United States Department of the Interior

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

IN REPLY REFER TO:

AFES/MMM

JUL 15 2008

Mr. Bernard Nidowicz, P.E.
ASRC Energy Services
3900 C Street, Suite 601
Anchorage, Alaska 99503

Dear Mr. Nidowicz:

This responds to your April 15, 2008, request for Letters of Authorization (LOA) from the U.S. Fish and Wildlife Service (Service) for the incidental take of polar bears and Pacific walrus and the intentional take of polar bears. ASRC Energy Services (AES) proposes to conduct shallow hazards and site clearance surveys in the Chukchi Sea for up to 100 days. The proposed start date for this project is mid-July, 2008. The 2008 AES Chukchi Sea Marine Survey contains two components: 1) a shallow hazards survey; and 2) a site clearance survey to determine water depths, identify and map hazards to drilling, and detail seafloor morphology.

Enclosed is an LOA (08-02-CS) that would allow AES to take small numbers of polar bears and walruses incidental to the Marine Survey during the open-water period of 2008. If any changes develop in your project during this 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.

Polar bear and walrus 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 and walruses by evaluating trends and effects of bear and walrus encounter rates, take frequency, as well as the location and timing of encounters. The Service biologists are available for consultation if questions or concerns arise regarding polar bears and walruses 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 in self-defense or to save the life of a person in immediate danger, and such taking is reported to the MMM 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

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Biological Opinion for Polar Bears (*Ursus maritimus*) on Chukchi Sea Incidental Take Regulations" (June 2008; Tier 1 BO), the Service determined that the total take anticipated as a result of the issuance of the Incidental Take Regulations (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 the §18.124 of the Regulations, (2) the LOA includes any mitigation measures that the MMM believes appropriate for the specific activity and location, as described in §18.128 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 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 73 FR 33212, dated June 11, 2008. Should you have any further questions contact Mr. Craig Perham at (907) 786-3800 or 786-3810.

Sincerely,

Acting Regional Director

Enclosure

cc: Ms. Amanda Henry, ASRC Energy Services
Fairbanks Fish and Wildlife Field Office (FFWFO)
USFWS Office of Law Enforcement (OLE)

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: July 7, 2008
EXPIRES: November 30, 2008

LETTER OF AUTHORIZATION
(08-02-CS)

ASRC Energy Services (AES) is hereby authorized to take small numbers of polar bears and Pacific walruses incidental to activities occurring during the 2008 Chukchi Sea Open-water Marine Survey Program. This project is scheduled for the period of mid July 2008 through November 2008. A detailed description of the authorized activities can be found in the, "Chukchi Sea Marine Survey - Outer Continental Shelf Work Plan, Chukchi Sea, Alaska," dated April 2008.

The 2008 AES Chukchi Sea Marine Survey contains two components: 1) a shallow hazards survey, and 2) a site clearance survey to determine water depths, identify and map hazards to drilling, and detail seafloor morphology.

This authorization and the required conditions below include contractors of AES performing AES-approved work under the scope of operations to be conducted. Authorization is subject to the following conditions:

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

2. This Authorization is valid only for activities (including support vessels) associated with AES's 2008 Chukchi Sea Marine Survey Activities, as specified in AES's April 15, 2008 application.

3. Intentional take is prohibited under this authorization.

4. AES must cooperate with the U.S. Fish and Wildlife Service (Service), and other designated Federal, State, or local agencies to monitor the impacts of oil and gas exploration activities on Pacific walrus and polar bears.

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5. If any changes develop in your project during the 2008 open-water season, such as activities or location, notify the Marine Mammals Management Office prior to the planned operation.

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,* March 2008. Received by the Service April 16, 2008.

(b) *Polar Bear Interaction Plan* (Polar Bear and Pacific Walrus Awareness and Interaction Plan, North Slope and Chukchi Sea, Alaska, April 2008).

(c) *2008 Plan of Cooperation, Chukchi Sea Villages, Alaska*, ASRC Energy Services, May 2008.

7. 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, as specified in condition 10(d).

8. 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. The holder must notify the Service Incidental Take Coordinator at least 24 hours prior to the start of collecting seismic data.

9. 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.

