ramos *et al.,* 2006; Markowitz and McGuire, 2007; Cornick and Saxon-Kendall, 2008, 2009; Cornick *et al.,* 2010, 2011; ICRC, 2009, 2010, 2011, 2012; Cornick and Pinney, 2011; Cornick and Seagars, 2016; 61N Environmental, 2021, 2022b), except during PCT construction in 2021, when 2 killer whales were sighted (61N Environmental, 2022a). Previous sightings of transient killer whales have documented pod sizes in upper Cook Inlet between 1 and 6 individuals (Shelden *et al.,* 2003). The POA estimates, and NMFS concurs, that 1 pod (assumed to be 6 individuals) could occur within the CTR project area during CTR project activities each year.

Harbor Porpoise

Monitoring data recorded from 2005 through 2022 were used to evaluate hourly sighting rates for harbor porpoises in the proposed CTR area (see table 4–3 in the POA's application). During most years of monitoring, no harbor porpoises were observed. However, there has been an increase in harbor porpoise sightings in upper Cook Inlet in recent decades (*e.g.,* 61N Environmental, 2021, 2022a; Shelden *et al.,* 2014). The highest sighting rate for any recorded year during in-water pile installation and removal was an average of 0.037 harbor porpoises per hour during PCT construction in 2021, when observations occurred across most months. Given the uncertainty around harbor porpoise occurrence at the POA and potential that occurrence is increasing, the POA calculated requested takes using a sighting rate of 0.5 harbor porpoises per hour. For the recent NES1 project (88 FR 76576, November 6, 2023), NMFS estimated that a more realistic sighting rate would be closer to approximately 0.07 harbor porpoises per hour (the 2021 rate of 0.037 harbor porpoises per hour doubled). However, the sizes of the ensonified areas for the NES1 project are much smaller than those predicted for the CTR project. Based on the larger ensonified areas, which more closely resemble the observable area from the PCT project, the cryptic nature of the species, and the potential for increased occurrence of harbor porpoise in and around upper Cook Inlet, NMFS estimates that approximately 0.15 harbor porpoises per hour (four times the maximum observed 2021 rate of 0.037 per hour) may be observed near the CTR area during the 5 years covered under this rulemaking.

Steller Sea Lion

Steller sea lions are anticipated to occur in low numbers within the CTR project area as summarized in the Description of Marine Mammals in the Area of Specified Activities section. Similar to the approach used above for harbor porpoises, the POA used previously recorded sighting rates of Steller sea lions near the POA to estimate requested take for this species. During SFD construction in May and June of 2022, the hourly sighting rate for Steller sea lions was 0.028. The hourly sighting rate for Steller sea lions in 2021, the most recent year with observations across most months, was approximately 0.01. The highest number of Steller sea lions that have been observed during the 2020–2022 monitoring efforts at the POA was 9 individuals (8 during PCT Phase 1 monitoring and 1 during NMFS' 2021 monitoring).

Recent counts of sightings of Steller sea lions around the POA may include multiple re-sights of single individuals. For instance, in 2016, Steller sea lions were observed on 2 separate days. On May 2, 2016, 1 individual was sighted, while on May 25, 2016, there were 5 Steller sea lion sightings within a 50-minute period, and these sightings occurred in areas relatively close to one another (Cornick and Seagars, 2016). Given the proximity in time and space, it is believed these 5 sightings were of the same individual sea lion. The POA is concerned that multiple re-sights of a single individual within a day may overestimate the true number of individuals exposed to sound levels at or above harassment thresholds over the course of the CTR project. Therefore, given the uncertainty around Steller sea lion occurrence at the POA and potential that occurrence is increasing, the POA estimated that approximately 0.14 Steller sea lions per hour (the May and June 2022 rate of 0.028 Steller sea lions per hour multiplied by a factor of 5) may be observed near the proposed CTR project areas per hour of hammer use. However, the highest number of Steller sea lion sightings during the 2020–2022 monitoring efforts at the POA was 9 (8 during PCT Phase 1 monitoring and 1 during NMFS' 2021 monitoring).

Given the POA's estimate assumes a higher Steller sea lion sighting rate (0.14) than has been observed at the POA and results in an estimate that is more than double the maximum number of Steller sea lions observed in a year, NMFS believes that the sighting rate proposed by the POA overestimates potential exposures of this species. Based on the ensonified areas, which closely resemble the observable area from the PCT project, the potential for re-sightings of individual animals, and the uncertainty around increased occurrence of Steller sea lions in and around upper Cook Inlet, NMFS instead assumes that 9 Steller sea lions (*i.e.,* the maximum number observed in a single year between 2020 and 2022 during projects with similar sized harassment isopleths) could occur within the CTR project area each year during the 5 years covered under this rulemaking.

Harbor Seal

No known harbor seal haulout or pupping sites occur in the vicinity of the POA. In addition, harbor seals are not known to reside in the CTR project area, but they are seen regularly near the mouth of Ship Creek when salmon are running, from July through September. With the exception of newborn pups, all ages and sexes of harbor seals could occur in the CTR project area. Harbor seals often appear curious about onshore activities and may approach closely. The mouth of Ship Creek,

where harbor seals linger, is about 1,500 m from the southern end of the CTR project area.

The POA evaluated marine mammal monitoring data to calculate hourly sighting rates for harbor seals in the CTR project area (see table 4–1 in the POA's application). Of the 524 harbor seal sightings in 2020 and 2021, 93.7 percent of the sightings were of single individuals; only 5.7 percent of sightings were of 2 individual harbor seals, and only 0.6 percent of sightings reported 3 harbor seals. Sighting rates of harbor seals were highly variable and appeared to have increased during monitoring between 2005 and 2022. It is unknown whether any potential increase was due to local population increases or habituation to ongoing construction activities. The highest individual hourly sighting rate recorded for the previous year was used to quantify take of harbor seals for in-water pile installation and removal associated with CTR. This occurred in 2021 during PCT Phase 2 construction, when harbor seals were observed from May through September. A total of 220 harbor seal sightings were observed over 734.9 hours of monitoring, at an average rate of 0.30 harbor seal sightings per hour. The maximum monthly sighting rate occurred in September 2020 and was 0.51 harbor seal sightings per hour. Based on these data, the POA estimated, and NMFS concurs, that approximately 1 harbor seal (the maximum monthly sighting rate (0.51) rounded up) may be observed near the CTR project per hour of hammer use.

Beluga Whale

CIBWs are regular and frequent visitors to Knik Arm, sometimes passing by the POA multiple times a day, as documented by the previous PAMP monitoring projects (61N Environmental, 2021, 2022a, 2022b). Distances from CIBW sightings to the CTR project site from the POA and NMFS-funded monitoring programs ranged from less than 10 m up to nearly 15 km. The robust marine mammal monitoring programs in place at the POA from 2020 through 2022 located, identified, and tracked CIBWs at greater distances from the proposed project site than previous monitoring programs (*i.e.,* Kendall and Cornick, 2015) and has contributed to a better understanding of CIBW movements in upper Cook Inlet (*e.g.,* Easley-Appleyard and Leonard, 2022).

For the NES1 project, NMFS and the POA collaboratively developed a new sighting rate methodology that incorporates a spatial component for CIBW observations, which allows for more accurate estimation of potential take of CIBWs (89 FR 2832, January 14, 2024). We have used this same methodology in the analysis of estimated CIBW incidental take during the CTR project. A detailed description of the differences from the sighting-rate methods used in the PCT and SFD projects can be found in the proposed rule for the NES1 project (88 FR 76576, November 6, 2023).

During the POA's and NMFS' marine mammal monitoring programs for the PCT and SFD projects (table 12), PSOs had an increased ability to detect, identify, and track CIBWs groups at greater distances from the project work site when compared with previous years because of the POA's expanded monitoring program as described above. This meant that observations of CIBWs in the 2020–2022 dataset (table 12) include sightings of individuals at distances far outside some of the ensonified areas estimated for the CTR project and at ranges close to the extent of the larger ensonified areas (table 10). Therefore, it would not be appropriate to group all CIBW observations from these datasets into a single sighting rate as was done for the PCT and SFD projects. Rather, CIBW observations were considered in relation to their distance to the CTR project site when determining appropriate sighting rates to use when estimating take for this project. This helped to ensure that the sighting rates used to estimate take are representative of CIBW presence in the estimated ensonified areas.

TABLE 12—MARINE MAMMAL MONITORING DATA USED FOR CIBW SIGHTING RATE CALCULATIONS

Year	Monitoring type and data source	Number of CIBW group fixes	Number of CIBW groups	Number of CIBWs
2020	PCT: POA Construction Monitoring, 61N Environmental, 2021	2,653	245	987
2021	PCT: NMFS Monitoring, Easley-Appleyard and Leonard, 2022	694	[1] 109	575
2021	PCT: POA Construction Monitoring, 61N Environmental, 2021, 2022a	1,339	132	517
2022	SFD: POA Construction Monitoring, 61N Environmental, 2022b	151	9	41
2024	NES1: POA Construction Monitoring, 61N Environmental, 2025	4,618	433	1,924

[1] This number differs slightly from table 6–8 in the POA's application due to our removal of a few duplicate data points in the NMFS data set.

To incorporate a spatial component into the sighting rate methodology, the POA calculated each CIBW group's closest point of approach (CPOA) relative to the CTR project site. The 2020–2022 and 2024 marine mammal monitoring programs (table 12) enabled the collection, in many cases, of multiple locations of CIBW groups as they transited through Knik Arm, which allowed for track lines to be interpolated for many groups. The 2024 sightings data were received from the POA on March 3, 2024 and have been analyzed according to the same methodologies described in the proposed rule (89 FR 85686, October 28, 2024). The POA used these track lines or single recorded locations in instances where only one sighting location was available to calculate each group's CPOA. CPOAs were calculated in ArcGIS software using the Geographic Positioning System (GPS) coordinates provided for documented sightings of each group (for details on data collection methods, see 61N Environmental, 2021, 2022a, 2022b; 2025; Easley-Appleyard and Leonard, 2022) and the CTR location midpoint, centered on the CTR project site. A CIBW group was defined as a sighting of one or more CIBWs as determined during data collection. The most distant CPOA location to CTR was 12,791 m and the closest CPOA location was 6 m.

The cumulative density distribution of CPOA values represents the percentage of CIBW observations that were within various distances to the CTR project site (figure 1). This distribution shows how CIBW observations differed with distances to the CTR site and was used to infer appropriate distances within which to estimate spatially-derived CIBW sighting rates (figure 1). The POA implemented a piecewise regression model that detected breakpoints (*i.e.,* points within the CPOA data at which statistical properties of the sequence of observational distances changed) in the cumulative density distribution of the CPOA locations, which they proposed

to represent spatially-based sighting rate bins for use in calculating CIBW sighting rates. The POA used the ''Segmented'' package (Muggeo, 2020) in the R Statistical Software Package (R Core Team, 2022) to determine statistically significant breakpoints in the linear distances of the CIBW data using this regression method (see section 6.5.5.3 of the POA's application for more details regarding this statistical analysis). This analysis identified breakpoints in the CPOA locations at 281, 2,213, 3,149, and 6,639 m (figure 1), differ by between 5.7 and 335 m from the breakpoints identified from the 2020 and 2021 data (*i.e.,* 195.7; 2,337; 3,154.7; and 6,973.9 m) in the proposed rule (89 FR 85686, October 28, 2024).

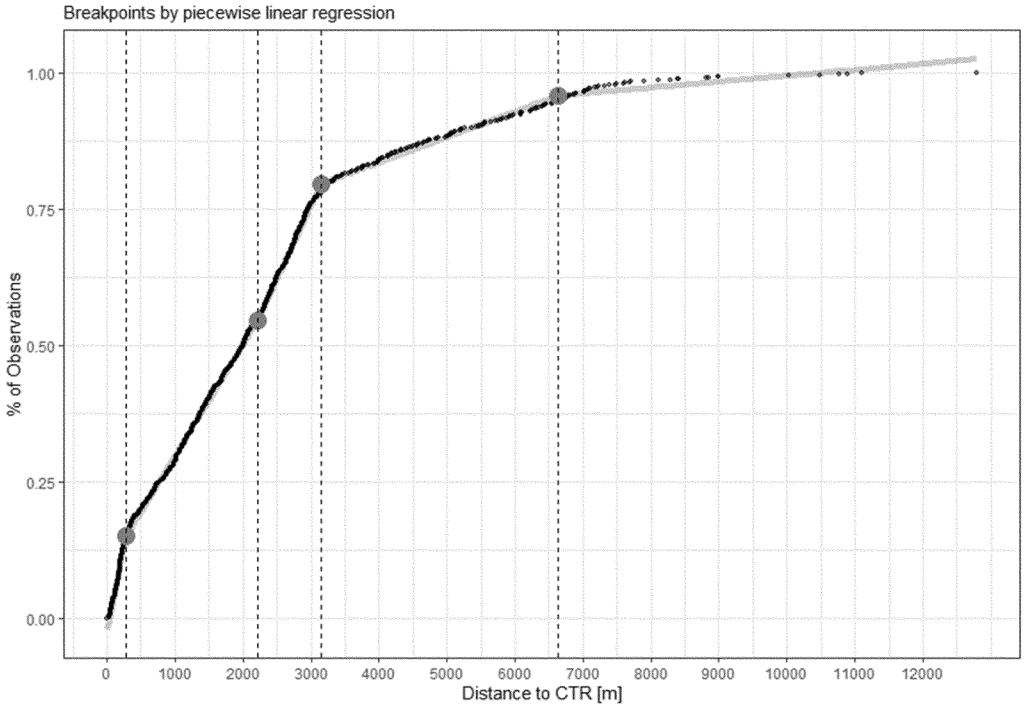

Figure 1 -- Percent of CIBW CPOA Observations in Relation to Distance from the CTR Project Site and Associated Breakpoints Determined by Piecewise Linear Regression

Piecewise regression is a common tool for modeling ecological thresholds (Lopez *et al.,* 2020; Whitehead *et al.,* 2016; Atwood *et al.,* 2016). In a similar scenario to the one outlined above, Mayette *et al.* (2022) used piecewise regression methods to model the distances between two individual CIBWs in a group in a nearshore and a far shore environment. For the POA's analysis, the breakpoints (*i.e.,* 281, 2,213, 3,149, and 6,639 m) detect a change in the frequency of CIBW groups sighted and the slope of the line between two points indicates the magnitude of change. A greater positive slope indicates a greater accumulation of sightings over the linear distance (x-axis) between the defining breakpoints, whereas a more level slope (*i.e.,* closer to zero) indicates a lower accumulation of sightings over that linear distance (x-axis) between those defining breakpoints (figure 1; see table 6–16 in the POA's application for the slope estimates for the empirical cumulative distribution function).

