



United States Department of the Interior



U.S. FISH AND WILDLIFE SERVICE
1011 East Tudor Road
Anchorage, Alaska 99503-6199

IN REPLY REFER TO:

AFES/MMM

NOV 14 2014

Mike Miller
Chief Operating Officer
NordAq Energy, Inc.
3000 A Street, Suite 410
Anchorage, AK 99503

Dear Mr. Miller:

We have received your request, dated September 5, 2014, for Letters of Authorization (LOAs) for the incidental and intentional take (harassment activities) of polar bears during activities associated with the NordAq Energy, Inc. (NordAq) Tulimaniq Exploration Drilling Project from November 2014, through May 2015, on the North Slope of Alaska.

In response, and in accordance with regulations listed at 76 FR 47010, dated August 3, 2011, enclosed is LOA 14-15 authorizing NordAq to take small numbers of polar bears incidental to oil and gas exploration activities in association with the 2014-2015 Tulimaniq Exploration Drilling Project. In addition, Intentional Take Authorization LOA 14-INT-11, as authorized under sections 101(a)(4)(A), 109(h), and 112(c) of the Marine Mammal Protection Act (MMPA), is also enclosed.

NordAq proposes to drill one oil and gas exploration well during the winter of 2014-2015 near the delta of the Ikpikpuk River in the southern extent of Smith Bay on the North Slope of Alaska. Access to the sites will be by frozen snow and ice trails. NordAq proposes to support the project with a 5,000 foot (1,524 meter) ice airstrip on Lake 645 near Smith Bay, one drill rig, support camp, and construction facilities. A detailed description of the proposed activities is provided in NordAq's *2014-2015 Lease Plan of Operations, North Slope, Alaska (September 2014, Rev. 3.1)*.

NordAq's *Wildlife Avoidance & Interaction Plan (September 2014, Rev. 0)* is incorporated by reference into this LOA. NordAq field camps and personnel may limit encounters of polar bears by being observant of approaching animals (i.e., the use of polar bear guards) and where practicable, by allowing the animals to pass unhindered. NordAq will also: 1) Provide copies of the polar bear observation form to all contractors operating under the LOA; 2) report any polar bear sightings, or signs of polar bears, such as tracks or excavations, to this office by phone or using the polar bear observation report; and, 3) report any possible den locations that are found during work activities to our office within 12 hours of discovery. U.S. Fish and Wildlife Service

(Service) biologists are available to address questions or concerns that may arise during the project period at the phone numbers listed below and noted in your interaction plan.

If a polar bear interaction escalates into a life threatening situation, section 101(c) of the MMPA allows, without specific authorization, the take (including lethal take) of a polar bear if such taking is imminently necessary for self-defense or to save the life of a person in immediate danger, and such taking is reported to the Service within 24 hours.

Polar bear conservation has benefited from monitoring programs associated with the Incidental Take Program since 1993. Monitoring serves to assess the effect of industrial activities on polar bears by evaluating trends and effects of bear encounter rates, take frequency, as well as the location and timing of encounters. Additionally, through monitoring, the Service seeks to limit disturbance to maternal polar bear den sites, both known dens and those areas that could possibly be preferred by denning polar bears. NordAq must use caution when operating near these areas during the maternal denning period (mid-November to mid-April). A polar bear den detection survey will be required in the areas of potential denning habitat where NordAq proposes to operate.

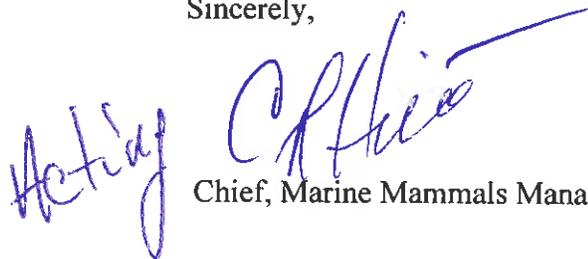
The U.S. Geological Survey has posted information regarding polar bear denning habitat on the Alaska Science Center (ASC) website. The den habitat map (ARC/INFO export file), the mapping manuscript (PDF file), and an image of den habitat (JPG file) are available on the ASC website: <http://www.absc.usgs.gov/dataproducts.htm>. Use these resources when planning activities in potential denning areas.

If any changes develop during the project, such as activities or location, the Service must be notified prior to the planned operation. This will allow us to evaluate the activity and, if appropriate, amend the appropriate LOA(s).

The Service has completed intra-Service consultation under the Endangered Species Act of 1973, as amended (ESA), on the issuance of these LOAs and has determined that issuance of these LOAs is not likely to jeopardize the continuing existence of polar bears. No additional authorization under the ESA is required.

If you have any further questions, please contact Mr. Craig Perham or Mr. Christopher Putnam of our Marine Mammals Management Office, at (907) 786-3810 or (907) 786-3844, respectively.

