



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, MD 20910

**AUG 06 2010**

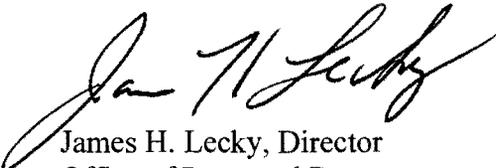
Karin Berentsen  
Alaska HSE and Stakeholder Advisor  
Global Exploration North America E&P  
2700 Gambell Street, Suite 200  
Anchorage, Alaska 99503

Dear Ms. Berentsen:

Enclosed is an Incidental Harassment Authorization (IHA) issued to Statoil USA E&P Inc. under the authority of Section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*), to take, by Level B harassment only, small numbers of beluga whales (*Delphinapterus leucas*); harbor porpoises (*Phocoena phocoena*); killer whales (*Orcinus orca*); bowhead whales (*Balaena mysticetus*); gray whales (*Eschrichtius robustus*); humpback whales (*Megaptera novaeangliae*); fin whales (*Balaenoptera physalus*); minke whales (*B. acuturostrata*); bearded seals (*Erignathus barbatus*); spotted seals (*Phoca largha*); ringed seals (*P. hispida*); and ribbon seals (*P. fasciata*) incidental to Statoil's marine survey program in the Chukchi Sea during the 2010 open water season. The IHA is valid from August 6, 2010 through November 30, 2010.

You are required to comply with the conditions contained in the IHA. In addition, you must cooperate with any Federal, state or local agency authorized to monitor the impacts of your activities. If you have any questions concerning the IHA or its requirements, please contact Shane Guan, Office of Protected Resources, NMFS, at (301) 713-2289.

Sincerely,



James H. Lecky, Director  
Office of Protected Resources

Enclosure



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, MD 20910

### Incidental Harassment Authorization

Statoil USA E&P Inc. (Statoil), 2700 Gambell Street, Suite 200, Anchorage, Alaska 99503, is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) and 50 CFR 216.107 to take, by Level B harassment only, small numbers of marine mammals incidental to conducting an open water marine seismic survey program in the Chukchi Seas in Arctic Ocean waters under the jurisdiction of the United States, contingent upon the following conditions:

1. This Authorization is valid from August 6, 2010, through November 30, 2010.
2. This Authorization is valid only for activities associated with marine 3D and 2D seismic surveys in the Chukchi Sea. The specific areas where Statoil's marine seismic surveys will be conducted are within the Statoil lease holdings in the Outer Continental Shelf (OCS) Lease Sale 193 area in the northern Chukchi Sea.
3. (a) The species authorized for incidental harassment takings are: beluga whales (*Delphinapterus leucas*); harbor porpoises (*Phocoena phocoena*); killer whales (*Orcinus orca*); bowhead whales (*Balaena mysticetus*); gray whales (*Eschrichtius robustus*); humpback whales (*Megaptera novaeangliae*); fin whales (*Balaenoptera physalus*); minke whales (*B. acutorostrata*); bearded seals (*Erignathus barbatus*); spotted seals (*Phoca largha*); ringed seals (*P. hispida*); and ribbon seals (*P. fasciata*).  
  
(b) The authorization for taking by harassment is limited to vessel noise and to the following acoustic sources (or sources with comparable frequency and intensity) without an amendment to this Authorization:
  - (i) Airgun array that is composed of three strings for a total of 26 active G-guns ( $4 \times 60 \text{ in}^3$ ,  $8 \times 70 \text{ in}^3$ ,  $6 \times 100 \text{ in}^3$ ,  $4 \times 150 \text{ in}^3$ , and  $4 \times 250 \text{ in}^3$ ) with a total discharge volume of  $3000 \text{ in}^3$ ; and
  - (ii) A small  $60 \text{ in}^3$  airgun as a mitigation gun;  
(c) The taking of any marine mammal in a manner prohibited under this Authorization must be reported within 24 hours of the taking to the Alaska Regional Administrator (907-586-7221) or his designee in Anchorage (907-271-3023), National Marine Fisheries Service (NMFS) and the Chief of the Permits, Conservation and Education Division, Office of Protected Resources, NMFS, at (301) 713-2289, ext. 110, or his designee (301-713-2289 ext. 137).



