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

Finding of No Significant Impact for the Issuance of an Incidental Harassment Authorization to Scripps Institution of Oceanography to Take Marine Mammals Incidental to Conducting a Low-Energy Marine Geophysical Survey in the Tropical Western Pacific Ocean, September to October 2013

National Marine Fisheries Service

BACKGROUND

We (National Marine Fisheries Service, Office of Protected Resources, Permits and Conservation Division) propose to issue an Incidental Harassment Authorization (IHA) to Scripps Institution of Oceanography (SIO), a part of the University of California San Diego, under the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1631 *et seq.*) for the incidental taking of small numbers of marine mammals, incidental to the conduct of a low-energy marine geophysical (seismic) and sediment coring survey in international waters (i.e., high seas) and within the Exclusive Economic Zones (EEZs) of the Federated States of Micronesia (Micronesia), the Independent State of Papua New Guinea (Papua New Guinea), the Republic of Indonesia (Indonesia), and the Republic of the Philippines (Philippines) in the tropical western Pacific Ocean, September through October 2013.

Our proposed action is a direct outcome of SIO requesting an authorization to take marine mammals, by harassment, incidental to conducting a low-energy marine seismic survey in the tropical western Pacific Ocean. SIO's seismic survey activities, which have the potential to cause marine mammals to be behaviorally disturbed, warrant an incidental take authorization from us under section 101(a)(5)(D) of the MMPA.

In accordance with the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), we completed an Environmental Assessment (EA) titled, *Issuance of an Incidental Harassment Authorization to Scripps Institution of Oceanography to Take Marine Mammals by Harassment Incidental to a Low-Energy Marine Geophysical Survey in the Tropical Western Pacific Ocean, September to October 2013*. This EA focuses primarily on the environmental effects of authorizing the incidental take of marine mammals incidental to SIO's activities.

This EA also incorporates by reference the following documents per 40 CFR 1502.21 and NOAA Administrative Order (NAO) 216-6 § 5.09(d):

- The National Science Foundation's (NSF) *Environmental Analysis of a Low-Energy Marine Geophysical Survey by the R/V Roger Revelle in the Tropical Western Pacific Ocean, September–October 2013*;
- The NSF's 2011 *Programmatic Environmental Impact Statement/Overseas Environmental Impact Statement for Marine Seismic Research Funded by the National Science Foundation or Conducted by the U.S. Geological Survey.*

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This FONSI presents our selected alternative.—Alternative 1 (Preferred Alternative) titled, "Issuance of an Authorization with Mitigation Measures," and our conclusions regarding the impacts related to our proposed action. Based on our review of the SIO's proposed low-energy seismic survey and the mitigation and monitoring measures contained in Alternative 1, we have determined that no significant impacts to the human environment would occur from implementing the Preferred Alternative.

ANALYSIS

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 CFR § 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below this section is relevant to making a finding of no significant impact (FONSI) 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 (EFH) as defined under the Magnuson-Stevens Act (MSA) and identified in Fishery Management Plans (FMP)?**

   Response: Our proposed action of issuing an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey cannot reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or EFH as defined under the MSA and identified in FMPs because. These temporary acoustic activities would not affect physical habitat features, such as substrates and water quality. Additionally the effects from vessel transit and the seismic operations of a single vessel would not result in substantial damage to ocean and coastal habitats that might constitute marine mammal habitats. Commercial fishing, vessel traffic, and other activities in the study area generate noise throughout the year. The additional of noise produced by an airgun array is comparatively minor in terms of total additional acoustic energy and brief, in terms of duration of the proposed effort. The mitigation and monitoring measures required by the IHA would not affect ocean and coastal habitats or EFH.

   NMFS, Office of Protected Resources, Permits and Conservation Division has determined that the issuance of an IHA for the taking of marine mammal incidental to a low-energy marine seismic survey in the tropical western Pacific Ocean will not have an adverse impact on EFH; therefore, an EFH consultation is not required.

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: We do not expect our proposed action (i.e., issuing an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey) to have a substantial impact on biodiversity or ecosystem function within the affected environment. The effects of our proposed action would be limited to temporary behavioral responses (such as brief masking of natural sounds) and temporary changes in animal distribution. These effects would be short-term and localized.

