

MARINE MAMMAL COMMISSION  
4340 East-West Highway, Room 700  
Bethesda, MD 20814-4447

2 June 2008

Mr. P. Michael Payne  
Chief, Permits Division  
National Marine Fisheries Service  
Office of Protected Resources  
1315 East-West Highway  
Silver Spring, MD 20910-3225

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application from BP Exploration (Alaska), Inc., for an incidental harassment authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act. The applicant is seeking authorization to take by harassment small numbers of bowhead, gray, and beluga whales, and ringed, spotted, and bearded seals incidental to a 3-D, ocean bottom cable seismic survey in the Liberty Prospect area of the Beaufort Sea over a period of 40 to 60 days in July and August 2008. The Commission also has reviewed the National Marine Fisheries Service's 2 May 2008 *Federal Register* notice announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

The Service has preliminarily determined that, with the incorporation of the identified monitoring and mitigation measures, the proposed seismic surveys will (1) result only in the taking of marine mammals by harassment, (2) have no more than a negligible impact on the affected marine mammal stocks, and (3) have no unmitigable adverse impact on the availability of marine mammal species or stocks for subsistence uses. In the *Federal Register* notice, the Service states that these determinations are based on the information provided in the application and in the Minerals Management Service's 2006 final programmatic environmental assessment for seismic surveys in the Beaufort and Chukchi Seas. The Service states that discussions are ongoing among the applicant, the Alaska Eskimo Whaling Commission, and the North Slope Borough regarding a new conflict avoidance agreement/plan of cooperation that will address concerns related to the subsistence harvest of marine mammals in the region.

## RECOMMENDATIONS

The Marine Mammal Commission recommends that National Marine Fisheries Service issue the incidental harassment authorization, provided that the Service—

- require the applicant to implement all practicable monitoring and mitigation measures to protect bowhead whales and other marine mammal species from disturbance and that ramp-up be allowed only when the entire area encompassed by the safety zones is clearly visible for a sufficiently long period to ensure that marine mammals are not present; and
- require operations to be suspended immediately if a dead or seriously injured marine mammal is found in the vicinity of the operations and if that death or injury could be attributable to the applicant's activities. Any suspension should remain in place until the

Service (1) has reviewed the situation and determined that further deaths or serious injuries are unlikely to occur or (2) has issued regulations authorizing such takes under section 101(a)(5)(A) of the Act.

The Marine Mammal Commission further recommends that the National Marine Fisheries Service, together with the applicant and other appropriate agencies and organizations, develop a broad-based population monitoring and impact assessment program to ensure that these activities, in combination with other risk factors, are not individually or cumulatively having any significant adverse population-level effects on marine mammals or having an unmitigable adverse effect on the availability of marine mammals for subsistence uses by Alaska Natives. Such a monitoring program should focus initially on the need to collect adequate baseline information to allow for future analyses of effects.

## **RATIONALE**

The design and scope of the Liberty development project have been changed from an offshore, stand-alone development to one using ultra-extended-reach drilling from the existing Endicott infrastructure. This would involve an expansion of the satellite drilling island and use of existing processing facilities. The dataset obtained from the proposed seismic survey would augment data obtained from the Endicott 3-D vibroseis survey in 1983 and Northwest Badami (Liberty) 3D vibroseis survey in 1995. Also, it would provide higher resolution data to assist in imaging for well planning and ultra-extended drilling operations. Two source vessels will alternate airgun shots to limit the duration of the survey. Each source vessel will have two 440 in<sup>3</sup> arrays comprised of four guns in clusters of 2 x 70 in<sup>3</sup> and 2 x 150 in<sup>3</sup>. The 880 in<sup>3</sup> array has an estimated source level of approximately 250 dB re 1  $\mu$ Pa (dominant frequency components of 5–135 Hz). The airguns will be operated 24 hours a day.

### Mitigation and Monitoring

The applicant is proposing to conduct the seismic survey in the Liberty area of the Alaska Beaufort Sea (about 5.5 miles offshore in 20 feet of water and approximately 5 to 8 miles east of the existing Endicott Satellite Drilling Island). The proposed 3-D ocean bottom cable survey will require the use of 11 vessels for various tasks, including cable deployment and recovery, shooting, and recording. The area of primary interest for which seismic data are needed is the well path. The total seismic survey area is 135.8 mi<sup>2</sup> (351.8 km<sup>2</sup>), which includes some mudflat areas. Surveys would be conducted during July and August, prior to the bowhead whale fall migration, with a contingency to obtain data in September and October after the whaling season, if necessary, in compliance with a conflict avoidance agreement with the Alaska Native community.

