United States Department of the Interior

FISH AND WILDLIFE SERVICE
1011 E. Tudor Road
Anchorage, Alaska 99503-6199

IN REPLY REFER TO:

AFES/MMM

MAY 19 2010

Ms. Susan Childs
Shell Exploration & Production Company
3601 C Street, Suite 1334
Anchorage, Alaska 99503

Dear Ms. Childs:

This responds to your February 9, 2010, request for Letters of Authorization (LOA) for the incidental take of polar bears and Pacific walrus and intentional take of polar bears in relation to the Shell Offshore, Inc. (Shell) 2010 Proposed Open Water Marine Survey Program and Onshore Environmental Baseline Study Activities, Beaufort Sea (2010 Beaufort Sea program).

Enclosed is a LOA (10-11) that would allow Shell to take small numbers of polar bears and Pacific walrus incidental to oil and gas industry activities identified in your LOA request. Shell's planned open-water marine survey season will occur from May 2010 through October 2010. Activities, which are described in your application, will include:

1. Site clearance and shallow hazards surveys;
2. Ice gouge survey;
3. Strudel scour survey;
4. Marine and onshore environmental baseline studies; and
5. Seafloor soil sampling

If any changes develop in your project during the 2010 open-water season, such as activities or location, the Marine Mammals Management Office (MMM) must be notified prior to the planned operation. This will allow us to evaluate the activity and, if appropriate, amend the LOA.

This letter, through a separate authorization, also grants Shell authority to take polar bears by harassment (deterrence activities) for the protection of both human life and polar bears while conducting activities in polar bear habitat. This authorization allows only the harassment or deterrence of polar bears and does not authorize lethal take of a polar bear. This authorization is issued specifically to Shell employees who are responsible for ensuring that trained and qualified personnel are assigned the task to harass (deter) polar bears. All polar bear harassment events are to be reported to our MMM within 24 hours. Observation forms can be sent by fax or

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electronic mail to our office. This authorization is effective from the date of issuance to November 30, 2010. Intentional take is authorized under sections 101(a)(4)(A), 109(h), and 112(c) of the Marine Mammal Protection Act (MMPA). A final report of all encounters and hazing events is due 60 days from the expiration of this authorization.

In addition to protection measures for marine mammals described in the Shell polar bear interaction plan (Polar Bear and Pacific Walrus Awareness and Interaction Plan, North Slope and Chukchi Sea, Alaska, April 2008, with addendums), the U.S. Fish and Wildlife Service (Service) believes that Shell personnel can limit human/polar bear interactions by being observant of approaching animals, such as through the use of marine mammal observers, and discontinuing the interaction, if practicable, thereby allowing the animals to continue their travel. Service biologists are available for consultation if questions or concerns arise regarding polar bears during the project period at the phone numbers listed below and noted in your interaction plan.

Any situations where the application of deterrents involves a safety risk to personnel should be avoided. 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 in self-defense or to save the life of a person in immediate danger, and such taking is reported to the U.S. Fish and Wildlife Service, Marine Mammal Management Office within 24 hours.

Furthermore, in accordance with Section 7 of the Endangered Species Act of 1973, as amended (ESA), issuance of this LOA also fulfills the requirements for Tier 2 Consultation of the Programmatic Biological Opinion for the activities described herein. In the "Programmatic Biological Opinion for Polar Bears (*Ursus maritimus*) on Chukchi Sea Incidental Take Regulations" (June 2008; Tier 1 BO), the Service determined that the take anticipated as a result of the issuance of the Incidental Take Regulations is not likely to result in jeopardy to the polar bear, in accordance with Section 7 of the ESA. In order for the Tier 2 BO to be consistent with the "no jeopardy" conclusion of the Tier 1 BO and for an ESA incidental take statement (ITS) to be issued, the following need to occur: (1) the proposed activity must provide the required information, as described in §18.118 of the Regulations, (2) the LOA includes any mitigation measures that the MMM believes appropriate for the specific activity and location, as described in §18.118 of the Regulations, and (3) the MMM must determine that the incidental take for the specific activity will be consistent with the negligible impact finding for the total take allowed under the Incidental Take Regulations.

A reasonable and prudent measure and implementing terms and conditions were included for the MMM in the Tier 1 BO and have been incorporated into the LOA process. Issuance of this ITS with the LOA completes ESA requirements for authorization of incidental take of the polar bear. Compliance with the terms and conditions of this LOA ensures that the LOA holder is also in compliance with the ESA.

This authorization is issued in accordance with our regulations listed at 71 FR 43926, dated August 2, 2006. Should you have any further questions contact Mr. Craig Perham of our Marine Mammals Management Office, at (907) 786-3800 or 786-3810.

