

correlate heart rate with activity and an optical tracking system which detects markers worn by the subject. Participants will be asked to complete a paper survey once data is collected for the research.

III. Data

OMB Control Number: 0693–0083.

Form Number(s): None.

Type of Review: Regular submission, extension of a current information collection.

Affected Public: Individuals or households.

Estimated Number of Respondents: 240.

Estimated Time per Response: 10 minutes.

Estimated Total Annual Burden Hours: 40 hours.

Estimated Total Annual Cost to Public: \$0.

Respondent's Obligation: Voluntary.

IV. Request for Comments

We are soliciting public comments to permit the Department/Bureau to: (a) Evaluate whether the proposed information collection is necessary for the proper functions of the Department, including whether the information will have practical utility; (b) Evaluate the accuracy of our estimate of the time and cost burden for this proposed collection, including the validity of the methodology and assumptions used; (c) Evaluate ways to enhance the quality, utility, and clarity of the information to be collected; and (d) Minimize the reporting burden on those who are to respond, including the use of automated collection techniques or other forms of information technology.

Comments that you submit in response to this notice are a matter of public record. We will include or summarize each comment in our request to OMB to approve this ICR. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Sheleen Dumas,

Departmental PRA Clearance Officer, Office of the Under Secretary for Economic Affairs, Commerce Department.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XE106]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Furie Operating Alaska, LLC Natural Gas Activities in Cook Inlet, Alaska

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

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued two incidental harassment authorizations (IHAs) to Furie Operating Alaska, LLC (Furie) to incidentally harass marine mammals during natural gas activities in Cook Inlet, Alaska.

DATES: These authorizations are effective from September 13, 2024 through September 12, 2025 for year 1 activities, and September 13, 2025 through September 12, 2026 for year 2 activities.

ADDRESSES: Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-oil-and-gas>. In case of problems accessing these documents, please call the contact listed below.

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

SUPPLEMENTARY INFORMATION:

Background

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

Authorization for incidental takings shall be granted if NMFS finds that the

taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other “means of effecting the least practicable adverse impact” on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (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 July 19, 2023, NMFS received a request from Furie for two consecutive IHAs to take marine mammals incidental to natural gas activities in Cook Inlet, Alaska. The application was deemed adequate and complete on April 5, 2024. Furie’s request is for take of 12 species of marine mammals, by Level B harassment and, for harbor seals, Level A harassment. Neither Furie nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of the Specified Activity

From September 13, 2024, through September 12, 2025 (year 1), and from September 13, 2025 through September 12, 2026 (year 2), Furie is planning to conduct the following natural gas activities in Middle Cook Inlet, Alaska. In year 1, Furie proposes to relocate the Enterprise 151 jack-up production rig (Enterprise 151 or rig) to the Julius R. Platform (JRP) site, install up to two conductor piles using an impact hammer, and conduct production drilling of up to two natural gas wells at the JRP with the Enterprise 151 rig (or a similar rig) across 45–180 days. During year 2, Furie proposes to relocate the Enterprise 151 rig to the JRP site again, potentially install one to two conductor piles using an impact hammer (depending on whether either or both of these piles are installed or not during year 1), and conduct additional production drilling at the JRP. Furie proposes to conduct the rig towing and pile driving activities between April 1 and November 15 each year, but if favorable ice conditions occur outside of that period, it may tow the rig or pile drive outside of that period. Noise produced by rig towing and installation

of the conductor piles may result in take, by Level B harassment, of marine mammals, and for harbor seals, also Level A harassment. Thus, references to tugging activities herein refer to activities where tugs are under load with the rig.

A detailed description of the planned tugging and pile driving project is provided in the **Federal Register** notice for the proposed IHA (89 FR 51102, June 14, 2024). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specific activity.

Comments and Responses

A notice of NMFS' proposal to issue two consecutive IHAs to Furie was published in the **Federal Register** on June 14, 2024 (89 FR 51102). That notice described, in detail, Furie's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. In that notice, we requested public input on the request for authorization described therein, our analyses, the proposed authorizations, and any other aspect of the notice of proposed IHAs, and requested that interested persons submit relevant information, suggestions, and comments.

During the 30-day public comment period, NMFS received comments from Furie, Friends of Animals (FoA), and a member of the public. Further, U.S. Geological Survey provided a recent paper that its researchers co-authored (Himes Boor *et al.* 2022) that found that Cook Inlet beluga whale population declines are likely due to both low survival rates and low birth rates. All relevant, substantive comments, and NMFS' responses, are provided below and are organized by topic. The comments and recommendations are available online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities>. Please see the comment submissions for full details regarding the recommendations and supporting rationale.

Comment 1: Furie stated that the notice of the proposed IHA (89 FR 51102, June 14, 2024) characterizes its planned activities as "oil and gas activities." Furie stated that it only produces natural gas in Cook Inlet and is not planning to drill for or produce oil. The wells planned during the activities target proven natural gas reserves and will not intersect oil-bearing formations. Furie recommended revising the proposed IHA (89 FR

51102, June 14, 2024) and the **Federal Register** notice to refer to the planned activities as "natural gas production activities."

Response: NMFS concurs that it is more appropriate to refer to Furie's activities as natural gas activities rather than oil and gas, and has replaced "oil and gas activities" with "natural gas activities" throughout. Given the inclusion of tugging, NMFS did not include "production" in the overarching term.

Comment 2: Furie stated that the notice of the proposed IHA (89 FR 51102, June 14, 2024) includes language adapted from its application (finalized in October 2023), in which it stated that it was Furie's understanding that Hilcorp Alaska, LLC (Hilcorp) did not intend to operate Enterprise 151 at the Tyonek platform in 2024 and 2025. In subsequent discussions with Hilcorp regarding a potential hand-off of the rig, Furie realized that its understanding was incorrect. In meetings and emails with NMFS in February and March of 2024, Furie clarified that Hilcorp did intend to operate the jack-up rig at the Tyonek platform and provided additional information to amend its planned activities to include towing the rig from the Tyonek platform to Furie's JRP. Furie recommends removing statements characterizing Hilcorp's intent not to operate at the Tyonek Platform.

Response: NMFS' reference to Hilcorp not intending to conduct work with the Enterprise 151 at the Tyonek platform in 2024 or 2025 was in error. NMFS thanks Furie for further clarifying this matter. Of note, while the notice of proposed IHA mistakenly included this outdated statement, NMFS did consider the potential for Hilcorp to operate the Enterprise 151 at the Tyonek platform in its analysis, including as it relates to required mitigation, and the analysis included in the IHA remains appropriate and incorporates the farthest distance that Furie may tow the tug (originating from the Rig Tenders Dock).

Comment 3: Furie stated that the notice of the proposed IHA (89 FR 51102, June 14, 2024) describes Furie's planned activities as taking place in ". . . an otherwise nonindustrial setting for a period of several days." Oil and gas platforms have operated in this area of Cook Inlet for 60 years with daily activity. Similarly, Furie will tow the jack-up rig in shipping lanes that are transited nearly every day, often several times per day, by commercial ships, offshore supply vessels, and tugs and barges. Thus Furie states it is incorrect

to characterize the project area as a "non-industrial setting."

Response: The full statement in the notice of the proposed IHA (89 FR 51102, June 14, 2024) that Furie is referencing states, "essentially, the project area will become a concentrated work area in an otherwise non-industrial setting for a period of several days." NMFS recognizes that industrial activities, such as construction and operation of oil and gas platforms as well as vessel transit, as highlighted by Furie, occur in middle Cook Inlet and include overlap with the area that Furie will operate. NMFS did not intend for its statement to imply that no industrial activity occurs in the project area, but instead to highlight that the project will cause a concentrated increase in a specific area in comparison to the baseline in that same area, as this relative comparison can inform how marine mammals may or may not respond to an applicant's activities.

Comment 4: Furie stated that it plans to install the conductors inside the caisson monopod leg of the JRP platform. Therefore, no area of the seafloor will be impacted by pile driving and will not cause a decrease in water quality as NMFS stated in the notice of the proposed IHA (89 FR 51102, June 14, 2024). Furie recommended alternate language in its letter.

Response: NMFS concurs that the reference to decreased water quality and seafloor habitat impacts is in error given that the pile driving will occur within the caisson monopod leg of the JRP platform. The referenced language is not included in this notice of final IHA.

Comment 5: Furie stated in its letter that its application mistakenly proposed a proxy source level of 184 decibels (dB) sound exposure level (SEL) for installation of 20-in conductor piles in Sections 1.1.2.1, 6.2.3, and 6.3.3, while the user spreadsheet in Appendix A of its application used 181 dB SEL for the same activity. Furie intended to propose use of 181 dB SEL. In the proposed IHA (89 FR 51102, June 14, 2024), NMFS estimated the Level A harassment zones using 184 dB SEL. Furie stated that Navy (2015) lists the 184 dB SEL as applicable to 24-inch (in), 30-in, and 36-in piles collectively, but lists 181 dB SEL as specifically applicable to 24-in piles.

Given that the source level applies to piles ranging from 24-in to 36-in, Furie suggested that NMFS retain the Level A harassment zones presented in table 8 of the corrected notice (89 FR 53961; June 28, 2024) and the resulting estimate of take by Level A harassment as valid analyses for installation of conductor piles up to 36-in. That way, NMFS'

analysis would encompass all conductor sizes available to Furie, should it choose to use larger conductors in our wells.

Furie noted that this would not affect the Level B harassment zones which are calculated using a different sound source level.

Response: NMFS concurs with Furie that it is appropriate to use 184 dB SEL as a proxy source level for calculating Level A harassment zones for installation of piles that range in size from 20 to 36 in diameters. NMFS has retained the analysis for installation of conductor piles (using sound source levels of 184 dB SEL and 193 dB sound pressure level root mean square (SPL_{rms}) at 10 m) as included in the notice of the proposed IHA (89 FR 51102, June 14, 2024) but recognizes that the conductor piles that Furie installs may have a diameter of up to 36 in rather than 20 in. NMFS further concurs that this does not affect the calculated Level B harassment zones, as those are calculated using 193 dB SPL_{rms} at 10 m.

Comment 6: Furie stated that the notice of proposed IHA (89 FR 51102, June 14, 2024) states, “*Site-specific TL (transmission loss) data for pile driving at the JRP site are not available*” but that this is not entirely accurate. Furie contracted with JASCO Applied Sciences during the 2015 installation of the JRP to conduct a sound source verification (SSV) to evaluate the impact installation of the 42-in pin piles that hold the JRP in place (cited as Austin et al. 2015 in Section 6.2.3 of Furie’s application). The calculated transmission loss coefficient was 20.3. Because the hammer is rated at four times the energy of the one planned for use at the JRP and because it was for the installation of 42-in piles, Furie did not view it as a suitable proxy for the sound source levels (SSL) for the installation of the conductor pipes inside the monopod leg of the platform. Furie stated that it acknowledges that many factors affect transmission loss, including the frequencies of the predominant sound energy emanating from the piles as they are impacted, which may vary with pile size and impact energy. However, the other factors affecting transmission loss, such as bathymetry, depth, salinity, and temperature, are “site-specific” and are relevant to Furie’s planned installation of conductors. Furie states that the use of a 15 dB per decade transmission loss likely overestimates the Level A harassment and Level B harassment isopleths and the degree of incidental take.

Response: As stated in the notice of the proposed IHA (89 FR 51102, June 14, 2024), absent site-specific acoustical monitoring with differing measured TL,

a practical spreading value of 15 is used as the TL coefficient in the above formula. NMFS concurs that the sentence in the notice that states that “TL data for pile driving at the JRP site are not available” could have been worded in a way that is more accurate to acknowledge that SSV has been conducted at the project site for a different size pile than that which Furie plans to install. NMFS has updated this statement to state “Site-specific TL data for pile driving with relevant parallel characteristics are not available.” This wording change does not affect NMFS’ analysis, as NMFS still finds that the default transmission loss coefficient of 15 is appropriate.

Comment 7: Furie stated that in table 13 of the notice of the proposed IHA (89 FR 51102, June 14, 2024), NMFS identifies the “best” Cook Inlet beluga abundance estimate (N_{best}) as 279. The estimated take as a percentage of this stock abundance is 3.9 percent. Furie states that the fourth footnote contradicts the table, describing the most recent abundance ranging from 290 to 386, with a best estimate of 331 animals, citing Goetz et al. (2023) as the source. The footnote also describes the authorized take as 3.3 percent of the stock rather than the 3.9 percent listed in the table. Furie believes that the estimate in Goetz et al. 2023 is the best available data and recommends a revision of the table to align with the information provided in the footnote.

Response: As noted by Furie, Goetz et al. (2023) provides the most recent Cook Inlet beluga whale abundance estimate. Footnotes 9 and 4 in tables 3 and 13, respectively, of the notice of the proposed IHA (and table 1 and table 11 in this notice) also state that “in accordance with the MMPA, this population estimate will be incorporated into the Cook Inlet beluga whale SAR, which will be reviewed by an independent panel of experts, the Alaska Scientific Review Group. After this review, the SAR will be made available as a draft for public review before being finalized.” Even when more recent abundance estimates are available, NMFS typically considers abundance estimates from the SARs to be the best available given the rigorous SAR review process. However, in this case, regardless of whether the number of instances of takes is compared to the abundance estimate in the current Cook Inlet beluga whale SAR or the Goetz et al. (2023) abundance estimate, the number of instances of take as a percent of the stock abundance is less than 4 percent and is considered to be of small numbers.

Comment 8: FoA states that the proposed IHAs would allow for the take of 11 beluga whales, or 3 percent, of the Cook Inlet population per year for a total of up to two consecutive years. Therefore, Furie is proposing to take at least 22 or 6 percent of beluga whales if NMFS approves the IHAs. FOA cites the Cook Inlet beluga whale 2018 SAR that states “even one take every two years may still impede recovery.” FoA states that the estimated number of takes is indefinite, and based on the vast amount of harmful impacts it says Furie’s proposed project would add to the existing anthropogenic activities within Cook Inlet, the actual number of takes is likely to be higher.

Response: The commenter appears to be misinterpreting the discussion of take in the Cook Inlet beluga whale SAR. The statement in the 2018 SAR that the commenter quoted is referencing take by mortality. The Furie IHAs do not authorize take by serious injury or mortality, and for all species other than harbor seals (for which take by Level A harassment is authorized), authorized take is by Level B harassment only. As described further in the Negligible Impact Analysis and Determination section, the authorized takes are not expected to have more than a negligible impact on all marine mammal stocks. As described in further detail in that section, the area of exposure would be limited to habitat primarily used for transiting and not areas known to be of particular importance for feeding or reproduction, the activities are not expected to result in Cook Inlet beluga whales abandoning critical habitat nor are they expected to restrict passage of Cook Inlet beluga whales within or between critical habitat areas, and any disturbance to Cook Inlet beluga whales is expected to be limited to temporary modifications in behavior, and would not be of a duration or intensity expected to result in impacts on reproduction or survival.

