FINDING OF NO SIGNIFICANT IMPACT FOR THE ISSUANCE OF AN INCIDENTAL HARASSMENT AUTHORIZATION TO SAEXPLORATION, INC., TO TAKE MARINE MAMMALS BY HARASSMENT INCIDENTAL TO CONDUCTING OPEN-WATER 3D OCEAN BOTTOM NODE SEISMIC SURVEYS IN THE BEAUFORT SEA

NATIONAL MARINE FISHERIES SERVICE

BACKGROUND

On December 12, 2012, the National Marine Fisheries Service (NMFS) received an application from SAExploration, Inc. (SAE) requesting an authorization for the harassment of small numbers of marine mammals incidental to open-water 3-dimensional (3D) ocean bottom node (OBN) seismic survey activities in the Beaufort Sea off Alaska. After addressing comments from NMFS, SAE modified its application and submitted a revised application on April 14, 2013.

In response to receipt of the request from SAE, NMFS proposed to issue an IHA that authorized takes, by Level B harassment, of marine mammals, pursuant to section 101(a)(5)(D) of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. §§ 1361 *et seq.*), and the regulations governing the taking and importing of marine mammals (50 Code of Federal Regulations (CFR) Part 216). Pursuant to the MMPA, authorization for incidental taking shall be granted provided that NMFS: (1) determines that the action would have a negligible impact on the affected species or stocks of marine mammals; (2) finds the action would not have an unmitigable adverse impact on the availability of those species or stocks of marine mammals for taking for subsistence uses; and (3) sets forth, where applicable, the permissible methods of taking, other means of effecting the least practicable impact on affected species and stocks and their habitat, and requirements pertaining to the mitigation, monitoring, and reporting of such takes.

In accordance with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. §§ 4321 *et seq.*), NMFS prepared an Environmental Assessment (EA) in 2013 titled, "*Issuance of Incidental Harassment Authorizations to Take Marine Mammals by Harassment Incidental to Conducting Open-water Marine and Seismic Surveys in the Beaufort and Chukchi Seas*" (hereinafter, the EA). Based on the EA, NMFS proposed to issue the IHA to SAE with the initially proposed mitigation measures, as described in Alternative 2 of the EA.

Due to logistical reasons, SAE was not able to conduct its proposed seismic survey during the 2013 Arctic open-water season, and postponed the survey to the open-water season of 2014. SAE re-submitted its IHA application on December 8, 2013. SAE modified its application and submitted a revised application on February 14, 2014, addressing comments from NMFS, and again on April 24, 2014, addressing comments from NMFS and an independent peer-review panel established to review SAE's marine mammal monitoring plan. After analyzing and comparing SAE's proposed 2014 3D seismic survey and the proposed 2013 seismic survey, as well as the affected environment in the

proposed 2014 and 2013 action areas, NMFS concludes that SAE's proposed 2014 action is essentially the same as the proposed 2013 action, and that there are no material changes in the affected environment between 2013 and 2014. Therefore, NMFS determined that the information and analyses in the 2013 EA are still up-to-date and applicable for addressing the NEPA analysis related to the issuance of an IHA to SAE for the take of marine mammals during its proposed 2014 Arctic open-water seismic survey.

In addition to analyzing the issuance of an IHA to SAE, the EA also analyzed the potential impacts on the human environment that would result from the issuance of IHAs requested by Shell Gulf of Mexico, Inc. (Shell) and TGS-NOPEC Geophysical Company ASA (TGS) for separate open-water surveys in the Beaufort and Chukchi Seas during the 2013 open-water season. Shell and TGS did not submit applications for IHAs for seismic surveys during the 2014 open-water season, and therefore, those analyses are no longer relevant, which further reduces the potential impacts to the human environment that were analyzed in the EA.

The analyses in the EA, which is hereby incorporated by reference, support the analysis and determination below, and based on these, NMFS proposes to issue the IHA to SAE with the initially proposed mitigation measures, as described in Alternative 2 to the EA.