4. The holder of this Authorization is required to cooperate with NMFS and any other Federal, state or local agency with authority to monitor the impacts of the activity on marine animals. The holder must notify the Chief of the Permits, Conservation and Education Division, Office of Protected Resources, at least 48 hours prior to the start of collecting seismic data (unless constrained by the date of issuance of this Authorization in which case notification shall be made as soon as possible).

#### 5. Prohibitions

(a) The taking, by incidental harassment only, is limited to the species listed under condition 3(a) above. The taking by Level A harassment, injury or death of these species or the taking by harassment, injury or death of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this Authorization.

(b) The taking of any marine mammal is prohibited whenever the required source vessel marine mammal observers (MMOs), required by condition 7(a)(i), are not onboard in conformance with condition 7(a)(i) of this Authorization or the passive acoustic monitoring program described in condition 8 is not fully implemented.

#### 6. Mitigation

(a) General Mitigation: The holder of this Authorization is required to:

(i) Avoid concentrations or groups of whales by all vessels under the direction of Statoil. Operators of support vessels should, at all times, conduct their activities at the maximum distance possible from such concentrations of whales.

(ii) Reduce vessel speed to below 10 knots when within 300 yards (274 m) of whales and those vessels capable of steering around such groups should do so. Vessels may not be operated in such a way as to separate members of a group of whales from other members of the group.

(iii) Avoid multiple changes in direction and speed when within 300 yards (274 m) of whales. In addition, operators should check the waters immediately adjacent to a vessel to ensure that no whales will be injured when the vessel's propellers (or screws) are engaged.

(iv) When weather conditions require, such as when visibility drops, adjust vessel speed accordingly to avoid the likelihood of injury to whales.

(vi) Fully implement the following measures, consistent with the 2010 Plan of Cooperation (POC), in order to avoid having an unmitigable adverse impact on the availability of marine mammal species or stocks for taking for subsistence uses:

(A) For the purposes of reducing or eliminating conflicts between subsistence whaling activities and Statoil's survey program, the holder of this Authorization will participate with other operators in the Communication and Call Centers (Com-Center) Program. The Com-Centers will be operated 24 hours/day during the 2010 fall subsistence bowhead whale hunt.

(B) Statoil shall routinely call the communication center according to the established protocol while in the Chukchi Sea.

(C) Upon notification by a Com-Center operator of an at-sea emergency, the holder of this Authorization shall provide such assistance as necessary to prevent the loss of life, if conditions allow the holder of this Authorization to safely do so.

(D) Upon request for emergency assistance made by a subsistence whale hunting organization, or by a member of such an organization, in order to prevent the loss of a whale, the holder of this Authorization shall assist towing of a whale taken in a traditional subsistence whale hunt, if conditions allow the holder of this Authorization to safely do so.

(E) Post-season Review: Following completion of the 2010 Chukchi Sea open water marine seismic survey program, Statoil shall conduct a co-management meeting with the commissioners and committee heads of the Alaska Eskimo Whaling Commission, Eskimo Walrus Commission, Alaska Beluga Whale Committee, Alaska Ice Seal Committee, and the Alaska Nanuuq Commission to discuss results of mitigation measures and outcomes of the preceding season. The goal of the post-season meeting is to build upon the knowledge base, discuss successful or unsuccessful outcomes of mitigation measures, and possibly refine plans or mitigation measures if necessary.

(b) Seismic Vessel Mitigation: The holder of this Authorization is required to:

(i) 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, calculate and implement an alternative ship speed or track or de-energize the airgun array, as described in condition 6(b)(iii)(A) below.