The commenter does not provide support for its assertion that the estimated number of takes is indefinite, and these IHAs are each effective for one year. The commenter also does not provide support for its assertion that the actual number of takes is likely to be higher than the estimated number included in the proposed IHA (89 FR 51102, June 14, 2024) and authorized in this final IHA.

Comment 9: FoA stated that despite this critical time for monitoring population trends, NMFS has delayed aerial surveying of the species from June 2024 until June 2025, due to less aggregation of the whales in places they previously and regularly have been

observed (NMFS 2024). Authorization of further take of the species without performing consistent surveying methods is especially concerning since the resident population is known for behavioral congregation patterns, such as for feeding and reproduction (NMFS 2021).

Response: The MMPA requires NMFS to make its findings based upon the best available science, regardless of whether any particular survey is continued or not. However, to clarify, and as described in a recent article (NMFS 2024c), since 2010, NOAA Fisheries scientists have been conducting a biennial aerial survey in early-to-mid June to estimate the abundance and trends of Cook Inlet beluga whales. Beluga whales gather in the upper inlet in June to feed on returning fish runs. The biennial aerial survey involved flying a coastal trackline of all nearshore waters in Cook Inlet and a series of offshore transects across the inlet. When they encountered a beluga group, the plane made multiple passes alongside the group so observers could count the whales present and collect videos. Scientists used these observation data to estimate group sizes. The surveys were designed to take advantage of the clumped distribution of these whales in early June, when they are often found in a small number (two to eight) of large groups. However, in recent years, whales have not been as aggregated in places that researchers used to regularly see them, such as the Susitna Delta.

To identify the best and most cost-effective approach for estimating abundance and trends, in 2021 and 2022 scientists added line-transect aerial surveys within Susitna Delta, Chickaloon Bay, and Trading Bay. They also conducted the conventional aerial survey for comparative purposes. Scientists found that the sightings data from the line-transect survey approach produced a reliable abundance estimate similar to the conventional method. The method also does not require months of video analysis, instead producing an estimate shortly after the completion of field work.

As to the reason for pushing the 2024 survey to 2025, in 2024, researchers had hoped to replace the conventional aerial survey method with a line-transect aerial survey conducted in combination with a Cook Inlet beluga photo-identification project. This project obtains overhead photos taken from an uncrewed aerial system (UAS). However, the plane chartered for survey operations had mechanical issues and the team was unable to secure an alternative. Therefore, the team plans to conduct the survey next year.

Researchers expect to be able to obtain an abundance estimate from the photo-identification project, which uses UAS technology, in 2024. They have been using UAS since 2017, and the count information collected using this technology has allowed NMFS to produce a comparable abundance estimate to other approaches. However, the crewed aerial survey can provide distribution information, as it covers the entire Inlet's coastline and offshore waters, areas where UAS/photo identification studies do not currently occur. Currently UAS use has been limited to areas in the upper inlet such as the Susitna Delta, Knik Arm, Chickaloon Bay, and Trading Bay. Further, UAS is limited in that it has to operate within line of sight of the person operating the drone. It is also limited by weather and tides. Tides restrict access to these areas for boats used to deploy the drones.

It is unclear what the commenter means in stating that authorization of further take of the species without performing consistent surveying methods is especially concerning since the resident population is known for behavioral congregation patterns, such as for feeding and reproduction. However, as described above, the planned changes to survey methods are based on a determination that the newly planned method is the best and most cost-effective approach for estimating abundance and trends.

Comment 10: FOA urges NMFS to deny issuance of IHAs to Furie, as well as any renewal IHAs, and to cease issuing IHAs that include take of Cook Inlet beluga whales until they are on a successful path to recovery. FoA further urges NMFS to cease issuing IHAs that include take of Cook Inlet beluga whales and marine mammals altogether until threats of high concern to Cook Inlet marine mammals can be better understood and addressed through continued research and action initiatives. FoA states that continuous granting of incidental take permits and IHAs for anthropogenic activities by Federal agencies diminishes the recovery and survivability of Cook Inlet beluga whales and is inconsistent with the purposes of the MMPA.

Response: The MMPA requires that NMFS issue an ITA for a specified activity, provided the necessary findings are made and appropriate mitigation and monitoring measures are set forth, as described in the Background section of this notice. Please refer to that section for additional information. Such findings have been made, and therefore, NMFS has issued two consecutive IHAs to Furie.

Consistent with the MMPA, NMFS has included measures to ensure the least practicable adverse impact on marine mammal species and their habitat, and has also included appropriate monitoring and reporting requirements. For example, during tugging and pile driving, Furie must conduct pre-clearance monitoring prior to commencing activities and must delay the start of activities if marine mammals are within designated pre-clearance zones. Furie must implement soft start techniques and shut down activities if an animal enters a designated shutdown zone for pile driving activities, and it must conduct tugging activities with a favorable tide to reduce noise output. Please see the Mitigation section of this notice for a full description of the required mitigation measures.

Further, monitoring results from previous similar tugging and construction activities have not recorded responses from Cook Inlet beluga whales that indicate impacts that would affect the survival or recovery of Cook Inlet beluga whales. Hilcorp's most recent annual marine mammal monitoring report indicates that it did not record any sightings of beluga whales from their rig-based monitoring efforts (Horsley and Larson, 2023), and the most recent monthly monitoring report that describes monitoring results from the May 2024 rig transiting also indicates no recorded sightings of beluga whales during transit (Weston Solutions, 2024). Further, monitoring data from construction at the Port of Alaska (POA) demonstrates Level B harassment of Cook Inlet beluga whales typically manifests as increased swim speeds past the POA, tighter group formations, and cessation of vocalizations, none of which would be expected to impact survival or recovery of Cook Inlet beluga whales.

Comment 11: FoA stated that the potential impacts from Level B harassment that Furie's proposed project will have on the species are varied and numerous. They assert this includes hearing impairment, separation of family groups, loss of prey and/or habitat, disturbances to biologically sensitive feeding and mating areas, bodily harm, behavioral changes, and synergistic and/or cumulative effects, among others. For these reasons, FoA states the numerous negative effects on marine mammals do not constitute negligible impacts, and therefore, Furie does not meet the qualifications for obtaining an IHA under the MMPA.

Response: NMFS disagrees with the FoA's claim that the effects of Furie's activities on marine mammals do not

constitute negligible impact. In the Negligible Impact Analysis and Determination section of the notice of the proposed IHAs (89 FR 51102, June 14, 2024) and this notice, we describe how the take estimated and authorized for Furie's project will have a negligible impact on all of the affected species, including Cook Inlet beluga whales. We discuss how this determination is based upon the authorized number of takes of each stock that might be exposed briefly during the activity, the low level of behavioral harassment (and for harbor seals, small degree of permanent threshold shift (PTS)) that might result from an instance of take that could occur within a year, and the likelihood that the mitigation measures required further lessen the likelihood or severity of exposures. NMFS has considered the status of each stock in its analysis, as well as the importance of reducing impacts from anthropogenic noise, and there is no evidence that brief exposure to low level noise causing Level B harassment (and for harbor seals, PTS) would have the impacts asserted by the commenter.

NMFS' negligible impact finding considers a number of parameters including, but not limited to, the nature of the activities (*e.g.*, duration, sound source), effects/intensity of the taking, the context of takes, and mitigation. NMFS understands that marine mammals will have varying responses to elevated noise levels resulting from pile driving and tugging activities such as masking of communication and foraging signals, avoidance behaviors, and more. However, NMFS does not anticipate that these responses will result in separation of family groups, nor has the commenter provided information supporting that assertion.

No serious injury or mortality (*i.e.*, bodily harm, as referred to by the commenter) is anticipated or authorized. While exposure to elevated noise levels associated with Furie's activities may result in low-level behavioral changes in marine mammals (and for harbor seals, a small degree of PTS (*i.e.*, hearing impairment, as referred to by the commenter) for a maximum of three animals per year), NMFS' review of the best available scientific evidence, as summarized and cited herein, demonstrates that these responses do not rise to the level of having adverse effects on the fitness of individuals for reproduction or survival, and thus would not affect reproduction or survival rates of any stock, and the commenter has provided no evidence to the contrary. Further, while Furie's project area does overlap ESA-designated critical habitat for Cook Inlet

beluga whale, the impacts from the project are not expected to occur in areas that are important for feeding or reproduction for any species, including Cook Inlet beluga whales, nor are they anticipated to result in a loss of prey or habitat. Monitoring data from Hilcorp's activities suggest that tugging activities do not discourage Cook Inlet beluga whales from transiting throughout Cook Inlet and between critical habitat areas and that the whales do not abandon critical habitat areas (Horsley and Larson, 2023). In addition, large numbers of Cook Inlet beluga whales have continued to use Cook Inlet and pass through the area, likely traveling to critical foraging grounds found in upper Cook Inlet (*i.e.*, outside of the project area), while noise-producing anthropogenic activities, including vessel use, have taken place during the past two decades (*e.g.*, Sheldon *et al.* 2013, 2015, 2017, 2022; Sheldon and Wade 2019; Geotz *et al.* 2023). Therefore, NMFS has appropriately concluded that the taking from year 1 and year 2 activities each will have a negligible impact on the affected stocks, and accordingly has issued two consecutive IHAs to Furie.

Please see NMFS' response to Comment 13 regarding cumulative effects.

Comment 12: FoA stated that after the finalization of the Recovery Plan in December 2016 (NMFS 2016a) and a Species in the Spotlight 2021–2025 Priority Action Plan for the Cook Inlet beluga whale (NMFS 2021) in place, NMFS should emphasize greater measures to enhance the survival of the species and address a needed reduction of anthropogenic activities within Cook Inlet. Doing so will support recovery efforts while eliminating long-term harassment and further endangerment to the species.

Response: NMFS has prescribed mitigation measures in the IHAs to effect the least practicable adverse impact on Cook Inlet beluga whales and all other affected marine mammal species. Of note, these IHAs extend the pre-clearance zone for Cook Inlet beluga whales ahead of tugging activities to include the extent to which protected species observers (PSOs) can feasibly observe, rather than a zone of 1,500 meters (m) included in previous IHAs for similar activities (87 FR 62364, October 14, 2022).

We note that NMFS' authority under section 101(a)(5)(A) of the MMPA pertains only to the authorization of marine mammal take incidental to that activity and to the prescription of appropriate mitigation, monitoring, and reporting requirements. Therefore,

while NMFS cannot reduce anthropogenic activities within Cook Inlet, we will continue to consider the vulnerable status of Cook Inlet beluga whales in our negligible impact analyses and require that any activity for which we issue an ITA will meet that standard; and we will prescribe appropriate measures under the least practicable adverse impact standard.

Comment 13: FOA stated that NMFS should consider the potential cumulative impact from past, current, and future activities and their impact on the environmental baseline when determining whether "take is negligible" (which we interpret as a reference to the negligible impact standard). FoA quoted the Cook Inlet beluga whale recovery plan (NMFS 2016a), which states "applications for IHAs have historically been reviewed on the basis of an individual activity in isolation. But the high level of human activity in Cook Inlet has increased such that cumulative effects of multiple activities must be appropriately accounted for." FoA further stated that there are already a prominent number of authorizations throughout Cook Inlet allowing for the take of Cook Inlet beluga whales, stating that between 2017 and 2025, NMFS is projected to authorize approximately 120,000 incidental takes of Cook Inlet beluga whales (Migura and Bollini 2022).

Response: We note first that the Migura and Bollini (2022) paper cited by FoA, regarding the projected authorized take of Cook Inlet beluga whale through 2025, seems to have led to a misunderstanding of the takes authorized or permitted by NMFS. The vast majority of the asserted ~120,000 total takes (over 99 percent), including all of the very small amount of take by Level A harassment, were authorized under directed research or enhancement permits, which directly support research or actions identified in the Recovery Plan to address Cook Inlet beluga whale recovery goals. Further, the vast majority (~99 percent) of the total permitted research or enhancement take numbers are low-level MMPA Level B harassment from remote or non-invasive procedures that were considered "not likely to adversely affect" listed species under the consultation requirements of section 7 of the ESA (*i.e.*, take under the ESA is neither expected to occur nor exempted for those activities). We refer the commenter to NMFS' Cook Inlet beluga whale 5-year review (NMFS 2022; section 2.3.2), in which NMFS addressed the assertions in Migura and Bollini (2022). Last, it is worth noting that for research activities, authorized

takes are typically a larger number than the actual takes that occur. For example, 22,090 takes were authorized for Cook Inlet beluga research occurring in 2019 but only 2,405 takes occurred.

Regarding the comprehensive evaluation and minimization of permitted takes, we reference the analysis that has already been completed through NMFS' 2019 Biological and Conference Opinion on the Proposed Implementation of a Program for the Issuance of Permits for Research and Enhancement Activities on Cetaceans in the Arctic, Atlantic, Indian, Pacific, and Southern Oceans (NMFS 2019), which determined that the research and enhancement takes permitted by the program would not jeopardize the existence of any of the affected species. As part of our programmatic framework for permitting directed take of ESA species, the Permits and Conservation Division will continue to closely evaluate the number and manner of Cook Inlet beluga whale takes requested by each applicant, how the proposed research ties to recovery plan goals, and the collective number of authorized and requested takes to consider the potential cumulative impact of the activities to the population. Each directed take annual report is reviewed to understand how authorized takes were actually used and to closely monitor the impacts that permitted research methods are having on the target animals.

Regarding the comment about the negligible impact determination for this action, neither the MMPA nor NMFS' implementing regulations call for 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 (e.g., as reflected in the density/distribution and status of the species, population size and growth rate, and other relevant stressors (such as incidental mortality in commercial fisheries, Unusual Mortality Events (UMEs), and subsistence hunting)); see the Negligible Impact Analyses and Determinations section of this notice of issuance. The 1989 final rule for NMFS' implementing regulations also addressed public comments regarding cumulative effects

from future, unrelated activities. There, NMFS stated that such effects are not considered in making findings under section 101(a)(5) concerning negligible impact. In this case, the two IHAs issued to Furie are appropriately considered an unrelated activity relative to other ITAs currently in effect or proposed within the specified geographic region. The ITAs are unrelated in the sense that they are discrete actions under section 101(a)(5)(D) issued to discrete applicants (with the exception of the two consecutive IHAs issued to Furie).

Section 101(a)(5)(D) of the MMPA requires NMFS to make a determination that the take incidental to a "specified activity" will have a negligible impact on the affected species or stocks of marine mammals and will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence uses. NMFS' implementing regulations require applicants to include in their request a detailed description of the specified activity or class of activities that can be expected to result in incidental taking of marine mammals (see 50 CFR 216.104(a)(1)). Thus, the "specified activity" for which incidental take coverage is being sought under section 101(a)(5)(D) is generally defined and described by the applicant. Here, Furie was the applicant for the IHAs, and we are responding to the specified activities as described in that application (and making the necessary findings on that basis). The take estimates NMFS authorizes represent the upper limits for individuals and some instances of take may represent multiple exposures to a single individual.