Sincerely,


Chief, Marine Mammals Management

Enclosures

Mr. Mike Miller

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cc: Mr. Richard Shideler, Alaska Department of Fish & Game (email)
U.S. Fish & Wildlife Service, Fairbanks Fish & Wildlife Field Office
U.S. Fish & Wildlife Service, Office of Law Enforcement
North Slope Borough, Department of Law



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IN REPLY REFER TO:

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LETTER OF AUTHORIZATION Incidental Take (14-15)

ISSUED: November 14, 2014
EXPIRES: May 31, 2015

NordAq Energy, Inc. (NordAq) is hereby authorized to take small numbers of polar bears (*Ursus maritimus*) incidental to activities occurring during the Tulimaniq Exploration Drilling Project from November 2014, through May 2015, on the North Slope of Alaska, in accordance with regulations listed at 76 FR 47010, dated August 3, 2011.

NordAq proposes to drill one oil and gas exploration well during the winter of 2014-2015 near the delta of the Ikpikpuk River in the southern extent of Smith Bay on the North Slope of Alaska. Access to the sites will be by frozen snow and ice trails. NordAq proposes to support the project with a 5,000 foot (1,524 meter) ice airstrip on Lake 645 near Smith Bay, one drill rig, support camp, and construction facilities. A detailed description of the proposed activities is provided in NordAq's *2014-2015 Lease Plan of Operations, North Slope, Alaska (September 2014, Rev. 3.1)*.

This Letter of Authorization (LOA) and the required conditions below apply to all NordAq employees, contractors and personnel performing NordAq-approved work under the scope of operations to be conducted. This authorization is subject to the following conditions.

1. Intentional take is prohibited under this LOA.
2. NordAq's *Wildlife Avoidance & Interaction Plan (September 2014, Rev. 0)* is approved and all provisions must be complied with unless noted otherwise in this LOA.
3. A copy of this LOA and the approved interaction and avoidance plan listed above must be posted and available for all personnel and in the possession of the operators of all vessels and aircraft engaging in the activities approved under the authority of this LOA.
4. NordAq Operations Managers, or designates, must be fully aware, understand, and be capable of implementing the conditions of this LOA.

5. At the discretion of the U.S. Fish and Wildlife Service (Service), NordAq must allow the Service to place an observer on site, including any facilities, vessels, aircraft, or vehicles, to monitor the impacts of the activity on marine mammals, when requested.
6. Polar bear monitoring, reporting and survey activities will be conducted in accordance with 50 CFR § 18.128 and must comply with the following monitoring, mitigation and reporting requirements:
 - NordAq must cooperate with the Service, and other designated Federal, State, or local agencies to monitor the impacts of oil and gas exploration activities on polar bears.
 - If any changes develop in the project during the period approved under this LOA, such as activities, location, or methods, NordAq must notify the Service, Marine Mammals Management Office (MMM) prior to the implementation of such changes.
 - NordAq must not conduct activities that operate nor pass within one mile (1.6 kilometers) of known polar bear dens, and all observed dens must be reported to the Service, MMM within 12 hours of discovery. If occupied dens are identified within one mile of activities, work within the immediate area will cease and the Service must be contacted for guidance. The Service will evaluate these instances on a case-by-case basis to determine the appropriate action. Potential actions may range from cessation or modification of work to conducting additional monitoring. NordAq must comply with any additional measures specified.
 - A Service approved polar bear den detection survey will be required in the areas of potential denning habitat where NordAq proposes to operate. NordAq will coordinate with the Service to determine what methods, protocols, and areas will be included in the polar bear den detection survey.
 - NordAq must designate a qualified individual or individuals to observe, record, and report the effects of the activity on polar bears to the Service within 24 hours of visual observation.
 - NordAq must submit an annual monitoring report to the Service, MMM as required under 50 CFR § 18.128, which will be received no later than 90 days after the expiration date of the LOA.

This Letter of Authorization is valid for the period indicated on this authorization, unless extended or terminated in writing by the U.S. Fish and Wildlife Service, Marine Mammals Management Office.

Activity



Chief, Marine Mammals Management

NOV 14 2014

Date



United States Department of the Interior



U.S. FISH AND WILDLIFE SERVICE
1011 East Tudor Road
Anchorage, Alaska 99503-6199

IN REPLY REFER TO:

AFES/MMM

LETTER OF AUTHORIZATION Intentional Take (14-INT-11)

ISSUED: November 14, 2014
EXPIRES: May 31, 2015

NordAq Energy, Inc. (NordAq) is hereby authorized to intentionally take by non-lethal Level B harassment small numbers of polar bears (*Ursus maritimus*) associated with activities occurring during the Tulimaniq Exploration Drilling Project from November 2014, through May 2015, on the North Slope of Alaska, in accordance with sections 101(a)(4)(A), 109(h) and 112(c) of the Marine Mammal Protection Act of 1972 (MMPA), as amended. A detailed description of the proposed activities is provided in NordAq's *2014-2015 Lease Plan of Operations, North Slope, Alaska (September 2014, Rev. 3.1)*.

Section 101(a)(4)(A) of the MMPA states that, "Except as provided in subparagraphs (B) and (C), the provisions of this chapter shall not apply to the use of measures-

- i. by the owner of fishing gear or catch, or an employee or agent of such owner, to deter a marine mammal from damaging the gear or catch;
- ii. by the owner of other private property, or an agent, bailee, or employee of such owner, to deter a marine mammal from damaging private property;
- iii. by any person, to deter a marine mammal from endangering personal safety; or
- iv. by a government employee, to deter a marine mammal from damaging public property, so long as such measures do not result in the death or serious injury of a marine mammal."