ANALYSIS

The National Oceanic and Atmospheric Administration Administrative Order (NAO) 216-6 contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 C.F.R. § 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

1) **Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in Fishery Management Plans (FMP)?**

   Response: The proposed action (i.e., issuing an IHA to SAE as described in Alternative 2 of the EA) is not reasonably expected to cause substantial damage to the ocean or coastal habitats or essential fish habitat (EFH). The underlying action of SAE's 3D OBN seismic survey would result in only relatively short-term exposure to seismic sounds (up to 70 days, depending on weather conditions) within a limited area, which is not likely to have a significant impact on the marine environment. Fish mortalities associated with seismic operations are believed to be slight. Behavioral changes in fish associated with sound exposures are expected to be minor (e.g., temporary abandonment of the ensonified area). The marine seismic survey is not expected to cause any physical or chemical changes in the proposed action area, because no physical materials will be released into the water column. In addition, although the survey will result in increased vessel presence in the action area, the vessels are generally small boats and few in numbers (approximately 6 vessels, including survey vessels, mitigation vessel, and supporting vessels). The survey vessels and mitigation vessel typically travel at a speed less than 5 knots while conducting the seismic survey, and the speeds of all vessels are regulated by the IHA (if issued) to avoid physical contact to marine mammals in the area. Therefore, impacts would add an incremental degree of adverse impacts to fish resources, but these impacts would be temporary and would not be significant.

EFH for five species of Pacific salmon (pink [humpback], chum [dog], sockeye [red], chinook [king], and coho [silver]) occurring in Alaska has been identified in the action area. The issuance of an IHA for SAE's Beaufort Sea 3D OBN seismic survey in 2014 is not anticipated to have any adverse effects on EFH, for the same reasons explained in the paragraph above.

2) **Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?**

Response: The proposed action is not expected to have a substantial impact on biodiversity and/or ecosystem functions in the vicinity of the proposed open-water seismic survey in the Beaufort Sea because NMFS does not expect the issuance of the IHA to SAE or the underlying action to significantly (1) affect the susceptibility of any of the animals found in the vicinity of the project area to predation, (2) alter dietary preferences or foraging behavior, (3) change distribution or abundance of predators or prey, or (4) significantly disturb marine mammal behavior.

The impacts of the underlying action on marine mammals are limited to temporary disturbance of marine mammals from being exposed to seismic airgun impulses during survey activities. SAE will implement a variety of mitigation measures such as ramping-up seismic airguns, establishing and monitoring exclusion zones and implementing power-down and shutdown measures. Neither injury nor mortality of marine mammals is anticipated and will not be authorized. These acoustic disturbances are not expected to result in substantial impacts to marine mammals or to their role in the ecosystem.

The EA also analyzed the potential effects on other marine species, such as lower trophic level marine life, invertebrate communities, fish species, and sea birds, in the proposed action area. The EA concludes that there will be no substantial impacts to these marine species from the proposed seismic survey, due to the small impact area and short duration of the survey.

3) **Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety?**

Response: The proposed action is not reasonably expected to have a substantial adverse impact on public health or safety because neither issuance of the IHA nor the underlying authorized activity poses a risk to public health or human safety. The taking of marine mammals poses no risk to public health or safety. The seismic survey in the Beaufort Sea is part of routine oil and gas exploration activities that are performed by industry worldwide on a regular basis. No hazardous material would be produced and/or discharged from vessels involved in the seismic survey activities.

4) **Can the proposed action reasonably be expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species?**

Response: The proposed action is not reasonably expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species. The IHA will not authorize injury or mortality of marine mammals. The IHA will authorize some Level B harassment of small numbers of marine mammals incidental to SAE's seismic survey, but NMFS Office of Protected Resources has determined that the take of marine mammals incidental to the

open-water seismic survey would have negligible effects on the species and stocks of marine mammals in the action area.

Further, NMFS Office of Protected Resources engaged in formal consultation with NMFS Alaska Regional Office in 2014 regarding potential impacts of issuance of the IHA on threatened and endangered species. In a biological opinion dated August 8, 2014, NMFS Alaska Regional Office concluded that the issuance of the IHA is: (1) not likely to jeopardize the continued existence of the ESA-listed bowhead, humpback, and fin whales, and ringed and bearded seals; and (2) not likely to adversely modify or destroy critical habitat, as the proposed seismic survey area is neither within nor nearby designated critical habitat for ESA-listed species. NMFS has determined that issuance of an IHA for this activity would not lead to any adverse effects to listed marine mammal species beyond those that were considered in the ESA consultation.

5) Are significant social or economic impacts interrelated with natural or physical environmental effects?

Response: NMFS does not expect the issuance of an IHA to SAE to result in significant social or economic impacts interrelated with natural or physical environmental effects. Natural or physical effects of the open-water seismic survey in the Beaufort Sea would be limited to short-term and geographically-limited acoustic disturbance and the short-term harassment of marine mammals, as authorized by the permit. Authorization of the proposed seismic survey could result in a low level of economic benefit to the local economy, through employment opportunities and revenue. However, such impacts would likely be negligible and on a regional or local level.