10. Prohibitions:

(a) The taking, by incidental Level B harassment only, is limited to the species listed under condition 4 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 (conditions 11 and 12) have not been fully implemented as required by this Authorization, is prohibited.

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

(a) *General Mitigation*:

The holder of this Authorization is required to:

(i) (A) Avoid concentrations or groups of walruses and polar bears hauled out onto land or ice by all vessels under the direction of AES. Operators of support vessels should, at all time, conduct their activities at the maximum distance possible from known

5. If any changes develop in your project during the 2008 open-water season, such as activities or location, notify the Marine Mammals Management Office prior to the planned operation.

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,* March 2008. Received by the Service April 16, 2008.

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8. 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. The holder must notify the Service Incidental Take Coordinator at least 24 hours prior to the start of collecting seismic data.

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

(a) *General Mitigation*:

The holder of this Authorization is required to:

(i) (A) Avoid concentrations or groups of walruses and polar bears hauled out onto land or ice by all vessels under the direction of AES. 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) exclusion zone, 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 document identified in Condition 6.
(iv) Restriction of walrus or polar bear movements, by any means, in sea or on land, is prohibited. Exclusion zones will be enforced until animals have left the area.

(b) *Seismic Vessel Mitigation:*
The holder of this Authorization is required to:
(i) Reduce the volume of the airgun array during vessel turns while running seismic lines.
(ii) To the extent practical, whenever a marine mammal is detected outside the exclusion zone radius, and based on its position and motion relative to the ship track is likely to enter the safety radius, an alternative ship speed or track will be calculated and implemented.
(iii) Exclusion and Monitoring-Safety Zones:

(A) Establish and monitor with trained observers an exclusion zone (safety radius) for walruses surrounding the seismic airgun array where the received level would be 180 dB.

(B) Establish and monitor with trained observers an exclusion zone (safety radius) for polar bear surrounding the seismic airgun array where the received level would be 190 dB.
(iv) Power-down/Shut-down Procedures:

(A) During seismic operations, if a bear or a walrus is sighted in the AES-established exclusion zone, operations will power down/shut-down until the animal moves out of the exclusion zone or established safety radii.

(B) Immediately shut-down the seismic airgun array and/or other acoustic sources, whenever any walruses are sighted approaching close to or within the area delineated by the established safety radii for pinnipeds of 180 dB isopleth, or polar bear are sighted approaching close to or within the area delineated by the 190 dB isopleth established under condition 11(b)(iii).

(C) Do not proceed with ramping up the seismic airgun array unless the safety zones described in condition 11(b)(iii) are visible and no walruses and polar bears are detected within the appropriate safety zones; or until 15 minutes after there has been no further visual detection of the animal(s) within the safety zone and the trained marine mammal observer on duty is confident that no walruses and polar bears remain within the appropriate safety zone, provided the entire safety zone was visible for at least 30 minutes.

(D) Emergency shut-down. If observations are made or credible reports are received that one or more walruses and polar bears are within the area of the seismic survey are in an injured or mortal state, or are indicating acute distress due to seismic noise, the seismic airgun array will be immediately shut down and the Service Incidental Take Coordinator contacted. The airgun array will not be restarted until review and approval has been given by either the Service Incidental Take Coordinator or their designee.

(v) Ramp-up Procedures:

(A) Prior to commencing ramp-up described in condition 11 (b)(v)(C) the safety radius for polar bears n walruses has to be visible and observed by a marine mammal observer if: a complete shut-down has occurred; or at any time electrical power to the airgun array is discontinued for a period of 10 minutes or more; and the marine mammal observer watch has been suspended;

(B) If the safety radii are not completely visible for at least 30 minutes prior to ramp-up in either daylight or nighttime, ramp up can commence following established procedures.

(C) If the complete 180 dB safety range is visible and no walruses and polar bears are observed while undertaking pre-ramp-up monitoring under conditions 11(b)(v)(A) and (B), ramp-up airgun arrays slowly over a period of at least 15 minutes starting with the smallest airgun in the array and then adding additional guns in sequence, until the full array is firing: (1) At the commencement of seismic operations, and (2), anytime after the airgun array has been powered down for more than 10 minutes.

