

INCIDENTAL HARASSMENT AUTHORIZATION

Furie Operating Alaska, LLC (Furie, Holder) and its designees are hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to incidentally harass marine mammals, under the following conditions:

1. This incidental harassment authorization (IHA) is valid from DATE through DATE.
2. This IHA authorizes take incidental to oil and gas activities, as specified in the Holder's IHA application, in Cook Inlet, Alaska.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of the Holder of the Authorization (Holder), supervisory construction personnel, vessel operators, lead protected species observers (PSOs), and any other relevant designees of the Holder operating under the authority of this IHA at all times that activities subject to this IHA are being conducted.
 - (b) The species and/or stocks authorized for taking are listed in Table 1. Authorized take, by Level A and Level B harassment only, is limited to the species and numbers listed in Table 1.
 - (c) The taking by serious injury or death of any of the species listed in Table 1 or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA. Any taking exceeding the authorized amounts listed in Table 1 is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (d) The Holder must ensure that vessel captains and crew, construction supervisors and crews, the monitoring team, and relevant Furie staff are trained prior to the start of activities subject to this IHA, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work.

- (e) The Holder also must abide by the reasonable and prudent measures and terms and conditions of the [DATE] Biological Opinion and Incidental Take Statement (attached) issued by NMFS pursuant to section 7 of the Endangered Species Act.

4. Mitigation Requirements

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

Tugging Activities

- (c) The Holder must establish clearance zones for all marine mammal species.
 - (i) For Cook Inlet beluga whale, the Holder must establish a clearance zone that extends as far as PSOs can feasibly observe.
 - (ii) For all marine mammal species other than Cook Inlet beluga whale, the Holder must establish a clearance zone that extends 1.5 km from the jack-up rig.
- (d) Prior to commencing new operational activities in daylight hours, or if there is a 30-minute lapse in operational activities, two NMFS-approved PSOs must observe the clearance zones described in measure 4(c) for 30 minutes. Transitioning from towing to positioning without shutting down is not considered commencing an operational activity.
 - (i) If no marine mammals are observed within the relevant clearance zone during those 30 minutes, activities may commence.
 - (ii) If a marine mammal(s) is observed within the relevant clearance zone during those 30 minutes, operations may not commence until the PSO(s)

observe that one of the following conditions is met, unless the delay interferes with the safety of working conditions:

- A. The non-beluga animal(s) is outside of and on a path away from the clearance zone;
 - B. The beluga whale(s) is no longer detected at any range; or
 - C. 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.
- (e) Prior to commencing new operational activities in nighttime hours, or if there is a 30-minute lapse in operational activities in low/no-light conditions, two NMFS-approved PSOs must observe out to the greatest extent feasible while using night vision devices for 30 minutes (i.e., pre-clearance monitoring). Transitioning from towing to positioning without shutting down is not considered commencing an operational activity.
- (i) If no marine mammals are observed during those 30 minutes, activities may commence.
 - (ii) If a marine mammal(s) is observed during those 30 minutes, operations may not commence until the PSO(s) observe that one of the following conditions is met, unless the delay interferes with the safety of working conditions:
 - A. The animal(s) is outside of the observable area, or
 - B. 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.
- (f) All monitoring must continue through 30 minutes post-completion of any operations each day, and after each stoppage of 30 minutes or greater.
- (g) The Holder must conduct tug towing rig operations with a favorable tide unless human safety or equipment integrity are at risk.
- (h) The Holder may only conduct tug towing rig activities at night if necessary to accommodate a favorable tide.

- (i) If a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized takes have been reached, is observed approaching or within the clearance zone, tugging activities must be delayed if not already under load. Tugging activities must not resume until the commencement criteria in 4(c) or 4(d) have been met.
- (j) The Holder must maneuver tugs such that they maintain a consistent speed (approximately 4 knots [7 km/hr]) and avoid multiple changes of speed and direction.
- (k) The Holder must maintain a distance of at least 2.4 km from the mean lower-low water line of the Sustina River Delta (Beluga River to the Little Sustina River) between April 15 and November 15.