Because of the limited nature of the survey, the activities authorized would not substantially impact use of the environment or use of natural or depletable resources, such as might be expected from large-scale oil and gas development or resource extraction activities. Further, issuance of the IHA would not result in inequitable distributions of environmental burdens or access to environmental goods.

NMFS has determined that issuance of the IHA will not adversely affect low-income or minority populations or subsistence uses of marine mammals. There are subsistence uses of marine mammals in or near the survey area, but there will be no unmitigable adverse impact resulting from the activity on the availability of the species or stocks of marine mammals for subsistence uses, as necessary mitigation measures would be implemented to eliminate any impacts that could have significant effects on the subsistence use of such resources. In addition, SAE has worked with, and will continue to work with, the native communities to further mitigate potential impacts to subsistence use of marine mammal resources. SAE has prepared a Plan of Cooperation (POC) that identifies and documents potential conflicts and associated measures that will be taken to minimize any adverse effects on the availability of marine mammals for subsistence use. In addition, SAE has signed a Conflict Avoidance Agreement (CAA) with the Alaska native whaling communities in support of its 2014 activities in the Beaufort Sea, and NMFS has included appropriate measures identified in the CAA in the proposed IHA. With all of these measures in place, no significant social or economic impacts are expected as a result of the issuance of the IHA or the underlying activity.

6) **Are the effects on the quality of the human environment likely to be highly controversial?**

Response: The effects of issuing an IHA to SAE as described in Alternative 2 of the EA on the quality of the human environment are not likely to be highly controversial because: (1) there is no substantial dispute regarding the size, nature, or effect of the proposed action; and (2) there is no known scientific controversy over the potential impacts of the proposed action.

To allow other agencies and the public the opportunity to review and comment on the actions, NMFS published a notice of receipt of the SAE application and proposed IHA in the *Federal Register* on July 10, 2014 (79 FR 39914). During the 30-day comment period, NMFS received one comment letter, from the Marine Mammal Commission (Commission). None of the Commission's comments indicated that the potential effects of the proposed action are controversial. All comments will be addressed in the *Federal Register* notice for the issuance of the IHA.

7) **Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish habitat, or ecologically critical areas?**

Response: The proposed action is not reasonably expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish habitat, or ecologically critical areas, because none of these are found in the project area. In addition, as described in the response to questions 1 and 4 above, no substantial impacts to EFH, designated critical habitat, or ecologically critical areas would be expected, as the proposed open-water seismic survey would have a limited footprint for a short duration.

8) **Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?**

Response: The action of issuing an IHA to SAE for the incidental take, by Level B harassment only, of small numbers of marine mammals is not expected to have effects on the human environment that would be highly uncertain or involve unique or unknown risks. Similar marine and seismic surveys for oil and gas exploration, using similar equipment, in open-water areas, including the Beaufort Sea, have been performed routinely and without incidence. There is nothing unique about SAE's survey that would create effects on the human environment that would be highly uncertain or involve unique or unknown risks.

While NMFS' judgments on impact thresholds for marine mammals in the vicinity of the project area are based on limited data, the risks are known and would involve the temporary harassment of marine mammals. No deaths or injuries to animals have been documented due to past open-water marine and seismic surveys using airgun arrays and other active acoustic sources. The most common response to seismic airgun noise is for marine mammals to vacate the survey area temporarily. NMFS expects SAE's survey to result in the same responses as prior seismic surveys, as there is nothing unique about SAE's survey that would be expected to create uncertainty or unique or unknown risks.

9) **Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?**

Response: The proposed action to issue an IHA to SAE and the underlying action of SAE's seismic survey are not related to other actions with individually insignificant, but cumulatively significant impacts. As analyzed in the EA, while other activities in the Beaufort Sea, including subsistence

hunting, other seismic survey activities, other oil and gas exploration activities, and vessel traffic, are expected to result in impacts on the environment, including limited harassment of marine mammals, none of these activities are related to SAE's survey, and the addition of SAE's survey is not expected to individually or cumulatively cause any significant impacts.

While the EA supporting this FONSI covers NMFS' proposed issuance of three separate IHAs, those three actions were not related because each IHA would have been issued to a separate and unrelated applicant, and NMFS has discretion over whether and how to approve or deny each IHA application. In any case, the three applications evaluated in the EA were for the 2013 Arctic open-water season, but Shell and TGS did not reapply for IHAs for the 2014 season, so the evaluations of their proposed surveys are no longer applicable. While there are three small-scale seismic activities, including SAE's, being conducted during the Arctic 2014 open-water season, the other two surveys (a 3D ocean-bottom sensor survey and a shallow hazard survey) are to be conducted by BP at different locations and will be finished before SAE's survey begins. NMFS prepared an EA in 2014 for proposed IHAs for the two BP seismic surveys and concluded in its cumulative impacts analysis that the incremental impact of two IHAs for the BP surveys in the Beaufort Sea would not be expected to result in cumulatively significant impacts to the human environment when combined with past, present, and future activities.

10) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural or historical resources?

Response: The issuance of an IHA is not expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural or historical resources, because such resources do not exist within the areas in the Beaufort Sea where SAE's proposed open-water seismic survey is planned.

11) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

Response: The issuance of an IHA to SAE and the underlying action are not reasonably expected to lead to the introduction or spread of any non-indigenous species into the environment, because the activities associated with the proposed project are not likely to introduce or spread any non-indigenous species. No ballast water will be carried by the vessels involved in the proposed seismic survey activities, so there will be no chance for non-indigenous species to be introduced by ballast water.

12) Is the proposed action likely to establish a precedent for future actions with significant effects or does it represent a decision in principle about a future consideration?

Response: The issuance of an IHA to SAE is not expected to set a precedent for future actions with significant effects nor represent a decision in principle regarding future considerations. The issuance of an IHA to take marine mammals incidental to open-water marine and seismic surveys in the Arctic is a routine process under the MMPA. To ensure compliance with statutory and regulatory standards, NMFS' actions under section 101(a)(5)(D) of the MMPA must be considered individually and be based on the best available information, which is continuously evolving. Issuance of an IHA to a specific individual or organization for a given activity does not guarantee or imply that NMFS will authorize future activities by that individual or organization or authorize

others to conduct similar activities. Subsequent requests for incidental take authorizations would be evaluated upon their own merits, relative to the criteria established in the MMPA, ESA, and NMFS implementing regulations, on a case-by-case basis. Moreover, SAE's proposed open-water seismic survey project has no unique aspect that would suggest it would be a precedent for any future actions. For these reasons, the issuance of an IHA to SAE to conduct the open-water seismic surveys is not precedent setting and does not represent a decision in principle about any future considerations.

13) Can the proposed action reasonably be expected to violate any Federal, State, or local law or requirements imposed for the protection of the environment?

Response: The issuance of an IHA would not violate any federal, state, or local laws for environmental protection. NMFS has fulfilled its section 7 responsibilities under the ESA (see response to Question 4) and NEPA analysis.

14) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

Response: Based on our analysis in the EA, the issuance of an IHA is not expected to result in any significant cumulative adverse effects that could have a substantial effect on target or non-target species. The stresses resulting from the open-water seismic survey in the Beaufort Sea will be minor, incremental, and temporary, and will have a limited geographic footprint, and thus the effects would be expected to be minimal, when considered separately and cumulatively, when added to other stresses experienced in the vicinity of the open-water seismic survey area.

SAE's proposed seismic survey does not target any species. The proposed seismic survey is expected to result in only short-term behavioral changes, but not long-term displacement or other impacts, to small numbers of marine mammals. In addition, the mitigation measures SAE is required to implement will further reduce any potential impacts to marine mammals. While the marine mammals in the vicinity of SAE's open-water seismic survey area have the potential to be impacted by other human activities in the Arctic Ocean (e.g., other marine and seismic surveys by the oil and gas industry in the Chukchi and Beaufort Seas and subsistence activities), as described in the cumulative impacts analysis in the EA, these activities are generally separated both geographically and temporally from SAE's proposed seismic survey. Any short-term stress experienced by the marine mammals in the vicinity of SAE's open-water seismic survey area would be expected to be minimal, when considered separately and cumulatively, when added to other stresses experienced by the marine mammals in the vicinity of the seismic survey area. Thus, NMFS concluded that the impacts of issuing an IHA to SAE for the incidental take, by Level B harassment only, of small numbers of marine mammals are expected to be no more than minor and short-term, and the proposed action is not expected to result in any cumulative adverse effects on any species.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Final Environmental Assessment titled, "*Issuance of Incidental Harassment Authorizations to Take Marine Mammals by Harassment Incidental to Conducting Open-water Marine and Seismic Surveys in the Beaufort and Chukchi Seas,*" prepared by NMFS, it is hereby determined that the issuance of an IHA for the take, by Level B harassment only, of small numbers of marine mammals incidental to SAE's proposed open-water seismic survey in the Beaufort Sea in 2014, will not significantly impact the quality of the human environment, as described in this document and in the EA.

In addition, all beneficial and adverse impacts of the action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement for this action is not necessary.

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AUG 2 0 2014
Date