The breakpoints identified by the piecewise regression analysis are in agreement with what is known about CIBW behavior in Knik Arm based on recent monitoring efforts (61N Environmental, 2021, 2022a, 2022b, 2025; Easley-Appleyard and Leonard, 2022). Observation location data collected during POA monitoring programs indicate that CIBWs were consistently found in higher numbers in the nearshore areas, along both shorelines, and were found in lower numbers in the center of the Arm. Tracklines of CIBW group movements collected from 2020 to 2022 and 2024 show that CIBWs displayed a variety of movement patterns that included swimming close to shore past the POA on the east side of Knik Arm (defined by breakpoint 1 at 281 m), with fewer CIBWs swimming in the center of Knik Arm (breakpoints 1 to 2, at 281 to 2,213 m). CIBWs commonly swam past the POA close to shore on the west side of Knik Arm, with no CIBWs able to swim farther from the POA in that area than the far shore (breakpoints 2 to 3, at 2,213 to 3,149 m). Behaviors and locations beyond breakpoint 4 (6,639 m) include swimming past the mouth of Knik Arm between the Susitna River area and Turnagain Arm; milling at the mouth of Knik Arm but not entering the Arm; and milling to the northwest of the POA without exiting Knik Arm. The shallowness of slope 5, at distances greater than 6,639 m, could be due to detection falloff from a proximity (distance) bias, which would occur when PSOs are less likely to detect CIBW groups that are farther away than groups that are closer.

The POA, in collaboration with NMFS, used the distances detected by the breakpoint analysis to define 5 sighting rate distance bins for CIBWs in the NES1 project area. Each breakpoint (281, 2,213, 3,149, and 6,639 m, and the complete data set of observations (>6,639 m)) was rounded up to the nearest meter and considered the outermost limit of each sighting rate bin, resulting in 5 identified bins (table 19).

All CIBW observations less than each bin's breakpoint distance were used to calculate that bin's respective monthly sighting rates (*e.g.,* all sightings from 0 to 281 m are included in the sighting rates calculated for bin number 1, all sightings from 0 to 2,213 m are included in the sighting rates calculated for bin number 2, and so on). CTR construction is anticipated to take place in the months of April through November over the 5-year timeframe of this rule; therefore, monthly sighting rates were only derived for these months (table 13).

TABLE 13—CIBW MONTHLY SIGHTING RATES FOR DIFFERENT SPATIALLY-BASED BIN SIZES

Bin No.	Distance (m)	CIBW/hour [1]							
		April	May	June	July	August	September	October	November
1	281	0.05	0.04	0.14	0.03	0.97	0.39	0.53	0.02
2	2213	0.32	0.16	0.36	0.11	1.97	1.35	1.18	0.65
3	3149	0.36	0.22	0.47	0.13	2.62	2.01	1.97	0.72
4	6639	0.64	0.31	0.57	0.16	2.88	2.30	2.35	0.73
5	>6639	0.71	0.39	0.58	0.16	2.94	2.35	2.48	0.73

[1] Observation hours have been totaled from the PCT 2020 and 2021 programs, the NMFS 2021 data collection effort, and the SFD 2022 program (61N Environmental 2021, 2022a, 2022b, 2025; Easley-Appleyard and Leonard, 2022).

Take Estimation

In this section, we describe how the information provided above was synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and may be authorized.

To quantitatively assess exposure of marine mammals to noise from pile driving activities, we used the occurrence estimate (number/unit of time; tables 11 and 13) and the estimated work hours per year (table 14) to determine the number of animals potentially exposed to an activity. Because the size of the Level A harassment zones may exceed the shutdown zones (see the Mitigation section) and the limits of PSO visibility during impact driving activities, the number of takes by Level A harassment was estimated based on the proportion of work hours allocated to impact pile driving (table 14) for all species except killer whales, which have smaller predicted Level A harassment zones, and CIBWs, which have larger required shutdown zones, described in further detail below.

For killer whales, while unlikely, it is possible that a group could approach the POA from the northern portion of Knik Arm and immediately enter into a Level A harassment zone before PSOs are able to shut down pile driving activities. The POA estimates, and NMFS concurs, that 1 pod (assumed to be 6 individuals) could be taken by Level A harassment over the 5 years of the CTR project.

TABLE 14—ESTIMATED PREDICTED NUMBER OF HOURS OF IMPACT AND VIBRATORY HAMMER USE FOR EACH CONSTRUCTION YEAR

Year	Impact duration (hrs)	Vibratory duration (hrs)	Total duration (hrs)	Proportion of impact hammer use
1	98.9	55.0	153.9	0.6
2	87.4	47.9	135.4	0.7
3	38.7	96.5	135.2	0.3
4	87.4	50.4	137.9	0.6
5	81.7	55.5	137.2	0.6

The equation used to calculate estimated take by Level A harassment for species with yearly occurrence estimates is:

Level A harassment estimate = occurrence × proportion of impact hammer use where occurrence per year is taken from table 11, and proportion of impact hammer use per year from table 14. For species with hourly occurrence estimates, the equation is:

Level A harassment estimate = (hourly occurrence × total duration in hours) × proportion of impact hammer use.

Estimates of take by Level A and Level B harassment for all species are based on the best available data. NMFS will authorize total takes for each species by Level A and Level B harassment over the 5-year period of the proposed ITR as calculated and shown in the relevant tables, with annual take by Level A and Level B harassment for each species not to exceed the maximum annual values shown in tables 15, 16, and 19.

TABLE 15—AUTHORIZED TAKE BY LEVEL A HARASSMENT IN EACH OF THE 5 YEARS AND IN TOTAL FOR NON-CIBW MARINE MAMMAL SPECIES IN THE CTR PROJECT AREA [1]

Species	Authorized Level A harassment by year					
	1	2	3	4	5	Total
Gray whale	4	4	2	4	4	18
Humpback whale	3	3	1	3	2	12
Killer whale	6					6
Harbor porpoise	15	13	6	13	12	59

TABLE 15—AUTHORIZED TAKE BY LEVEL A HARASSMENT IN EACH OF THE 5 YEARS AND IN TOTAL FOR NON-CIBW MARINE MAMMAL SPECIES IN THE CTR PROJECT AREA [1]—Continued

Species	Authorized Level A harassment by year					
	1	2	3	4	5	Total
Steller sea lion	6	6	3	6	5	26
Harbor seal	98	88	39	87	82	394

[1] Annual take may not be distributed exactly as shown; NMFS authorizes total take over the 5 year construction period, with annual take by Level A harassment for each species not to exceed the maximum annual value shown in years 1–5.

Estimates of take by Level B harassment for non-CIBW species were calculated as the difference between the estimated Level A harassment exposures and total estimated yearly occurrence (either the estimated yearly occurrence from table 15 or calculated as the hourly occurrence from table 11 multiplied by the total yearly duration in table 14) for each stock.

TABLE 16—AUTHORIZED TAKE BY LEVEL B HARASSMENT IN EACH OF THE 5 YEARS AND IN TOTAL FOR NON-CIBW MARINE MAMMAL SPECIES IN THE CTR PROJECT AREA [1]

Stock	Authorized Level B harassment by year					
	1	2	3	4	5	Total
Gray whale	2	2	4	2	2	12
Humpback whale	1	1	3	1	2	8
Killer whale	6	6	6	6	6	30
Harbor porpoise	8	7	14	8	8	45
Steller sea lion	3	3	6	3	4	20
Harbor seal	55	47	96	51	55	304

[1] Annual take may not be distributed exactly as shown; NMFS authorizes total take over the 5 year construction period, with annual take by Level A and Level B harassment not to exceed the sum of the maximum annual values shown in years 1–5 in tables 15 and 16.

Beluga Whale

Potential exposures above harassment thresholds of CIBWs, which we equate with takes, were calculated by multiplying the total number of vibratory installation or removal hours per month for each sized/shaped pile based on the anticipated construction schedule (see table 2 in the proposed rule) with the corresponding sighting rate month and sighting rate distance bin (table 17). For example, the Level B harassment isopleth distance for the vibratory installation of 36-in (91-cm) piles is 4,514 m, which falls within bin number 4 (table 17). Therefore, take for this activity was calculated by multiplying the total number of hours estimated each month to install 36-in piles via a vibratory hammer by the monthly CIBW sighting rates calculated for bin number 4 (table 17). The resulting estimated CIBW exposures were totaled for all activities in each month (table 18).

In their calculation of CIBW take, the POA assumed that only 36-in template piles will be installed (rather than 24-in) and removed during the CTR project. If 24-in piles are used for temporary stability template piles, it would be assumed that the potential impacts of this alternate construction scenario and method on marine mammals are fungible (*i.e.,* that potential impacts of installation and removal of 24-in steel pipe piles would be similar to the potential impacts of installation and removal of 36-in steel pipe piles). While removal of 24-in piles may be louder than removal of 36-in piles (tables 9 and 10), installation would be significantly quieter. Given the number of piles to be installed and extracted using vibratory methods, overall impacts from 36-in piles are expected to be greater than those from 24-in piles.

TABLE 17—ALLOCATION OF EACH LEVEL B HARASSMENT ISOPLETH TO A SIGHTING RATE BIN AND CIBW MONTHLY SIGHTING RATES FOR DIFFERENT PILE SIZES AND HAMMER TYPES

Activity	Level B isopleth distance (m)	Sighting rate bin No. and distance	CIBWs/hour							
			Apr	May	Jun	Jul	Aug [1]	Sep [1]	Oct [1]	Nov
Unattenuated Values (without the use of a bubble curtain)										
36-in Vibratory Removal [1 2]	1,699	2 (2,213 m)	0.32	0.16	0.36	0.11	1.97	1.35	1.18	0.65
36-in Vibratory Installation [1 2]	4,514	4 (6,639 m)	0.64	0.31	0.57	0.16	2.88	2.30	2.35	0.73
72-in Vibratory Installation [3]	9,069	5 (>6,639)	0.71	0.39	0.58	0.16	2.94	2.35	2.48	0.73

TABLE 17—ALLOCATION OF EACH LEVEL B HARASSMENT ISOPLETH TO A SIGHTING RATE BIN AND CIBW MONTHLY SIGHTING RATES FOR DIFFERENT PILE SIZES AND HAMMER TYPES—Continued

Activity	Level B isopleth distance (m)	Sighting rate bin No. and distance	CIBWs/hour							
			Apr	May	Jun	Jul	Aug [1]	Sep [1]	Oct [1]	Nov
Concurrent 36-in AND 36-in Vibratory Installation	9,069									
Concurrent 36-in AND 36-in OR 72-in Vibratory Installation [4] ...	9,363									
36-in Impact Installation [1 2]	1,585	2 (2,213 m)	0.32	0.16	0.36	0.11	1.97	1.35	1.18	0.65
72-in Impact Installation [3]	7,356	5 (>6,639)	0.71	0.39	0.58	0.16	2.94	2.35	2.48	0.73
Attenuated Values (with the use of a bubble curtain)										
36-in Vibratory Removal [2] ...	1,318	2 (2,213)	0.32	0.16	0.36	0.11	1.97	1.35	1.18	0.65
36-in Vibratory Installation [2]	3,575	4 (6,639 m)	0.64	0.31	0.57	0.16	2.88	2.30	2.35	0.73
72-in Vibratory Installation [3]	6,119									
Concurrent 36-in AND 36-in Vibratory Installation	5,667									
Concurrent 36-in AND 72-in Vibratory Installation	8,318	5 (>6,639)	0.71	0.39	0.58	0.16	2.94	2.35	2.48	0.73
36-in Impact Installation [1 2]	541	2 (2,213)	0.32	0.16	0.36	0.11	1.97	1.35	1.18	0.65
72-in Impact Installation ...	2,512	3 (3,149 m)	0.36	0.22	0.47	0.13	2.62	2.01	1.97	0.72

[1] Unattenuated vibratory and impact driving of permanent piles during the months of August through October would be limited to the minimum possible number of piles that must be driven in-water in depths <3 m.

[2] Unattenuated and attenuated vibratory installation of 36-in temporary piles both result in bin 4; vibratory removal of this pile type results in bin 2 in both attenuated and unattenuated conditions. Unattenuated and attenuated impact pile driving of 36-in piles results in bin 2 in both conditions.

[3] Unattenuated vibratory and impact installation of permanent (72-in) piles will be minimized to the extent possible by driving as many piles as possible in the dry for all months of the construction seasons. To account for piles driven in water less than 3 m deep, NMFS has estimated approximately 0.5 unattenuated 72-in piles will be driven (approximately 43 minutes of impact driving and 5 minutes of vibratory driving) each month. Impact driving (attenuated and unattenuated) results in Bin 2; vibratory driving (attenuated and unattenuated) results in Bin 5.