Sincerely,

Rosa Meehan, Ph.D.
Chief, Marine Mammals Management

Enclosures

cc: Mr. Rance Wall, MMS
Fairbanks Fish and Wildlife Field Office (FFWFO)
USFWS Office of Law Enforcement (OLE)
North Slope Borough Department of Law

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1011 E. Tudor Road
Anchorage, Alaska 99503-6199

IN REPLY REFER TO:

AFES/MMM

ISSUED: April 30, 2010
EXPIRES: November 30, 2010

LETTER OF AUTHORIZATION
(10-11)

Shell Offshore, Inc. (Shell) is hereby authorized to take, by Level B Harassment only, small numbers of polar bears and Pacific walruses incidental to activities occurring during the 2010 Proposed Open Water Marine Survey Program and Onshore Environmental Baseline Study Activities, Beaufort Sea (2010 Beaufort Sea program).

A detailed description of the authorized activities is provided in Addendum 2010-02, 2010 Proposed Open Water Marine Survey Program And Onshore Environmental Baseline Study Activities – Beaufort Sea and Onshore, received by the Service February 9, 2010. Addendum 2010-02 is a supplement to the USFWS-approved *Polar Bear and Pacific Walrus Awareness and Interaction Plan, North Slope and Chukchi Sea, Alaska; April 2008.* The 2010 Marine Mammal Monitoring and Mitigation Plan (Marine Mammal Monitoring and Mitigation Plan for Proposed Open Water Marine Survey Program in the Beaufort and Chukchi Seas, Alaska, during 2010) was received by the Service on April 22, 2010.

The LOA is valid from the date of issuance to November 30, 2010. This authorization and the required conditions below include contractors of Shell performing Shell-approved work under the scope of operations to be conducted. Authorization is subject to the following conditions:

1. Shell Operations Managers, or their designates, must be fully aware, understand, and capable of implementing the conditions of this authorization.

2. The species authorized for takings, by Level B Harassment only, are: Pacific walrus (*Odobenus rosmarus divergens*), and polar bear (*Ursus maritimus*). The taking of any walrus or polar bear in a manner prohibited under this authorization must be reported within 24 hours of the taking to the Service Incidental Take Coordinator in Anchorage, Alaska (907-786-3800), or their designee.

3. This Authorization is valid only for activities (including support vessels and aircraft) described in Shell's February 9, 2010 application. Changes in the siting, timing, scope or nature

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of project activities will require prior review and approval.

4. The holder of this Authorization is required to cooperate with the Service and any other Federal, state or local agency monitoring the impacts of the activity on walruses and polar bears.

5. At the discretion of the Service, the operator will allow the Service to place an observer on site (vessels and aircraft) to monitor the impacts of the activity on Pacific walruses and polar bears.

6. The following documents are hereby approved, and all provisions unless specifically noted are incorporated into this authorization by reference:

(a) *Marine Mammal Monitoring and Mitigation Plan for Proposed Open Water Marine Survey Program in the Beaufort and Chukchi Seas, Alaska, During 2010* (received by the Service on April 22, 2010).
(b) *Polar Bear Interaction Plan* (Polar Bear and Pacific Walrus Awareness and Interaction Plan, North Slope and Chukchi Sea, Alaska, April 2008).
(c) *2009 Plan of Cooperation, Beaufort and Chukchi Sea, Alaska, May 2009*

7. If any changes develop in your project during the 2010 Beaufort Sea open-water season, such as activities or location, notify the Marine Mammals Management Office prior to the planned operation.

8. Prohibitions:

(a) The taking, by incidental Level B harassment only, is limited to the species listed under condition 2 above. The taking by Level A harassment, serious injury, or death of these species is prohibited and may result in the modification, suspension or revocation of this Authorization.
(b) The taking of any walrus or polar bear whenever the required marine mammal mitigation and monitoring measures have not been fully implemented as required by this Authorization, is prohibited.

9. Polar bear and walrus monitoring and mitigation must be conducted in accordance with 50 CFR Section 18.118, where Shell must comply with the following monitoring, mitigation, and reporting requirements:

The holder of this Authorization is required to:
(i) Avoid concentrations or groups of walruses and polar bears hauled out onto land or ice by all vessels under the management of Shell. Operators of support vessels should, at all time, conduct their activities at the maximum distance possible from known or observed concentrations of animals. Under no circumstances, other than an emergency, should vessels operate within 800 meters (½ mile) of walruses or polar bears observed on land or ice.

