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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XR036

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Oil and Gas Activities in Cook Inlet, Alaska

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

ACTION: Notice; issuance of modified Letter of Authorization.

SUMMARY: Pursuant to the Marine Mammal Protection Act (MMPA), as amended, and implementing regulations, NMFS issued a modified Letter of Authorization to Hilcorp Alaska LLC (Hilcorp) to take marine mammals incidental to oil and gas activities in Cook Inlet, Alaska.

DATES: Effective until July 31, 2020.

FOR FURTHER INFORMATION CONTACT: Sara Young, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

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 issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An incidental take authorization shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

NMFS has defined “negligible impact” in 50 CFR 216.103 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.

The MMPA states that the term “take” means to harass, hunt, capture, kill or attempt to harass, hunt, capture, or kill any marine mammal.

Except with respect to certain activities not pertinent here, 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).

Summary of Request

NMFS issued regulations governing the take of eleven species of marine mammal, by Level A and Level B harassment, incidental to Hilcorp's oil and gas activities on July 31, 2019 (84 FR 37442). These regulations include mitigation, monitoring, and reporting requirements for the incidental take of marine mammals during the specified activities. As further detailed in the regulations (50 CFR 217.167), adaptive management measures allow NMFS to modify or renew Letters of Authorization as necessary if doing so creates a reasonable likelihood of more effectively accomplishing the goals of mitigation and monitoring set forth in those regulations.

Here, NMFS proposes to modify a mitigation measure pertaining to 3D seismic surveying during Year 1 of Hilcorp's activity. NMFS' final regulations contain a mitigation measure that mistakenly states that the entire exclusion zone (EZ) must be visually cleared by protected species observers (PSOs) before ramp up of seismic airguns during the 3D seismic survey may occur. This measure is correct for operations beginning in daylight hours, however, requiring visual clearance of the entirety of the EZ to ramp up airgun activity at night was not NMFS' intent. The intent was that PSOs should monitor the EZ to the greatest extent possible for 30 minutes prior to ramp-up of nighttime operations, but with the understanding that it is not possible to observe the entirety of the EZ at night and that Hilcorp would still be allowed to initiate ramp-up as long as no marine mammals were seen during this time. If any marine mammal is observed in the EZ, during daylight hours or at night, ramp up would not commence until

either the animal has voluntarily left and been visually confirmed outside the EZ or the required amount of time (15 minutes for porpoises and pinnipeds, 30 minutes for cetaceans) has passed without re-detection of the animal. The analysis and findings contained in the final rule were made under the premise that nighttime ramp up of airguns is allowable.

Ramping up airgun activity at night is essential to Hilcorp's survey design and minimizes the amount of days that active acoustic sources are emitting sound into the marine environment. As described in Hilcorp's application, acquisition of one line of 3D seismic takes approximately five hours. At the end of a line while the vessel turns to prepare for the next line acquisition, NMFS requires that airguns are turned off, to reduce the amount of unnecessary noise emitted into the marine environment. Turning the source vessel takes approximately one and a half hours, during which no noise is emitted from airguns. By allowing ramp up of airguns at night, the total number of 3D seismic survey days is notably reduced, which reduces both the total duration of impacts on the acoustic habitat of marine mammals, as well as the impacts on (and potentially take of) marine mammals themselves.

Specifically, while there is a somewhat higher probability that a marine mammal might go unseen within the clearance zone when the airguns are initiated at night, the likelihood of injury is still low because of the ramp-up requirement, which ensures that any initial injury zone is small and allows animals time to move away from the source. In addition, PSOs are on duty monitoring the exclusion zone to the degree possible at that

time. Further, any potential slight increase in the probability of injury (in the form of a small degree of permanent threshold shift (PTS), and not considered at all likely, or authorized, for beluga whales or other mid-frequency specialists) is offset by the reduced behavioral harassment and reduced potential for more serious energetic effects expected to result from the significant reduction in the overall number of days across which the area will be ensonified by the airgun operation.

Ramp up of airguns at night is also the most practicable survey design, which allows the survey to be completed as quickly as possible before weather conditions deteriorate and daylight decreases in Cook Inlet, and at less cost.

Of important note, this change in mitigation does not change either the predicted take numbers or the negligible impact analysis, as the predicted Level A harassment (injury) numbers conservatively do not include any sort of an adjustment to account for the effectiveness of any of the measures. We did not reduce the estimation of take based on an assumed level of effectiveness of the required mitigation and monitoring. In other words, we have determined that the level of taking will be consistent with the findings made for the total taking allowable under the specific regulations.

Public Comments and Responses

A notice of NMFS's proposal to modify a LOA was published in the Federal Register on August 16, 2019 (84 FR 41957). That notice described the necessity of the modification and affirmed that modifying the mitigation measure did not change any of our findings under the MMPA made in the rulemaking and issuance of the original LOA.