[4] Both concurrent driving of 2 temporary piles (1 attenuated, 1 unattenuated) and 1 temporary (unattenuated) and 1 permanent (attenuated) piles result in a Level B harassment isopleth of 9,363 m.

For the PCT (85 FR 19294, April 6, 2020), SFD (86 FR 50057, September 7, 2021), and NES1 (89 FR 2832, January 14, 2024) projects, NMFS accounted for the implementation of mitigation measures (*e.g.,* shutdown procedures implemented when CIBWs entered or approached the estimated Level B harassment zone) by applying an adjustment factor to CIBW take estimates. This was based on the assumption that some Level B harassment takes would likely be avoided based on required shutdowns for CIBWs at the Level B harassment zone isopleths (see the Mitigation section for more information). For the PCT project, NMFS compared the number of observations of CIBW within estimated harassment zones at the POA to the number of authorized takes for previous projects from 2008 to 2017 and found the percentage ranged from 12 to 59 percent with an average of 36 percent (85 FR 19294, April 6, 2020). NMFS then applied the highest percentage of previous potentially realized takes (*i.e.,* number of CIBWs observed within estimated Level B harassment zones; 59 percent during the 2009–2010 season) to ensure potential takes of CIBWs were fully evaluated. In doing so, NMFS assumed that approximately 59 percent of the takes calculated could be realized during PCT and SFD construction (85 FR 19294, April 6, 2020; 86 FR 50057, September 7, 2021) and that 41 percent of the calculated CIBW Level B harassment takes would be avoided by successful implementation of required mitigation measures.

The POA calculated the adjustment for successful implementation of mitigation measures for CTR using the percentage of potentially realized takes for the PCT project (see table 6–20 in the POA's application). The data from PCT Phase 1 and PCT Phase 2 most accurately reflect the current marine mammal monitoring program, the current program's effectiveness, and

CIBW occurrence in the CTR project area. Between the 2 phases of the PCT project, 90 total Level B harassment takes were authorized and 53 were potentially realized, equating to an overall percentage of 59 percent. The SFD Project, during which only 7 percent of authorized take was potentially realized, represents installation of only 12 piles during a limited time period and does not represent the much higher number of piles and longer construction timeframe anticipated for the CTR project.

In the proposed rule (89 FR 85686, October 28, 2024), NMFS concurred that the 59-percent adjustment accurately accounted for the efficacy of the POA's marine mammal monitoring program and required shutdown protocols, based on past performance. Between the publication of the proposed rule and this final rule, POA submitted the final monitoring report for the NES1 project, and those data have been incorporated in this final rule. The sighting rates for CIBW at the POA shown in table 13 have been adjusted based on the new data. Additionally, the percentage of potentially realized takes from the NES1 project was higher than previous projects at 68 percent (49 out of 72 authorized takes). NMFS, therefore, has applied the highest previously observed take percentage as a conservative correction factor and assumes that approximately 68 percent of the takes calculated for CTR may actually be realized (table 18). Take by Level A harassment is not anticipated or authorized for CIBWs because the POA will be required to shut down activities when CIBWs approach and or enter the Level B harassment zone, which in all cases is larger than the estimated Level A harassment zones (see the Mitigation section for more information).

TABLE 18—CALCULATED LEVEL B HARASSMENT TAKES OF CIBWS BY MONTH, YEAR, AND ACTIVITY[1]

	Apr	May	Jun	Jul	Aug[2]	Sep[2]	Oct[2]	Nov
Year 1[1]								
36-in vibratory installation[3]	1.59	1.84	3.45	0.98	17.30	13.79	7.06	1.45
36-in vibratory removal[3]	0.24	0.12	0.27	0.08	1.48	1.01	0.89	0.49
72-in vibratory installation (attenuated)	0.48	0.54	1.01	0.29	4.08	3.26	3.33	0.06
72-in vibratory installation (unattenuated)[4]	0.06	0.03	0.05	0.01	0.24	0.20	0.21	0.06
72-in impact installation (attenuated)	2.35	3.36	7.11	1.97	31.93	24.48	24.02	3.62
72-in impact installation (unattenuated)[4]	0.49	0.27	0.41	0.11	2.06	1.65	1.73	0.51
Year 1 total								173
With 68% Correction Factor[5]								118
Year 2[1]								
36-in vibratory installation[3]	1.91	1.54	2.87	0.82	14.42	11.49	5.88	1.45
36-in vibratory removal[3]	0.24	0.12	0.27	0.08	1.48	1.01	0.89	0.00
72-in vibratory installation (attenuated)	0.48	0.44	0.81	0.23	4.08	2.87	2.94	0.42
72-in vibratory installation (unattenuated)[4]	0.06	0.03	0.05	0.01	0.24	0.20	0.21	0.06
72-in impact installation (attenuated)	2.35	2.72	5.76	1.59	31.93	21.60	21.20	3.62
72-in impact installation (unattenuated)[4]	0.49	0.27	0.41	0.11	2.06	1.65	1.73	0.51
Year 2 total								156
With 68% Correction Factor[5]								107
Year 3[1]								
36-in vibratory installation[3]	4.14	3.99	7.47	2.13	37.48	29.89	15.29	1.45
36-in vibratory removal[3]	0.24	0.35	0.81	0.24	2.96	2.02	0.89	0.49
72-in vibratory installation (attenuated)	0.37	0.18	0.34	0.07	1.20	0.96	0.98	0.30
72-in vibratory installation (unattenuated)[4]	0.06	0.03	0.05	0.01	0.24	0.20	0.21	0.06
72-in impact installation (attenuated)	1.83	1.12	2.37	0.47	9.42	7.22	7.09	2.59
72-in impact installation (unattenuated)[4]	0.49	0.27	0.41	0.11	2.06	1.65	1.73	0.51
Year 3 total								155
With 68% Correction Factor[5]								106
Year 4[1]								
36-in vibratory installation[3]	1.59	1.69	3.16	0.98	15.86	12.64	5.88	1.45
36-in vibratory removal[3]	0.24	0.12	0.27	0.08	1.48	1.01	0.89	0.00
72-in vibratory installation (attenuated)	0.27	0.44	0.81	0.23	3.60	2.87	2.94	0.30
72-in vibratory installation (unattenuated)[4]	0.06	0.03	0.05	0.01	0.24	0.20	0.21	0.06
72-in impact installation (attenuated)	2.35	2.72	5.76	1.59	31.93	21.60	21.20	3.62
72-in impact installation (unattenuated)[4]	0.49	0.27	0.41	0.11	2.06	1.65	1.73	0.51
Year 4 total								158
With 68% Correction Factor[5]								108
Year 5[1]								
36-in vibratory installation[3]	1.59	1.84	3.45	0.98	17.30	12.64	12.94	1.82
36-in vibratory removal[3]	0.24	0.12	0.27	0.08	1.48	1.01	0.89	0.49
72-in vibratory installation (attenuated)	0.27	0.44	0.81	0.23	3.60	2.87	2.94	0.30
72-in vibratory installation (unattenuated)[4]	0.06	0.03	0.05	0.01	0.24	0.20	0.21	0.06

TABLE 18—CALCULATED LEVEL B HARASSMENT TAKES OF CIBWS BY MONTH, YEAR, AND ACTIVITY[1]—Continued

	Apr	May	Jun	Jul	Aug[2]	Sep[2]	Oct[2]	Nov
72-in impact installation (attenuated)	1.31	2.72	5.76	1.59	28.18	21.60	21.20	2.59
72-in impact installation (unattenuated)[4]	0.49	0.27	0.41	0.11	2.06	1.65	1.73	0.51
Year 5 total								162
With 68% Correction Factor[5]								111
Years 1–5 Total								
Project Total Estimated Exposures								804
With 68% Correction Factor[5]								550

[1] Concurrent driving scenarios that would improve the production efficiency have been conservatively excluded from this analysis.
[2] Unattenuated vibratory driving of permanent piles during the months of August through October would be limited to the minimum possible of piles that must be driven in-water in depths <3 m.
[3] Attenuated and unattenuated bins for this activity are the same.
[4] Unattenuated vibratory and impact installation of permanent (72-in) piles will be minimized to the extent possible by driving as many piles as possible in the dry for all months of the construction seasons. This calculation assumes 0.5 72-in piles per month may be driven in water depths <3 m and thus be unattenuated.
[5] Corrected exposure estimates have been rounded up for each year (*e.g.,* Year 1 = 0.68 * 173 = 117.6, which has been rounded up to 118).

In summary, the maximum annual amount of Level A harassment and Level B harassment that may be authorized for each marine mammal stock is presented in table 19.

TABLE 19—NUMBER OF AUTHORIZED TAKES AS A PERCENTAGE OF STOCK ABUNDANCE, BY STOCK AND HARASSMENT TYPE FOR THE MAXIMUM ANNUAL ESTIMATED TAKES OF THE CTR PROJECT

Species	Proposed Take			Stock	Percent of stock
	Level A	Level B	Total		
Gray whale	4	2	6	Eastern North Pacific	0.02
Humpback whale[1]	3	1	4	Hawai'i	0.04
				Mexico-North Pacific	[2] UNK
				Western North Pacific	0.37
Beluga whale	0	118	118	Cook Inlet	35.6
Killer whale[1]	6	6	12	Eastern North Pacific Alaska Resident	0.6
				Eastern North Pacific Gulf of Alaska, Aleutian Islands and Bering Sea Transient.	2.04
Harbor porpoise	15	8	23	Gulf of Alaska	0.07
Steller sea lion	6	3	9	Western	0.015
Harbor seal	98	55	153	Cook Inlet/Shelikof Strait	0.54

[1] NMFS conservatively assumes that all takes occur to each stock.
[2] NMFS does not have an official abundance estimate for this stock and the minimum population estimate is considered to be unknown (Young *et al.,* 2023). See Small Numbers for additional discussion.

Mitigation

In order to promulgate a rulemaking under section 101(a)(5)(A) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity and other means of effecting the least practicable adverse 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 2 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 (*e.g.,* likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (*i.e.,* probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (*i.e.,* probability implemented as planned), and;

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

The POA presented mitigation measures in section 11 of their application that were modeled after the requirements included in the IHAs issued for Phase 1 and Phase 2 PCT construction (85 FR 19294, April 6, 2020) and for SFD construction (86 FR 50057, September 7, 2021), which were designed to minimize the total number, intensity, and duration of harassment events for CIBWs and other marine

mammal species during those projects (61N Environmental, 2021, 2022a, 2022b). NMFS concurs that these measures reduce the potential for CIBWs and other marine mammals to be adversely impacted by the planned activity.

Noise Mitigation for Pile Installation and Removal—The POA has previously utilized and assessed the effectiveness of bubble curtains for noise mitigation at the CTR project site (Austin *et al.* 2016; Illingworth & Rodkin, LLC (I&R) 2021a, 2021b, 2023). In all previous years of the PAMP, bubble curtains were not used on piles installed or removed in shallow water less than 3 m deep or piles installed or removed ''in the dry'' (*i.e.,* at times when the tide is low and the pile's location is dewatered) because low water levels prevent proper deployment and function of a bubble curtain system. When a pile was installed or removed in the dry, it was assumed that no exposure to received sound levels equated with potential incidental harassment occurred and, therefore, that no take of marine mammals occurred. The same assumptions and approach to mitigation associated with use of a bubble curtain have been used in the analyses for this project.

The POA must employ the following mitigation measures:

- Ensure that construction supervisors and crews, the monitoring team and relevant POA staff are trained prior to the start of all pile driving, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the CTR project must be trained prior to commencing work;
- Employ PSOs and establish monitoring locations as described in the POA's Marine Mammal Monitoring and Mitigation Plan (see appendix B of the POA's application). The POA must monitor the CTR project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions;
- Monitoring must take place from 30 minutes prior to initiation of pile driving (*i.e.,* pre-clearance monitoring) through 30 minutes post-completion of pile driving;
- Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones indicated in table 26 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 or when the mitigation measures proposed specifically for CIBWs (below) are satisfied;
- If work ceases for more than 30 minutes, PSOs must observe a 30-minute pre-start clearance period (*i.e.,* the shutdown zones must be observed for 30 minutes and confirmed clear of marine mammals) prior to reinitiating pile driving. A determination that the shutdown zone is clear must be made during a period of good visibility.
- For all construction activities, shutdown zones must be established following table 20. The purpose of a shutdown zone is generally to define an area within which shutdown of activity would occur upon sighting of a marine mammal entering or within the defined area. The shutdown zones (table 20) were calculated based on the minimum 100-m shutdown zone proposed by the POA for all pile installation and vibratory extraction activities, as well as the calculated Level A (non-CIBW species) and Level B (CIBWs) harassment isopleths shown in table 10. During vibratory driving, in most cases, the shutdown zones exceed the calculated Level A isopleths; exceptions occur during concurrent vibratory driving (the largest Level A isopleth is 161 m during this activity). During impact pile driving most of the calculated Level A harassment isopleths exceed practicable shutdown zones for non-CIBW species. For CIBWs, the shutdown zones exceed the calculated Level B harassment isopleths in all scenarios.