(ii) Take every precaution to avoid harassment of walruses or polar bears in water when a vessel is operated near these animals. Maintain an 800 meter (½ mile) distance, when practicable. Vessels must reduce speed when walruses or polar bears are observed in water and vessels capable of steering around these animals must do so. Vessels may not be operated in such a way as to separate members of a group of walruses or polar bears from other members of the group. Vessels should avoid multiple changes in direction and speed when walruses or polar bears are present.
(iii) Operate in full compliance with the terms identified in the approved documents identified in Condition 6.
(iv) Restriction of walrus or polar bear movements, by any means, in sea or on land, is prohibited. Separation distances must be maintained until animals have left the area.

10. Monitoring.

Vessel Monitoring:

For each walrus or polar bear sighting, an MMO or designated crew member will either record the following:

(A) Species, group size, age/size/sex categories (if determinable), behavioral activity, heading (if consistent), bearing and distance from vessel, sighting cue, and apparent reaction of animals seen near the vessel.

(B) Time, location, heading, speed, and activity of the vessel, along with sea state, visibility, cloud cover and sun glare at any time a walrus or polar bear is sighted.

(C) The identification of all vessels that are visible within 5 km of the vessel whenever a marine mammal is sighted, and the time observed, bearing, distance, heading, speed and activity of the other vessel(s).

11. Reporting:

(a) *Weekly summary of walrus and polar bear sightings.*

The operator must tabulate and report all walrus and polar bear sightings recorded by the MMOs from project vessels to the Service on a weekly basis. For each walrus or polar bear sighting include:
(i) a unique sighting identification number;
(ii) species, group size, age/size/sex categories, and substrate (on ice, in water, both);
(iii) date, time and location;
(iv) environmental conditions including: water depth (meters), sea state (Beaufort scale), visibility 1 (#km), visibility 2 (light/dark), visibility 3 (glare: none, little, moderate, severe), ice condition 1 (estimated % ice cover in vicinity of sighting), ice condition 2 (estimated distance (km) to pack ice);
(v) estimated range (meters) at first sighting, estimated range (meters) at closest approach;
(vi) the behavior of animals sighted (if determinable);
(vii) whether animals appeared to react to the presence of the ship (yes, no), if yes, describe the reaction of the animal(s);
(viii) vessel activity at time of sighting including: vessel name; vessel speed (knots);

vessel activity code; action taken by operator in response to sighting; and,
(ix) any MMO comments or notes

(b) *Notification of incident report.*
The operator must report any incidental lethal take or injury of a polar bear or walrus.

(c) *Post season monitoring report.*
A draft report will be submitted to the Service within 90 days after the end of the program. The report will describe in detail:
(i) the operations that were conducted;
(ii) the methods, results, and interpretation pertaining to all monitoring tasks;
(iii) the results of the 2009 shipboard marine mammal monitoring;
(iv) marine mammal sightings (species, numbers, dates, times and locations; age/size/gender, environmental correlates, activities, associated survey activities);
(vii) estimates of the amount and nature of potential take (exposure) of walruses and polar bears (by species) by harassment or in other ways to industry sounds;
(viii) an analysis of the effects of survey operations (e.g., on sighting rates, sighting distances, behaviors, movement patterns of walruses and polar bears);
(ix) provide an analysis of factors influencing detectability of walruses and polar bears; and,
(x) provide summaries on communications with hunters and potential effects on subsistence uses.

The draft report will be subject to review and comment by the Service. Any recommendations made by the Service must be addressed in the final report prior to acceptance by the Service. The draft report will be considered the final report for this activity under this Authorization if the Service has not provided comments and recommendations within 90 days of receipt of the draft report.

12. Activities related to the monitoring described in this Authorization do not require a separate scientific research permit issued under section 104 of the Marine Mammal Protection Act.

13. A copy of this Authorization and the Service-approved Polar Bear Interaction Plan must be in the possession of the operator of all vessels and aircraft engaging in the activity operating under the authority of this Letter of Authorization.

14. Per the "Programmatic Biological Opinion for the Chukchi Sea Incidental Take Regulations for Polar Bear (June 2008)", your request also triggers the second of the two-tiered programmatic process. In order for incidental take of the polar bear to be exempted from the prohibitions of the ESA, the LOA also serves as an "Incidental Take Statement" (ITS), required

under section 7 of the Endangered Species Act of 1973 (ESA). Issuance of the LOA/ITS fulfills the requirements for Tier 2 Consultation of the Programmatic Biological Opinion for the activities described in this letter.