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

Response: We do not expect our proposed action (i.e., issuing an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey) to have a substantial adverse impact on public health or safety because the proposed activities would occur in the open ocean away from any populated area. The constant monitoring for marine mammals and other marine life during seismic operations effectively eliminates the possibility of any humans begin inadvertently exposed to levels of sound that might have adverse effects. Although the conduct of the low-energy seismic survey may carry some risk to the personnel involved (i.e., boat or mechanical accidents during surveys), the applicant and those individuals working with the applicant would be required to be adequately trained or supervised in performance of the underlying activity (i.e., the low-energy seismic survey) to minimize such risk to personnel. The low-energy seismic survey is not expected to have any adverse impacts on traffic and transportation, as this is only a single working sound source vessel that will be at sea for a relatively short period of time (i.e., approximately 26 days) over a relatively small geographic area. Also, there is little risk of exposure to hazardous materials or wastes, risk of contracting diseases, or risk of damage from a natural disaster.

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: Our proposed action may adversely affect 26 species of marine mammals, some of which are listed under the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*), but these effects cannot reasonably be expected to be significant. We have determined that the proposed seismic survey may result in some Level B harassment (in the form of short-term and localized changes in behavior) of small numbers of marine mammals, relative to the population sizes. The impacts of the low-energy seismic survey on marine mammals are specifically related to acoustic activities, and these are expected to be temporary in nature, negligible, and would not result in substantial impact to marine mammals or to their role in the ecosystem.

In addition to the potential incidental harassment of small numbers of marine mammals not listed under the ESA, the low-energy seismic surveys may have the potential to adversely affect the following species listed as threatened or endangered marine mammals pursuant to the ESA: humpback, sei, fin, blue, and sperm whales. A September 2013 Biological Opinion issued under the ESA concluded that SIO's project was not likely to jeopardize the continued existence of any listed species or adversely modify or destroy critical habitat, and this determination would not be affected by the issuance of the IHA.

The following mitigation measures are planned for the survey to minimize adverse effects to protected marine mammals:

(1) proposed exclusion zones and visual monitoring by Protected Species Visual Observers (PSOs);
(2) shut-down procedures;
(3) ramp-up procedures; and
(4) speed or course alteration of the vessel to avoid marine mammals entering the exclusion zone.

Taking these measures into consideration, we expect the responses of marine mammals from the preferred alternative to be limited to avoidance of the area around the seismic operations and short-term behavioral changes, falling within the MMPA definition of "Level B harassment."

We do not anticipate that marine mammal take by injury (Level A harassment), serious injury, or mortality would occur and we expect that harassment takes should be at the lowest level practicable due to the incorporation of the mitigation measures required by the IHA. For each species, the Level B harassment take numbers are small (most estimates are less than or equal to one percent) relative to the regional or overall population size of the marine mammal species or stock.

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

Response: The primary impacts to the natural and physical environment are expected to be acoustic and temporary in nature (and not significant), and not interrelated with significant social or economic impacts. Issuance of the IHA would not result in inequitable distributions of environmental burdens or access to environmental goods. We have determined that issuance of the IHA will not adversely affect low-income or minority populations. Further, there will be no impact of the activity on the availability of the species or stocks of marine mammals for subsistence uses. Therefore, we do not expect significant social or economic effects to result from our issuance of the IHA.

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

Response: The effects of our action (i.e., issuing an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey) are not likely to be highly controversial. Specifically, we did not receive any comments raising substantial questions or concerns about the size, nature, or effect of potential impacts from NMFS's proposed action. Previous projects of this type required marine mammal monitoring and monitoring reports, which have been reviewed by us to ensure that activities have a negligible impact on marine mammals. In no case have impacts to marine mammals, as determined from monitoring reports, exceeded our analyses under the MMPA and NEPA.

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, EFH, or ecologically critical areas?**

Response: The issuance of an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey will not impact the proposed survey area. There are no unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, EFH, or ecologically critical areas that could potentially be affected by the proposed action; therefore, no impacts to these resources would be anticipated. There are a number of marine protected areas in Micronesia, Papua New Guinea, Indonesia, and the Philippines; however, the closest MPA to any drill site is 80 kilometers (43.2 nautical miles) from Site WP-7 in the EEZ of Indonesia. There is no EFH and there are no habitats of particular concern (HAPC) in the proposed survey area. All proposed activities would occur in the marine environment and would not impact terrestrial resources. No discharges to the marine

environment are proposed within the project area; therefore, there would be no impacts to water resources.

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

Response: The issuance of an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey would not have effects on the human environment that would be highly uncertain or involve unique or unknown risks.