TABLE 20—SHUTDOWN ZONES DURING SPECIFIED ACTIVITIES

Activity	Pile type/size	Attenuated or unattenuated	Shutdown zone (m)					
			LF cetaceans	Non-CIBW HF [1] cetaceans	CIBWs	VHF [1] cetaceans	PW	OW
Vibratory Installation	24-in	Unattenuated	100	100	2,250	100	100	100
	36-in				4,520			
	72-in				9,100			
	24-in	Attenuated			2,630			
	36-in				3,580			
	72-in				6,120			
Vibratory Removal	24-in	Unattenuated			5,970			
	36-in				1,700			
	24-in	Attenuated			2,100			
	36-in				1,320			
Impact Installation—1 pile per day.	24-in	Unattenuated	500	500	1,600	500	100	100
	36-in							
	24-in	Attenuated	100	100	550	100	100	100
	36-in							
Impact Installation—1 pile per day.	72-in	Unattenuated	500	500	7,360	500	100	100
Impact Installation—1 pile per day.		Attenuated			2,520			
Impact Installation—2 piles per day.								
Impact Installation—3 piles per day.								
Concurrent—2 Vibratory sources.	36-in AND 36-in	Attenuated/Attenuated	100	100	5,670	100	100	100
		Attenuated/Unattenuated			9,370			
		Unattenuated/ Unattenuated.			9,070			
	36-in AND 72-in	Attenuated/Attenuated			8,320			
		Unattenuated/Attenuated			9,370			

TABLE 20—SHUTDOWN ZONES DURING SPECIFIED ACTIVITIES—Continued

Activity	Pile type/size	Attenuated or unattenuated	Shutdown zone (m)					
			LF cetaceans	Non-CIBW HF [1] cetaceans	CIBWs	VHF [1] cetaceans	PW	OW
Concurrent Vibratory/Impact.	36-in AND 72-in	Attenuated/Attenuated (1 pile per day). Attenuated/Attenuated (2 piles per day). Attenuated/Attenuated (3 piles per day). Unattenuated/Attenuated (1 pile per day). Unattenuated/Attenuated (2 piles per day). Unattenuated/Attenuated (3 piles per day).	500	500	3,580 4,520	500	100	100

Notes: cm = centimeter(s), m = meter(s); POA may elect to use either 36-in or 24-in temporary piles; as 36-in piles are more likely and estimated to have larger ensonified areas, we have used these piles in our analyses of concurrent activities.

[1] In the Updated Technical Guidance (NMFS, 2024), the MF Cetacean hearing group has been re-named the HF Cetacean group; HF Cetaceans from the 2018 Technical Guidance have been re-named VHF Cetaceans.

• Marine mammals observed anywhere within visual range of the PSO must be tracked relative to construction activities. If a marine mammal is observed entering or within the shutdown zones indicated in table 26, pile driving 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 voluntarily exits and been visually confirmed beyond the shutdown zone (table 26), or 15 minutes (non-CIBWs) or 30 minutes (CIBWs) have passed without re-detection of the animal;

• The POA must use bubble curtains for all permanent (72-in) piles during both vibratory and impact pile driving in waters deeper than 3 m in all months. No bubble curtain is required for vibratory pile driving or removal of temporary (24-in or 36-in) piles. The bubble curtain must be operated as necessary to achieve optimal performance. At a minimum, the bubble curtain must distribute air bubbles around 100 percent of the piling circumference for the full depth of the water column; the lowest bubble ring must be in contact with the substrate for the full circumference of the ring; and air flow to the bubblers must be balanced around the circumference of the pile.

• The POA must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of 3 strikes at reduced energy, followed by a 30-second waiting period, then 2 subsequent reduced energy strike sets. A soft start must be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer. PSOs shall begin observing for marine mammals 30 minutes before ''soft start'' or in-water pile installation or removal begins;

• The POA will use no more than 2 vibratory hammers concurrently. Concurrent use of 3 hammers is not part of the specified activities.

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

• The POA must avoid direct physical interaction with marine mammals during non-pile-driving construction activities, including barge positioning and pile cutting. If a marine mammal comes within 10 m of such activity, operations shall cease. Should a marine mammal come within 10 m of a vessel in transit, the boat operator will reduce vessel speed to the minimum level required to maintain steerage and safe working conditions. If human safety is at risk, based on the best judgment of the vessel captain or project engineer, the in-water activity is allowed to continue until it is safe to stop.

The following additional mitigation measures are required for CIBWs:

• Prior to the onset of pile driving, should a CIBW be observed approaching the estimated shutdown zone (table 20) (*i.e.,* the CIBWs Level B harassment zone column in table 10), pile driving must not commence until the whale(s) moves at least 100 m past the estimated shutdown zone and on a path away from the zone, or the whale has not been re-sighted within 30 minutes;

• If pile installation or removal has commenced and a CIBW(s) is observed within or likely to enter the shutdown zone, pile installation or removal must shut down and not re-commence until the whale has traveled at least 100 m beyond the shutdown zone and is on a path away from such zone or until no CIBW has been observed in the shutdown zone for 30 minutes; and

• If during installation and removal of piles, PSOs can no longer effectively monitor the entirety of the CIBW shutdown zone due to environmental conditions (*e.g.,* fog, rain, wind), pile driving may continue only until the current segment of the pile is driven; no additional sections of pile or additional piles may be driven until conditions improve such that the shutdown zone can be effectively monitored. If the shutdown zone cannot be monitored for more than 15 minutes, the entire shutdown zone will be cleared again for 30 minutes prior to pile driving.

In addition to these mitigation measures, NMFS requested that the POA restrict all pile driving and removal work to April to July, when CIBWs are typically found in lower numbers. However, the POA stated that given the scale of the CTR project, construction sequencing requirements, critical nature of the CTR infrastructure and overall PAMP, and vulnerability of the existing cargo terminals to seismic events, it cannot commit to restricting pile driving and removal to April to July. Instead, the POA will complete as much work as is practicable in April to July to reduce the amount of pile driving and removal activities in August through October. The POA is aware that August through October are months with high CIBW abundance and plans to complete in-water work as early in the construction season as possible. The POA also recognizes that more work shutdowns for CIBW are likely to take place in high abundance months, which provides incentive to complete work earlier in the season.

Due to the deterioration of the current facilities and complexity of the PAMP,

it is important that the POA attempt to complete the CTR project as currently planned (6 years in total), which requires the POA to make full use of the available annual construction window (August through October/November). Potential consequences of pausing the construction season (*e.g.,* stopping work from August through October) include de-rating of the structural capacity of the existing cargo terminals, a shutdown of dock operations due to deteriorated conditions, or an actual collapse of one or more dock structures. The potential for collapse increases with schedule delays due to both worsening deterioration and the higher probability of a significant seismic event occurring before T1 and T2 replacement.

For previous IHAs issued to the POA (PCT: 85 FR 19294, April 6, 2020; SFD: 86 FR 50057, September 7, 2021), the use of a bubble curtain to reduce noise has been required as a mitigation measure for certain pile driving scenarios. The POA has concerns about effectiveness of bubble curtains in the far-field during vibratory pile driving (see Appendix A of the POA's application for further details). NMFS disagrees with the POA's assertions regarding effectiveness but acknowledges the use of bubble curtains on all piles has the potential to drive the in-water construction schedule further into the late summer months, which are known for higher CIBW abundance in the CTR project area, thus lengthening the duration of potential interactions between CIBW and in-water work. Since the completion of the 2024 NES1 field season, monitoring data indicate an increased prevalence of CIBW at and around the POA (61N Environmental, 2025). The POA submitted a public comment on the proposed rule (89 FR 85686, October 28, 2024) indicating that the use of bubble curtains during vibratory driving of temporary piles in August through October is no longer practicable. NMFS concurs this measure is no longer practicable (see Comment 2 and Response in the Comments and Responses section of this rule). No bubble curtain will be required for vibratory driving of temporary piles in any month, though the POA and their contractors may use bubble curtains at their discretion in order to reduce the size of the shutdown zones and thereby potentially reduce the number of required shutdowns.

NMFS considered additional mitigation and monitoring requirements for the CTR project, including sound-source verification measurements and passive acoustic monitoring of marine mammals near the POA. Sound source verification is time-intensive and expensive, and the POA has previously collected data on most of the pile types planned for the CTR project (Illingworth & Rodkin, 2021a,b). Following discussion with the POA, NMFS determined that conducting additional sound source verification measurements would not be practicable or provide support for additional mitigation value due to schedule concerns and the volume of data already collected and, therefore, this measure was eliminated from the suite of mitigation requirements. However, depending on future project conditions, the POA may choose to conduct sound source verification measurements and work with NMFS to revise the estimated harassment zones as indicated by the data collected.

With respect to passive acoustic monitoring, available technologies to detect marine mammals in near real-time require a surface buoy for the device, and mooring locations would be limited by ongoing port operations, construction activities, and dredging. The high noise environment at the POA (from both anthropogenic and natural sources) would add additional limitations to the detection range of such devices. Therefore, NMFS believes that the POA's extensive and successful visual monitoring program represents the best possible method of minimizing effects to marine mammals, including CIBWs to pile driving noise, and that passive acoustic monitoring would not provide additional benefits to marine mammals in this case.

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

Monitoring and Reporting

In order to promulgate a rulemaking for an activity, section 101(a)(5)(A) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the specified geographical region. 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 POA's draft Marine Mammal Monitoring and Mitigation Plan is Appendix B of the LOA application and is available on *regulations.gov* and at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-port-alaskas-construction-activities-port-alaska-modernization.* The POA plans to implement a marine mammal monitoring and mitigation strategy intended to avoid and minimize impacts to marine mammals. Marine mammal monitoring will be conducted at all times when in-water pile installation and removal is taking place. Prior to the beginning of construction, POA would submit a revised Marine Mammal Mitigation and Monitoring Plan containing additional details of monitoring locations and methodology for NMFS concurrence.

The marine mammal monitoring and mitigation program that is planned for CTR construction is modeled after the successful monitoring and mitigation programs outlined in the IHAs for Phase 1 and Phase 2 PCT construction (85 FR

19294, April 6, 2020) and the IHAs for SFD (86 FR 50057, September 7, 2021) and NES1 (89 FR 2832, January 14, 2024) construction. These monitoring programs have provided the best available data on CIBW and other marine mammal presence at the POA and continue to be used successfully at the NES1 project.

Visual Monitoring

Monitoring must be conducted by qualified NMFS-approved PSOs in accordance with the following:

- PSOs must be independent of the activity contractor (*e.g.,* employed by a subcontractor) and have no other assigned tasks during monitoring periods. At least 1 PSO at each monitoring station must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued ITA or Letter of Concurrence. Other PSOs may substitute other relevant experience (including relevant Alaska Native traditional knowledge), education (degree in biological science or related field), or training for prior experience performing the duties of a PSO. PSOs must be approved by NMFS prior to beginning any activity subject to this ITA;
- The POA must employ PSO stations at a minimum of four locations from which PSOs can effectively monitor the shutdown zones (table 20). PSO stations must be positioned at the best practical vantage points that are determined to be safe. Likely locations include the Anchorage Downtown Viewpoint near Point Woronzof, the Anchorage Public Boat Dock at Ship Creek, the CTR project site, and the North End of POA property (see figure 13–1 in the POA's application for potential locations of PSO stations). Areas near Cairn Point or Port MacKenzie have safety, security, and logistical issues that would need to be considered. Cairn Point proper is located on military land and has bear presence, and restricted access does not allow for the location of an observation station at this site. Tidelands along Cairn Point are accessible only during low tide conditions and have inherent safety concerns of being trapped by rising tides. Port MacKenzie is a secure port that is relatively remote, creating safety, logistical, and physical staffing limitations due to lack of nearby lodging and other facilities. The roadway travel time between port sites is approximately 2–3 hours. Temporary staffing of a northerly monitoring station during peak marine mammal presence time periods and/or when shutdown zones are large would be considered by the POA, NMFS, and the construction contractor based on evaluation of CIBW occurrence reported in the required weekly monitoring reports. At least 1 PSO station must be able to fully observe the non-CIBW shutdown zones; multiple PSO stations will be necessary to fully observe the CIBW shutdown zones (table 20);
- PSO stations must be elevated platforms constructed on top of shipping containers or a similar base that is at least 8' 6'' high (*i.e.,* the standard height of a shipping container) that can support at least 3 PSOs and their equipment. The platforms must be stable enough to support use of a theodolite and must be located to optimize the PSO's ability to observe marine mammals and the harassment zones;
- Each PSO station must have at least 2 PSOs on watch at any given time; 1 PSO must be observing and 1 PSO would be recording data (and observing when there are no data to record). Teams of 3 PSOs will include one PSO on duty observing, and 1 PSO recording data (and observing when there are no data to record). The third PSO may help to observe, record data, or rest. In addition, if POA is conducting in-water work on other projects that includes PSOs, the CTR PSOs must be in real-time contact with those PSOs, and both sets of PSOs must share all information regarding marine mammal sightings with each other;
- A designated lead PSO must always be on site. The lead PSO must have prior experience performing the duties of a PSO during in-water construction activities pursuant to a NMFS-issued ITA or Letter of Concurrence. Each PSO station must also have a designated station lead PSO specific to that station and shift. These station lead PSOs must have prior experience working as a PSO during in-water construction activities;
- PSOs will use a combination of equipment to perform marine mammal observations and to verify the required monitoring distance from the CTR project site, which may include 7 by 50 binoculars, 20x/40x tripod mounted binoculars, 25 by 150 ''big eye'' tripod mounted binoculars, and theodolites;
- PSOs must record all observations of marine mammals, regardless of distance from the pile being driven. PSOs shall document any behavioral reactions in concert with distance from piles being driven or removed;

PSOs must have the following additional qualifications:

- Ability to conduct field observations and collect data according to assigned protocols;
- Experience or training in the field identification of marine mammals, including the identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- Writing skills sufficient to record required information including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and
- Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

Reporting

The POA is required to submit interim weekly monitoring reports within 14 calendar days after the conclusion of each calendar week (that include quality-controlled electronic data sheets) during the CTR construction seasons, including for weeks during which no in-water work occurred (an email notification for weeks with no in-water work would be sufficient). These reports must include a summary of marine mammal species observed and behavioral observations, mitigation actions implemented, construction delays, and construction work completed. They also must include an assessment of the amount of construction remaining to be completed (*i.e.,* the number of estimated hours of work remaining), in addition to the number of CIBWs observed within estimated harassment zones to date for the current construction year.