Section 112(c) allows for the transfer of Federal authority "... as may be necessary to carry out the purposes of this title (Conservation and Protection of Marine Mammals)... and on such terms as he deems appropriate with any Federal or State agency, public or private institution, or other person."

Section 109(h)(1) states that, “nothing in this title [Conservation and Protection of Marine Mammals]... shall prevent a Federal, State, or local government official or employee or a person designated under section 112(c) from taking, in the course of his or her duties as an official, employee, or designee, a marine mammal in a humane manner (including euthanasia) if such taking is for-

- A. the protection or welfare of the mammal,
- B. the protection of the public health and welfare, or
- C. the non-lethal removal of nuisance animals.”

Non-lethal Level B taking by harassment of polar bears, also known as deterrence, hazing, or intentional take, is defined as any activity that is planned, purposeful, and directed that is intended to alter the behavior of polar bears, e.g., change their direction of travel, or cause them to leave or avoid an area. The purpose of authorizing non-lethal Level B taking by harassment is to maintain human and bear safety and welfare on the North Slope and reduces the likelihood of death or injury of polar bears by humans. For this reason, this authorization is guided by the following objectives:

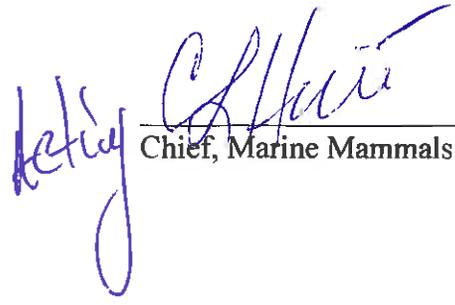
- Prevent bears from associating food with humans and facilities.
- “Condition” bears to avoid people (avoidance conditioning).
- Allow bears to use travel routes (natural and human made) to move along the coast.
- Prevent bears from extended use of areas around facilities.

This Letter of Authorization (LOA) is subject to the following conditions:

1. This LOA is restricted to the non-lethal Level B harassment of polar bears.
2. NordAq’s *Wildlife Avoidance & Interaction Plan (September 2014, Rev. 0)* is approved and incorporated into this LOA by reference. Full implementation of the plan is expected and provisions must be complied with unless noted otherwise in this LOA. A copy of the plan must be available on site for all personnel.
3. NordAq operations managers, or designates, must be fully aware, understand, and be capable of implementing the conditions of this authorization.
4. This LOA is issued specifically to NordAq who is responsible for ensuring **trained and qualified** personnel are assigned the task to harass polar bears. A list of trained personnel responsible for these activities must be on file with the U.S. Fish and Wildlife service (Service) Incidental Take Coordinator prior to initiation of project activities.
5. NordAq is solely responsible for ensuring that personnel operating under this authorization meet all Federal and State laws and regulations regarding the use and carry of firearms should firearms be used for bear deterrence.

6. NordAq, or its designated agent, is responsible for documenting and reporting to the Service, Marine Mammals Management Office (MMM) all instances involving polar bear harassment activities as soon as possible and no later than 24 hours after the occurrence.
7. Harassment techniques must not cause injury or death of a bear. These techniques may include, but are not limited to:
 - Bear monitors.
 - Air horns.
 - Electric fences.
 - Chemical repellents.
 - Acoustic recordings.
 - Vehicles.
 - Projectiles, such as, cracker shells, bean bags, rubber bullets, and screamers.
8. Prior to conducting a harassment activity, operators must:
 - Make a reasonable effort to reduce or eliminate attractants.
 - Secure site, notify supervisor and move personnel to safety.
 - Identify polar bear(s) escape route(s).
 - Ensure communication with all personnel.
9. When conducting a harassment activity, operators must:
 - Keep in mind that the safety and welfare of the bear is second only to the safety and welfare of humans in a harassment situation.
 - Shout at the polar bear(s) first, before using other methods.
 - Choose the method and intensity that will have the least negative effect on the bear(s) to achieve the desired result.
 - Only increase the intensity of the method or use additional methods as necessary to achieve the desired result.
 - Move bear(s) in a direction that is safe for other people in the area, as well as the bear(s).
 - Continue with minimally necessary harassment to achieve the desired result.
10. After a harassment event has occurred, operators must:
 - Monitor bears movement (to ensure no return).
 - Notify supervisor and personnel when it is safe to resume work.
 - Fill out report to be sent to the Service as required above (within 24 hours).
11. A final report of all interactions and harassment activities must be submitted to the Service, MMM no later than 60 days from the expiration date of this LOA.
12. Any lethal take or injury of a polar bear must be reported to the Service MMM immediately.

This Letter of Authorization is valid for the period indicated on this authorization, unless extended or terminated in writing by U.S. Fish and Wildlife Service, Marine Mammals Management Office.



Chief, Marine Mammals Management

NOV 14 2014
Date