NMFS' response to public comments in the 1989 implementing regulations also indicated (1) that we would consider cumulative effects that are reasonably foreseeable when preparing a National Environmental Policy Act (NEPA) analysis, and (2) that reasonably foreseeable cumulative effects would also be considered under section 7 of the ESA for ESA-listed species, as appropriate. Accordingly, NMFS has prepared an EA that addressed cumulative impacts of Furie's activities and all past, present and reasonably foreseeable future actions. Additionally, the NMFS Alaska Regional Office (AKRO) issued a Biological Opinion on September 11, 2024, under section 7 of the ESA, on the issuance of two IHAs to Furie under section 101(a)(5)(D) of the MMPA by NMFS OPR that independently considered the reasonably foreseeable cumulative effects of activities on ESA-listed species.

Comment 14: FoA states that it supports the creation of annual programmatic EAs, an annual permitting cycle, and the overall analysis of cumulative effects from multiple IHAs. FoA further urges NMFS to complete its development of an analysis on the cumulative effects of anthropogenic activities and threats of high concern to enhance the recovery efforts for Cook Inlet beluga whales. In a related comment, FOA stated that to prevent further decline of Cook Inlet beluga whales, NMFS should not stray from conducting a more comprehensive assessment of the cumulative impacts related to noise, habitat degradation, chemical exposure, mortality, stranding, climate change, and migration of the species and its prey. FoA states that synergistic effects of toxic chemical exposure and noise are particularly concerning in coastal areas where pollutants are concentrated, and in areas heavy with potential spillage, engine leaks, and consistent vessel traffic.

Response: Although not explicit, the commenter may be referring to a 2015 notice of intent to prepare a programmatic EA (80 FR 48299; August 12, 2015) and a 2014 notice of intent to prepare an EIS (79 FR 61616, October 14, 2014). In the 2015 notice, NMFS announced its intent to (1) prepare a Programmatic Environmental Assessment (EA) to analyze the environmental impacts of issuing annual Incidental Take Authorizations (ITAs) pursuant to the Marine Mammal Protection Act (MMPA) for the taking of marine mammals incidental to anthropogenic activities in the waters of Cook Inlet, AK, for the 2016 season and; (2) its intent to institute an MMPA authorization cycle wherein companies planning to submit MMPA incidental harassment authorization applications for work to be conducted in Cook Inlet in 2016 do so by no later than October 1, 2015.

In the 2014 notice, NMFS declared its intent to prepare an EIS for oil and gas-related incidental take authorizations in Cook Inlet, Alaska (79 FR 61616, October 14, 2014). However, in a 2017 **Federal Register** notice (82 FR 41939, September 5, 2017), NMFS indicated that due to a reduced number of ITA requests in the region, combined with funding constraints at that time, we were postponing any potential preparation of an EIS for oil and gas activities in Cook Inlet. As we stated in the 2017 **Federal Register** notice, 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 yet necessary, nor are annual EAs as proposed in 2015 (80 FR 48299; August 12, 2015). Nonetheless, under NEPA, NMFS is required to consider cumulative effects of other potential activities in the same geographic area as the proposed action, and these are discussed in greater detail in NMFS' Final EA prepared for this issuance of two consecutive IHAs to Furie for natural gas activities, which supports our finding that NMFS' issuance of the IHAs will not have a significant impact on the human environment.

Regarding the threats of high concern identified by FoA (noise, habitat degradation, chemical exposure, mortality, stranding, climate change, and migration of Cook Inlet beluga whales and their prey), NMFS addressed these threats, as appropriate, in the Final EA. Noise from both the project and other nearby activities is addressed throughout the Final EA. The Cumulative Effects section of the Final EA (Section 4.8) addresses subsistence hunting, pollution, fisheries interaction, vessel traffic, coastal zone development, oil and gas development, mining, marine mammal research, and climate change impacts, all of which contribute or could potentially contribute (*e.g.*, subsistence hunting of Cook Inlet beluga whales, which is not known to currently occur in Cook Inlet) to the threats identified by FoA. Specifically related to pollutants, as noted in the Final EA, a recent study of Cook Inlet beluga whales, the species most at risk in the action area, suggests a potential link between gastrointestinal cancer in belugas to environmental PAH contamination (Poirier *et al.*, 2019). There is also preliminary evidence of female marine mammals passing contaminant loads to offspring (Peterson *et al.*, 2018; Andvik *et al.*, 2021) as well as a relationship between contaminant exposure and congenital abnormalities (Burek-Huntington *et al.*, 2022). However, the effects of transfer of contaminant loads to offspring repeatedly across generations is unclear, and additional research on the causes of congenital abnormalities in Cook Inlet beluga whales (including effects of contaminant exposure, genetic diversity, and nutrition) is needed. Of note, while the Recovery Plan for the Cook Inlet Beluga Whale identifies pollution as a threat, it notes that available information indicates that the magnitude of the pollution threat to Cook Inlet beluga whales appears low,

though not all pollutants to which Cook Inlet beluga whales are exposed have been studied in that environment.

While consideration of the activities discussed above in sum suggests an increase in industrialization of Cook Inlet, many of these activities are spatially and temporally limited and do not permanently reduce or degrade the habitat available to marine mammals or their prey species. Cook Inlet is also a geographically vast area, and many activities, including the activities planned by Furie and other noise-producing activities, are geographically distinct to various portions of the inlet, which prevents the continued or permanent disruption of one particular portion of the inlet for extended durations, therefore providing other areas of available habitat.

It is unclear what the commenter is referring to in terms of addressing migration of Cook Inlet beluga whales and their prey as a threat. However, as noted in response to Comment 9, in recent years, Cook Inlet beluga whales have not been as aggregated in places that researchers used to regularly see them, such as the Susitna Delta.

Comment 15: FoA stated that NMFS should extend its public comment period to at least one month to obtain adequate public findings before the issuance of consecutive IHAs.

Response: Publication of the notice of proposed IHAs (89 FR 51102, June 14, 2024) began a 30-day public comment period that served as the statutorily-required comment period for each of the proposed IHAs. FoA did not provide reasoning for why this initial comment period was insufficient. As such, and given that Furie's planned project schedule did not allow for extension of the comment period, NMFS has not extended the public comment period for the proposed IHAs.

Comment 16: USGS provided a recent paper that its researchers co-authored (Himes Boor *et al.*, 2022) that found that Cook Inlet beluga whale population declines are likely due to both low survival rates and low birth rates.

Response: NMFS thanks USGS for providing this paper for NMFS' consideration. As described in the paper, the results of this study can assist researchers and managers in identifying the most significant factors contributing to the decline of Cook Inlet beluga whales, and we have incorporated consideration of this paper into our analysis of the potential impacts of Furie's activities on Cook Inlet beluga whales in the EA.

Changes From the Proposed IHA to Final IHA

In the final IHAs, NMFS updated the measure that describes the clearance zones required for tugging activities during daylight hours (measure 4(d) in the IHAs). The updated language does not change the intent of the measure, but rather, is intended to clarify that if a beluga whale is observed within the relevant clearance zone during those 30 minutes, operations may not commence until the beluga whale(s) is no longer detected at any range and 30 minutes have elapsed without any observations of beluga whales. The measure in the proposed IHA could have potentially been interpreted to imply that activities could commence after 30 minutes even if a beluga whale was still detected by PSOs. NMFS also amended measure 5(b) of the IHAs to state that in addition to the two PSOs that must be stationed on the tug or jack-up rig for monitoring purposes for the entirety of the jack-up rig towing and positioning operations, an additional PSO must be stationed on the JRP platform. Last, NMFS added a footnote to Table 2 of the IHAs to clarify that the shutdown zone for Cook Inlet beluga whales during conductor pipe pile driving is different from other mid-frequency cetaceans. The footnote states "If Cook Inlet beluga whales are observed within or approaching the Level B harassment zone for conductor pipe installation, impact installation of the conductor pipe must be delayed or halted until the beluga(s) have voluntarily left and been visually confirmed to be 100 m beyond the Level B harassment zone and on a trajectory away from the zone, or 30 minutes have passed without subsequent detections." This requirement was included in the notice of the proposed IHAs (89 FR 51102, June 14, 2024).

Further, in response to Furie's comments, NMFS has changed references to "oil and gas activities" to "natural gas activities" throughout, clarified that Hilcorp does intend to operate at Tyonek platform, and clarified that site-specific TL data for pile driving with relevant parallel characteristics are not available. Also in response to Furie's comments, NMFS updated its analysis to note that Furie may install conductor piles ranging in size from 20-in to 36-in depending on availability.

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the

reader to these descriptions, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SARs; <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>) and more general information about these species (e.g., physical and behavioral descriptions) may be found on NMFS' website (<https://www.fisheries.noaa.gov/find-species>).

Additional information on Cook Inlet beluga whales may be found in NMFS' 2016 Recovery Plan for the Cook Inlet beluga whale, available online at <https://www.fisheries.noaa.gov/resource/document/recovery-plan-cook-inlet-beluga-whale-delphinapterus-leucas>, and NMFS' 2023 report on the abundance and trend of Cook Inlet beluga whales in Cook Inlet in June 2021 and June 2022, available online at

<https://www.fisheries.noaa.gov/resource/document/abundance-and-trend-belugas-delphinapterus-leucas-cook-inlet-alaska-june-2021-and-2022>.

Table 1 lists all species or stocks for which take is expected and authorized for this activity and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is anticipated or 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. 2022 SARs. All values presented in table 1 are the most recent available at the time of publication (including from the draft 2023 SARs) and are available online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>.

TABLE 1—SPECIES ¹ LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (Y/N) ²	Stock abundance (CV, N _{min} , most recent abundance survey) ³	PBR	Annual M/SI ⁴
Order Artiodactyla—Cetacea—Mysticeti (baleen whales)						
<i>Family Eschrichtiidae:</i>						
Gray whale	<i>Eschrichtius robustus</i>	Eastern N Pacific	- , - , N	26,960 (0.05, 25,849, 2016).	801	131
<i>Family Balaenidae:</i>						
<i>Family Balaenopteridae (rorquals):</i>						
Fin whale	<i>Balaenoptera physalus</i>	Northeast Pacific	E, D, Y	UND ⁵ (UND, UND, 2013).	UND	0.6
Humpback whale	<i>Megaptera novaeangliae</i>	Hawai'i	- , - , N	11,278 (0.56, 7,265, 2020).	127	27.09
Humpback whale	<i>Megaptera novaeangliae</i>	Mexico-North Pacific	T, D, Y	N/A ⁶ (N/A, N/A, 2006)	UND	0.57
Humpback whale	<i>Megaptera novaeangliae</i>	Western North Pacific	E, D, Y	1,084 ⁷ (0.088, 1,007, 2006).	3.4	5.82
Minke whale	<i>Balaenoptera acutorostrata</i>	AK	- , - , N	N/A ⁸ (N/A, N/A, N/A)	UND	0
Odontoceti (toothed whales, dolphins, and porpoises)						
<i>Family Delphinidae:</i>						
Killer whale	<i>Orcinus orca</i>	Eastern North Pacific Alaska Resident.	- , - , N	1,920 (N/A, 1,920, 2019)	19	1.3
Killer whale	<i>Orcinus orca</i>	Eastern North Pacific Gulf of Alaska, Aleutian Islands and Bering Sea Transient.	- , - , N	587 (N/A, 587, 2012)	5.9	0.8
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	N Pacific	- , - , N	26,880 (N/A, N/A, 1990)	UND	0
<i>Family Monodontidae (white whales):</i>						
Beluga whale	<i>Delphinapterus leucas</i>	Cook Inlet	E, D, Y	279 ⁹ (0.061, 267, 2018)	0.53	0
<i>Family Phocoenidae (porpoises):</i>						
Dall's porpoise	<i>Phocoenoides dalli</i>	AK	- , - , N	UND ¹⁰ (UND, UND, 2015).	UND	37
Harbor porpoise	<i>Phocoena phocoena</i>	Gulf of Alaska	- , - , Y	31,046 (0.21, N/A, 1998)	UND	72
Order Carnivora—Pinnipedia						
<i>Family Otariidae (eared seals and sea lions):</i>						
CA sea lion	<i>Zalophus californianus</i>	U.S.	- , - , N	257,606 (N/A, 233,515, 2014).	14,011	>321
Steller wea lion	<i>Eumetopias jubatus</i>	Western	E, D, Y	49,837 ¹¹ (N/A, 49,837, 2022).	299	267
<i>Family Phocidae (earless seals):</i>						

TABLE 1—SPECIES¹ LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES—Continued

Common name	Scientific name	Stock	ESA/MMPA status; strategic (Y/N) ²	Stock abundance (CV, N _{min} , most recent abundance survey) ³	PBR	Annual M/SI ⁴
Harbor seal	<i>Phoca vitulina</i>	Cook Inlet/Sheikof Strait	-, -, N	28,411 (N/A, 26,907, 2018).	807	107

¹ Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy (<https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/>; Committee on Taxonomy (2022)).

² 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.

³ NMFS marine mammal SARs online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region>. CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance.

⁴ These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (e.g., commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

⁵ The best available abundance estimate for this stock is not considered representative of the entire stock as surveys were limited to a small portion of the stock's range. Based upon this estimate and the N_{min}, the PBR value is likely negatively biased for the entire stock.

⁶ Abundance estimates are based upon data collected more than 8 years ago and, therefore, current estimates are considered unknown.

⁷ The best estimates of abundance for the stock (1,084) and the portion of the stock migrating to summering areas in U.S. waters (127) were derived from a reanalysis of the 2004–2006 SPLASH data (Wade 2021). Although these data are more than fifteen years old, the estimates are still considered valid minimum population estimates.

⁸ Reliable population estimates are not available for this stock. Please see Friday *et al.* (2013) and Zerbini *et al.* (2006) for additional information on numbers of minke whales in Alaska.

⁹ On June 15, 2023, NMFS released an updated abundance estimate for endangered Cook Inlet beluga whales in Alaska (Goetz *et al.* 2023). Data collected during NOAA Fisheries' 2022 aerial survey suggest that the whale population is stable or may be increasing slightly. Scientists estimated that the population size is between 290 and 386, with a median best estimate of 331. In accordance with the MMPA, this population estimate will be incorporated into the Cook Inlet beluga whale SAR, which will be reviewed by an independent panel of experts, the Alaska Scientific Review Group. After this review, the SAR will be made available as a draft for public review before being finalized.

¹⁰ The best available abundance estimate is likely an underestimate for the entire stock because it is based upon a survey that covered only a small portion of the stock's range.

¹¹ Nest is best estimate of counts, which have not been corrected for animals at sea during abundance surveys.

As indicated above, all 12 species (with 15 number managed stocks) in table 3 temporally and spatially co-occur with the activity to the degree that take could occur. In addition, the northern sea otter may be found in Cook Inlet, Alaska. However, northern sea otters are managed by the U.S. Fish and Wildlife Service and are not considered further in this document.