The POA is required to submit annual reports after the end of each construction season and a comprehensive final report following the conclusion of year 5 construction activities. Draft annual marine mammal monitoring reports must be submitted to NMFS within 90 days after the completion of each construction season or 60 days prior to a requested date of issuance of any future incidental take authorization for projects at the same location, whichever comes first. Annual reports must detail the monitoring protocol and summarize the data recorded during monitoring, and associated PSO data sheets in electronic tabular format. Specifically, the reports must include:

- Dates and times (begin and end) of all marine mammal monitoring;
- Construction activities occurring during each daily observation period,

including the number and type of piles driven or removed and by what method (*i.e.,* impact or vibratory, the total equipment duration for vibratory installation and removal, and the total number of strikes for each pile during impact driving);

- PSO locations during marine mammal monitoring;
- Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;
- Upon observation of a marine mammal, the following information: name of PSO who sighted the animal(s) and PSO location and activity at time of sighting; time of sighting; identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species; distance and bearing of each marine mammal observed relative to the pile being driven for each sighting (if pile driving was occurring at time of sighting); estimated number of animals (minimum, maximum, and best estimate); estimated number of animals by cohort (adults, juveniles, neonates, group composition, sex class, *etc.*); animal's closest point of approach and estimated time spent within the harassment zone; group spread and formation (for CIBWs only; see ethogram in Appendix B of the POA's application); description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses that may have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- Number of marine mammals detected within the harassment zones, by species;
- Detailed information about any implementation of mitigation action (*e.g.,* shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any;
- All PSO data in an electronic format that can be queried such as a spreadsheet or database (*i.e.,* digital images of data sheets are not sufficient).

If no comments are received from NMFS within 30 days, the draft annual or comprehensive reports will constitute the final reports. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt.

Reporting Injured or Dead Marine Mammals

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the POA must immediately cease the specified activities and report the incident to the Office of Protected Resources, NMFS (*PR.ITP.MonitoringReports@noaa.gov, ITP.hotchkin@noaa.gov*) and to the Alaska Regional Stranding Coordinator as soon as feasible. If the death or injury was clearly caused by the specified activity, the POA must immediately cease the specified activities until NMFS is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the IHA. The POA must not resume their activities until notified by NMFS. The report must include the following information:

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

Adaptive Management

These regulations governing the take of marine mammals incidental to POA's CTR construction activities contain an adaptive management component. Our understanding of the effects of pile driving and other coastal construction activities (*e.g.,* acoustic stressors) on marine mammals continues to evolve, which makes the inclusion of an adaptive management component both valuable and necessary within the context of 5-year regulations.

The monitoring and reporting requirements are associated with information that helps us to better understand the impacts of the CTR project's activities on marine mammals and informs our consideration of whether any changes to mitigation and monitoring are appropriate. The use of adaptive management allows NMFS to consider new information from different sources to determine (with input from the POA regarding practicability) if such modifications will have a reasonable likelihood of more effectively accomplishing the goals of the measures.

The following are some of the possible sources of applicable data to be considered through the adaptive management process: (1) results from monitoring reports, including the weekly, situational, and annual reports required; (2) results from research on marine mammals, noise impacts, or other related topics; and (3) any information which reveals that marine mammals may have been taken in a manner, extent, or number not authorized by these regulations or LOAs issued pursuant to these regulations. Adaptive management decisions may be made at any time, as new information warrants it.

Negligible Impact Analysis and Determination

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

To avoid repetition, this introductory discussion of our analysis applies to all the species listed in table 19 except CIBWs given that many of the

anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. For CIBWs, there are meaningful differences in anticipated individual responses to activities, impact of expected take on the population, or impacts on habitat; therefore, we provide a separate detailed analysis for CIBWs following the analysis for other species for which incidental take may be authorized.

NMFS has identified key factors which may be employed to assess the level of analysis necessary to conclude whether potential impacts associated with a specified activity should be considered negligible. These include, but are not limited to, the type and magnitude of taking, the amount and importance of the available habitat for the species or stock that is affected, the duration of the anticipated effect to the species or stock, and the status of the species or stock. The potential effects of the specified activities on gray whales, humpback whales, killer whales, harbor porpoises, Steller sea lions, and harbor seals are discussed below. Some of these factors also apply to CIBWs; however, a more detailed analysis for CIBWs is provided in a separate subsection below.

Species Other than CIBW—Pile driving associated with the CTR project, as outlined previously, has the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take, in the form of Level B harassment and, for some species, Level A harassment, from underwater sounds generated by pile driving. Potential takes could occur if marine mammals are present in zones ensonified above the thresholds for Level B harassment or Level A harassment, identified above, while activities are underway.

The POA's planned activities and associated impacts would occur within a limited, confined area of the stocks' range (other than CIBW). The work would occur in the vicinity of the CTR project site, and sound from the specified activities would be blocked by the coastline along Knik Arm along the eastern boundaries of the site and for those harassment isopleths that extend more than 3,000 m, directly across Knik Arm along the western shoreline (see figures 6–10 and 6–11 in the POA's application). The intensity and duration of take by Level A and Level B harassment would be minimized through use of mitigation measures described herein. Further, the number of takes that may be authorized is small when compared to stock abundance (see table 19). In addition, NMFS does not anticipate that serious injury or mortality will occur as a result of the POA's planned activity given the nature of the activity, even in the absence of required mitigation.

Exposures to elevated sound levels produced during pile driving may cause the behavioral disturbance of some individuals. Behavioral responses of marine mammals to pile driving at the CTR project site are expected to be mild, short term, and temporary. Effects on individuals that are taken by Level B harassment, as enumerated in the Estimated Take section, on the basis of reports in the literature as well as monitoring from other similar activities at the POA and elsewhere, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging if such activity were occurring (*e.g.,* Ridgway *et al.,* 1997; Nowacek *et al.,* 2007; Thorson and Reyff, 2006; Kendall and Cornick, 2015; Goldbogen *et al.,* 2013b; Blair *et al.,* 2016; Wisniewska *et al.,* 2018; Piwetz *et al.,* 2021). Marine mammals within the Level B harassment zones may not show any visual cues that they are disturbed by activities, or they could become alert, avoid the area, leave the area, or display other mild responses that are not visually observable such as exhibiting increased stress levels (*e.g.,* Rolland *et al.* 2012; Lusseau, 2005; Bejder *et al.,* 2006; Rako *et al.,* 2013; Pirotta *et al.,* 2015; Pérez-Jorge *et al.,* 2016). They may also exhibit increased vocalization rates, louder vocalizations, alterations in the spectral features of vocalizations, or a cessation of communication signals (Hotchkin and Parks 2013). However, as described in the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section of the proposed rule (89 FR 85686, October 28, 2024), marine mammals, except CIBWs, observed within Level A and Level B harassment zones related to recent POA construction activities have not shown any acute, visually observable reactions to pile driving activities that have occurred during the PCT and SFD projects (61N Environmental, 2021, 2022a, 2022b).

Some of the species present in the region will only be present temporarily based on seasonal patterns or during transit between other habitats. These temporarily present species will be exposed to even smaller periods of noise-generating activity, further decreasing the impacts. Most likely, individual animals will simply move away from the sound source and be temporarily displaced from the area. Takes may also occur during important feeding times. However, the CTR project area represents a small portion of available foraging habitat and impacts on marine mammal feeding for all species are expected to be minimal.

The activities analyzed here are similar to numerous other construction activities conducted in Southern Alaska (*e.g.,* 86 FR 43190, August 6, 2021; 87 FR 15387, March 18, 2022), including the PCT and SFD projects within Upper Knik Arm (85 FR 19294, April 6, 2020; 86 FR 50057, September 7, 2021, respectively) which have taken place with no known long-term adverse consequences from behavioral harassment. Any potential reactions and behavioral changes are expected to subside quickly when the exposures cease, and therefore, no long-term adverse consequences are expected (*e.g.,* Graham *et al.,* 2017). While there are no long-term peer-reviewed studies of marine mammal habitat use at the POA, studies from other areas indicate that most marine mammals would be expected to have responses on the order of hours to days. For example, harbor porpoises returned to a construction area between pile-driving events within several days during the construction of offshore wind turbines near Denmark (Carstensen *et al.,* 2006). The intensity of Level B harassment events will be minimized through use of mitigation measures described herein, which were not quantitatively factored into the take estimates. The POA will use PSOs stationed strategically to increase detectability of marine mammals during in-water construction activities, enabling a high rate of success in implementation of shutdowns to avoid or minimize injury for most species. Further, given the absence of any major rookeries and haulouts within the estimated harassment zones, we assume that potential takes by Level B harassment will have an inconsequential short-term effect on individuals and will not result in population-level impacts.

As stated in the Mitigation section, the POA will implement shutdown zones (table 20) that equal or exceed the Level A harassment isopleths (table 10) for most vibratory pile driving and maximize practicability for shutdowns during impact pile driving. Take by Level A harassment may be authorized for some species (*i.e.,* gray whales, humpback whales, killer whales, harbor seals, Steller sea lions, and harbor porpoises) to account for the large Level A harassment zones from impact driving and the potential that an animal could enter and remain unobserved within the estimated Level A harassment zone for a duration long enough to incur AUD INJ. Any take by Level A harassment is expected to arise from, at most, a small

degree of AUD INJ because animals would need to be exposed to higher levels and/or longer duration than are expected to occur here in order to incur any more than a small degree of AUD INJ.

Due to the levels and durations of likely exposure, animals that experience AUD INJ will likely only receive slight injury (*i.e.,* minor degradation of hearing capabilities within regions of hearing that align most completely with the frequency range of the energy produced by POA's in-water construction activities (*i.e.,* the low-frequency region below 2 kHz)), not severe hearing impairment or impairment in the ranges of greatest hearing sensitivity. If hearing impairment does occur, it is most likely that the affected animal will lose a few dBs in its hearing sensitivity, which, in most cases, is not likely to meaningfully affect its ability to forage and communicate with conspecifics. There are no data to suggest that a single instance in which an animal incurs AUD INJ (or TTS) would result in impacts to reproduction or survival. If AUD INJ were to occur, it would be minor and unlikely to affect more than a few individuals. Additionally, and as noted previously, some subset of the individuals that are behaviorally harassed could also simultaneously incur some small degree of TTS for a short duration of time. Because of the small degree anticipated, though, any AUD INJ or TTS potentially incurred here is not expected to adversely impact individual fitness, let alone annual rates of recruitment or survival for the affected species or stocks.

Repeated, sequential exposure to pile driving noise over a long duration could result in more severe impacts to individuals that could affect a population (via sustained or repeated disruption of important behaviors such as feeding, resting, traveling, and socializing; Southall *et al.,* 2007). Alternatively, marine mammals exposed to repetitious construction sounds may become habituated, desensitized, or tolerant after initial exposure to these sounds (reviewed by Richardson *et al.,* 1995; Southall *et al.,* 2007). However, given the relatively low abundance of marine mammals other than CIBWs in Knik Arm compared to the stock sizes (table 19), population-level impacts are not anticipated. The absence of any pinniped haulouts or other known non-CIBW home-ranges in the action area further decreases the likelihood of population-level impacts.

The CTR project is also not expected to have significant adverse effects on any marine mammal habitats. The CTR project activities would occur mostly within the same footprint as existing marine infrastructure; the new T1 and T2 would extend approximately 140 ft (47-m) seaward of the existing terminals. The long-term impact on marine mammals associated with CTR project would be a small permanent decrease in low-quality potential habitat because of the expanded footprint of the new cargo terminals T1 and T2. Installation and removal of in-water piles would be temporary and intermittent, and the increased footprint of the facilities would destroy only a small amount of low-quality habitat, which currently experiences high levels of anthropogenic activity. Impacts to the immediate substrate are anticipated, but these would be limited to minor, temporary suspension of sediments, which could impact water quality and visibility for a short amount of time but which would not be expected to have any effects on individual marine mammals. Further, there are no known Biologically Important Areas (BIAs) near the CTR project zone, except for CIBWs, that will be impacted by the POA's planned activities.

Impacts to marine mammal prey species are also expected to be minor and temporary and to have, at most, short-term effects on foraging of individual marine mammals and likely no effect on the populations of marine mammals as a whole. Overall, the area impacted by the CTR project is very small compared to the available surrounding habitat and does not include habitat of particular importance. The most likely impact to prey would be temporary behavioral avoidance of the immediate area. During construction activities, it is expected that some fish and marine mammals would temporarily leave the area of disturbance, thus impacting marine mammals' foraging opportunities in a limited portion of their foraging range. But, because of the relatively small area of the habitat that may be affected and lack of any habitat of particular importance, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

In summary, the following factors primarily support our negligible impact determinations for the affected stocks of gray whales, humpback whales, killer whales, harbor porpoises, Steller sea lions, and harbor seals:

- No takes by mortality or serious injury are anticipated or authorized;
- Any acoustic impacts to marine mammal habitat from pile driving are expected to be temporary and minimal;
- Take will not occur in places and/or times where take would be more likely to accrue to impacts on reproduction or survival, such as within ESA-designated or proposed critical habitat, BIAs, or other habitats critical to recruitment or survival (*e.g.,* rookery);
- The CTR project area represents a very small portion of the available foraging area for all potentially impacted marine mammal species and does not contain any habitat of particular importance;
- Take will only occur within upper Cook Inlet, which is a limited, confined area of any given stock's home range;
- Monitoring reports from similar work in Knik Arm have documented little to no observable effect on individuals of the same species impacted by the specified activities;
- The required mitigation measures (*i.e.,* soft starts, pre-clearance monitoring, shutdown zones, bubble curtains) are expected to be effective in reducing the effects of the specified activity by minimizing the numbers of marine mammals exposed to injurious levels of sound and by ensuring that any take by Level A harassment is, at most, a small degree of AUD INJ and of a lower degree that would not impact the fitness of any animals; and
- The intensity of anticipated takes by Level B harassment is low for all stocks consisting of, at worst, temporary modifications in behavior, and would not be of a duration or intensity expected to result in impacts on reproduction or survival.