During the 30-day public comment period, NMFS received comments from 11,821 individuals, as well as several groups and societies. Approximately 11,809 commenters followed one of two generic template formats, in which respondents provided comments that were identical or substantively the same. Of the two generic letter forms described above, one of the templates, used by approximately 11,638 commenters, generally referenced oil and gas drilling by Hilcorp and requested that NMFS refrain from permitting oil and gas exploration. As NMFS does not permit oil and gas exploration activities and these comments are outside the scope of our proposed modification (ramp-up of seismic airguns at night), NMFS did not address these comments further.

NMFS has reviewed all public comments received on the proposed modification of a LOA issued to Hilcorp. Comments indicating general support for or opposition to hydrocarbon exploration but not containing relevant recommendations or information are not addressed here. Similarly, any comments relating to hydrocarbon development (*e.g.*, leasing, drilling)—including numerous comments received that expressed concern regarding the risks of oil spills or of potential future industrialization of Cook Inlet—are not relevant to the proposed actions and therefore were not considered and are not addressed here. We also provide no response to specific comments that addressed species or statutes not relevant to our proposed actions under section 101(a)(5)(A) of the MMPA (*e.g.*, comments related to sea otters).

Comment: The Kachemak Bay Conservation Society, as well as many other commenters, commented that if seismic ramp-up will be allowed at night, there needs to be “around the clock” monitoring.

Response: NMFS agrees with this assertion. The regulations require constant visual monitoring by PSOs during seismic activities, as well as the designated pre- and post-activity periods. NMFS acknowledges that visibility of PSOs at night is reduced, but Hilcorp is still required to use PSOs to observe to the greatest extent possible during nighttime hours of seismic operation.

Comment: The Kachemak Bay Conservation Society also comments that NMFS must support their reasoning that nighttime ramp-up of seismic airguns will have a lower impact on marine mammals than refraining from ramping up at night. The Center for Biological Diversity (CBD) and Cook Inletkeeper commented similarly that NMFS’ argument that nighttime operations minimize the amount of days that active acoustic sources are emitting sound into the marine environment and thus minimizes exposure is not supported by anything but conclusory statements.

Response: The requirement to cease operations at night is not only impracticable, it would also likely result in greater impacts to marine mammals, as such a measure would require operations to continue for roughly twice the time. The window of availability in which to conduct seismic in Cook Inlet is particularly limited due to the large tidal fluctuations. Even under good conditions, it is important to recognize the possibility that not all animals will be observed and cryptic species may not be observed

at all. While visual observation is a common sense mitigation measure, its presence should not be determinative of when survey effort may occur. Given the lack of proven efficacy of visual observation in preventing auditory injury, its absence should not imply such potentially detrimental impacts on marine mammals. We also believe that the concentration of survey effort in the shortest duration of time possible will reduce the number of days on which marine mammals may be harassed and ensures that the surrounding marine environment can return to ambient noise levels as quickly as possible.

Comment: The Marine Mammal Commission (MMC) recommended that NMFS reconsider requiring the use of towed passive acoustic monitoring (PAM) and night-vision devices to better assess whether the exclusion zone is clear prior to implementing ramp-up procedures at night and consult with other seismic operators regarding the standard use of these devices in other regions. The CBD and Cook Inletkeeper submitted a similar comment suggested NMFS arbitrarily dismissed the use of PAM and thermal technologies for nighttime observations. The MMC also commented that NMFS should consult with acousticians at the Alaska Fisheries Science Center and the University of St. Andrews regarding acoustically monitoring for the various species in Cook Inlet.

Response: NMFS discussed the reasons that PAM was considered but not required for Hilcorp's activities in our final rule (84 FR 37442; July 31, 2019). These circumstances, including the physical environmental characteristics of Cook Inlet and the practicability of the measure, have not changed since issuance of the final rule and LOA.

For previous authorizations, NMFS has worked with the Alaska Fisheries Science Center to develop a real-time practicable acoustic monitoring plan for implementation during seismic activity. Despite coordination with the Science Center, the use of PAM only resulted in two detections of beluga whales over the course of the entire survey. The detections occurred outside of active seismic activity and therefore did not result in any shutdowns. When expanded to all species, the use of PAM resulted in only 15 acoustic detections across all nighttime or low visibility hours, a detection rate of 0.049 detections per hour, as compared to a sighting rate of 0.135 detections per hour from visual observations (Kendall *et al.*, 2015). Therefore, when the limited effectiveness and value in decreasing impacts to marine mammals is considered in combination with the cost and impracticability of implementation, NMFS finds that the measure is not warranted, and PAM will not be required under this modified LOA.