(ii) Exclusion and Monitoring-Safety Zones:

(A) Establish and monitor with trained MMOs a preliminary exclusion zone for cetaceans surrounding the airgun array on the source vessel where the received level would be 180 dB re 1  $\mu$ Pa rms. For purposes of the field verification test, described in condition 7(b), this radius is estimated to be 2,500 m (1.55 mi) from the seismic source.

(B) Establish and monitor with trained MMOs a preliminary exclusion zone for pinnipeds surrounding the airgun array on the source vessel where the received level would be 190 dB re 1  $\mu$ Pa rms. For purposes of the field verification test described in condition 7(b), this radius is estimated to be 700 m (0.44 mi) from the seismic source.

(C) A 160-dB vessel monitoring zone for bowhead and gray whales will be established and monitored during all seismic surveys. Whenever an aggregation of 12 or more bowhead whales or gray whales that appear to be engaged in a non-migratory, significant biological behavior (e.g., feeding, socializing) are observed during an aerial or vessel monitoring program within the 160-dB safety zone around the seismic activity, the seismic operation will not commence or will shut down. For purposes of the field verification test described in condition 7(b), this radius is estimated to be 13,000 m (8.1 mi) from the seismic source.

(D) Immediately upon completion of data analysis of the field verification measurements required under condition 7(c) below, establish and monitor the new 160-dB, 180-dB, and 190-dB marine mammal exclusion zones.

(iii) Power-down/Shutdown:

(A) Immediately power-down the seismic airgun array and/or other acoustic sources, whenever any cetaceans are sighted approaching close to or within the area delineated by the 180 dB re 1  $\mu$ Pa (rms), or pinnipeds are sighted approaching close to or within the area delineated by the 190 dB re 1  $\mu$ Pa (rms) isopleth as established under condition 6(b)(ii) for the authorized seismic airgun array. If the power-down operation cannot reduce the received sound pressure level at the cetacean or pinniped to 180 dB or 190 dB, whichever is appropriate, the holder of this Authorization must immediately shutdown the seismic airgun array and/or other acoustic sources.

(B) Not proceed with powering up the seismic airgun array unless the marine mammal exclusion zones described in conditions

6(b)(ii)(A) through (C) are visible and no marine mammals are detected within the appropriate safety zones; or until 15 minutes (for small odontocetes, pinnipeds) or a minimum of 30 minutes (for mysticetes) after there has been no further visual detection of the animal(s) within the safety zone and the trained MMOs on duty are confident that no marine mammals remain within the appropriate safety zone.

(C) In the unanticipated event that an injured or dead marine mammal is sighted within an area where the holder of this Authorization deployed and utilized seismic airguns within the past 24 hours, immediately shutdown the seismic airgun array and notify the Marine Mammal Stranding Network within 24 hours of the sighting (telephone: 1-800-853-1964).

(I). In the event that the marine mammal has been determined to have been deceased for at least 72 hours, as certified by the lead MMO onboard the source vessel, and no other marine mammals have been reported injured or dead during that same 72 hour period, the airgun array may be restarted (by conducting the necessary ramp-up procedures described in condition 6(b)(iv) below) upon completion of a written certification by the MMO. The certification must include the following: species or description of the animal(s); the condition of the animal(s) (including carcass condition if the animal is dead); location and time of first discovery; observed behaviors (if alive); and photographs or video (if available). Within 24 hours after the event specified herein, the holder of this Authorization must notify the designated staff person (see III below) by telephone or email of the event and ensure that the written certification is provided to the NMFS staff person.