Cook Inlet Beluga Whales. For CIBWs, we further discuss our negligible impact findings in the context of potential impacts to this endangered stock based on our evaluation of the estimated take (table 19).

As described in the Recovery Plan for the CIBW (NMFS, 2016), NMFS determined the following physical or biological features are essential to the conservation of this species: (1) Intertidal and subtidal waters of Cook Inlet with depths less than 9 m mean lower low water and within 8 km of high and medium flow anadromous fish streams; (2) Primary prey species consisting of 4 species of Pacific salmon (Chinook (*Oncorhynchus tshawytscha*), chum (*O. keta*), coho (*O. kisutch*), sockeye (*O. nerka*), and pink (*O. gorbuscha*) salmon), Pacific eulachon (*Thaleichthys pacificus*), Pacific cod (*Gadus macrocephalus*), walleye pollock (*Theragra chalcogramma*), saffron cod (*Eleginus gracilis*), and yellowfin sole (*Limanda aspera*), (3) Waters free of toxins or other agents of a type and amount harmful to CIBWs, (4) Unrestricted passage within or

between the critical habitat areas, and (5) Waters with in-water noise below levels resulting in the abandonment of critical habitat areas by CIBWs. The CTR project will not impact essential features 1–3 listed above. All construction will be done in a manner implementing best management practices to preserve water quality, and no work will occur around creek mouths or river systems leading to prey abundance reductions. In addition, no physical structures will restrict passage; however, impacts to the acoustic habitat are relevant and discussed here.

Monitoring data from the POA suggest pile driving does not discourage CIBWs from entering Knik Arm and traveling to critical foraging grounds such as those around Eagle Bay (*e.g.,* 61N Environmental, 2021, 2022a, 2022b; Easley-Appleyard and Leonard, 2022). As described in greater detail in the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section of the proposed rule (89 FR 85686, October 28, 2024), sighting rates were not different in the presence or absence of pile driving (Kendall and Cornick, 2015). In addition, large numbers of CIBWs have continued to forage in portions of Knik Arm and pass through the area near the POA during pile driving projects over the past two decades (Funk *et al.,* 2005; Prevel-Ramos *et al.,* 2006; Markowitz and McGuire, 2007; Cornick and Saxon-Kendall, 2008, 2009; ICRC, 2009, 2010, 2011, 2012; Cornick *et al.,* 2010, 2011; Cornick and Pinney, 2011; Cornick and Seagars, 2016; POA, 2019), including during the recent PCT, SFD, and NES1 construction projects (61N Environmental, 2021, 2022a, 2022b, 2025; Easley-Appleyard and Leonard, 2022). These findings are not surprising as food is a strong motivation for marine mammals, and preying on seasonal anadromous fish runs in Eagle and Knik Rivers necessitates CIBWs passing the POA. As described in Forney *et al.* (2017), animals typically favor particular areas because of their importance for survival (*e.g.,* feeding or breeding) and leaving may have significant costs to fitness (reduced foraging success, increased predation risk, increased exposure to other anthropogenic threats). Consequently, animals may be highly motivated to maintain foraging behavior in historical foraging areas despite negative impacts (*e.g.,* Rolland *et al.,* 2012).

Previous monitoring data indicates CIBWs may be responding to pile driving noise but not through abandonment of primary foraging areas north of the port. Instead, they may travel faster past the POA, more quietly, and in smaller, tighter groups (Kendall and Cornick, 2015; 61N Environmental, 2021, 2022a, 2022b, 2025). CIBW presence at the POA has been extensively monitored during pile driving projects over the last several years, with data gathered during active driving activities and during periods of no construction noise. CIBWs are regularly observed in the vicinity of the POA even during active pile driving as discussed below.

During PCT and SFD construction monitoring, little variability was evident in the behaviors recorded from month to month or between sightings that coincided with in-water pile installation and removal and those that did not (61N Environmental, 2021, 2022a, 2022b; Easley-Appleyard and Leonard, 2022). Of the 386 CIBWs groups sighted during PCT and SFD construction monitoring, 10 groups were observed during or within minutes of in-water impact pile installation and 56 groups were observed during or within minutes of vibratory pile installation or removal (61N Environmental, 2021, 2022a, 2022b). During the NES1 project, which included little to no impact pile driving, of the nearly 2,000 CIBW groups observed, 192 occurred during vibratory pile driving (61N Environmental, 2025). In general, CIBWs were more likely to display no reaction or to continue to move towards the PCT or SFD during pile installation and removal. In the situations during which CIBWs showed a possible reaction (6 groups during impact driving and 13 groups during vibratory driving), CIBWs were observed either moving away immediately after the pile driving activities started or were observed increasing their rate of travel.

NMFS funded a visual marine mammal monitoring project in 2021 (described in the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section of the proposed rule (89 FR 85686, October 28, 2024)) to supplement sighting data collected by the POA monitoring program during non-pile driving days in order to further evaluate the impacts of anthropogenic activities on CIBWs (Easley-Appleyard and Leonard, 2022). Preliminary results suggest that group size ranged from 1 to 34 whales, with an average of 3 to 5.6, depending on the month. September had the highest sighting rate with 4.08 whales per hour, followed by October and August (3.46 and 3.41, respectively). Traveling was recorded as the primary behavior for 80 percent of the group sightings and milling was the secondary behavior most often recorded. Sighting duration varied from a single surfacing lasting less than 1 minute to 380 minutes. Preliminary findings suggest these results are consistent with the results from the POA's PCT and SFD monitoring efforts. For example, group sizes ranged from 2.38 to 4.32 depending on the month and the highest sighting rate was observed in September (1.75). In addition, traveling was the predominant behavior observed for all months and categories of construction activity (*i.e.,* no pile driving, before pile driving, during pile driving, between pile driving, or after pile driving), being recorded as the primary behavior for 86 percent of all sightings, and either the primary or secondary behavior for 95 percent of sightings.

Easley-Appleyard and Leonard (2022) also asked PSOs to complete a questionnaire post-monitoring that provided NMFS with qualitative data regarding CIBW behavior during observations. Specifically, during pile driving events, the PSOs noted that CIBW behaviors varied; however, multiple PSOs noted seeing behavioral changes specifically during impact pile driving and not during vibratory pile driving. CIBWs were observed sometimes changing direction, turning around, or changing speed during impact pile driving, whereas there were numerous instances where CIBWs were seen traveling directly towards the POA during vibratory pile driving before entering the Level B harassment zone (61N Environmental, 2021, 2022a, 2022b). The PSOs also reported that it seemed more likely for CIBWs to show more cryptic behavior during active impact and vibratory pile driving (*e.g.,* surfacing infrequently and without clear direction), though this seemed to vary across months (Easley-Appleyard and Leonard, 2022).

We anticipate that disturbance to CIBWs will manifest in the same manner when they are exposed to noise during the CTR project: whales would move quickly and silently through the area in more cohesive groups. Exposure to elevated noise levels during transit past the POA is not expected to have adverse effects on reproduction or survival as the whales continue to access critical foraging grounds north of the POA. Potential behavioral reactions that have been observed, including changes in group distribution and speed, may help to mitigate the potential for any contraction of communication space for a group. CIBWs are not expected to abandon entering or exiting Knik Arm as this is not evident based on monitoring data from the past two decades of work at POA (*e.g.,* Funk *et al.,* 2005; Prevel-Ramos *et al.,* 2006; Markowitz and McGuire, 2007; Cornick and Saxon-

Kendall, 2008, 2009; ICRC, 2009, 2010, 2011, 2012; Cornick *et al.,* 2010, 2011; Cornick and Pinney, 2011; Cornick and Seagars, 2016; POA, 2019; Kendall and Cornick, 2015; 61N Environmental, 2021, 2022a, 2022b; Easley-Appleyard and Leonard, 2022). Finally, as described previously, both telemetry (tagging) and acoustic data suggest CIBWs likely stay in upper Knik Arm (*i.e.,* north of the CTR project site) for several days or weeks before exiting Knik Arm. Specifically, a CIBW instrumented with a satellite link time/depth recorder entered Knik Arm on August 18, 1999 and remained in Eagle Bay until September 12, 1999 (Ferrero *et al.,* 2000). Further, a recent detailed re-analysis of the satellite telemetry data confirms how several tagged whales exhibited this same movement pattern: whales entered Knik Arm and remained there for several days before exiting through lower Knik Arm (Shelden *et al.,* 2018). This longer-term use of upper Knik Arm will avoid repetitive exposures from pile driving noise.

It is possible that exposure to pile driving at the POA could result in CIBWs avoiding Knik Arm and thereby not accessing the productive foraging grounds north of POA such as Eagle River flats thus, impacting essential feature number five of the designated Critical Habitat. The data previously presented demonstrate CIBWs are not abandoning the area (*i.e.,* continue to access the waters of northern Knik Arm during construction activities). Additionally, results of an expert elicitation (EE) at a 2016 workshop, which predicted the impacts of noise on CIBW survival and reproduction given lost foraging opportunities, helped to inform our assessment of impacts on this stock. The 2016 EE workshop used conceptual models of an interim population consequences of disturbance (PCoD) for marine mammals (NRC, 2005; New *et al.,* 2014; Tollit *et al.,* 2016) to help in understanding how noise-related stressors might affect vital rates (survival, birth rate and growth) for CIBW (King *et al.,* 2015). NMFS (2016b) suggests that the main direct effects of noise on CIBW are likely to be through masking of vocalizations used for communication and prey location and habitat degradation. The 2016 workshop on CIBWs was specifically designed to provide regulators with a tool to help understand whether chronic and acute anthropogenic noise from various sources and projects are likely to limit recovery of the CIBW population. The full report can be found at: *https://www.smruconsulting.com/publications/* and a summary of the expert elicitation portion of the workshop provided below.

For each of the noise effect mechanisms chosen for EE, the experts provided a set of parameters and values that determined the forms of a relationship between the number of ''days of disturbance'' (defined as any day on which an animal loses the ability to forage for at least 1 tidal cycle (*i.e.,* it forgoes 50–100 percent of its energy intake on that day)) a female CIBW experiences in a particular period and the effect of that disturbance on her energy reserves. Examples included the number of disturbed days during the months of April, May, and June that would be predicted to reduce the energy reserves of a pregnant CIBW to such a level that she is certain to terminate the pregnancy or abandon the calf soon after birth; the number of disturbed days from April to September required to reduce the energy reserves of a lactating CIBW to a level where she is certain to abandon her calf; and the threshold disturbed days where a female fails to gain sufficient energy by the end of summer to maintain herself and her calf during the subsequent winter.

Overall, median values ranged from 16 to 69 days of disturbance depending on the question. However, a ''day of disturbance'' considered in the context of the report is notably more severe than the Level B harassment expected to result from these activities, which as described is expected to be comprised predominantly of temporary modifications in the behavior of individual CIBWs (*e.g.,* faster swim speeds, more cohesive group structure, decreased sighting durations, cessation of vocalizations) based on the large body of observational data available from previous monitoring efforts at the Port. Also, NMFS anticipates an annual maximum of 118 instances of takes, with the instances representing disturbance events within a day. This means that either 118 different individual CIBWs are disturbed on no more than 1 day each per year or some lesser number of individuals may be disturbed on more than 1 day but with the product of individuals and days not exceeding 118. Given the overall estimated take, it is unlikely that any one CIBW will be disturbed on more than a few days. Further, the mitigation measures required for the CTR project are designed to avoid the potential that any animal will lose the ability to forage for one or more tidal cycles should they be foraging in the CTR project area, which is not known to be a particularly important feeding area for CIBWs.

While Level B harassment (*i.e.,* behavioral disturbance) is expected, the required mitigation measures will limit the severity of the effects of that Level B harassment to behavioral changes such as increased swim speeds, tighter group formations, and cessation of vocalizations, not the loss of foraging capabilities. Regardless, this elicitation recognized that pregnant or lactating females and calves are inherently more at risk than other animals, such as males. Given that individuals in potentially vulnerable life stages, such as pregnancy, cannot be identified by visual observers, pile driving will shut down for all CIBWs to be protective of potentially vulnerable individuals, and to avoid more severe behavioral reactions.

These regulations include required mitigation measures to minimize exposure to CIBWs, specifically, shutting down pile driving should a CIBW approach or enter the Level B harassment zone. These measures are designed to reduce the intensity and duration of potential harassment CIBWs experience during the POA's construction activities. Additionally, the mitigation measures will help to ensure CIBWs will not experience degradation of acoustic habitat approaching the threshold set in the Critical Habitat designation (*i.e.,* in-water noise at levels resulting in the abandonment of habitat by CIBWs). The location of the PSOs will allow for detection of CIBWs and behavioral observations prior to CIBWs entering the Level B harassment zone.