A detailed description of the species likely to be affected by Furie's activities, including a brief introduction to the affected stock as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice of the proposed IHA (89 FR 51102; June 14, 2024). Since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here.

Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (<https://www.fisheries.noaa.gov/find-species>) for generalized species accounts.

Marine Mammal Hearing

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

(behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, etc.). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (i.e., low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 dB threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in table 2.

TABLE 2—MARINE MAMMAL HEARING GROUPS (NMFS, 2018)

Hearing group	Generalized hearing range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz.
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz.
High-frequency (HF) cetaceans (true porpoises, <i>Kogia</i> , river dolphins, Cephalorhynchid, <i>Lagenorhynchus cruciger</i> & <i>L. australis</i>).	275 Hz to 160 kHz.
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz.
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz.

* Represents the generalized hearing range for the entire group as a composite (i.e., all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al.* 2007) and PW pinniped (approximation).

The pinniped functional hearing group was modified from Southall *et al.* (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al.* 2006; Kastelein *et al.* 2009; Reichmuth *et al.* 2013). This division between phocid and otariid pinnipeds is now reflected in the updated hearing groups proposed in Southall *et al.* (2019).

For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

The effects of underwater noise from Furie's activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the project area. The notice of proposed IHA (89 FR 51102; June 14, 2024) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from rig tugging and pile driving on marine mammals and their habitat. That information and analysis is referenced in this final IHA determination and is not repeated here; please refer to the notice of proposed IHA (89 FR 51102; June 14, 2024).

Estimated Take of Marine Mammals

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

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized take will primarily be by Level B harassment, as use of the acoustic sources (*i.e.*, pile driving and tug towing and positioning) may result in disruption of behavioral patterns of individual marine mammals. We note here that given the slow, predictable, and generally straight path of tug towing

and positioning, the likelihood of a resulting disruption of marine mammal behavioral patterns that would qualify as harassment is considered relatively low; however, at the request of the applicant, we have quantified the potential take from this activity, analyzed the impacts, and authorized take. There is also some potential for auditory injury (Level A harassment) to result to phocids because of species occurrence and because predicted auditory injury zones are larger than for mid-frequency and otariid species. Auditory injury is unlikely to occur for low-frequency, mid-frequency, high-frequency, or otariid species. 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 take numbers are estimated.

To determine whether Level B harassment is expected to result from acoustic exposure, NMFS considers both the received levels a marine mammal is expected to be exposed to as compared to the relevant NMFS Level B harassment thresholds, as well as contextual factors that can impact whether a marine mammal's behavioral patterns are likely to be disrupted (*e.g.*, bearing and distance, predictability of source movement, whether habituation in a noisier/busy area is likely); specifically, whether any contextual factors would be expected to reduce the likelihood of behavioral disturbance even when a marine mammal is exposed above the Level B harassment threshold. Where the take of marine mammals is considered likely or is requested by the applicant, generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.*, previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the take estimates.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.*, frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.*, bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.*, Southall *et al.* 2007, 2021, Ellison *et al.* 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to support the estimation of the onset of Level B harassment and to quantify likely Level B harassment. Acknowledging the consideration of contextual factors noted above, NMFS generally predicts that marine mammals are likely to be affected 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 μ Pa for continuous (*e.g.*, vibratory pile driving, drilling) and above RMS SPL 160 dB re 1 μ Pa for non-explosive impulsive (*e.g.*, seismic airguns) or intermittent (*e.g.*, scientific sonar) sources. Generally speaking, Level B harassment take estimates based on these thresholds are expected to include any likely takes by temporary threshold shift (TTS) as, in most cases, the likelihood of TTS occurs at distances from the source smaller than those at which onset of Level B harassment is likely. TTS of a sufficient degree can manifest as Level B harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect important signals (conspecific communication, predators, prey) may result in disruptions in behavior patterns that would not otherwise occur.

Furie's planned activity includes the use of continuous (tugs towing rig) and impulsive (impact pile driving) sources, and therefore the RMS SPL thresholds

of 120 and 160 dB re 1 µPa are applicable.

Level A harassment—NMFS’ Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to 5 different marine mammal groups (based on

hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). Furie’s planned activity includes the use of impulsive (impact pile driving) and non-impulsive (tugs towing and positioning rig) sources.

These thresholds are provided in the table below. The references, analysis, and methodology used in the

development of the thresholds are described in NMFS’ 2018 Technical Guidance, which may be accessed at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance>.

TABLE 3—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset acoustic thresholds* (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	Cell 1: $L_{pk,flat}$: 219 dB; $L_E,LF,24h$: 183 dB	Cell 2: $L_E,LF,24h$: 199 dB.
Mid-Frequency (MF) Cetaceans	Cell 3: $L_{pk,flat}$: 230 dB; $L_E,MF,24h$: 185 dB	Cell 4: $L_E,MF,24h$: 198 dB.
High-Frequency (HF) Cetaceans	Cell 5: $L_{pk,flat}$: 202 dB; $L_E,HF,24h$: 155 dB	Cell 6: $L_E,HF,24h$: 173 dB.
Phocid Pinnipeds (PW) (Underwater)	Cell 7: $L_{pk,flat}$: 218 dB; $L_E,PW,24h$: 185 dB	Cell 8: $L_E,PW,24h$: 201 dB.
Otariid Pinnipeds (OW) (Underwater)	Cell 9: $L_{pk,flat}$: 232 dB; $L_E,OW,24h$: 203 dB	Cell 10: $L_E,OW,24h$: 219 dB.

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

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

Ensonified Area

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

The sound field in the project area is the existing background noise plus additional noise from the planned project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.*, pile driving and tug towing and positioning). The calculated distance to the farthest Level B harassment isopleth is approximately 4,483 m (2.8 miles (mi)).

The project includes impact installation of up to two conductor pipe piles (ranging in potential size from 20-in to 36-in) in each year. The monopod leg of the JRP will encase the well slot, which will encase the conductor pipes;

therefore, some attenuation is expected during conductor pipe installation. However, water-filled isolation casings (such as the well slot and caisson at the JRP) are expected to provide limited sound attenuation (Caltrans 2015). Due to the well slot’s reflective surfaces and the monopod leg’s caisson inside the JRP, some attenuation of the impact noise is expected before reaching the open water. However, lacking project-specific empirical data for a 20-in to 36-in conductor installed within a well slot located within a monopod leg, the unaltered sound source levels (SSLs) from U.S. Navy (2015) are used to calculate Level A harassment and Level B harassment isopleths.

For tug activities, as described in 87 FR 27597 (May 9, 2022), Hilcorp conducted a literature review of available source level data for tugs under load in varying power output scenarios. Table 4 below provides

values of measured source levels for tugs varying from 2,000 to 8,200 horsepower. For the purposes of this table, berthing activities could include tugs either pushing or pulling a load. The SSLs appear correlated to speed and power output, with full power output and higher speeds generating more propeller cavitation and greater SSLs than lower power output and lower speeds. Additional tug source levels are available from the literature but they are not specific to tugs under load but rather measured values for tugs during activities such as transiting, docking, and anchor pulling. For a summary of these additional tug values, see table 7 in Hilcorp’s 2022 IHA application, available at <https://www.fisheries.noaa.gov/action/incidental-take-authorization-hilcorp-alaska-llc-oil-and-gas-activities-cook-inlet-alaska-0>.

TABLE 4—LITERATURE VALUES OF MEASURED TUG SOURCE LEVELS

Vessel	Vessel length (m)	Speed (knots)	Activity	Source level @1 m (re: 1 µPa)	Horsepower	Reference
Eagle	32	9.6	Towing barge	173	6,770	Bassett <i>et al.</i> 2012.
Valor	30	8.4	Towing barge	168	2,400	
Lela Joy	24	4.9	Towing barge	172	2,000	
Pacific Eagle	28	8.2	Towing barge	165	2,000	
Shannon	30	9.3	Towing barge	171	2,000	
James T Quigg	30	7.9	Towing barge	167	2,000	

TABLE 4—LITERATURE VALUES OF MEASURED TUG SOURCE LEVELS—Continued

Vessel	Vessel length (m)	Speed (knots)	Activity	Source level @ 1 m (re: 1 μPa)	Horsepower	Reference
Island Scout	30	5.8	Towing barge	174	4,800	Austin <i>et al.</i> 2013. Roberts Bank Terminal 2 Technical Report 2014.
Chief	34	11.4	Towing barge	174	8,200	
Lauren Foss	45	N/A	Berthing barge	167	8,200	
Seaspan Resolution	30	N/A	Berthing at half power	180	6,000	
Seaspan Resolution	30	N/A	Berthing at full power	200	6,000	

The Roberts Bank Terminal 2 Technical Report (2014), although not in Cook Inlet, includes repeated measurements of the same tug operating under different speeds and loads. This allows for a comparison of source levels from the same vessel at half power versus full power, which is an important distinction for Furie’s activities, as a small fraction of the total time spent by tugs under load will be at greater than 50 percent power. The Seaspan Resolution’s half-power berthing scenario has a sound source level of 180 dB re 1 μPa at 1 m. In addition, the Roberts Bank Report (2014) analyzed 650 tug transits under varying load and speed conditions and reported mean tug source levels of 179.3 dB re 1 μPa at 1 m; the 25th percentile

was 179.0 dB re 1 μPa at 1 m, and 5th percentile source levels were 184.9 dB re 1 μPa at 1 m.

Based solely on the literature review, a source level of 180 dB for a single tug under load would be appropriate. However, Furie’s use of a three tug configuration would increase the literature source level to approximately 185 dB at 1 m (Lawrence *et al.* 2022, as cited in Weston and SLR 2022).

As described in the *Detailed Description of the Specific Activity* section of the notice of proposed IHA (89 FR 51102, June 14, 2024), based on in situ measurements of Hilcorp’s tug and a review of the available literature of tugs under load described above, NMFS finds that a source level of 185 dB re 1 μPa is appropriate for Furie’s 3 tug configuration for towing the rig.

As described above in the *Detailed Description of the Specific Activity* section, Furie may need to use four tugs to position the rig at the JRP. The SPL_{RMS} of 185 dB for three tugs at 50 percent power implies each tug individually has a source level of 180.2 dB SPL_{rms} because the addition of 3 equal-intensity sound signals adds 4.8 dB to the sound level of a single source (Engineering Toolbox 2023). Each doubling of sound intensity adds 3 dB to the baseline (Engineering Toolbox 2023), and 4 tugs represents two doublings of a single source. Therefore, adding 6 dB to the 180.2 dB baseline results in an expected SSL of 186.2 dB rms SPL for the use of 4 tugs. Source levels for each activity are presented in table 5.

TABLE 5—SSLs FOR PROJECT ACTIVITIES

Sound source	SSL	
	SEL	SPL _{RMS}
3 tugs at 50 percent power	185 dB at 1 m.
4 tugs at 50 percent power	186.2 dB at 1 m.
Conductor pipe pile (20-in to 36-in, impact)	184 dB at 10 m	193 dB at 10 m.

Several factors will determine the duration that the tugboats are towing the Enterprise 151, including the origin and destination of the towing route (e.g., Rig Tenders Dock, the JRP, one of Hilcorp’s platforms) and the tidal conditions. The power output will be variable and influenced by the prevailing wind direction and velocity, the current velocity, and the tidal stage. To the extent feasible, transport will be timed with the tide to minimize towing duration and power output.

TL is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater TL is:

$$TL = B * \text{Log}_{10} (R1/R2),$$

where

TL = transmission loss in dB

B = transmission loss coefficient

R1 = the distance of the modeled SPL from the driven pile, and

R2 = the distance from the driven pile of the initial measurement

Absent site-specific acoustical monitoring with differing measured TL, a practical spreading value of 15 is used as the TL coefficient in the above formula. Site-specific TL data for pile driving with relevant parallel characteristics are not available; therefore, the default coefficient of 15 is used to determine the distances to the Level A harassment and Level B harassment thresholds for conductor pile driving.

For its tugging activities, Hilcorp contracted SLR Consulting to model the extent of the 120-dB isopleth as well as

the extent of the Level A harassment isopleth for their planned tugging using three tugs. Rather than applying practical spreading loss, SLR Consulting created a more detailed propagation loss model in an effort to improve the accuracy of the results by considering the influence of environmental variables (e.g., bathymetry) at Hilcorp’s specific well sites. Modeling was conducted using dBSea software. The fluid parabolic equation modeling algorithm was used with 5 Padé terms (see page 57 in Hilcorp’s application, available at <https://www.fisheries.noaa.gov/action/incidental-take-authorization-hilcorp-alaska-llc-oil-and-gas-activities-cook-inlet-alaska-0>, for more detail) to calculate the TL between the source and the receiver at low frequencies (1/3-octave bands, 31.5 Hertz (Hz) up to 1 kilohertz (kHz)). For higher frequencies (1 kHz up to 8 kHz) the ray tracing

model was used with 1,000 reflections for each ray. Sound sources were assumed to be omnidirectional and modeled as points. The received sound levels for the project were calculated as follows: (1) One-third octave source spectral levels were obtained via reference spectral curves with subsequent corrections based on their corresponding overall source levels; (2) TL was modeled at one-third octave band central frequencies along 100 radial paths at regular increments around each source location, out to the maximum range of the bathymetry data set or until constrained by land; (3) The bathymetry variation of the vertical plane along each modeling path was obtained via interpolation of the bathymetry dataset which has 83 m grid resolution; (4) The one-third octave source levels and TL were combined to obtain the received levels as a function of range, depth, and frequency; and (5) The overall received levels were calculated at a 1 m depth resolution along each propagation path by summing all frequency band spectral levels.

Bathymetry data used in the model was collected from the NOAA National Centers for Environmental Information (AFSC 2019). Using NOAA’s temperature and salinity data, sound speed profiles were computed for depths from 0 to 100 m for May, July, and October to capture the range of possible sound speed depending on the time of year Hilcorp’s work could be conducted. These sound speed profiles were compiled using the Mackenzie Equation (1981) and are presented in table 8 of Hilcorp’s application (available at <https://www.fisheries.noaa.gov/action/incidental-take-authorization-hilcorp-alaska-llc-oil-and-gas-activities-cook-inlet-alaska-0>). Geoacoustic parameters were also incorporated into the model. The parameters were based on substrate type and their relation to depth. These parameters are presented in table 9 of Hilcorp’s application (available at

<https://www.fisheries.noaa.gov/action/incidental-take-authorization-hilcorp-alaska-llc-oil-and-gas-activities-cook-inlet-alaska-0>).

Detailed broadband sound TL modeling in dBSea used the source level of 185 dB re 1 μPa at 1 m calculated in one-third octave band levels (31.5 Hz to 64,000 Hz) for frequency dependent solutions. The frequencies associated with tug sound sources occur within the hearing range of marine mammals in Cook Inlet. Received levels for each hearing marine mammal group based on one-third octave auditory weighting functions were also calculated and integrated into the modeling scenarios of dBSea. For modeling the distances to relevant PTS thresholds, a weighting factor adjustment was not used; instead, the data on the spectrum associated with their source was used and incorporated the full auditory weighting function for each marine mammal hearing group.