MAY 19 2010

Chief, Marine Mammals Management

Date

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1011 E. Tudor Road
Anchorage, Alaska 99503-6199

IN REPLY REFER TO:

AFES/MMM

U.S. Fish and Wildlife Service

AUTHORIZATION TO TAKE, BY HARASSMENT, POLAR BEARS (10-INT-15)

ISSUED: April 30, 2010
EXPIRES: November 30, 2010

Under Sections 101 (a)(4)(A), 109(h), and 112(c) of the Marine Mammal Protection Act of 1972, as amended, Shell Offshore, Inc. (Shell) is authorized to take, by harassment, polar bears during exploration activities in association with the 2010 Proposed Open Water Marine Survey Program and Onshore Environmental Baseline Study Activities, Beaufort Sea (2010 Beaufort Sea program).

A detailed description of the authorized activities is provided in Addendum 2010-02, 2010 Proposed Open Water Marine Survey Program And Onshore Environmental Baseline Study Activities – Beaufort Sea and Onshore, received by the Service February 9, 2010. Addendum 2010-02 is a supplement to the USFWS-approved *Polar Bear and Pacific Walrus Awareness and Interaction Plan, North Slope and Chukchi Sea, Alaska; April 2008.* The 2010 Marine Mammal Monitoring and Mitigation Plan (Marine Mammal Monitoring and Mitigation Plan for Proposed Open Water Marine Survey Program in the Beaufort and Chukchi Seas, Alaska, during 2010) was received by the Service on April 22, 2010.

Section 101(a)(4)(A) 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;

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(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 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."

The purpose of authorizing taking by harassment, or deterrence, is to maintain human and bear safety and welfare in polar bear habitat. Authorizing Level B harassment take reduces the likelihood of death or injury of polar bears. This is accomplished by the following objectives:

1. Prevent bears from associating food with humans and facilities
2. "Train" bears to avoid people
3. Allow bears to use travel routes (natural and man-made) to move along the coast
4. Prevent bears from extended use of areas around facilities

Harassment authorization is subject to the following conditions:

1. The "Polar Bear and Pacific Walrus Awareness and Interaction Plan, North Slope and Chukchi Sea, Alaska, April 2008," is approved and all provisions must be complied with unless specifically noted otherwise in this Letter of Authorization. A copy of this polar bear interaction plan must be available on site for all personnel.

2. Shell Operations Managers, or their designates, must be fully aware of, understand, and be capable of implementing the conditions of this authorization.

3. This authorization is valid only for those activities identified in the request for a Letter of Authorization dated February 9, 2010.

4. This authorization is restricted to harassment activities.

5. Authorized individuals are responsible for documenting and reporting to the U.S. Fish and Wildlife Service, Marine Mammals Management Office, (907) 786-3800, all

instances involving harassment activities as soon as possible and not later than 24 hours after the occurrence.

6. This authorization is issued specifically to Shell who is responsible for ensuring that **trained and qualified** personnel are assigned the task to harass (deter) polar bears.

7. Activities will not operate nor pass within 1 mile of known polar bear dens, and all observed dens will be reported to the Marine Mammals Management Office, Fish and Wildlife Service immediately. Should occupied dens be identified within one mile of activities, work in the immediate area will cease and Service will be contacted for guidance. The Service will evaluate these instances on a case-by-case basis to determine the appropriate action. Potential responses may range from cessation or modification of work to conducting additional monitoring.

8. Hazing techniques must not cause the injury or death of a bear. Types of hazing techniques may include, but are not limited to:

    - Bear Monitors
    - Air horns
    - Electric fences
    - Chemical repellents
    - Acoustic recordings
    - Vehicles
    - Projectiles: cracker shells, bean bags, rubber bullets, and screamers.

9. Prior to conducting a harassment activity, operators must:

    - Reduce/eliminate attractants
    - Secure site; notify supervisor; move personnel to safety
    - Ensure bear has escape route(s)
    - Ensure communication with all personnel

10. When conducting a harassment activity, operators must:

    - Chose the method that will have the least effect on the bear and increase the intensity of the method or use additional methods only if necessary
    - Shout at the bear before using projectile (avoidance conditioning)
    - Move bear in proper direction; continue with minimally necessary deterrents to receive desired result

11. After a harassment event has occurred, operators must:

    - Monitor bear movement (to ensure no return)
    - Notify supervisor and personnel to resume work
    - Fill out report to be sent to the Service as required under condition 4 (within 24 hours)

12. This 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.

13. A final report of all encounters and hazing events must be submitted to the U.S. Fish and Wildlife Service, Marine Mammals Management Office within 60 days from the expiration date of this authorization.

Signed: _____

MAY 19 2010

Date: _____