Pile Driving

- (l) 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.
- (m) If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until the PSO(s) observe that one of the following conditions is met:
 - A. The animal(s) is outside of and on a path away from the clearance zone, or
 - B. 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.
- (n) 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 2 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.
- (o) If a marine mammal is observed entering or within the shutdown zones indicated in Table 2, pile driving activity must be delayed or halted. Pile driving must be commenced or resumed as described in condition 4(n) of this IHA.

- (p) The Holder must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of three strikes at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. A soft start 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.
- (q) Pile driving activity must be halted (as described in condition 4(p) of this IHA) upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the harassment zone (as shown in Table 2).
- (r) The Holder, 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 meters of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction.

Helicopter Activities

- (s) Helicopters must transit at an altitude of 1,500 feet (457 meters) 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 feet 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.

5. Monitoring Requirements

- (a) Marine mammal monitoring must be conducted in accordance with the conditions in this section and the Monitoring Plan (Appendix B of the Holder's application) and this IHA.
- (b) Two PSOs must be stationed on the tug or jack-up rig for monitoring purposes for the entirety of jack-up rig towing and positioning operations.

- (c) One PSO 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.
- (d) PSOs must use a combination of equipment to scan the monitoring area and to verify the required monitoring distance from the project site, including, but not limited to, the naked eye, 7 by 50 binoculars, and NMFS-approved NVDs for low light and nighttime operations.
- (e) PSOs must be in communication with the all vessel captain via VHF radio and/or cell phones at all times and alert vessel captains to all marine mammal sightings relative to the vessel location.
- (f) Monitoring must be conducted by qualified, NMFS-approved PSOs, in accordance with the following conditions:
 - (i) PSOs must be independent of the activity contractor (for example, employed by a subcontractor) and have no other assigned tasks during monitoring periods.
 - (ii) At least one PSO must have prior experience performing the duties of a PSO during an activity pursuant to a NMFS-issued incidental take authorization or Letter of Concurrence.
 - (iii) Other PSOs may substitute other relevant experience, education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during an activity pursuant to a NMFS-issued incidental take authorization. PSOs may also substitute Alaska native traditional knowledge for experience.
 - (iv) 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.
 - (v) PSOs must be approved by NMFS prior to beginning any activity subject to this IHA.
 - (i) PSOs must also have the following additional qualifications:
 - A. PSOs must be able to conduct field observations and collect data according to assigned protocols;

- B. PSOs must have experience or training in the field identification of marine mammals, including the identification of behaviors;
 - C. PSOs must have sufficient training, orientation, or experience with the tugging operation to provide for personal safety during observations;
 - D. 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
 - E. 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.
- (g) PSOs must monitor and carefully record all observations of marine mammals, regardless of distance from the activity, as well as the additional data indicated in section 6 of this IHA.

6. Reporting

- (a) The Holder must submit monthly marine mammal monitoring reports to NMFS for all months in which tug towing, holding, or positioning of the jack-up rig occurs. Monthly reports would be due 14 days after the conclusion of each calendar month, and would 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 beluga whales observed within estimated harassment zones to date.
- (b) The Holder must submit its draft final summary report(s) on all monitoring conducted under this IHA within 90 calendar days of the completion of monitoring or 60 calendar days prior to the requested issuance of any subsequent IHA for a similar activity at the same location, whichever comes first. A final summary report must be prepared and submitted within 30 calendar days following receipt of any NMFS comments on the draft report. If no comments are

received from NMFS within 30 calendar days of receipt of the draft report, the report shall be considered final.

- (c) All draft and final monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov* and *ITP.Davis@noaa.gov*.
- (d) The final summary report must contain the informational elements described in the Monitoring Plan and, at minimum, must include:
 - (i) Dates and times (begin and end) of all marine mammal monitoring;
 - (ii) Activities occurring during each daily observation period, including:
 - A. Type of activity (towing or positioning);
 - B. Total duration of each type of activity (towing and positioning);
 - C. 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.
 - (iii) PSO locations during marine mammal monitoring;
 - (iv) Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;
 - (v) Upon observation of a marine mammal, the following information:
 - A. Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting;