Furie plans to use the tugs towing the rig for two functions, rig positioning and towing. The activity was divided into two parts (stationary and mobile) and two approaches were taken for modeling the relevant isopleths.

SLR’s model, described above, calculated the 120-dB isopleth propagating from three tugs towing a jack-up rig at 25 locations between Hilcorp platforms and well sites and the Rig Tenders Dock in Nikiski, Alaska. The average 120-dB isopleth across all locations and seasons was determined to be 3,850 m (Weston and SLR 2022). Given that Furie is conducting the same three tug activity as Hilcorp, also in middle Cook Inlet, Furie estimates, and NMFS concurs, that 3,850 m is also an appropriate estimate of its Level B harassment zone for tugging using three tugs. Similarly, Hilcorp modeled Level A harassment zones for each hearing group; Furie proposed using these Level A harassment zones for its towing and positioning activities using three tugs, and NMFS concurs. These zones are included in table 8.

As described in the Description of Proposed Activity section of the notice of the proposed IHA (89 FR 51102; June 14, 2024), when positioning the rig, Furie may use four tugs for up to 1 hour. Hilcorp did not model a 120-dB zone accounting for the use of four tugs. Furie estimated the Level B harassment zones for tugging and positioning with four tugs using a sound source level of 186.2 dB and a TL of 18.129.

NMFS estimated the Level A harassment zones from the use of four tugs using its User Spreadsheet and the Level A harassment zones modeled by Hilcorp for the use of three tugs. First, NMFS calculated the Level A harassment zones for the three tug scenario using the User Spreadsheet (sound source level of 185 dB, 5 hours of sound production, and a propagation loss coefficient of 18.129). Next, NMFS calculated the Level A harassment zones for the “combined scenario” (use of three tugs for 5 hours and four tugs for 1 hour, combined). NMFS then calculated the ratio between the three tug scenario and the combined scenario. For all hearing groups the combined scenario Level A harassment isopleths are 13.8 percent larger than the three tug scenario. Rather than using the Level A harassment isopleths for the combined scenario that were calculated using the User Spreadsheet, NMFS applied a 13.8 percent increase to the three tug Level A harassment isopleths modeled by Hilcorp, given that those isopleths are more conservative than the isopleths NMFS calculated using the User Spreadsheet. The Level A harassment isopleths that Furie will implement are included in table 8.

The 120-dB isopleth from the use of four tugs is 4,483 m, as described in Furie’s application and included in table 6, calculated using a sound source level of 186.2 dB SPL. NMFS concurs and estimates a 120-dB zone of 4,483 m for the purpose of predicting the number of potential takes by Level B harassment from tugging and positioning using four tugs (Table 8).

TABLE 6—USER SPREADSHEET INPUTS (SOURCE LEVELS PROVIDED IN TABLE 5)

Source	Number of strikes per pile	Number of piles per day	Transmission loss coefficient
Conductor pipe pile, Day 1 (70 percent installation)	6,100	0.7	15
Conductor pipe pile, Day 2 (30 percent installation)	0.3

TABLE 7—LEVEL A HARASSMENT ISOPLETHS CALCULATED USING NMFS’ USER SPREADSHEET, AND USED TO DETERMINE THE RATIO BETWEEN THE THREE TUG SCENARIO AND THREE AND FOUR TUGS COMBINED SCENARIO

Scenario	Level A harassment isopleth (m)				
	Low-frequency cetaceans	Mid-frequency cetaceans	High-frequency cetaceans	Phocid pinnipeds	Otariid pinnipeds
Three Tug Scenario Level A harassment Isopleth	17.2	9.7	178.9	9.1	0.9
Combined Scenario Level A harassment Isopleth	19.6	11.0	203.6	10.3	1.0

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 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 conductor pipe pile driving and rig positioning, the optional User Spreadsheet tool predicts the distance at

which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur PTS. For mobile sources such as tugging, the optional User Spreadsheet tool predicts the closest distance at which a stationary animal would not be expected to incur PTS if the sound source traveled by the stationary animal in a straight line at a constant speed. Inputs used in the optional User Spreadsheet tool, and the resulting estimated isopleths, are reported below.

TABLE 8—LEVEL A HARASSMENT AND LEVEL B HARASSMENT ISOPLETHS FROM TUGGING AND IMPACT PILE DRIVING

Sound source	Level A harassment isopleths (m)					Level B harassment isopleths (m)
	LF	MF	HF	PW	OW	
Conductor pipe pile, 70 percent installation	3,064	109	3,650	1,640	119	1,585
Conductor pipe pile, 30 percent installation	1,742	62	2,075	932	68
Tugging/Positioning, 3 Tugs ¹	95	78	679	69	0	3,850
Tugging/Positioning, 4 Tugs ²	108	89	773	79	1	4,483

¹ These zones are results from Hilcorp’s modeling.

² For otariids, Hilcorp’s model estimated a Level A harassment zone of 0 during tugging/positioning with three tugs. Therefore, for four tugs, NMFS applied the Level A harassment zone calculating with the User Spreadsheet.

Marine Mammal Occurrence

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

Densities for marine mammals in Cook Inlet were derived from NMFS’ Marine Mammal Laboratory (MML) aerial surveys, typically flown in June, from 2000 to 2018 (Rugh *et al.* 2005;

Shelden *et al.* 2013, 2015, 2017, 2019). While the surveys are concentrated for a few days in June annually, which may skew densities for seasonally present species, they are still the best available long-term dataset of marine mammal sightings available in Cook Inlet. (Note that while more recent surveys have been conducted and published (Shelden *et al.* 2022; Goetz *et al.* 2023), the surveyed area was not included in either report, therefore they were not

used to calculate density). Density was calculated by summing the total number of animals observed and dividing the number sighted by the area surveyed. The total number of animals observed accounts for both lower and upper Cook Inlet. There are no density estimates available for California sea lions and Pacific white-sided dolphins in Cook Inlet, as they are so infrequently sighted. Densities are presented in table 9.

TABLE 9—MARINE MAMMAL DENSITIES

Species	Density (individuals/km ²)
Humpback whale	0.00177
Minke whale	0.000009
Gray whale	0.000075
Fin whale	0.000311
Killer whale	0.000601
Beluga (Trading Bay)	0.004453–0.015053
Beluga (North Cook Inlet)	0.001664
Dall’s porpoise	0.000154
Harbor porpoise	0.004386
Pacific white-sided dolphin	0

TABLE 9—MARINE MAMMAL DENSITIES—Continued

Species	Density (individuals/km ²)
Harbor seal	0.241401
Steller sea lion	0.007609
California sea lion	0

For the beluga whale density, Furie, and subsequently NMFS, used the Goetz *et al.* (2012) habitat-based model. This model is derived from sightings and incorporates depth soundings, coastal substrate type, environmental sensitivity index, anthropogenic disturbance, and anadromous fish streams to predict densities throughout Cook Inlet. The output of this model is a beluga density map of Cook Inlet, which predicts spatially explicit density estimates for Cook Inlet belugas. Using the resulting grid densities, average densities were calculated for two regions applicable to Furie’s operations. The densities applicable to the area of activity (*i.e.*, the North Cook Inlet Unit density for middle Cook Inlet activities and the Trading Bay density for activities in Trading Bay) are provided in table 9 and were carried forward to the take estimates. Likewise, when a range is given, the higher end of the range was conservatively used to calculate take estimates (*i.e.*, Trading Bay in the Goetz model has a range of 0.004453 to 0.015053; 0.015053 was used for the take estimates).

Take Estimation

Here we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and is authorized in each IHA.

Year 1 IHA

As described above, Furie plans to conduct rig towing and positioning and may install up to two conductor piles using an impact hammer in year 1. To quantify potential take by Level B harassment from tugging, acknowledging that there are contextual factors that make take less likely to

result from this activity, for each species, Furie summed the estimated take for towing the rig at the beginning of the season, positioning the rig, and towing the rig at the end of the season. To estimate take for towing the rig (beginning and end of season), Furie multiplied the area of the Level B harassment zone (316.1 square kilometers (km²); inclusive of the full potential tug path of 35 km) by the species density (table 9). To estimate take for positioning the rig, Furie multiplied the maximum area of the Level B harassment zone (63.1 km², 4 tugs) by the species density (table 9), by the number of potential positioning attempts (2 attempts). NMFS concurs that this method for estimating take from tugging activities is appropriate.

To estimate take by Level B harassment from installation of conductor piles, Furie multiplied the Level B harassment zone (7.98 km²) by the species density (table 9) by the estimated number of days that conductor pile installation would occur (4 days, 2 per pile). The Level B harassment zone used in the calculation conservatively assumes 70 percent installation of a conductor pile on a given day, and therefore, on 2 of the 4 days that conductor piles would be installed, the Level B harassment zone would likely be smaller. NMFS concurs that this method for estimating take from pile driving activities is appropriate.

NMFS summed the estimated take by Level B harassment from tugging and pile driving activities for each species. For species where the total calculated take by Level B harassment is less than the estimated group size for that species, NMFS rounded up the authorized take

by Level B harassment to the anticipated group size. Authorized take during year 1 activities is included in table 10.

Based on the analysis described above, NMFS does not authorize take by Level A harassment related to Furie’s tugging activity. For mobile tugging activity, the distances to the PTS thresholds for high frequency cetaceans (the only hearing group for which modeling results in a Level A harassment zone greater than 0 m) are smaller than the overall size of the tug and rig configuration, making it unlikely a cetacean would remain close enough to the tug engines for a long enough duration to incur PTS. For stationary positioning of the rig, the PTS isopleths are up to 679 m for high frequency cetaceans, but calculated with the assumption that an animal would remain within several hundred meters of the rig for the full 5 hours of noise-producing activity which is unlikely. Therefore, take by Level A harassment due to stationary or mobile tugging is neither anticipated nor authorized.

For conductor pile installation, NMFS anticipates take by Level A harassment for harbor seal only. For all other species, calculated take by Level A harassment takes is less than one. Considering that along with the low likelihood that an individual of these species would enter and remain within the Level A harassment zone for long enough to incur PTS, particularly in consideration of implementation of required shutdown zones, Furie did not request, nor did NMFS authorize, take by Level A harassment. For harbor seal, NMFS authorized 3 takes by Level A harassment, conservatively rounded up from 2.7 Level A harassment takes calculated.

TABLE 10—AUTHORIZED TAKE BY LEVEL B HARASSMENT, BY SPECIES, ACTIVITY, AND IN TOTAL, YEAR 1

Species	Rig tow, 3 tugs		Rig positioning, 4 tugs		Conductor pile installation		Total year 1 estimated take by Level B harassment	Authorized take by Level B harassment
	Ensonified area (km ²) ¹	Calculated take by Level B harassment ²	Ensonified area (km ²)	Calculated take by Level B harassment ³	Ensonified area (km ²)	Calculated take by Level B harassment ⁴		
Humpback whale	316.1	1.2	63.1	0.2	7.89	0.06	1.5	3
Minke whale		0.006		0.001		0.0003	0.007	3
Gray whale		0.04		0.009		0.002	0.05	3
Fin whale		0.2		0.04		0.01	0.3	2
Killer whale		0.4		0.08		0.02	0.5	10
Beluga (Trading Bay)		0.5		0.2		0.05	0.8	11
Beluga (NCI)		4.8		NA		NA	4.8	

TABLE 10—AUTHORIZED TAKE BY LEVEL B HARASSMENT, BY SPECIES, ACTIVITY, AND IN TOTAL, YEAR 1—Continued

Species	Rig tow, 3 tugs		Rig positioning, 4 tugs		Conductor pile installation		Total year 1 estimated take by Level B harassment	Authorized take by Level B harassment
	Ensonified area (km ²) ¹	Calculated take by Level B harassment ²	Ensonified area (km ²)	Calculated take by Level B harassment ³	Ensonified area (km ²)	Calculated take by Level B harassment ⁴		
Dall's porpoise		0.1		0.01		0.005	0.1	6
Harbor porpoise		2.8		0.3		0.1	3.2	12
Pacific white-sided dolphin		0.000		0.000		0.000	0.000	3
Harbor seal		152.6		15.2		7.6	175.4	176
Steller sea lion		4.8		0.5		0.2	5.5	6
California sea lion		0.000		0.000		0.000	0.000	2

¹ This zone assumes a 35 km towing distance (the farthest potential distance that Furie may need to tow the rig).

² Level B harassment zone area × density × 2 (towing at beginning and end of season), with the exception of Cook Inlet beluga whale. For Cook Inlet beluga whale, Furie used the Trading Bay density for the initial rig tow since the density is predicted to be higher there than in the North Cook Inlet Lease Unit (located offshore in middle Cook Inlet), and Furie may tug the rig through that area. Furie used the NCI density to estimate take for the end of season tow. NMFS concurs and has used these two separate densities in its analysis.

³ Level B harassment zone (63.1 km²) × species density (table 9) × number of potential positioning attempts (2).

⁴ Level B harassment zone (7.89 km²) × species density (table 9) × estimated number of days that conductor pile installation will occur (4).

Explanations for species for which the authorized take is greater than calculated take are included below.

Several recent surveys and monitoring programs have documented groups of humpback whales ranging up to 14 whales in size. During the annual survey, Sheldon *et al.* (2022) recorded a group of three humpback whales west of Kachemak Bay in June of 2022. Past annual aerial surveys have documented groups up to 12 in number (Sheldon *et al.* 2013, 2015, 2016, 2019). During Hilcorp's lower Cook Inlet seismic survey, group size ranged from 1 to 14 (Fairweather Science 2020). During monitoring of the Harvest Alaska Cross Inlet Pipeline (CIPL) project (the closest to Furie's Action Area), two sightings of three humpbacks were reported. During construction of the JRP in 2015, a group of 6 to 10 unidentified whales, thought to be either gray whales or humpbacks, was observed approximately 15 km northeast of the platform (Jacobs 2015). There were two sightings of three humpback whales observed near Ladd Landing north of the Forelands during the Harvest Alaska CIPL project (Sitkiewicz *et al.* 2018). Furie requested, and NMFS authorized, three takes of humpback whale by Level B harassment in year 1. This estimate accounts for the potential of take of a group of two animals and a solitary animal.

Groups of up to three minke whales have been recorded in recent years, including one group of three southeast of Kalgin Island (Lomac-MacNair *et al.* 2014). Other recent surveys in Cook Inlet typically have documented minke whales traveling alone (Sheldon *et al.* 2013, 2015, 2017; Kendall *et al.* 2015, as cited in Weston and SLR 2022; Fairweather Science 2020). As the occurrence of minke whales is expected to be less in middle Cook Inlet than lower Cook Inlet and considering the observed group sizes, Furie requested, and NMFS

authorized, 3 takes of minke whale by Level B harassment in year 1 to account for the potential of take of a group of 3 minke whales.