Additionally, the required mitigation measures include the use of a bubble curtain for all permanent piles in waters deeper than 3 m in all months. During impact driving, the POA must implement soft starts, which ideally allows animals to leave a disturbed area before the full-power driving commences (Tougaard *et al.,* 2012). Although NMFS does not anticipate CIBWs will abandon entering Knik Arm in the presence of pile driving, PSOs will be integral to identifying if CIBWs are potentially altering pathways they would otherwise take in the absence of pile driving. Finally, take by mortality, serious injury, or Level A harassment of CIBWs is not anticipated or authorized.

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

- No mortality, serious injury, or Level A harassment is anticipated or authorized;
- Any acoustic impacts to marine mammal habitat from pile driving are expected to be temporary and minimal;

- The required mitigation measures (*i.e.,* soft starts, pre-clearance monitoring, shutdown zones, bubble curtains) are expected to be effective in reducing the effects of the specified activity by ensuring that no CIBWs are exposed to noise at injurious levels (*i.e.,* Level A harassment);
- The intensity of anticipated takes by Level B harassment is low, consisting of, at worst, temporary modifications in behavior, and would not be of a duration or intensity expected to result in impacts on reproduction or survival;
- The area of exposure would be limited to habitat primarily used as a travel corridor. Data demonstrates Level B harassment of CIBWs typically manifests as increased swim speeds past the POA, tighter group formations, and cessation of vocalizations, rather than through habitat abandonment;
- No critical foraging grounds (*e.g.,* Eagle Bay, Eagle River, Susitna Delta) would be affected by pile driving; and
- While animals could be harassed more than once, exposures are not likely to exceed more than a few per year for any given individual and are not expected to occur on sequential days; thereby decreasing the potential severity and interaction between harassment events for affected individuals.

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 required monitoring and mitigation measures, NMFS finds that the marine mammal take that may be authorized from the specified activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted previously, only incidental 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 maximum estimated number of individuals annually 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 maximum annual number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

For all stocks, except for the Mexico-North Pacific stock of humpback whales whose abundance estimate is unknown, and the CIBW stock, the authorized number of takes is less than one-third of the best available population abundance estimate (*i.e.,* less than 1 percent for 7 stocks; approximately 2 percent for 1 stock; see table 19). The maximum annual number of animals that may be authorized to be taken from these stocks would be considered small relative to the relevant stock's abundances even if each estimated take occurred to a new individual. The number of takes authorized likely represents smaller numbers of individual harbor seals and Steller sea lions. Harbor seals tend to concentrate near Ship Creek and have small home ranges. It is possible that a single individual harbor seal may linger near the POA, especially near Ship Creek and be counted multiple times each day as it moves around and resurfaces in different locations. Previous Steller sea lion sightings identified that if a Steller sea lion is within Knik Arm, it is likely lingering to forage on salmon or eulachon runs and may be present for several days. Therefore, the number of takes authorized likely represents repeat exposures to the same animals in certain circumstances. For all species, PSOs will count individuals as separate unless they can be individually identified.

For CIBW, the stock abundance estimate is 331 individuals (Goetz *et al.,* 2023). The maximum annual number of takes that may be authorized is 118, amounting to 35.6 percent of the stock if each take accrued to a new individual (table 19). NMFS typically presumes that each take is of a different individual. However, a portion of the authorized takes are expected to represent repeat individuals; that is, some individual CIBWs will likely be counted more than once as they move through the only route into and out of Knik Arm past the POA towards feeding grounds in the upper Arm near Eagle Bay. McGuire *et al.* 2020 demonstrated that nearly all (93%; 78 of 84 identifiable whales) of the known individuals in the CIBW stock were sighted within Knik Arm between 2005 and 2017, noting that groups tended to travel up and down the arm with the tides.

The daily duration of active hammer use (impact and vibratory) at the POA is expected to be in the range of 3.3 to 9.8 hours per day (mean of 6.5 hours per day), with vibratory pile driving expected to account for 2.6 to 5.5 hours (mean of 4 hours) and impact driving accounting for 0.7 to 4.3 hours (mean of 2.4 hours). Large Level B harassment zones generated by vibratory pile driving would generally be expected for approximately half of a typical workday. Given the expectations for typical active hammer duration per day (4 hours vibratory, 2.5 hours impact), the sporadic use of hammers during a typical work day (crews require time between active driving of piles to move cranes and set the next piles) and the known movements of CIBW into and out of Knik Arm with the tidal cycle (McGuire et al. 2020), NMFS expects that animals exposed on 1 passage past the POA at the beginning of a tidal cycle are also likely to be exposed moving in the opposite direction when the tides align with construction work hours or on subsequent trips on different days throughout the construction season. Thus, the actual number of individuals affected is expected to be fewer than 118, and the maximum annual number of animals taken from this stock is considered small relative to the relevant stock's abundance.

Abundance estimates for the Mexico-North Pacific stock of humpback whales are based upon data collected more than 8 years ago, and therefore, current estimates are considered unknown (Young *et al.,* 2023). The most recent minimum population estimates (N_{MIN}) for this population include an estimate of 2,241 individuals between 2003 and 2006 (Martinez-Aguilar, 2011) and 766 individuals between 2004 and 2006 (Wade, 2021). NMFS' Guidelines for Assessing Marine Mammal Stocks suggest that the N_{MIN} estimate of the stock should be adjusted to account for potential abundance changes that may have occurred since the last survey and provide reasonable assurance that the stock size is at least as large as the estimate (NMFS, 2023). The abundance trend for this stock is unclear; therefore, there is no basis for adjusting these estimates (Young *et al.,* 2023). Assuming the population has been stable, the maximum annual 4 takes of this stock proposed for authorization represents small numbers of this stock (0.18 percent of the stock assuming a N_{MIN} of 2,241 individuals and 0.52 percent of the stock assuming an N_{MIN} of 766 individuals).

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

Unmitigable Adverse Impact Analysis and Determination

In order to promulgate regulations, NMFS must find that the takings authorized will not have an ''unmitigable adverse impact'' on the subsistence uses of the affected marine mammal species or stocks by Alaskan Natives. NMFS has defined ''unmitigable adverse impact'' in 50 CFR 216.103 as an impact resulting from the specified activity: (1) that is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by (i) causing the marine mammals to abandon or avoid hunting areas; (ii) directly displacing subsistence users; or (iii) placing physical barriers between the marine mammals and the subsistence hunters; and (2) that cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

While no significant subsistence activity currently occurs within or near the POA, Alaska Natives have traditionally harvested subsistence resources, including marine mammals, in upper Cook Inlet for millennia. CIBWs are more than a food source; they are important to the cultural and spiritual practices of Cook Inlet Native communities (NMFS, 2008). Dena'ina Athabascans, currently living in the communities of Eklutna, Knik, Tyonek, and elsewhere, occupied settlements in Cook Inlet for the last 1,500 years and have been the primary traditional users of this area into the present.

NMFS estimated that 65 CIBWs per year (range 21–123) were killed between 1994 and 1998, including those successfully harvested and those struck and lost. NMFS concluded that this number was high enough to account for the estimated 14 percent annual decline in population during this time (Hobbs *et al.,* 2008); however, given the difficulty of estimating the number of whales struck and lost during the hunts, actual mortality may have been higher. During this same period, population abundance surveys indicated a population decline of 47 percent, although the reason for this decline should not be associated solely with subsistence hunting and likely began well before 1994 (Rugh *et al.,* 2000).

In 1999, a moratorium was enacted (Public Law 106–31) prohibiting the subsistence harvest of CIBWs except through a cooperative agreement between NMFS and the affected Alaska Native organizations. NMFS began working cooperatively with the Cook Inlet Marine Mammal Council (CIMMC), a group of tribes that traditionally hunted CIBWs, to establish sustainable harvests. CIMMC voluntarily curtailed its harvests in 1999. In 2000, NMFS designated the Cook Inlet stock of beluga whales as depleted under the MMPA (65 FR 34590, May 31, 2000). NMFS and CIMMC signed Co-Management of the Cook Inlet Stock of Beluga Whales agreements in 2000, 2001, 2002, 2003, 2005, and 2006. CIBW harvests between 1999 and 2006 resulted in the strike and harvest of 5 whales, including one whale each in 2001, 2002, and 2003, and 2 whales in 2005 (NMFS, 2008). No hunt occurred in 2004 due to higher-than-normal mortality of CIBWs in 2003, and the Native Village of Tyonek agreed to not hunt in 2007. Since 2008, NMFS has examined how many CIBWs could be harvested during 5-year intervals based on estimates of population size and growth rate and determined that no harvests would occur between 2008 and 2012 and between 2013 and 2017 (NMFS, 2008). The CIMMC was disbanded by unanimous vote of the CIMMC member Tribes' representatives in June 2012, and a replacement group of Tribal members has not been formed to date. There has been no subsistence harvest of CIBWs since 2005 (NMFS, 2022).

Subsistence harvest of other marine mammals in upper Cook Inlet is limited to harbor seals. Steller sea lions are rare in upper Cook Inlet; therefore, subsistence use of this species is not common. However, Steller sea lions are taken for subsistence use in lower Cook Inlet. Residents of the Native Village of Tyonek are the primary subsistence users in the upper Cook Inlet area. While harbor seals are hunted for subsistence purposes, harvests of this species for traditional and subsistence uses by Native peoples have been low in upper Cook Inlet (*e.g.,* 33 harbor seals were harvested in Tyonek between 1983 and 2013; see table 8–1 in the POA's application), although these data are not currently being collected and summarized. As the POA's planned CTR project activities will take place within the immediate vicinity of the POA, no activities will occur in or near Tyonek's identified traditional subsistence hunting areas. As the harvest of marine mammals in upper Cook Inlet is historically a small portion of the total subsistence harvest and the number of marine mammals using upper Cook Inlet is proportionately small, the number of marine mammals harvested in upper Cook Inlet is expected to remain low.

The potential impacts from harassment on stocks that are harvested in Cook Inlet would be limited to minor behavioral changes (*e.g.,* increased swim speeds, changes in dive time, temporary avoidance near the POA) within the vicinity of the POA. Some PTS may occur; however, the shift is likely to be slight due to the implementation of mitigation measures (*e.g.,* shutdown zones, pre-clearance monitoring, bubble curtains, soft starts) and the shift would be limited to lower pile driving frequencies which are on the lower end of phocid and otariid hearing ranges. In summary, any impacts to harbor seals would be limited to those seals within Knik Arm (outside of any hunting area) and the very few takes of Steller sea lions in Knik Arm would be far removed in time and space from any hunting in lower Cook Inlet.

The POA will communicate with representative Alaska Native subsistence users and Tribal members to identify and explain the measures that have been taken or will be taken to minimize any adverse effects of CTR on the availability of marine mammals for subsistence uses. In addition, the POA will adhere to the following communication procedures regarding marine mammal subsistence use within the CTR project area:

(1) Send letters to the Kenaitze, Tyonek, Knik, Eklutna, Ninilchik, Salamatof, and Chickaloon Tribes informing them of the planned project (*i.e.,* timing, location, and features). Include a map of the planned project area; identify potential impacts to marine mammals and mitigation efforts, if needed, to avoid or minimize impacts; and inquire about possible marine mammal subsistence concerns they have.

(2) Follow up with a phone call to the environmental departments of the seven Tribal entities to ensure that they received the letter, understand the planned CTR project, and have a chance to ask questions. Inquire about any concerns they might have about potential impacts to subsistence hunting of marine mammals.

(3) Document all communication between the POA and Tribes.

(4) If any Tribes express concerns regarding project impacts to subsistence hunting of marine mammals, propose a Plan of Cooperation between the POA and the concerned Tribe(s).

The CTR project features and activities, in combination with a number of actions to be taken by the POA during project implementation, should avoid or mitigate any potential adverse effects on the availability of marine mammals for subsistence uses. Furthermore, although construction will occur within the traditional area for hunting marine mammals, the CTR

project area is not currently used for subsistence activities. In-water pile installation and removal will follow mitigation procedures to minimize effects on the behavior of marine mammals and impacts will be temporary.

For the NES1 project, the POA expressed that, if desired, regional subsistence representatives may support project marine mammal biologists during the monitoring program by assisting with collection of marine mammal observations and may request copies of marine mammal monitoring reports. The POA has put forth the same option for the CTR project.

Based on the description of the specified activity, the measures described to minimize adverse effects on the availability of marine mammals for subsistence purposes, and the required mitigation and monitoring measures, NMFS has determined that there will not be an unmitigable adverse impact on subsistence uses from the POA's planned activities.

Endangered Species Act

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

NMFS Office of Protected Resources (OPR) is authorizing take of WNP and Mexico-North Pacific humpback whales (including individuals from the Mexico DPS and WNP DPS), CIBWs, and western DPS Steller sea lions, which are listed under the ESA. NMFS OPR has consulted under Section 7 of the ESA on the promulgation of regulations and issuance of a subsequent LOA. The Alaska Region issued a Biological Opinion, which found that the CTR project is not likely to jeopardize the continued existence of Western DPS Steller sea lions, humpback whales of the WNP and Mexico-North Pacific DPSs, or CIBW.

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 evaluate our proposed action (*i.e.,* promulgation of regulations and subsequent issuance of a LOA thereunder) and alternatives to that action's potential impacts on the human environment.