(vi) Poor Visibility Conditions

(A) During any nighttime operations, if the entire 180–dB safety radius is visible using vessel lights and/or night vision devices, then start of a ramp-up procedure after a complete shutdown of the airgun array may occur following a 30–min period of observation without sighting marine mammals in the safety zone.

(B) If during foggy conditions or darkness, the full 180–dB safety zone is not visible, the airguns cannot commence a ramp-up procedure from a full shutdown.

(C) If one or more airguns have been operational before nightfall or before the onset of foggy conditions, they can remain operational throughout the night or foggy conditions. In this case, ramp-up procedures can be initiated, even though the entire safety radius may not be visible, on the assumption that marine mammals will be alerted by the sounds from the single airgun and have moved away.

12. Monitoring.

(a) *Seismic Vessel Monitoring*:

(i) The holder of this Authorization must have biologically-trained, marine mammal observers (MMOs) onboard the seismic source vessels.

(ii) MMOs will monitor to:

(A) Ensure that no walruses and polar bears enter the appropriate safety zones established under condition 11(b)(iii), whenever the seismic array is on.

(B) Record marine mammal activity as described in condition 12(a)(v) below. An observer must be on watch during ramp ups and the 30 minutes prior to full ramp ups, and for as large a fraction of the other operating hours as possible. At all other times, one

(D) Emergency shut-down. If observations are made or credible reports are received that one or more walruses and polar bears are within the area of the seismic survey are in an injured or mortal state, or are indicating acute distress due to seismic noise, the seismic airgun array will be immediately shut down and the Service Incidental Take Coordinator contacted. The airgun array will not be restarted until review and approval has been given by either the Service Incidental Take Coordinator or their designee.

(v) Ramp-up Procedures:

(A) Prior to commencing ramp-up described in condition 11 (b)(v)(C) the safety radius for polar bears n walruses has to be visible and observed by a marine mammal observer if: a complete shut-down has occurred; or at any time electrical power to the airgun array is discontinued for a period of 10 minutes or more; and the marine mammal observer watch has been suspended;

(B) If the safety radii are not completely visible for at least 30 minutes prior to ramp-up in either daylight or nighttime, ramp up can commence following established procedures.

(C) If the complete 180 dB safety range is visible and no walruses and polar bears are observed while undertaking pre-ramp-up monitoring under conditions 11(b)(v)(A) and (B), ramp-up airgun arrays slowly over a period of at least 15 minutes starting with the smallest airgun in the array and then adding additional guns in sequence, until the full array is firing: (1) At the commencement of seismic operations, and (2), anytime after the airgun array has been powered down for more than 10 minutes.

(vi) Poor Visibility Conditions

(A) During any nighttime operations, if the entire 180–dB safety radius is visible using vessel lights and/or night vision devices, then start of a ramp-up procedure after a complete shutdown of the airgun array may occur following a 30–min period of observation without sighting marine mammals in the safety zone.

(B) If during foggy conditions or darkness, the full 180–dB safety zone is not visible, the airguns cannot commence a ramp-up procedure from a full shutdown.

(C) If one or more airguns have been operational before nightfall or before the onset of foggy conditions, they can remain operational throughout the night or foggy conditions. In this case, ramp-up procedures can be initiated, even though the entire safety radius may not be visible, on the assumption that marine mammals will be alerted by the sounds from the single airgun and have moved away.

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(i) The holder of this Authorization must have biologically-trained, marine mammal observers (MMOs) onboard the seismic source vessels.

(ii) MMOs will monitor to:

(A) Ensure that no walruses and polar bears enter the appropriate safety zones established under condition 11(b)(iii), whenever the seismic array is on.

(B) Record marine mammal activity as described in condition 12(a)(v) below. An observer must be on watch during ramp ups and the 30 minutes prior to full ramp ups, and for as large a fraction of the other operating hours as possible. At all other times, one

observer must be on active watch whenever the seismic airgun array is operating during all daytime airgun operations, during any nighttime power-ups of the airguns and at night, whenever that day's monitoring resulted in one or more power-downs due to marine mammal presence.
(iii) The vessel crews also must be instructed to keep watch for walruses and polar bears at all times. If any are sighted, the bridge watch-stander must immediately notify the MMO on-watch.
(iv) Observations by the MMOs on marine mammal presence and activity will begin a minimum of 30 minutes prior to the estimated time that the seismic source is to be turned on and/or ramped-up.
(v) For each walrus or polar bear sighting, MMOs will record the following:

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

(B) Time, location, heading, speed, and activity of the vessel, along with sea state, ice cover, visibility, cloud cover and sun glare at: (1) any time a marine mammal is sighted, (2) at the start and end of each watch, and (3) during a watch (whenever there is a change in one or more variable)

(C) The identification of all vessels that are visible within 5 km of the seismic vessel whenever a marine mammal is sighted, and the time observed, bearing, distance, heading, speed and activity of the other vessel(s).
(vi) All MMOs must be provided with and use appropriate night-vision devices, Big Eyes, and reticulated and/or laser range finding binoculars.
(vii) The operator of the seismic vessel must maintain a log of seismic activity noting the date and time of all changes in seismic activity (e.g. ramp up, power down, shut down, changes in the number of active airguns or the volume of airgun arrays) and any corresponding changes in monitoring radii.

(b) *Non-seismic Vessel Monitoring:*
(i) A designated crew member on a non-seismic vessel will immediately contact the seismic survey ship if walruses and polar bears are sighted within the 800m exclusion zone of the source vessels.
(ii) For each walrus or polar bear sighting, a designated crew member will either record or communicate to the source vessel MMO 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).

13. Reporting:
(a) *Marine mammal observer training manual and data collection protocols*. Prior to the

initiation of seismic operations, the operator must provide the Service with:
(i) A description and documentation of the MMO training program;
(ii) a copy of the MMO field manual and/or operating procedures; and,
(iii) a key to MMO data codes, including definitions and descriptions of all data fields.

(b) *Sound source verification report.* The results of field source verification and the distances to the various sound radii are to be reported to the Service within 5 days of completing the measurements.

(c) *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 all 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 (for pre-lease seismic surveys, specific location information may be withheld until the results of the next lease sale are announced);
(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); seismic activity code; action taken by operator in response to sighting? (yes, no) If yes, specify (e.g. powerdown, shutdown); and,
(ix) any MMO comments or notes

(d) *Notification of incident report.* The operator must report:
(A) any incidental lethal take or injury of a polar bear or walrus; and,
(B) observations of walruses or polar bears within the prescribed safety zones (180/190 dB radii around seismic arrays, or 0.5 mile marine buffer areas) to the Service within 24 hours. Reports should include all information specified under 10(c) as well as a full written description of the encounter and any actions taken by the operator.

(e) *Post season seismic monitoring report*: A draft report will be submitted to the Service within 90 days after the end of the seismic survey program in the Chukchi Sea. The report will describe in detail:
(i) the operations that were conducted;
(ii) the results of the acoustical measurements to verify the safety radii;
(iii) the methods, results, and interpretation pertaining to all monitoring tasks;
(iv) the results of the 2008 shipboard marine mammal monitoring;
(v) a summary of the dates and locations of seismic operations, including summaries of

initiation of seismic operations, the operator must provide the Service with:
(i) A description and documentation of the MMO training program;
(ii) a copy of the MMO field manual and/or operating procedures; and,
(iii) a key to MMO data codes, including definitions and descriptions of all data fields.

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(ii) species, group size, age/size/sex categories, and substrate (on ice, in water, both);
(iii) date, time and location (for pre-lease seismic surveys, specific location information may be withheld until the results of the next lease sale are announced);
(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); seismic activity code; action taken by operator in response to sighting? (yes, no) If yes, specify (e.g. powerdown, shutdown); and,
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(iii) the methods, results, and interpretation pertaining to all monitoring tasks;
(iv) the results of the 2008 shipboard marine mammal monitoring;
(v) a summary of the dates and locations of seismic operations, including summaries of

power downs, shut downs, and ramp up delays;
(vi) marine mammal sightings (species, numbers, dates, times and locations; age/size/gender, environmental correlates, activities, associated seismic 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 seismic 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.

(f) *Seismic monitoring data*: An electronic copy of all seismic monitoring data described in condition 12(a)(v) and (vii) will be submitted to the Service within 90 days after the end of the seismic survey program.

14. 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.

15. 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.

16. 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.

Regional Director

15 July 08
Date