(II). In the event that the marine mammal injury resulted from something other than seismic airgun operations (e.g., gunshot wound, polar bear attack), as certified by the lead MMO onboard the seismic vessel, the airgun array may be restarted (by conducting the necessary ramp-up procedures described in condition 6(b)(iv) below) upon completion of a written certification by the MMO. The certification must include the following: species or description of the animal(s); the condition of the animal(s) (including carcass condition if the animal is dead); location and time of first discovery; observed behaviors (if alive); and photographs or video (if available). Within 24 hours after the event

specified herein, the holder of this Authorization must notify the designated staff person (see III below) by telephone or email of the event and ensure that the written certification is provided to the NMFS staff person.

(III). In the event the animal has not been dead for a period greater than 72 hours or the cause of the injury or death cannot be immediately determined by the lead MMO, the holder of this Authorization shall immediately report the incident to either the NMFS staff person designated by the Director, Office of Protected Resources (Shane Guan, Office of Protected Resources, NMFS, 301-713-2289 ext. 137 or [Shane.Guan@noaa.gov](mailto:Shane.Guan@noaa.gov)) or to the staff person designated by the Alaska Regional Administrator (Brad Smith, Alaska Regional Office, NMFS, 907-271-3023 or [Brad.Smith@noaa.gov](mailto:Brad.Smith@noaa.gov)). The lead MMO must complete written certification and provide it to the NMFS staff person. The certification must include the following: species or description of the animal(s); the condition of the animal(s) (including carcass condition if the animal is dead); location and time of first discovery; observed behaviors (if alive); and photographs or video (if available). The airgun array may be restarted (by conducting the necessary ramp-up procedures described in condition 6(b)(iv) below) upon completion of the written certification.

(IV). In the event that the marine mammal death or injury was directly caused by the seismic airgun operations (e.g., struck by a vessel, entangled in gear), the holder of this Authorization shall immediately report the incident to the designated NMFS staff person (see III above) by telephone or email and the Marine Mammal Stranding Network of the event and ensure that written certification is provided to the NMFS staff person. The certification must include the following: species or description of the animal(s); the condition of the animal(s) (including carcass condition if the animal is dead); location and time of first discovery; observed behaviors (if alive); and photographs or video (if available). The airguns may not be restarted until NMFS has had an opportunity to review the written certification and any accompanying documentation, make determinations as to whether modifications to the activities are appropriate and necessary, and has notified the holder that activities may be resumed. Approval to resume operations may be provided via letter, email, or telephone.

(iv). Ramp-up:

(A) Conduct a 30-minute period of marine mammal observations by at least two trained MMOs prior to commencing ramp-up described in condition 6(b)(iv)(C): (I) at the commencement of seismic operations and (II) at any time electrical power to the airgun array has been discontinued for a period of 10 minutes or more and the MMO watch has been suspended;

(B) Not commence ramp-up if the complete safety radii are not visible for at least 30 minutes prior to ramp-up in either daylight or nighttime and not commence ramp-up at night unless the seismic source has maintained a sound source pressure level at the source of at least 180 dB re 1  $\mu$ Pa rms during the interruption of seismic survey operations. If a sound source of at least 180 dB re 1  $\mu$ Pa rms has been maintained during the interruption of seismic operations, then the 30 minute pre-ramp-up visual survey is waived; and

(C) Ramp-up the airgun arrays at no greater than 6 dB per 5-minute period starting with the smallest airgun in the array and then adding additional guns in sequence until the full array is firing, if no marine mammals are observed while undertaking conditions 6(iv)(A) and (B): (I) at the commencement of seismic operations and (II) anytime after the airgun array has been powered down for more than 10 minutes.

7. Monitoring:

(a) Vessel Monitoring:

(i) The holder of this Authorization must designate biologically-trained, on-site individuals (MMOs) to be onboard the source vessel, who are approved in advance by NMFS, to conduct the visual monitoring programs required under this Authorization and to record the effects of seismic surveys and the resulting noise on marine mammals.

(A) MMO teams shall consist of Inupiat observers and experienced field biologists. An experienced field crew leader will supervise the MMO team onboard the survey vessel. New observers shall be paired with experienced observers to avoid situations where lack of experience impairs the quality of observations.