During Apache's 2012 seismic program, nine gray whales were observed in June and July (Lomac-MacNair *et al.* 2013). During Apache's seismic program in 2014, one gray whale was observed (Lomac-MacNair *et al.* 2014). During construction of the JRP in 2015, 1 gray whale was documented approximately 5 km from the platform, and a group of 6 to 10 unidentified whales, thought to be either gray whales or humpbacks, was observed approximately 15 km northeast of the platform (Jacobs 2015). During SAExploration's seismic survey in 2015, the 2018 CIPL project, and Hilcorp's 2019 seismic survey, no gray whales were observed (Kendall *et al.* 2015; Sitkiewicz *et al.* 2018; Fairweather Science, 2020). None were observed during the 2018 CIPL project in middle Cook Inlet (Sitkiewicz *et al.* 2018). In 2020 and 2021, one gray whale was reported in each season at the POA (61N 2021, 2022a). The documented occasional presence of gray whales near and north of the project area suggests that gray whale density may be seasonally higher than the relatively low density suggested by the aerial surveys. Considering the project area is in middle Cook Inlet where sightings of gray whales are less common, Furie requested, and NMFS authorized, take of 3 gray whales in year 1.

During seismic surveys conducted in 2019 by Hilcorp in the lower Cook Inlet, fin whales were recorded in groups ranging in size from 1 to 15 individuals (Fairweather, 2020). During the NMFS aerial surveys in Cook Inlet from 2000 to 2018, 10 sightings of 26 estimated individual fin whales in lower Cook Inlet were observed (Sheldon *et al.* 2013, 2015, 2016, 2019). Furie

requested, and NMFS authorized, take of 1 group of 2 fin whales (the lower end of the range of common group sizes) in year 1.

Killer whales are typically sighted in pods of a few animals to 20 or more (NOAA, 2022a). During seismic surveys conducted in 2019 by Hilcorp in the lower Cook Inlet, 21 killer whales were observed, either as single individuals or in groups ranging in size from 2 to 5 individuals (Fairweather, 2020). Furie requested 10 takes by Level B harassment in year 1 to account for 2 groups of 5 animals. NMFS concurs and authorized 10 takes by Level B harassment of killer whale.

The 2018 MML aerial survey (Sheldon and Wade 2019) estimated a median group size of approximately 11 beluga whales, although group sizes were highly variable (2 to 147 whales) as was the case in previous survey years (Boyd *et al.* 2019). Over 3 seasons of monitoring at the POA, 61N reported groups of up to 53 belugas, with a median group size of 3 and a mean group size of 4.4 (61N 2021, 2022a, 2022b, and 2022c). Additionally, vessel-based surveys in 2019 observed beluga whale groups in the Susitna River Delta (roughly 24 km (15 miles) north of the Tyonek Platform) that ranged from 5 to 200 animals (McGuire *et al.* 2022). The very large groups seen in the Susitna River Delta are not expected in Trading Bay or offshore areas near the JRP or the towing route for the Enterprise 151. However, smaller groups (*i.e.*, around the median group size) could be traveling through to access the Susitna River Delta and other nearby coastal locations, particularly in the shoulder seasons when belugas are more likely to occur in middle Cook Inlet. Few if any takes of beluga whale are anticipated during impact installation of the conductor piles. Therefore, Furie requested, and NMFS authorized, 11

takes by Level B harassment of beluga whale in year 1.

Dall's porpoises typically occur in groups averaging between 2 and 12 individuals (NOAA, 2024b). During seismic surveys conducted in 2019 by Hilcorp in the lower Cook Inlet, Dall's porpoises were observed in groups ranging in size from two to seven individuals (Fairweather, 2020). The 2012 Apache survey recorded two groups of three individual Dall's porpoises (Lomac-MacNair, 2014). Because occurrence of Dall's porpoise is anticipated to be less in middle Cook Inlet than lower Cook Inlet, the smaller end of documented group sizes (three individuals) is used. NMFS authorized six takes (two groups of three animals) by Level B harassment of Dall's porpoise in year 1.

Shelden *et al.* (2014) compiled historical sightings of harbor porpoises from lower to upper Cook Inlet that spanned from a few animals to 92 individuals. The 2018 CIPL project that occurred just north of the Action Area in Cook Inlet reported 29 sightings of 44

individuals (Sitkiewicz *et al.* 2018). While the duration of days that the tugs are towing a jack-up rig will be less than the CIPL project, given the increase in sightings of harbor porpoise in recent years, the sighting of harbor porpoise during Hilcorp's rig move in June 2022, and the inability to shut down the tugs, Furie requested, and NMFS authorized, 12 takes by Level B harassment of harbor porpoise. This accounts for two potential groups of six animals.

Calculated take of Pacific white-sided dolphin was zero because the estimated density is zero. However, in 2014, during Apache's seismic survey program, three Pacific white-sided dolphins were reported (Lomac-MacNair *et al.* 2014). They are considered rare in most of Cook Inlet, including in the lower entrance, but their presence was documented in Iniskin Bay and mid-inlet through passive acoustic recorders in 2019 (Castellote *et al.* 2020). Furie conservatively requested three takes based on the potential that a group similar in size to that encountered in

2014 could occur within the Level B harassment zone during project activities. NMFS concurs and has authorized three takes of Pacific white-sided dolphin by Level B harassment.

Calculated take of California sea lions was zero because the assumed density in Cook Inlet is zero. Any potential sightings would likely be of lone, out of habitat individuals. Two solitary individuals were seen during the 2012 Apache seismic survey in Cook Inlet (Lomac-MacNair *et al.* 2013). Furie requested two takes based on the potential that two lone animals could be sighted over a year of work, as was seen during Apache's year of work. NMFS concurs and has authorized two takes of California sea lion by Level B harassment.

Year 2 IHA

Given that Furie intends to conduct the same activities in year 2 as in year 1, authorized take by Level A harassment and Level B harassment for year 2 is the same as that authorized for year 1 (table 10).

TABLE 11—AUTHORIZED TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Abundance (Nbest)	Year 1		Year 2	
			Total take (Level A and Level B harassment)	Take as a percentage of stock abundance	Total take (Level A and Level B harassment)	Take as a percentage of stock abundance
Humpback whale	Hawaii (Hawaii DPS)	11,278	3	<1	3	<1
	Mexico—North Pacific (Mexico DPS)	¹ N/A		N/A		N/A
	Western North Pacific	1,084		<1		<1
Minke whale	Alaska	² N/A	3	N/A	3	N/A
	Eastern Pacific	26,960	3	<1	3	<1
Gray whale	Northeast Pacific	³ UND	2	N/A	2	N/A
Fin whale	Eastern North Pacific Alaska Resident	1,920	10	<1	10	<1
	Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient	587		<1		<1
Beluga	Cook Inlet	4,279	11	3.9	11	3.9
	Alaska	⁵ UND	6	N/A	6	N/A
Dall's porpoise	Gulf of Alaska	31,046	12	<1	12	<1
	North Pacific	26,880	3	<1	3	<1
Harbor porpoise	Cook Inlet/Shelikof	28,411	179	<1	179	<1
	Western U.S	⁶ 49,932	6	<1	6	<1
Pacific white-sided dolphin	U.S	257,606	2	<1	2	<1

¹ Abundance estimates are based upon data collected more than 8 years ago and, therefore, current estimates are considered unknown.

² Reliable population estimates are not available for this stock. Please see Friday *et al.* (2013) and Zerbini *et al.* (2006) for additional information on numbers of minke whales in Alaska.

³ The best available abundance estimate for this stock is not considered representative of the entire stock as surveys were limited to a small portion of the stock's range.

⁴ On June 15, 2023, NMFS released an updated abundance estimate for endangered Cook Inlet beluga whales in Alaska (Goetz *et al.* 2023). Data collected during NOAA Fisheries' 2022 aerial survey suggest that the whale population is stable or may be increasing slightly. Scientists estimated that the population size is between 290 and 386, with a median best estimate of 331. In accordance with the MMPA, this population estimate will be incorporated into the Cook Inlet beluga whale SAR, which will be reviewed by an independent panel of experts, the Alaska Scientific Review Group. After this review, the SAR will be made available as a draft for public review before being finalized. When the number of instances of takes is compared to this median abundance, the percent of the stock for which take is authorized is 3.3 percent.

⁵ The best available abundance estimate is likely an underestimate for the entire stock because it is based upon a survey that covered only a small portion of the stock's range.

⁶ Nest is best estimate of counts, which have not been corrected for animals at sea during abundance surveys.

Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least

practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses.

NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means

of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

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

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

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

In addition to the measures described in detail below, Furie will conduct briefings between conductor pipe installation supervisors, vessel captains and crew, and the marine mammal monitoring team before the start of all in-water work and when new personnel join the work to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

Mitigation for Rig Tugging/Positioning

NMFS anticipates that there is a discountable potential for marine mammals to incur PTS from the tugging and positioning, as source levels are relatively low, non-impulsive, and animals would have to remain at very close distances for multiple hours to accumulate acoustic energy at levels that could damage hearing. Therefore, we do not believe there is reasonable potential for Level A harassment from rig tugging or positioning. However, Furie will implement a number of mitigation measures designed to reduce the potential for and severity of Level B harassment, and minimize the acoustic footprint of the project.

Protected Species Observers

Furie will station PSOs at the highest possible vantage point on either the rig or on one of the tugs.

Pre-Clearance and Post-Activity Monitoring

The tugs towing a rig are not able to shut down while transiting or positioning the rig. Furie will maneuver the tugs towing the rig such that they maintain a consistent speed (approximately 4 knots or less [7 km/hr]) and avoid multiple changes of speed and direction to make the course of the vessels as predictable as possible to marine mammals in the surrounding environment, characteristics that are expected to be associated with a lower likelihood of disturbance.

During tugging activities, Furie will implement a clearance zone of 1,500 m around the rig for all marine mammals other than Cook Inlet beluga whales. This clearance zone was determined to be appropriate as it is approximately twice as large as largest Level A harassment zone (table 10) and is a reasonable distance within which cryptic species (e.g., porpoises, pinnipeds) could be observed. For Cook Inlet beluga whales, Furie will implement a clearance zone that extends as far as PSOs can feasibly observe for Cook Inlet beluga whales. Prior to commencing new activities during daylight hours or if there is a 30-minute lapse in operational activities, the PSOs will monitor the clearance zone for marine mammals for 30 minutes (i.e., pre-clearance monitoring). (Note, transitioning from towing to positioning without shutting down is not considered commencing a new operational activity.) If no marine mammals are observed within the relevant clearance zone during this pre-clearance monitoring period, tugging activities may commence. If a non-beluga marine mammal(s) is observed within the relevant clearance zone during the pre-clearance monitoring period, tugging activities will be delayed, unless the delay interferes with the safety of working conditions. Operations will not commence until the PSO(s) observe that: (1) the non-beluga marine mammal(s) is outside of and on a path away from the clearance zone, or (2) for non-ESA-listed species, 15 minutes have elapsed without observing the marine mammal, or for ESA-listed species, 30 minutes have elapsed without observing the marine mammal. If a beluga whale is observed within the relevant clearance zone during those 30 minutes, operations may not commence until the beluga whale(s) is no longer detected at any range and 30 minutes have elapsed without any observations of beluga whales. PSOs must also conduct monitoring for marine mammals through 30 minutes post-

completion of any tugging activity each day, and after each stoppage of 30 minutes or greater.

During nighttime hours or low/no-light conditions, night-vision devices (NVDs) shown to be effective at detecting marine mammals in low-light conditions (e.g., Portable Visual Search-7 model, or similar) will be provided to PSOs to aid in their monitoring of marine mammals. Every effort will be made to observe that the relevant clearance zone is free of marine mammals by using night-vision devices and or the naked eye, however it may not always be possible to see and clear the entire clearance zones prior to nighttime transport. Prior to commencing new operational activities during nighttime hours, or if there is a 30-minute lapse in operational activities in low/no-light conditions, the PSOs must observe the extent visible while using night vision devices for 30 minutes (i.e., pre-clearance monitoring). If no marine mammals are observed during this pre-clearance period, tugging activities may commence. If a marine mammal(s) is observed within the pre-clearance monitoring period, tugging activities will be delayed, unless the delay interferes with the safety of working conditions. Operations will not commence until the PSO(s) observe that: (1) the animal(s) is outside of the observable area; or (2) for non-ESA-listed species, 15 minutes have elapsed without observing the marine mammal, or for ESA-listed species, 30 minutes have elapsed without observing the marine mammal. Once the PSOs have determined one of those conditions are met, operations may commence.

Should a marine mammal be observed during towing or positioning of the rig, the PSOs will monitor and carefully record any reactions observed until the towing or positioning has concluded. PSOs will also collect behavioral information on marine mammals sighted during monitoring efforts.

Nighttime Work

Furie will conduct tug towing operations with the tide, resulting in a low power output from the tugs towing the rig, unless human safety or equipment integrity is at risk. Due to the nature of tidal cycles in Cook Inlet, it is possible the most favorable tide for the towing operation will occur during nighttime hours. Furie will only operate the tug towing activities at night if necessary to accommodate a favorable tide. Prior to commencing operational activities during nighttime hours or low/no-light conditions, Furie must implement the pre-clearance measures described above.

Susitna Delta

The Tyonek platform is within the Susitna Delta Exclusion Zone identified in Hilcorp’s IHAs (87 FR 62364, October 14, 2022). If Hilcorp conducts work at the Tyonek platform, it will maintain operatorship and control of the Enterprise 151 until the tow is underway with lines taut and the Enterprise 151 is under tug power. Once the tow is underway, Furie representatives will take over operatorship of the Enterprise 151.

Out of concern for potential disturbance to Cook Inlet beluga whales in sensitive and essential habitat, Furie would maintain a distance of 2.4 km from the mean lower-low water (MLLW) line of the Susitna River Delta (Beluga River to the Little Susitna River) between April 15 and November 15. The dates of applicability of this exclusion zone have been expanded based on new available science, including visual surveys and acoustic studies, which indicate that substantial numbers of Cook Inlet beluga whales continue to occur in the Susitna Delta area through at least mid-November (M. Castellote, pers. comm., T. McGuire, pers. comm.).

Mitigation for Conductor Pile Installation

Furie must implement the following measures for impact driving of conductor piles.

Shutdown Zones

The purpose of a shutdown zone is generally to define an area within which shutdown of the activity will occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Construction supervisors and crews, PSOs, and relevant Furie staff must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 m of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction. Further, Furie must implement shutdown zones as described in table 12. Furie states that if a shutdown or delay occurs, impact installation of the conductor pipe will not commence or resume until the animal has voluntarily left and been visually confirmed to be 100 m beyond the shutdown zone and on a trajectory away from the zone, or 30 minutes have passed without subsequent detections. If Cook Inlet beluga whales are observed within or approaching the Level B harassment zone for conductor pipe

installation, impact installation of the conductor pipe will be delayed or halted until the beluga(s) have voluntarily left and been visually confirmed to be 100 m beyond the Level B harassment zone and on a trajectory away from the zone, or 30 minutes have passed without subsequent detections.