The potential risks of low-energy seismic surveys resulting in elevated sound levels are not unique or unknown, nor is there significant uncertainty about impacts. We have issued IHAs for marine mammal take for similar types of oceanographic research seismic surveys for over 10 years, and monitoring reports received pursuant to the requirements of the IHAs have indicated that there were no unanticipated or unauthorized impacts as a result of the seismic surveys. The best available science, including input from prior monitoring reports for seismic surveys, supports our determination that adverse impacts are unlikely and will be minimized through the implementation of the proposed mitigation and monitoring requirements.

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

Response: No, our proposed action is not related to other actions with individually insignificant but cumulatively significant impacts. We expect the following combination to result in no more than minor and short-term impacts to marine mammals in the survey area in terms of overall disturbance effects: (a) our issuance of an IHA with prescribed mitigation and monitoring measures for the low-energy seismic survey; (b) past, present, and reasonably foreseeable future research in the tropical western Pacific Ocean; (c) vessel traffic, noise, and collisions; and (d) fishing.

These activities, when conducted separately or in combination with other activities, have the potential to affect marine mammals in the study area. Any cumulative effects caused by the addition of the low-energy seismic survey impacts on marine mammals would be extremely limited and would not rise to the level of "significant," especially considering the timeframe of the proposed activities, the location of the proposed survey area away from known areas of importance to marine mammals, and the mitigation and monitoring requirements in the IHA. The low-energy seismic survey is unlikely to co-occur with any additional human activities, and thus the degree of cumulative impact would be minimal.

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 may cause loss or destruction of significant scientific, cultural or historical resources?**

Response: The issuance of an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey would not 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 as none are known to exist at

the site of the proposed low-energy seismic survey and because the proposed action is not expected to alter any physical resources.

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

Response: We have determined that the proposed action (i.e., issuing an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey) is not an undertaking with the potential to introduce or spread non-indigenous species. The R/V *Roger Revelle* complies with all international and U.S. national ballast water requirements to prevent the spread of a non-indigenous species.

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: Our action of issuing an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey would not set a precedent for future actions with significant effects nor represent a decision in principle.

Each MMPA authorization applied for under section 101(a)(5) must contain information identified in our implementing regulations. We consider each activity specified in an application separately and, if we issue an IHA, we must determine that the impacts from the specified activity would result in a negligible impact to the affected species or stocks. Our issuance of an IHA may inform the environmental review for future projects, but would not establish a precedent or represent a decision in principle about a future consideration.

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

Response: Issuance of the IHA would not result in any violation of Federal, State, or local laws for environmental protection. We have fulfilled our section 7 responsibilities under the ESA (see response to Question 4) and the MMPA for this action.

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: The proposed action (*i.e.*, issuing an IHA for the take of marine mammals incidental to the conduct of a low-energy seismic survey) cannot reasonably be expected to result in cumulative adverse effects that could have a substantial effect on target or non-target species.

We have determined that marine mammals may exhibit behavioral changes such as avoidance of or changes in movement within the action area. However, we do not expect the authorized harassment to result in significant cumulative adverse effects on the affected species or stocks. We do not expect that our issuance of an IHA to result in any significant cumulative adverse effects on target or non-target species incidentally taken by harassment due to elevated sound levels.

We have issued incidental take authorizations for other seismic research surveys (to SIO, Lamont-Doherty Earth Observatory of Columbia University, U.S. Geological Survey, and other agencies) that may have resulted in the harassment of marine mammals, but they are dispersed both geographically (throughout the world) and temporally, are short-term in nature, and all use mitigation and monitoring measures to minimize impacts to marine mammals. Because of the relatively short time that the project area will be ensonified (not more than 26 days), the action will not result in synergistic or cumulative adverse effects that could have a substantial effect on any species.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting EA titled, *Issuance of an Incidental Harassment Authorization to Scripps Institution of Oceanography to Take Marine Mammals by Harassment Incidental to a Low-Energy Marine Geophysical Survey in the Tropical Western Pacific Ocean, September to October 2013*, and documents that it references, we have determined that issuance of an IHA to SIO in accordance with Alternative 1 the EA would not significantly impact the quality of the human environment, as described in this FONSI 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.

PERRY GAYARDO

for Donna S. Wieting,
Director, Office of Protected Resources,
National Marine Fisheries Service

SEP - 6 2013

Date