Accordingly, NMFS has prepared an Environmental Assessment (EA) to evaluate the environmental impacts associated with the issuance of the proposed regulations and LOA. NMFS has signed a Finding of No Significant Impact (FONSI), which is available along with the EA at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-port-alaskas-construction-activities-port-alaska-modernization.*

Promulgation of This Final Rule

As a result of these determinations, NMFS hereby promulgates regulations that allow for the authorization of take of 7 species (10 stocks) of marine mammals, by Level A harassment (6 species comprising 9 stocks) and Level B harassment (7 species comprising 10 stocks), incidental to construction activities associated with the CTR project, Alaska for a 5-year period from March 1, 2026, through February 28, 2031, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Classification

The Office of Management and Budget (OMB) has determined that this rule is not significant for purposes of Executive Order 12866. This rule is not a regulatory action under Executive Order 14192 because it is not significant under Executive Order 12866.

Pursuant to section 605(b) of the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*), the Chief Counsel for Regulation of the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration that this rule will not have a significant economic impact on a substantial number of small entities. The POA is an enterprise activity of the Municipality of Anchorage, Alaska, meaning that it is a department of the Municipality which generates adequate revenue to support its operational costs and annual payments to the Municipality. The POA is the sole entity that will be subject to the requirements in these regulations, and the POA is not a small governmental jurisdiction, small organization, or small business, as defined by the RFA, because it is a department of the local government. Because of this certification, a regulatory flexibility analysis is not required and none has been prepared.

This rule contains a collection-of-information requirement subject to the provisions of the Paperwork Reduction Act (PRA) (44 U.S.C. 3501). Notwithstanding any other provision of law, no person is required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA unless that collection of information displays a currently valid OMB control number. These requirements have been approved by OMB under control number 0648–0151 and include applications for regulations, subsequent LOAs, and reports. This rule does not alter the expected burden hours for the submission of information under this control number.

List of Subjects in 50 CFR Part 217

Acoustics, Administrative practice and procedure, Construction, Endangered and threatened species, Marine mammals, Mitigation and monitoring requirements, Reporting requirements, Wildlife.

Dated: June 30, 2025.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

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

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

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

Authority: 16 U.S.C. 1361 *et seq.*

■ 2. Add subpart B, consisting of §§ 217.11 through 217.19, to read as follows:

Subpart B—Taking Marine Mammals Incidental to the Port of Alaska Modernization Program Phase 2B: Cargo Terminals Replacement Project in Anchorage, Alaska

Sec.

Subpart B—Taking Marine Mammals Incidental to the Port of Alaska Modernization Program Phase 2B: Cargo Terminals Replacement Project in Anchorage, Alaska

§ 217.11 Specified activity and specified geographical region.

(a) The incidental taking of marine mammals by the Port of Alaska (POA) may be authorized in a Letter of Authorization (LOA) only if it occurs at or around the Port of Alaska, including waters of Knik Arm and Upper Cook Inlet near Anchorage, Alaska incidental to the specified activities outlined in paragraph (b) of this section. Requirements imposed on the POA in this subpart must be implemented by those persons it authorizes or funds to conduct activities on its behalf.

(b) The specified activities are construction and demolition activities associated with the Cargo Terminals Replacement Project under the Port of Alaska Modernization Program at the Don Young Port of Alaska in Anchorage, Alaska.

§ 217.12 Effective dates.

Regulations in this subpart are effective from March 1, 2026, until February 28, 2031.

§ 217.13 Permissible methods of taking.

Under a LOA issued pursuant to §§ 216.106 of this chapter and 217.17, the POA and those persons it authorizes or funds to conduct activities on its behalf may incidentally, but not intentionally, take marine mammals within the specified geographical region by harassment associated with the specified activities provided they are in compliance with all terms, conditions, and requirements of the regulations in this subpart and the applicable LOA.

§ 217.14 Prohibitions.

(a) Except for the takings permitted in § 217.13 and authorized by a LOA issued under §§ 216.106 of this chapter and 217.17, it is unlawful for any person to do any of the following in connection with the specified activities:

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

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

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

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

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

(b) [Reserved]

§ 217.15 Mitigation requirements.

(a) When conducting the specified activities identified in § 217.11(b), POA must implement the mitigation measures contained in this section and any LOA issued under § 216.106 of this chapter and § 217.17. These mitigation measures include, but are not limited to:

(1) A copy of any issued LOA must be in the possession of the POA, its designees, and work crew personnel operating under the authority of the issued LOA;

(2) The POA must ensure that construction supervisors and crews, the monitoring team and relevant POA staff are trained prior to the start of all pile driving so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work; and

(3) The POA must employ Protected Species Observers (PSO) and establish monitoring locations pursuant to § 217.16 and as described in a NMFS-approved Marine Mammal Monitoring and Mitigation Plan;

(i) For all pile driving activities, land-based PSOs must be stationed at the best vantage points practicable to monitor for marine mammals and implement shutdown/delay procedures. A minimum of 4 locations must be used to monitor the designated harassment zones to the maximum extent possible based on daily visibility conditions. Additional PSOs must be added if warranted by site conditions and/or the level of marine mammal activity in the area. PSOs must be able to implement shutdown or delay procedures when applicable through communication with the equipment operator;

(ii) If during pile driving activities, PSOs can no longer effectively monitor the entirety of the Cook Inlet beluga whale (CIBW) shutdown zone due to environmental conditions (*e.g.,* fog, rain, wind), pile driving may continue only until the current segment of the pile is driven; no additional sections of pile or additional piles may be driven until conditions improve such that the shutdown zone can be effectively monitored. If the shutdown zone cannot be monitored for more than 15 minutes, the entire zone must be cleared again for 30 minutes prior to reinitiating pile driving;

(4) Pre-start clearance monitoring must 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;

(i) Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones are clear of marine mammals;

(ii) Pile driving may only commence if, following 30 minutes of observation, it is determined by the lead PSO that the shutdown zones are clear of marine mammals and for CIBW, any observed whale(s) is at least 100 meters (m) past the shutdown zone and on a path away from the zone or the whale has not been re-sighted for 30 minutes;

(5) For all pile driving activity, the POA must implement shutdown zones with radial distances as identified in a LOA issued under § 216.106 of this chapter and § 217.17;

(i) If a marine mammal is observed entering or within the shutdown zone, all pile driving activities, including soft starts, at that location must be halted. If pile driving is halted or delayed due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily left and has been visually confirmed beyond the shutdown zone or 15 minutes (for non-CIBWs) or 30 minutes (for CIBWs) have passed without re-detection of the animal. Specific to CIBW, if a CIBW(s) is observed within or on a path towards the shutdown zone, pile driving activities, including soft starts, must shut down and not re-commence until the whale has traveled at least 100 m beyond the shutdown zone and is on a path away from such zone or until no CIBW has been observed in the shutdown zone for 30 minutes;

(ii) In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone, animal behavior must be monitored and documented;

(iii) If work ceases for more than 30 minutes, the shutdown zones must be cleared again for 30 minutes prior to reinitiating pile driving. A determination that the shutdown zone is clear must be made during a period of good visibility;

(iv) If a shutdown procedure should be initiated but human safety is at risk, as determined by the best professional judgment of the vessel operator or project engineer, the in-water activity, including pile driving, is allowed to continue until the risk to human safety has dissipated. In this scenario, pile driving may continue only until the

current segment of the pile is driven; no additional sections of pile or additional piles may be driven until the lead PSO has determined that the shutdown zones are clear of marine mammals and, for CIBW, any observed whale(s) is at least 100 m past the shutdown zone and on a path away from the zone;

(v) For in-water construction activities other than pile driving (*e.g.,* barge positioning; use of barge-mounted excavators; dredging), if a marine mammal comes within 10 m, POA must cease operations and reduce vessel speed to the minimum level required to maintain steerage and safe working conditions. If human safety is at risk, as determined by the best professional judgment of the vessel operator or project engineer, the in-water activity is allowed to continue until the risk to human safety has dissipated;

(6) The POA must use soft start techniques when impact pile driving. Soft start requires the POA to conduct 3 sets of strikes (3 strikes per set) at reduced hammer energy with a 30-second waiting period between each set. A soft start must be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer;

(7) The POA must use bubble curtains for all permanent piles (72-inch (in) diameter) during both vibratory and impact pile driving in waters deeper than 3 m in all months. The bubble curtain must be operated to achieve optimal performance. At a minimum, the bubble curtain must comply with the following:

(i) The bubble curtain must distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column;

(ii) The lowest bubble ring must be in contact with the mudline and/or rock bottom for the full circumference of the ring, and the weights attached to the bottom ring shall ensure 100 percent mudline and/or rock bottom contact. No parts of the ring or other objects shall prevent full mudline and/or rock bottom contact;

(iii) Air flow to the bubblers must be balanced around the circumference of the pile;

(8) Pile driving activity must be halted upon observation of a species entering or within the harassment zone for 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;

(b) [Reserved]

§ 217.16 Requirements for monitoring and reporting.

(a) The POA must submit a Marine Mammal Monitoring and Mitigation Plan to NMFS for approval at least 90 days before the start of construction and abide by the Plan, if approved.

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

(1) PSOs must be independent of the activity contractor (*e.g.,* employed by a subcontractor) and have no other assigned tasks during monitoring duties;

(2) PSOs must be approved by NMFS prior to beginning work on the specified activities;

(3) PSOs must be trained in marine mammal identification and behavior;

(i) A designated project lead PSO must always be on site. The project lead PSO must have prior experience performing the duties of a PSO during in-water construction activities pursuant to a NMFS-issued ITA or Letter of Concurrence;

(ii) Each PSO station must also have a designated station lead PSO specific to that station and shift. These station lead PSOs must have prior experience working as a PSO during in-water construction activities;

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

(iv) PSOs must also have sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations; writing skills sufficient to record required information including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and 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.

(4) PSO stations must be elevated platforms constructed on top of shipping containers or a similar base that is at least 8 ft 6 in high (*i.e.,* the standard height of a shipping container) that can support at least 3 PSOs and their equipment. The platforms must be stable enough to support use of a theodolite and must be located to optimize the PSO's ability to observe marine mammals and the shutdown zones. Each PSO station must have at least 2 PSOs on watch at any given time, including the station lead PSO;

(5) If the POA is conducting in-water work for other projects that includes PSOs, the PSOs for the Cargo Terminals Replacement Project must be in real-time contact with those PSOs, and both sets of PSOs must share all information regarding marine mammal sightings with each other.

(c) The POA must submit weekly monitoring reports within 14 days after the conclusion of each calendar week during each Cargo Terminals Replacement Project construction season. These reports must include a summary of marine mammal species and behavioral observations, construction shutdowns or delays, and construction work completed during the reporting period. The weekly reports also must include an assessment of the amount of construction remaining to be completed (*i.e.,* the number of estimated hours of work remaining), in addition to the number of CIBW observed within estimated harassment zones to date.

(d) The POA must submit a draft annual summary monitoring report on all monitoring conducted during each construction season which includes final electronic data sheets within 90 calendar days after the completion of each construction season or 60 days prior to a requested date of issuance of any future incidental take authorization for projects at the same location, whichever comes first. A draft comprehensive 5-year summary report must also be submitted to NMFS within 90 days of the end of year 5 of the project. The reports must detail the monitoring protocol and summarize the data recorded during monitoring. If no comments are received from NMFS within 30 days of receipt of the draft report, the report may be considered final. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt. At a minimum, the reports must contain:

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

(2) Construction activities occurring during each daily observation period, including how many and what type of piles were driven or removed, by what method (*i.e.,* impact or vibratory), the total duration of driving time for each pile (vibratory driving), and number of strikes for each pile (impact driving);

(3) Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever

conditions change significantly), 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 (if less than the harassment zone distance);

(4) Upon observation of a marine mammal, the following information should be collected:

(i) Name of the PSO who sighted the animal, observer location, and activity at time of sighting;

(ii) Time of sighting;

(iii) Identification of the animal (*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;

(iv) Distances and bearings of each marine mammal observed in relation to the pile being driven for each sighting (if pile driving was occurring at time of sighting);

(v) Estimated number of animals (min/max/best);

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

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

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

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

(x) All PSO data in an electronic format that can be queried such as a spreadsheet or database (*i.e.,* digital images of data sheets are not sufficient).

(e) In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the POA must report the incident to NMFS Office of Protected Resources (OPR) and to the Alaska Regional Stranding Coordinator no later than 24 hours after the initial observation. If the death or injury was caused by the specified activity, the POA must immediately cease the specified activities described in § 217.11(b) until NMFS OPR is able to review the circumstances of the incident. The POA must not resume their activities until notified by NMFS. The report must include the following information:

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

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

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

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

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

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

§ 217.17 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to these regulations, the POA must apply for and obtain an LOA.

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

(c) If an LOA expires prior to the end of the effective dates of this subpart, the POA may apply for and obtain a renewal of the LOA.

(d) In the event of projected changes to the activity or to mitigation and monitoring measures required by an LOA, the POA must apply for and obtain a modification of the LOA as described in § 217.18.

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

(1) Permissible methods of incidental taking;

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

(3) Requirements for monitoring and reporting.

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

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

§ 217.18 Modifications of Letters of Authorization.

(a) A LOA issued under §§ 216.106 of this chapter and 217.17 for the specified activities may be modified upon request by the POA, provided that:

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

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

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

(c) A LOA issued under § 216.106 of this chapter and § 217.17 for the specified activity may be modified by NMFS under the following circumstances:

(1) NMFS may modify the existing mitigation, monitoring, or reporting measures, after consulting with the POA regarding the practicability of the modifications, if doing so creates a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring measures;

(i) Possible sources of data that could contribute to the decision to modify the mitigation, monitoring, or reporting measures in an LOA include, but are not limited to:

(A) Results from the POA's monitoring;

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

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

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

(2) If NMFS determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in a LOA issued pursuant to §§ 216.106 of this chapter and 217.17, a LOA may be modified without prior notice or opportunity for public comment. Notification will be published in the **Federal Register** within 30 days of the action.

§ 217.19 [Reserved]

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