- B. Time of sighting;
- C. Identification of the animal(s) (e.g., genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;
- D. Distance and location of each observed marine mammal relative to the pile being driven for each sighting;
- E. Estimated number of animals (min/max/best estimate);
- F. Estimated number of animals by cohort (adults, juveniles, neonates, group composition, etc.);
- 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);
 - (vi) Number of marine mammals detected within the harassment zones, by species; and
 - (vii) Detailed information about implementation of any mitigation (e.g., shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.
- (e) The Holder must submit, along with the final summary report, all PSO data electronically in a format that can be queried such as a spreadsheet or database (*i.e.*, digital images of data sheets are not sufficient).
- (f) Reporting injured or dead marine mammals:

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Holder must 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 (877-

925-7773) as soon as feasible. If the death or injury was clearly caused by the specified activity, the Holder 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 terms of this IHA. The Holder must not resume their activities until notified by NMFS.

The report must include the following information:

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

7. This Authorization may be modified, suspended or revoked if the Holder fails to abide by the conditions prescribed herein (including, but not limited to, failure to comply with monitoring or reporting requirements), or if NMFS determines: (1) the authorized taking is likely to have or is having more than a negligible impact on the species or stocks of affected marine mammals, (2) the authorized taking is likely to have or is having an unmitigable adverse impact on the availability of the affected species or stocks for subsistence uses, or (3) the prescribed measures are likely not or are not effecting the least practicable adverse impact on the affected species or stocks and their habitat.

8. Renewals

On a case-by-case basis, NMFS may issue a one-time, one-year Renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical, or nearly identical, activities (or a subset of those activities) are planned or (2) the specified activities will not be completed by the time the IHA expires and a Renewal would allow for completion of the activities, provided all of the following conditions are met:

- (a) A request for renewal is received no later than 60 days prior to the needed Renewal IHA effective date (note a Renewal IHA expiration date cannot extend beyond one year from expiration of this IHA).
- (b) The request for renewal must include the following:
 - (i) An explanation that the activities to be conducted under the requested Renewal IHA are identical to the activities analyzed for this IHA, are a subset of the activities, or include changes so minor (e.g., reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take).
 - (ii) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.
- (c) Upon review of the request for Renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings made in support of this IHA remain valid.

Kimberly Damon-Randall,
Director, Office of Protected Resources
National Marine Fisheries Service

Table 1. Authorized Incidental Take.

Common name	Scientific name	Stock	Level A harassment	Level B harassment
Humpback whale	<i>Megaptera novaeangliae</i>	Hawaii (Hawaii DPS)	-	3
		Mexico- North Pacific (Mexico DPS)	-	
		Western North Pacific	-	
Minke whale	<i>Balaenoptera acutorostrata</i>	Alaska	-	3
Gray whale	<i>Eschrichtius robustus</i>	Eastern Pacific	-	3
Fin whale	<i>Balaenoptera physalus</i>	Northeast Pacific	-	2
Killer whale	<i>Orcinus orca</i>	Eastern North Pacific Alaska Resident	-	10
		Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient	-	
Beluga whale	<i>Delphinapterus leucas</i>	Cook Inlet	-	11
Dall's porpoise	<i>Phocoenoides dalli</i>	Alaska	-	6
Harbor porpoise	<i>Phocoena phocoena</i>	Gulf of Alaska	-	12
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	North Pacific	-	3
Harbor seal	<i>Phoca vitulina</i>	Cook Inlet/ Shelikof	3	176
Steller sea lion	<i>Eumetopias jubatus</i>	Western U.S.	-	6
California sea lion	<i>Zalophus californianus</i>	U.S.	-	2

Note: "-" indicates no take is authorized.

Table 2. Shutdown and Harassment Zones.

Activity	Minimum shutdown zone					Level B Harassment zone (m)
	Low-frequency	Mid-frequency	High-frequency	Phocid	Otariid	
Conductor Pipe Pile Driving	2,000	110	400	400	120	1,585
Tugging/Positioning, 3 Tugs	-	-	-	-	-	3,850
Tugging/Positioning, 4 Tugs	-	-	-	-	-	4,483