TABLE 12—SHUTDOWN ZONES FOR CONDUCTOR PIPE PILE DRIVING

Hearing group	Shutdown zone (m)
Low-frequency Cetaceans	2,000
Mid-frequency Cetaceans	110
High-frequency Cetaceans ...	400
Phocids	400
Otariids	120

Protected Species Observers

Furie will establish a monitoring location on the JRP at the highest possible vantage point to monitor to the maximum extent possible in all directions. Monitoring is described in more detail in the Monitoring and Reporting section, below.

Pre- and Post-Activity Monitoring

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. 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 12 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. If a marine mammal is observed entering or within the shutdown zones, pile driving activity must be delayed or halted. If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone for 15 minutes (for non-ESA-listed species) or 30 minutes (for ESA-listed species) have passed without re-detection of the animal. With the exception of Cook Inlet beluga whales, if a marine mammal for which take by Level B harassment is authorized is present in the Level B harassment zone but beyond the relevant shutdown zone, activities may begin and Level B harassment take will be recorded.

Monitoring for Level A and Level B Harassment

PSOs will monitor the shutdown zones and beyond to the extent that PSOs can see. Monitoring beyond the shutdown zones enables observers to be aware of and communicate the presence of marine mammals in the project areas outside the shutdown zones and thus prepare for a potential cessation of activity should the animal enter the shutdown zone.

Soft Start

Soft-start procedures are used to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, soft start requires contractors to provide an initial set of three strikes at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. A soft start 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.

Mitigation for Helicopter Activities

Helicopters must transit at an altitude of 1,500 ft (457 m) or higher, to the extent practicable, while adhering to Federal Aviation Administration flight rules (*e.g.*, avoidance of cloud ceiling, *etc.*), excluding takeoffs and landing. If flights must occur at altitudes less than 1,500 ft due to environmental conditions, aircraft must make course adjustments, as needed, to maintain at least a 1,500-foot separation from all observed marine mammals. Helicopters must not hover or circle above marine mammals. A minimum transit altitude is expected to reduce the potential for disturbance to marine mammals from transiting aircraft.

Based on our evaluation of Furie’s proposed measures, as well as other measures considered by NMFS (*i.e.*, the extended clearance zone for beluga whales), for both IHAs, NMFS has determined that the required mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for subsistence uses.

Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the

monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

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

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the activity; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

Monitoring

Furie will abide by all monitoring and reporting measures contained within the IHAs, and their Marine Mammal Monitoring and Mitigation Plan (see Appendix B of Furie's application). A summary of those measures and additional requirements from NMFS is provided below.

A minimum of two NMFS-approved PSOs will be on-watch during all activities wherein the rig is attached to the tugs for the duration of the project.

PSOs will be stationed aboard a tug or the rig during tug towing and positioning and may use a combination of equipment to perform marine mammal observations and to verify the required monitoring distance from the project site, including 7 by 50 binoculars and NMFS approved NVDs for low light and nighttime operations. A minimum of two NMFS-approved PSOs will be stationed on the JRP at the highest possible vantage point to monitor to the maximum extent possible in all directions during pile driving. PSOs will be independent of the activity contractor (for example, employed by a subcontractor) and have no other assigned tasks during monitoring periods. At least one PSO will have prior experience performing the duties of a PSO during an activity pursuant to a NMFS-issued Incidental Take Authorization 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. Where a team of three or more PSOs is required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience performing the duties of a PSO during an activity pursuant to a NMFS-issued incidental take authorization.

PSOs will also have the following additional qualifications:

- PSOs must be able to conduct field observations and collect data according to assigned protocols;
- PSOs must have experience or training in the field identification of marine mammals, including the identification of behaviors;
- PSOs must have sufficient training, orientation, or experience with the tugging operation to provide for personal safety during observations;
- PSOs must have sufficient writing skills to record required information including but not limited to the number and species of marine mammals observed; dates and times when in-water tugging activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and
- PSOs must have 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.

Reporting

Furie will submit interim monthly reports for all months in which tugs towing, holding, or positioning the rig occurs. Monthly reports will include a summary of marine mammal species and behavioral observations, delays, and tugging activities completed. They also must include an assessment of the amount of tugging remaining to be completed, in addition to the number of Cook Inlet beluga whales observed within estimated harassment zones to date.

A draft marine mammal monitoring report will be submitted to NMFS within 90 days after the completion of the tug towing rig activities for the year. It will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated marine mammal observation data sheets in an electronic format. Specifically, the report must include the following information:

- Date and time that monitored activity begins or ends;
- Activities occurring during each observation period, including (a) the type of activity, (b) the total duration of each type of activity, (c) the number of attempts required for positioning, (d) when nighttime operations were required (e) whether towing against the tide was required, (f) the number and type of piles that were driven and the method (*e.g.*, impact, vibratory, down-the-hole), and (g) total number of strikes for each pile.
- PSO locations during marine mammal monitoring;
- Environmental conditions during monitoring periods (at the beginning and end of the PSO shift and whenever conditions change significantly), including Beaufort sea state, tidal state, and any other relevant weather conditions, including cloud cover, fog, sun glare, overall visibility to the horizon, and estimated observable distance;
- Upon observation of a marine mammal, (a) name of PSO who sighted the animal(s) and PSO location and activity at time of sighting, (b) time of sighting, (c) identification of the animal(s) (*e.g.*, genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species, (d) distance and location of each observed marine mammal relative to the tugs or pile being driven for each sighting, (e) estimated number of animals (min/max/best estimate), (f) estimated number of animals by cohort (adults, juveniles, neonates, group composition, *etc.*), (g)

animal's closest point of approach and estimated time spent within the harassment zone, (h) description of any marine mammal behavioral observations (e.g., observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (e.g., no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);

- Number of marine mammals detected within the harassment zones, by species; and
- Detailed information about implementation of any mitigation (e.g., shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.

If no comments are received from NMFS within 30 days, the draft summary report will constitute the final report. If NMFS submits comments, Furie will submit a final summary report addressing NMFS comments within 30 days after receipt of comments.

In the event that personnel involved in Furie's activities discover an injured or dead marine mammal, Furie must report the incident to the Office of Protected Resources (OPR), NMFS (PR.ITP.MonitoringReports@noaa.gov and ITP.davis@noaa.gov) and to the Alaska regional stranding network as soon as feasible. If the death or injury was clearly caused by the specified activity, Furie must immediately cease the activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the IHAs. The Holder must not resume their activities until notified by NMFS.

The report must include the following information:

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

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be

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

To avoid repetition, the majority of our analysis applies to all the species listed in table 11, except for Cook Inlet beluga whale and harbor seal, given that many of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. For Cook Inlet beluga whales and harbor seals, 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 independent detailed analysis for Cook Inlet beluga whales and harbor seals following the analysis for other species for which we authorized take.

NMFS has identified several 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 on the individuals, and the status of the species or stock. The potential effects of

the specified activity on humpback whales, minke whales, gray whales, fin whales, killer whales, Dall's porpoises, harbor porpoises, Pacific white-sided dolphins, Steller sea lions, and California sea lions are discussed below. These factors also apply to Cook Inlet beluga whales and harbor seals; however, additional analysis for Cook Inlet beluga whales and harbor seals is provided in a separate subsection below.

Furie's tugging activities associated with this project, as outlined previously, have the potential to harass marine mammals. Specifically, the specified activities may result in take, in the form of Level B harassment, from underwater sounds generated by tugs towing, holding, and positioning a rig. Potential takes could occur if marine mammals are present in zones ensounded above the thresholds for Level B harassment, identified above, while activities are underway.

Furie's planned activities and associated impacts will occur within a limited area of the affected species' or stocks' ranges over a total of 4 days each year for tugging, and 2 days for pile driving. The intensity and duration of take by Level B harassment will be minimized through use of mitigation measures described herein. Further the amount of take authorized is small when compared to stock abundance (table 11). In addition, NMFS does not anticipate that serious injury or mortality will occur as a result of Furie's planned activity given the nature of the activity, even in the absence of required mitigation.

Exposures to elevated sound levels produced during tugging and pile driving activities may cause behavioral disturbance of some individuals within the vicinity of the sound source. Behavioral responses of marine mammals to Furie's tugging activities 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 conducted by Furie (Horsley and Larson, 2023), will likely be limited to behavioral response such as increased swimming speeds, changing in directions of travel and diving and surfacing behaviors, increased respiration rates, or interrupted foraging (if such activity were occurring) (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 present any visual cues they are disturbed by activities, or they may become alert, avoid the area, leave the area, or have other mild responses that are not observable such as increased stress levels (e.g., Rolland *et al.* 2012; Lusseau, 2005; Bejder *et al.* 2006; Rako *et al.* 2013; Pirotta *et al.* 2015b; Pérez-Jorge *et al.* 2016). They may also exhibit increased vocalization rates (e.g., Dahlheim 1987; Dahlheim and Castellote 2016), louder vocalizations (e.g., Frankel and Gabriele 2017; Fournet *et al.* 2018), alterations in the spectral features of vocalizations (e.g., Castellote *et al.* 2012), or a cessation of communication signals (e.g., Tsujii *et al.* 2018). However, as described in the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section, marine mammals observed near Furie's tugging activities have shown little to no observable reactions to tugging activities (Horsley and Larson 2023).

Tugs pulling, holding, and positioning a rig are slow-moving as compared to typical recreational and commercial vessel traffic. Assuming an animal was stationary, exposure to sound above the Level B harassment threshold from the moving tug configuration (which comprises most of the tug activity being considered) will be on the order of minutes in any particular location. The slow, predictable, and generally straight path of this activity is expected to further lower the likelihood of more than low-level responses to the sound. Also, this slow transit along a predictable path is planned in an area of routine vessel traffic where many large vessels move in slow straight-line paths, and some individuals are expected to be habituated to these sorts of sounds. While it is possible that animals may swim around the project area, avoiding closer approaches to the boats, we do not expect them to abandon any intended path. Further, most animals present in the region will likely be transiting through the area; therefore, any potential exposure is expected to be brief. Based on the characteristics of the sound source and the other activities regularly encountered in the area, it is unlikely Furie's planned tugging activities will be of a duration or intensity expected to result in impacts on reproduction or survival.

Effects on individuals that are taken by Level B harassment during pile driving, on the basis of reports in the literature as well as monitoring from other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing

time, or interrupted foraging (if such activity were occurring; e.g., Thorson and Reyff 2006; HDR, Inc. 2012; Lerma 2014; ABR 2016). Most likely, individuals will simply move away from the sound source and be temporarily displaced from the areas of pile driving and removal. If sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activity is occurring, particularly as the project is expected to occur over a maximum of just 2 days of in-water pile driving during each year.

Most 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. The project area though represents a small portion of available foraging habitat and impacts on marine mammal feeding for all species should be minimal.

We anticipate that any potential reactions and behavioral changes are expected to subside quickly when the exposures cease and, therefore, we do not expect long-term adverse consequences from Furie's activities for individuals of any species other than harbor seal (for which take by Level A harassment is authorized, discussed further below). The intensity of Level B harassment events will be minimized through use of mitigation measures described herein. Furie will use PSOs to monitor for marine mammals before commencing any tugging or construction activities, which will minimize the potential for marine mammals to be present within Level B harassment zones when tugs are under load or within the shutdown zones at the commencement of construction. Further, given the absence of any major rookeries, haulouts, or areas of known biological significance for marine mammals (e.g., foraging hot spots) within the estimated harassment zones (other than critical habitat and a BIA for Cook Inlet beluga whales as described below), we conclude that any takes by Level B harassment will have an inconsequential short-term effect on individuals and will not result in population-level impacts.

Theoretically, repeated, sequential exposure to elevated noise from tugging activities 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 sounds may become habituated, desensitized, or tolerant after initial exposure to these sounds (reviewed by Richardson *et al.* 1995; Southall *et al.* 2007). Cook Inlet is a regional hub of marine transportation, and is used by various classes of vessels, including containerships, bulk cargo freighters, tankers, commercial and sport-fishing vessels, and recreational vessels. Off-shore vessels, tug vessels, and tour boats represent 86 percent of the total operating days for vessels in Cook Inlet (BOEM 2016). Given that marine mammals still frequent and use Cook Inlet despite being exposed to anthropogenic sounds such as those produced by tug boats and other vessels across many years, population level impacts resulting from the additional noise produced by Furie's tugging activities are not anticipated.

Take by Level A harassment of harbor seals is authorized to account for the potential that an animal could enter and remain within the area between a Level A harassment zone and the shutdown zone during conductor pile installation for a duration long enough to be taken by Level A harassment. Any take by Level A harassment is expected to arise from, at most, a small degree of PTS 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 PTS. Additionally, 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 PTS or TTS potentially incurred here is not expected to adversely impact individual fitness, let alone annual rates of recruitment or survival.

Furie's tugging activities are not expected to have significant adverse effects on any marine mammal habitat as no temporary or physical impacts to habitat are anticipated to result from the specified activities. During both tugging and construction, marine mammal habitat may be impacted by elevated sound levels, but these impacts will be temporary. In addition to being temporary and short in overall duration, the acoustic footprint of the activity is small relative to the overall distribution of the animals in the area and their use of the area. Additionally, the habitat within the estimated acoustic footprint

is not known to be heavily used by marine mammals.

Impacts to marine mammal prey species are expected to be minor and temporary, having, at most, short-term effects on foraging success of individual marine mammals, and likely no effect on the populations of marine mammals as a whole. Overall, as described above, the area anticipated to be impacted by Furie's tugging and construction activities is very small compared to the available surrounding habitat, and does not include habitat of particular importance. The most likely impact to prey will be temporary behavioral avoidance of the immediate area. During tugging and construction activities, it is expected that some fish will temporarily leave the area of disturbance (e.g., Nakken 1992; Olsen 1979; Ona and Godo 1990; Ona and Toresen, 1988), 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 foraging habitat of particular importance, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

Finally, Furie will minimize exposure of marine mammals to elevated noise levels by implementing mitigation measures for tugging and construction activities. For tugging, Furie will delay tugging activities if marine mammals are observed during the pre-clearance monitoring period. Furie will also implement vessel maneuvering measures to reduce the likelihood of disturbing marine mammals during any periods when marine mammals may be present near the vessels. Lastly, Furie will also reduce the impact of their activity by conducting tugging operations with favorable tides whenever feasible. For construction, Furie will also delay the start of pile driving activities if marine mammals are observed during the pre-clearance monitoring period and will implement hearing group-specific shutdown zones during the activities. Furie will also implement soft-start procedures to provide warning and/or give marine mammals a chance to leave the area prior to the hammer operating at full capacity.