However, since the final regulations were issued and in response to these comments, Hilcorp has equipped its source vessel with PV14 night vision devices and a requirement that they are used for observations at night or during other periods of low visibility for 3D seismic surveying has been added to this modified LOA. These devices are only outfitted on the source vessel and will only be used by PSOs aboard the source vessel, not the mitigation vessel.

Comment: The Commission recommended that NMFS require Hilcorp to limit ramp up at night and during low-visibility conditions to situations in which operational planning cannot reasonably avoid such circumstances.

Response: NMFS agrees with this recommendation and will include it in the modified LOA.

Comment: The Commission recommended that NMFS specify the radial distances of the exclusion and safety zones, as well as the Level A and B harassment zones, for all sound sources and remove all references to mitigation and monitoring zones in Hilcorp's modified and subsequent LOAs.

Response: NMFS agrees that including the radial distances of exclusion and safety zones with the modified LOA would enhance clarity regarding the zones and has attached a chart with the relevant zones to the modified LOA. These zones may be modified pending results and review of sound source verifications as discussed in the final rule.

Comment: The CBD and Cook Inletkeeper commented that if NMFS plans to allow nighttime seismic surveys without clearing the exclusion zone, the incidental take regulations and environmental analyses must be amended and re-circulated for public comment. The commenters emphasized that a nighttime exception to clearing the full extent of the exclusion zone does not appear in the incidental take regulations.

Response: NMFS reminds the commenters that the incidental take regulations allowed for the continuation of operation of seismic airguns at night, as long as ramp up was conducted during a period of good visibility and the exclusion zone was fully cleared. The alteration to allow ramp up at night when operationally necessary does not change the take estimations, any of our findings under the MMPA in the rulemaking, or

our finding of no significant impact under the National Environmental Policy Act (NEPA). PSO observations are still required from pre-activity ramp up through the 30 minute post-activity monitoring period and now night vision devices will also be required for observations conducted at night or in low visibility conditions. NMFS used the adaptive management provision described in the regulations and sought public comment on the proposed change to the LOA.

Comment: The CBD and Cook Inletkeeper commented that NMFS failed to explain why other measures are not practicable to minimize take and to maximize monitoring and enforcement of take limits.

Response: NMFS discussed in the notice of proposed modification of the LOA why the prohibition of nighttime ramp up for seismic surveying is not practicable. Cook Inlet tidal fluctuations present already limited windows within which seismic surveying can be done and some of those limited windows occur at night. By prohibiting nighttime ramp up, NMFS would extend the total duration of the survey, increasing the number of days that the seismic surveying equipment is on the water and increasing the total number of days during which noise is emitted to the marine environment. The monitoring data from previous seismic surveys in Cook Inlet indicate greatly reduced detections of marine mammals by PSOs in the presence of seismic activity and increase in detections when the airguns are not in use. This evidence suggests there is a potential aversion response by marine mammals to airgun noise and potential re-entry when the environment returns to ambient levels. Allowing ramp up of seismic at night when operationally necessary

ensures the seismic work is concentrated in the fewest number of days possible, thereby reducing the number of days that marine mammals will exhibit aversion responses and temporarily abandon their preferred habitat. Prohibiting nighttime ramp up because potentially not all animals in the exclusion zone will be observed creates a notable increase in total duration and could greatly increase the number of separate occasions on which animals may leave their preferred habitat and interrupt typical behavioral patterns. An increased number of days of overall survey duration could then extend the seismic surveying into the cold and dark months of Cook Inlet creating increasingly hazardous conditions for the seismic operators and decreasing the amount of seismic that can be completed each day with increasingly limited daylight hours. Full visibility of the Level A and Level B harassment isopleths is not practicable, nor is it required based on the rationale included in our comment response below. The size of the Level B zones for 3D seismic are prohibitive to monitor at a level requiring full visibility, which would increase the number of vessels on the water and personnel required to be at sea. To ensure that takes are estimated as accurately as possible, the extrapolation detailed below is used by Hilcorp to address the assumption that some proportion of takes may occur in the unmonitored portions of the isopleths.

Comment: The CBD and Cook Inletkeeper commented that NMFS has not provided a sufficient explanation for why a greater monitoring area consistent with the harassment isopleth is not required nor why other mitigation measures are not employed to monitor the full Level A or Level B isopleths. The commenters also questioned how

take is recorded if the full extent of the Level A and Level B zones are not observed and why NMFS does not believe allowing nighttime ramp-up would change our estimation of Level B take.