(B) Crew leaders shall be individuals with experience as observers during one or more of the 1996 - 2009 seismic or shallow hazards monitoring projects in Alaska, the Canadian Beaufort, or other offshore areas in recent years.

(C) If there are Alaska Native MMOs, the MMO training that is conducted prior to the start of the survey activities shall be conducted with both Alaska Native MMOs and biologist MMOs being trained at the same time in the same room. There shall not be separate training courses for the different MMOs.

(E) Observers shall understand the importance of classifying marine mammals as “unknown” or “unidentified” if they cannot identify the animals to species with confidence. In those cases, they shall note any information that might aid in the identification of the marine mammal sighted.

(ii) To the extent possible, MMOs should be on duty for four (4) consecutive hours or less, although more than one four-hour shift per day is acceptable. MMOs will not work more than three (3) shifts in a 24-hour period (i.e., 12 hours total per day). During seismic operations when there is 24 hrs of daylight, five MMOs will be based aboard the seismic source vessel and at least three MMOs on the chase/monitoring vessels.

(iii) Monitoring is to be conducted by the MMOs described in condition 7(a)(i) above, onboard the active seismic vessel, to (A) ensure that no marine mammals enter the appropriate safety zone whenever the seismic acoustic sources are on, and (B) to record marine mammal activity as described in condition 7(a)(vi) below. At least two observers 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, at least one observer must be on active watch whenever the seismic acoustic source is operating during all daytime airgun operations, during any nighttime power-ups of the airguns and at night, whenever daytime monitoring resulted in one or more power-down situations due to marine mammal presence.

(iv) At all times, the crew must be instructed to keep watch for marine mammals. If any are sighted, the bridge watch-stander must immediately notify the MMO(s) on-watch. If a marine mammal is within or closely approaching its designated exclusion (safety) zone, the seismic acoustic sources must be immediately powered down or shutdown (in accordance with condition 6(b)(iii)(A) above).

(v) 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.

(vi) Monitoring shall consist of recording: (A) the species, group size, age/size/sex categories (if determinable), the general behavioral activity, heading (if consistent), bearing and distance from seismic vessel, sighting cue, behavioral pace, and apparent reaction of all marine mammals seen near the seismic vessel and/or its airgun array (e.g., none, avoidance, approach, paralleling, etc); (B) the time, location, heading, speed, and activity of the vessel (shooting or not), along with sea state, visibility, cloud cover and sun glare at (I) any time a marine mammal is sighted, (II) at the start and end of each watch, and (III) during a watch (whenever there is a change in one or more variable); and, (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).

(vii) MMOs shall watch for marine mammals from the best available vantage point on the survey vessel, typically the bridge. MMOs shall scan systematically with the unaided eye and 7 x 50 reticle binoculars, supplemented with 20 x 60 image-stabilized Zeiss Binoculars or Fujinon 25 x 150 "Big-eye" binoculars and night-vision equipment ("Generation 3") when needed. With two or three observers on watch, the use of big eyes should be paired with searching by naked eye, the latter allowing visual coverage of nearby areas to detect marine mammals.

(viii) MMOs shall attempt to maximize the time spent looking at the water and guarding the safety radii. They shall avoid the tendency to spend too much time evaluating animal behavior or entering data on forms, both of which detract from their primary purpose of monitoring the safety zone.

(ix) MMOs shall use the best possible positions for observing (e.g., outside and as high on the vessel as possible), taking into account weather and other working conditions. MMOs shall carefully document visibility during observation periods so that total estimates of take can be corrected accordingly.

(b) Field Source Verification: Using a hydrophone system, the holder of this Authorization is required to conduct sound source verification tests for all seismic sources and source vessels not previously measured and, at a minimum, report the following results within 5 days of completing the test:

(i) Statoil shall conduct empirical measurements of the distances in the broadside and endfire directions at which broadband received levels reach

190, 180, 170, 160, and 120 dB re 1  $\mu$ Pa (rms) for the energy source array combinations that may be used during the survey activities. The configurations shall include at least the full array and the operation of a single source that will be used during power downs.