In summary and as described above, the following factors (with additional analyses for Cook Inlet beluga whales included below) primarily support our determination that the impacts resulting from the activities described for both of these IHAs are not expected to adversely affect the species or stocks through

effects on annual rates of recruitment or survival:

- No serious injury or mortality is anticipated or authorized;
- Take by Level A harassment is not anticipated or authorized for any species except harbor seal;
- Exposure to sounds above harassment thresholds will likely be brief given the short duration of the specified activity and the transiting behavior of marine mammals in the action area;
- Marine mammal densities are low in the project area; therefore, there will not be substantial numbers of marine mammals exposed to the noise from the project compared to the affected population sizes;
- 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 or BIAs (other than for Cook Inlet beluga whales as described below), or other habitats critical to recruitment or survival (e.g., rookery);
- The project area represents a very small portion of the available foraging area for all potentially impacted marine mammal species;
- Take will only occur within middle Cook Inlet and Trading Bay—a limited area of any given species or stock's home range;
- Monitoring reports from previous tugging activities in Cook Inlet have documented little to no observable effect on individuals of the same species and stocks impacted by the specified activities;
- The required mitigation measures (i.e., pre-clearance monitoring, vessel maneuver) are expected to be effective in reducing the effects of the specified activity by minimizing the numbers of marine mammals exposed to sound and the intensity of the exposures; and
- The intensity of anticipated takes by Level B harassment is low for all species and stocks, consisting of, at worst, temporary modifications in behavior, and will not be of a duration or intensity expected to result in impacts on reproduction or survival of individuals.

Cook Inlet Beluga Whale

For Cook Inlet beluga whales, we further discuss our negligible impact analysis in addition to the assessment above for all species in the context of potential impacts to this endangered stock based on our evaluation of the authorized take (table 11).

All tugging activities 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. While the specified activity will occur within Cook Inlet beluga whale Critical Habitat Area 2 (and potentially Area 1, depending on the origin of the tug tow), and recognizing that Cook Inlet beluga whales have been identified as a small and resident population, monitoring data from Hilcorp's activities suggest that tugging activities do not discourage Cook Inlet beluga whales from transiting throughout Cook Inlet and between critical habitat areas and that the whales do not abandon critical habitat areas (Horsley and Larson, 2023). In addition, large numbers of Cook Inlet beluga whales have continued to use Cook Inlet and pass through the area, likely traveling to critical foraging grounds found in upper Cook Inlet, while noise-producing anthropogenic activities, including vessel use, have taken place during the past two decades (e.g., Sheldon *et al.* 2013, 2015, 2017, 2022; Sheldon and Wade 2019; Geotz *et al.* 2023). These findings are not surprising as food is a strong motivation for marine mammals. 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).

Generation of sound may result in avoidance behaviors that will be limited in time and space relative to the larger availability of important habitat areas in Cook Inlet; however, the area ensounded by sound from the specified activity is anticipated to be small compared to the overall available critical habitat for Cook Inlet beluga whales to feed and travel. Therefore, the specified activity will not create a barrier to movement through or within important areas. We anticipate that disturbance to Cook Inlet beluga whales will manifest in the same manner as other marine mammals described above (i.e., increased swimming speeds, changes in the direction of travel and dive behaviors, increased respiration rates, decreased foraging (if such activity were occurring), or alterations to communication signals). We do not

believe exposure to elevated noise levels during transit past tugging or construction activities will have adverse effects on individuals' fitness for reproduction or survival.

Although data demonstrate that Cook Inlet beluga whales are not abandoning the planned project area during anthropogenic activities, results of an expert elicitation (EE) at a 2016 workshop, which predicted the impacts of noise on Cook Inlet beluga whale 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 Cook Inlet beluga whale (King *et al.* 2015). NMFS (2016b) suggests that the main direct effects of noise on Cook Inlet beluga whales are likely to be through masking of vocalizations used for communication and prey location and habitat degradation. The 2016 workshop on Cook Inlet beluga whales 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 be limiting recovery of the Cook Inlet beluga whale population. The full report can be found at <https://www.smruconsulting.com/publications/> with a summary of the expert elicitation portion of the workshop 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 a female Cook Inlet beluga whale experiences in a particular period and the effect of that disturbance on her energy reserves. Examples included the number of days of disturbance during the period of April, May, and June that would be predicted to reduce the energy reserves of a pregnant Cook Inlet beluga whale to such a level that she is certain to terminate the pregnancy or abandon the calf soon after birth, the number of days of disturbance in the period of April-September required to reduce the energy reserves of a lactating Cook Inlet beluga whale to a level where she is certain to abandon her calf, and the number of days of disturbance 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, for this elicitation, a "day of disturbance" was defined as any day on which an animal loses the ability to forage for at least one tidal cycle (*i.e.*, it forgoes 50–100 percent of its energy intake on that day). The 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 Cook Inlet beluga whales (*e.g.*, faster swim speeds, longer dives, decreased sighting durations, alterations in communication). Also, NMFS authorized 11 instances of take by Level B harassment during each year, with the instances representing disturbance events within a day—this means that either 11 different individual Cook Inlet beluga whales are disturbed on no more than 1 day each, or some lesser number of individuals may be disturbed on more than 1 day, but with the total number of takes not exceeding 11. Given the overall anticipated take, and the short duration of the specified activities, it is unlikely that any one Cook Inlet beluga whale will be disturbed on more than a couple of days. Further, Furie has required mitigation measures specific to Cook Inlet beluga whales whereby they will not begin tugging activities should a Cook Inlet beluga whale be observed at any distance. While take by Level B harassment (behavioral disturbance) is authorized, this measure, along with other mitigation measures described herein, will limit the severity of the effects of that Level B harassment 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. Finally, take by mortality, serious injury, or Level A harassment of Cook Inlet beluga whales is not anticipated or authorized.

In summary and as described above, the additional following factors primarily support our determination that the impacts resulting from the activities described for both of these IHAs are not expected to adversely affect the Cook Inlet beluga whale through effects on annual rates of recruitment or survival:

- The area of exposure will be limited to habitat primarily used for transiting, and not areas known to be of particular importance for feeding or reproduction;
- The activities are not expected to result in Cook Inlet beluga whales abandoning critical habitat nor are they expected to restrict passage of Cook

Inlet beluga whales within or between critical habitat areas; and

- Any disturbance to Cook Inlet beluga whales is expected to be limited to temporary modifications in behavior, and will not be of a duration or intensity expected to result in impacts on reproduction or survival.

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 total marine mammal take authorized for year 1 of activity will have a negligible impact on all affected marine mammal species or stocks. Separately, NMFS finds that the total marine mammal take authorized for year 2 of activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

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

Table 11 provides the quantitative analysis informing our small numbers determinations for the year 1 and year 2 IHAs. For all stocks whose abundance estimate is known, the amount of taking is less than one-third of the best available population abundance estimate (in fact it is less than 1 percent for all stocks, except for Cook Inlet beluga whales whose authorized take is 3.9 percent of the stock; table 11). The number of animals authorized to be taken from these stocks therefore, would be considered small relative to the relevant stock's abundances even if each estimated take occurred to a new individual.

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 2023b). 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, and that the 3 authorized takes of humpback whale will all be of the Mexico-North Pacific stock, this represents small numbers of this stock (less than 1 percent of the stock assuming a N_{MIN} of 2,241 individuals and <1 percent of the stock assuming an N_{MIN} of 766 individuals).

A lack of an accepted stock abundance value for the Alaska stock of minke whale did not allow for the calculation of an expected percentage of the population that will be affected during each Year. The most relevant estimate of partial stock abundance is 1,233 minke whales in coastal waters of the Alaska Peninsula and Aleutian Islands (Zerbini *et al.* 2006). Given three authorized takes by Level B harassment for the stock during year 1 and year 2, comparison to the best estimate of stock abundance shows, at most, less than 1 percent of the stock is expected to be impacted.

There is no stock-wide abundance estimate for Northeast Pacific fin whales. However, Young *et al.* (2022) estimate the minimum stock size for the areas surveyed is 2,554. Given 2 authorized takes by Level B harassment for the stock during year 1 and year 2, comparison to the minimum population estimate shows, at most, less than 1 percent of the stock is expected to be impacted.

The Alaska stock of Dall's porpoise has no official NMFS abundance estimate for this area, as the most recent estimate is greater than 8 years old. As described in the 2022 Alaska SAR (Young *et al.* 2023) the minimum population estimate is assumed to correspond to the point estimate of the 2015 vessel-based abundance computed by Rone *et al.* (2017) in the Gulf of Alaska ($N = 13,110$; $CV = 0.22$). Given 6 authorized takes by Level B harassment for the stock during year 1

and year 2, comparison to the minimum population estimate shows, at most, less than 1 percent of the stock is expected to be impacted.

Based on the analysis contained herein of the planned activity (including the required mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks for the year 1 IHA. Separately, NMFS also finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks for the year 2 IHA.

Unmitigable Adverse Impact Analysis and Determination

In order to issue an IHA, NMFS must find that the specified activity 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.

Subsistence communities identified as project stakeholders near Furie's middle Cook Inlet (and potentially Trading Bay, depending on where Furie takes over the rig from Hilcorp) activities include the Village of Salamatof and the Native Village of Tyonek. The Alaska Department of Fish and Game Community Subsistence Information System does not contain data for Salamatof. For the purposes of our analyses for the year 1 and year 2 IHAs, we assume the subsistence uses are similar to those of nearby communities such as Kenai. Tyonek, on the western side of lower Cook Inlet, has a subsistence harvest area that extends from the Susitna River south to Tuxedni Bay (BOEM 2016). In Tyonek, harbor seals were harvested between June and September by 6 percent of the households (Jones *et al.* 2015). Seals were harvested in several areas, encompassing an area stretching 32.2 km (20 mi) along the Cook Inlet coastline from the McArthur Flats north to the Beluga River. Seals were searched for or harvested in the Trading Bay areas

as well as from the beach adjacent to Tyonek (Jones *et al.* 2015). Subsistence hunting of whales is not known to currently occur in Cook Inlet.

Furie's tug towing rig activities may overlap with subsistence hunting of seals. However, these activities typically occur along the shoreline or very close to shore near river mouths, whereas most of Furie's tugging (all, with the exception of returning the rig to the Rig Tender's Dock, located in an industrialized area of Nikiski, Alaska), as well as its pile driving, is in the middle of the Inlet and rarely near the shoreline or river mouths. Any harassment to harbor seals is anticipated to be short-term, mild, and not result in any abandonment or behaviors that would make the animals unavailable for harvest. However, to further minimize any potential effects of their action on subsistence activities, Furie plans to conduct stakeholder outreach before the planned operations in 2024 and 2025, according to its Stakeholder Engagement Plan. According to Furie, they contacted Alaska Native Tribes in the Cook Inlet Region by email and phone message. To date, Furie has not received any responses from the Tribes. Furie states it will expand the effort to include Cook Inlet Regional Inc. and Chugach Alaska Corporation and will continue to reach out to the Tribes as the project nears. Furie must coordinate with local Tribes as described in its Stakeholder Engagement Plan, notify the communities of any changes in the operation, and take action to avoid or mitigate impacts to subsistence harvests.

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 Furie's planned activities under the year 1 IHA. Separately, NMFS has also determined that there will not be an unmitigable adverse impact on subsistence uses from Furie's planned activities under the year 2 IHA.

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 issuance of IHAs, NMFS consults internally

whenever we propose to authorize take for endangered or threatened species, in this case with the NMFS AKRO.

Four marine mammal species, fin whale, humpback whale (Mexico Distinct Population Segment (DPS)), beluga whale (Cook Inlet), and Steller sea lion (Western DPS) occur in the project area and are listed as threatened or endangered under the ESA. The NMFS AKRO issued a Biological Opinion under section 7 of the ESA on the issuance of two IHAs to Furie under section 101(a)(5)(D) of the MMPA by NMFS OPR. The Biological Opinion concluded that the action is not likely to jeopardize the continued existence of these species and is not likely to destroy or adversely modify their critical habitat.

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.*, the issuance of two consecutive IHAs) and alternatives with respect to potential impacts on the human environment.

NMFS prepared an Environmental Assessment (EA) and analyzed the potential impacts to marine mammals that would result from Furie's natural gas activities. A Finding of No Significant Impact (FONSI) was signed on September 12, 2024. Copies of the EA and FONSI are available at <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-oil-and-gas>.

Authorization

NMFS has issued two consecutive IHAs to Furie for the potential harassment of small numbers of 12 marine mammal species incidental to Furie's natural gas activities in Cook Inlet, Alaska, that includes the previously explained mitigation, monitoring and reporting requirements.

Dated: September 16, 2024.

Kimberly Damon-Randall,

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

[FR Doc. 2024-21469 Filed 9-23-24; 8:45 am]

BILLING CODE 3510-22-P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. EF14-1-008]

Southwestern Power Administration; Notice of Filing

Take notice that on September 13, 2024, Southwestern Power Administration submitted a tariff filing: 2013 IS Rate Extension Informational Filing—2024 to be effective 10/1/2024.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. Such notices, motions, or protests must be filed on or before the comment date. On or before the comment date, it is not necessary to serve motions to intervene or protests on persons other than the Applicant.

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

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

The Commission strongly encourages electronic filings of comments, protests and interventions in lieu of paper using the "eFiling" link at <https://www.ferc.gov>. Persons unable to file electronically may mail similar pleadings to the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426. Hand

delivered submissions in docketed proceedings should be delivered to Health and Human Services, 12225 Wilkins Avenue, Rockville, Maryland 20852.

The Commission's Office of Public Participation (OPP) supports meaningful public engagement and participation in Commission proceedings. OPP can help members of the public, including landowners, environmental justice communities, Tribal members and others, access publicly available information and navigate Commission processes. For public inquiries and assistance with making filings such as interventions, comments, or requests for rehearing, the public is encouraged to contact OPP at (202) 502-6595 or OPP@ferc.gov.

Comment Date: 5 p.m. Eastern Time on October 15, 2024.

Dated: September 17, 2024.

Debbie-Anne A. Reese,

Acting Secretary.

[FR Doc. 2024-21723 Filed 9-23-24; 8:45 am]

BILLING CODE 6717-01-P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Project No. 15368-000]

Orcas Power & Light Cooperative; Notice of Preliminary Permit Application Accepted for Filing and Soliciting Comments, Motions To Intervene, and Competing Applications

On July 22, 2024, Orcas Power & Light Cooperative filed an application for a preliminary permit, pursuant to section 4(f) of the Federal Power Act (FPA), proposing to study the feasibility of the Rosario Strait Tidal Energy Project (or Project) to be located on Rosario Strait in the Salish Sea, near the town of Eastsound, Washington. The sole purpose of a preliminary permit, if issued, is to grant the permit holder priority to file a license application during the permit term. A preliminary permit does not authorize the permit holder to perform any land-disturbing activities or otherwise enter upon lands or waters owned by others without the owners' express permission.

The proposed project would consist of the following: (1) a 245 foot-long, 13 foot-wide floating tube; (2) two wings attached to 65 foot diameter rotors with an overall width of 165 feet; (3) two 1.2 MW turbines (4) four catenary mooring lines (each approximately 740 feet long); (5) four seabed anchors; (6) a 3.3 mile