Mitigation measures include speed and course alterations and power-down, ramp-up, and shutdown procedures if marine mammals are sighted within or about to enter safety zones (190 dB for pinnipeds and 180 dB for cetaceans). At least one observer will monitor for marine mammals during daylight hours and during ramp-ups at night following a shutdown of the sound source. Whenever feasible, two observers will be used. Except during ramp-up, marine mammal observers

Mr. P. Michael Payne  
2 June 2008  
Page 3

would not be on duty during seismic operations at night, given the very limited effectiveness of visual observation at night. For nighttime operations, following a complete shutdown of the airgun array, ramp-up could occur when the entire 180-dB safety radius is visible using vessel lights and/or night vision devices, and no marine mammals have been detected in the safety zone during 30 minutes of observation. If the full 180-dB safety zone is not visible, the airguns would not be restarted following a full shutdown. If one or more airguns had been operational before nightfall or before the onset of foggy conditions, they could remain in operation throughout the period of low visibility. The Service states that passive acoustic monitoring would not be conducted because it likely would not be effective for detecting ringed seals, which are the most common marine mammals in the area during this time period, but which are not vocal.

The Commission believes that, with one exception, the proposed monitoring and mitigation measures are reasonable, given the limitations of monitoring during periods of low visibility. As recognized by the Service, the effectiveness of visual observation at night is very limited. As such, we do not believe it is reasonable to expect observers to be able to detect all marine mammals within the safety zones at night or under other conditions of low visibility. The Marine Mammal Commission therefore recommends that the Service require the applicant to implement all described monitoring and mitigation measures to protect bowhead whales and other marine mammals from disturbance associated with the proposed survey activities and that ramp-up be allowed only when the entire area encompassed by the safety zones is clearly visible for a sufficiently long period to ensure that marine mammals are not present. Further, the Marine Mammal Commission recommends that the Service require operations to be suspended immediately if a dead or seriously injured marine mammal is found in the vicinity of the operations and if that death or injury could be attributable to the applicant's activities. Any suspension should remain in place until the Service (1) has reviewed the situation and determined that further deaths or serious injuries are unlikely to occur or (2) has issued regulations authorizing such takes under section 101(a)(5)(A) of the Act.

### Cumulative Impacts

As we have noted in previous letters to the Service regarding similar oil and gas activities, the National Research Council (2003) report, *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*, states that the predicted rate of climate change in the Beaufort Sea region may, at some point, have more than a negligible impact on marine mammal populations, particularly when combined with the effects of oil and gas operations and other human activities that are likely to be initiated or to increase in Arctic regions. The Commission therefore questions whether there is a sufficient basis for concluding that the cumulative effects of the proposed activities, coupled with past, ongoing, and planned activities in the Beaufort and Chukchi Seas, will be negligible for bowhead whales and other marine mammals and will not have an unmitigable adverse impact on their availability to Alaska Natives for subsistence use.

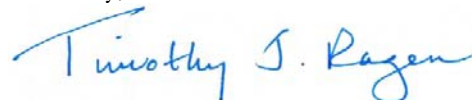
Mr. P. Michael Payne  
2 June 2008  
Page 4

In view of climate-related ecosystem changes occurring in the Arctic, and the increased seismic and other oil and gas-related activities in the region, the Commission believes that the potential effects of climate change must be assessed as part of a long-term monitoring and mitigation program. Among other things, the monitoring program should collect data on changes in the density, abundance, reproductive rates, foraging patterns, distribution, health and condition, and contaminant levels of marine mammal stocks in areas where oil and gas exploration, development, and production occur. This information is essential for evaluating whether subtle, individually insignificant changes occurring over short periods of time (i.e., a season or a year) are having non-negligible cumulative effects over longer time periods. Adequate monitoring programs also should include an assessment of our ability to detect significant effects when they occur. Because such ability is often very limited, a precautionary approach is needed to ensure that the planned activities have a negligible impact on marine mammal populations.

Accordingly, the Marine Mammal Commission recommends that the National Marine Fisheries Service, the applicant, and other appropriate agencies and organizations promptly develop and implement a broad-based population monitoring and impact assessment program to collect baseline population information sufficient to detect changes and identify their possible causes, and to verify that the planned activities, in combination with other activities in the area, are not having population-level impacts on marine mammals. The Commission would welcome the opportunity to discuss with the Service and interested parties how best to develop such a program (for example, through co-sponsorship of a workshop).

If you have any questions concerning these comments or recommendations, please contact me.

Sincerely,

A handwritten signature in blue ink that reads "Timothy J. Ragen". The signature is written in a cursive style with a prominent initial "T".

Timothy J. Ragen, Ph.D.  
Executive Director

#### References

National Research Council (NRC). 2003. Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope. National Academy Press, Washington, DC.