8. Research: The holder of the Authorization, in cooperation with other oil company participants, must conduct all monitoring described in the “*Marine Mammal Monitoring and Mitigation Plan for the Marine Seismic Surveys of Selected Lease Areas in the Alaskan Chukchi Sea in 2010.*” Research will include establishment of: (i) an acoustic program to measure sounds produced by the source vessel (required under condition 7(b) above); and (ii) deployment of arrays of acoustic recorders to localize bowhead whale and other marine mammal vocalization and to further understand, define, and document sound characteristics and propagation resulting from seismic surveys that may have the potential to cause deflections of bowhead whales from their migratory pathway.

9. Reporting:

(a) Sound Source Verification and the distances to the various isopleths and power density spectra of high frequency active acoustic sources are to be reported to NMFS within five (5) days of completing the measurements. In addition to reporting the radii of specific regulatory concern, distances to other sound isopleths down to 120 dB rms (if measurable) will be reported in increments of 10 dB.

(b) Seismic Vessel Monitoring Program: A draft report will be submitted to the Director, Office of Protected Resources, NMFS, within 90 days after the end of Statoil’s 2010 open water marine seismic survey program in the Chukchi Seas. 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 2010 shipboard and aerial marine mammal monitoring; (v) a summary of the dates and locations of seismic operations, including summaries of power-downs, shutdowns, 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 marine mammals (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 marine mammals); (ix) an analysis of factors influencing detectability of marine mammals; (x) all spatial data on charts (including vessel location); (xi) summaries on communications with hunters and potential effects on subsistence uses; and (xii) make all data available in the report or electronically for integration with data from other companies.

(c) The draft report will be subject to review and comment by NMFS. Any recommendations made by NMFS must be addressed in the final report prior to

acceptance by NMFS. The draft report will be considered the final report for this activity under this Authorization if NMFS has not provided comments and recommendations within 90 days of receipt of the draft report.

(d) A draft comprehensive report describing the acoustic and vessel-based monitoring programs will be prepared and submitted within 240 days of the date of this Authorization. The comprehensive report will describe the methods, results, conclusions and limitations of each of the individual data sets in detail. The report will also integrate (to the extent possible) the studies into a broad based assessment of all industry activities and their impacts on marine mammals in the Arctic Ocean during 2010.

(e) The draft comprehensive report will be subject to review and comment by NMFS, the AEWC, and the North Slope Borough Department of Wildlife Management. The draft comprehensive report will be accepted by NMFS as the final comprehensive report upon incorporation of comments and recommendations.

(f) Statoil shall accommodate specific requests for raw data, including tracks of all vessels and aircraft associated with the operation and activity logs documenting when and what types of sounds are introduced into the environment by the operation.

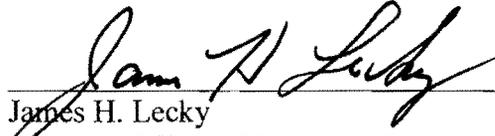
10. Activities related to the monitoring described in this Authorization do not require a separate scientific research permit issued under section 104 of the Marine Mammal Protection Act.

11. The Plan of Cooperation outlining the steps that will be taken to cooperate and communicate with the native communities to ensure the availability of marine mammals for subsistence uses, must be implemented.

12. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals, or if there is an unmitigable adverse impact on the availability of such species or stocks for subsistence uses.

13. A copy of this Authorization must be in the possession of each seismic vessel operator taking marine mammals under the authority of this Incidental Harassment Authorization.

14. Statoil is required to comply with the Terms and Conditions of the Incidental Take Statement corresponding to NMFS' Biological Opinion.



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James H. Lecky  
Director, Office of Protected Resources  
National Marine Fisheries Service

**AUG 06 2010**

Date