Response: Through the rulemaking and Letters of Authorization, NMFS is authorizing take, by Level A and Level B harassment, of marine mammals. Avoiding all take of marine mammals is not a requirement or the goal of mitigation and monitoring requirements laid out in the rulemaking. In order to issue an LOA under section 101(a)(5)(A) of the MMPA, NMFS was required to set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses. NMFS considered information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such 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 considered 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. We have acknowledged that some limited occurrence of auditory injury is likely, for low- and high-frequency cetaceans as well as some pinniped species. However, we disagree that a larger standard exclusion zone is warranted. As we explained in our rulemaking, our intent in prescribing standard exclusion zone distances is to: (1) Encompass zones for most species within which auditory injury could occur on the basis of instantaneous exposure; (2) provide additional protection from the potential for more severe behavioral reactions (*e.g.*, panic, antipredator response) for marine mammals at relatively close range to the acoustic source; (3) provide consistency and ease of implementation for PSOs, who need to monitor and implement the exclusion zones; and (4) to define a distance within which detection probabilities are reasonably high for most species under typical conditions. Our use of 100-m and 500-m zones is not based directly on any quantitative understanding of the range at which auditory injury would be entirely precluded or any range specifically related to disruption of behavioral patterns. Rather, we believe it is a reasonable combination of factors. In summary, a practicable criterion such as this has the advantage of familiarity and simplicity while still providing in most cases a zone larger than relevant auditory injury zones, given realistic

movement of source and receiver. Increased shutdowns, without a firm idea of the outcome the measure seeks to avoid, simply displace survey activity in time and increase the total duration of acoustic influence as well as total sound energy in the water.

We agree that, when practicable, the exclusion zone should encompass distances within which auditory injury is expected to occur on the basis of instantaneous exposure. However, potential auditory injury is based on the accumulation of energy, and is therefore not a straightforward consideration. For example, observation of a whale at the distance calculated as being the “Level A isopleth” does not necessarily mean that the animal has in fact incurred auditory injury. Rather, the animal would have to be at the calculated distance (or closer) as the mobile source approaches, passes, and recedes from the exposed animal, being exposed to and accumulating energy from airgun pulses the entire time.

When evaluating the nighttime ramp up of seismic airguns, NMFS determined the data from previous seismic monitoring programs did not suggest that there would be a difference in the severity of impacts to marine mammals by not fully clearing the exclusion zone during nighttime ramp up that was not addressed through the number and type of taking authorized for Hilcorp’s activities in the rulemaking. Ramp up would still be required for use of airguns at night and the use of ramp up still allows marine mammals to avoid the area before the full source level is realized. The mitigation measure that would be least effective due to low visibility conditions at night would be the implementation of the full extent of the exclusion zone and as discussed above, it is

unlikely that animals would remain within the exclusion zone for the duration of the seismic activity such that injury is incurred. However, in the event that injury is incurred, Level A take was authorized for species more likely to occur in the survey area or for species that are difficult to detect. Similarly, Level B take is authorized incidental to Hilcorp's activities. These allowable takes were not calculated by assuming some underlying effectiveness of the mitigation and monitoring. No amount of Level B take was discounted from the total amount of take authorized because of assumptions of effectiveness of daytime monitoring. The amount of Level B take that may occur during seismic activity is unchanged, but the number of takes likely to be observed and recorded at night is slightly lessened by reduced visibility.

Regarding the counting and tracking of allowable takes, Hilcorp is using a methodology similar to that used by many other incidental take authorization applicants. Hilcorp will use the number of takes observed by PSOs within the monitored distance and will extrapolate those takes to estimate a number of unseen takes in the unmonitored area that is the rest of the relevant isopleth. Hilcorp will include these estimations in their reports to NMFS to ensure take is not exceeded during their activity.

Comment: The CBD and Cook Inletkeeper commented that NMFS' estimation of take of Cook Inlet belugas is flawed because ramp-up is not considered a take in our analyses.

Response: It is unclear if the commenters are referencing estimation of take pre-activity or accounting for take post-activity. NMFS disagrees with the commenters. Any

animal sighted at any distance from the vessel during pre-clearance, ramp-up, seismic surveying, or post-activity monitoring is recorded as an observation and this information will be provided to NMFS in Hilcorp's monitoring reports. The sighting is not necessarily considered a take as the exclusion zone is derived from the energy output of the full seismic airgun array and any sound a marine mammal would be exposed to during ramp up is a lesser amount of energy than the full airgun array.

Authorization

NMFS has issued a modified LOA (available at <https://www.fisheries.noaa.gov/action/incidental-take-authorization-hilcorp-alaska-llc-oil-and-gas-activities-cook-inlet-alaska>) to Hilcorp Alaska LLC for the potential harassment of small numbers of four marine mammal species incidental to oil and gas activities in Cook Inlet, Alaska, provided the mitigation, monitoring and reporting requirements of the rulemaking are incorporated.

Dated: September 30, 2019.

Donna S. Wieting,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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