

minimize the security risks associated with each computer hardware or software system that is, or is likely to become widely used within the Federal Government." Various Federal organizations (NIST, NSA, DISA, etc.), consortia (e.g., Center for Internet Security), and some commercial vendors produce these checklists. Such checklists when combined with well-developed guidance, leveraged with high-quality security expertise, vendor product knowledge, operational experience, and accompanied with tools can markedly reduce the vulnerability exposure of an organization. To meet this challenging requirement to produce checklists for the spectrum of IT products widely used in the government, NIST has developed a proposal to solicit from IT vendors, consortia, industry and government organizations, and others in the public and private sector to produce additional checklists and associated guidance material to NIST. These materials would then be made available for display and downloading from the NIST Computer Security Resource Center (CSRC) Web site (<http://csrc.nist.gov>). To gather feedback on the proposed approach, NIST is announcing a workshop to identify current and planned Federal government checklist activities and related needs, existing and planned voluntary efforts for building security checklists, and current industry capabilities for the development of checklists and the associated templates that describe sets of security configurations for IT products widely used in the United States Government (USG).

It is anticipated that the workshop will support the development of a standard Extensible Markup Language (XML) template for security configuration checklist descriptions, and a guideline on producing consensus checklists that can be searched, compared, shared freely, and used by the USG and Internet community at large. The goal of this initial workshop is to collect suggestions from organizations that have already developed or are involved in the development of such checklists to gain their input on key items that should be included within the template. The detailed draft agenda and supporting documentation for the workshop will be available prior to the workshop from the NIST CSRC Web site at <http://csrc.nist.gov/checklists> by July 31, 2003.

**DATES:** The workshop will be held on September 25 and 26, 2003, from 9 a.m. to 5 p.m.

**ADDRESSES:** The workshop will be held in the Lecture Room B, Bldg 101 at the National Institute of Standards and Technology, Gaithersburg, MD.

**FOR FURTHER INFORMATION CONTACT:** Additional information, when available, may be obtained from the Computer Security Resource Center Web site at <http://csrc.nist.gov/checklists> or by contacting John Wack, National Institute of Standards and Technology, Building 100 Bureau Drive, Stop 8930, Gaithersburg, MD 20899-8930; telephone 301-975-3411; Fax 301-948-0279, or e-mail: [checklists@nist.gov](mailto:checklists@nist.gov).

**SUPPLEMENTARY INFORMATION:**

NIST will lead an effort in coordination with other agencies and private industry to develop and disseminate a standard template designed to describe security checklists. Examples of key IT product technology areas include: operating systems, database systems, web servers, e-mail servers, firewalls, routers, intrusion detection systems, virtual private Networks, biometric devices, smart cards, telecommunication switching devices and web browsers.

Vendors, agencies, consortia, and other reputable sources will be encouraged to submit checklists and related information called for by the template to populate a public web-based repository. The template will provide a standardized method of centrally cataloging, describing, and categorizing existing and newly developed security checklists for IT products. The XML template will be used to populate an online database hosted by NIST that will provide the USG and Internet community with a centralized database used to consolidate information about IT product security checklists.

The initial workshop is being held to identify the key fields of the template. Workshop topics are planned to include:

- Target environments,
  - Risk levels,
  - Methods to gain wide agency and vendor support,
  - Methods and incentives to encourage vendors' submissions adhering to the proposed template.
- Vendors, agencies, and other reputable sources currently developing checklists for IT products are encouraged to present information at the workshop describing their checklist development and testing process. Speakers wishing to formally present information at the workshop should submit proposals to [checklists@nist.gov](mailto:checklists@nist.gov) by September 1, 2003.

Because of NIST security regulations, advance registration is mandatory; there

will be no on-site, same-day registration. To register, please register via the Web at <http://www.nist.gov/conferences> or fax the registration form with your name, address, telephone, fax and e-mail address to 301-948-2067 (Attn: Workshop on Building Secure Configurations/Security Settings/Security Checklists for Federal Government Systems) by September 22, 2003. The registration fee will be \$85. Payment can be made by credit card, check, purchase order, and government training form. Registration questions should be addressed to Kimberly Snouffer on 301-975-2776 or [kimberly.snouffer@nist.gov](mailto:kimberly.snouffer@nist.gov).

**Authority**

This work effort is being initiated pursuant to NIST's responsibilities under the Cyber Security Research and Development Act of 2002.

Dated: July 7, 2003.

**Arden L. Bement, Jr.,**

*Director.*

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**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**[I.D. 021203A]**

**Small Takes of Marine Mammals Incidental to Specified Activities; Oceanographic Surveys in the Hess Deep, Eastern Equatorial Pacific Ocean**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice of issuance of an incidental harassment authorization.

**SUMMARY:** In accordance with provisions of the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that an Incidental Harassment Authorization (IHA) to take small numbers of marine mammals, by harassment, incidental to conducting oceanographic surveys in the Hess Deep in international waters of the Eastern Equatorial Pacific Ocean has been issued to Lamont-Doherty Earth Observatory (L-DEO).

**DATES:** Effective from July 3, 2003, through June 30, 2004.

**ADDRESSES:** The application, a list of references used in this document, and/or the IHA are available by writing to Kaja A. Brix, Acting Chief, Marine Mammal Conservation Division, Office of Protected Resources, National Marine

Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3225, or by telephoning the contact listed here.

**FOR FURTHER INFORMATION CONTACT:** Kenneth R. Hollingshead, Office of Protected Resources, NMFS, (301) 713-2055, ext 128,

**SUPPLEMENTARY INFORMATION:**

**Background**

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Permission may be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses and that the permissible methods of taking and requirements pertaining to the monitoring and reporting of such takings are set forth. NMFS has defined "negligible impact" in 50 CFR 216.103 as "...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

Subsection 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by harassment. Under section 18(A), the MMPA defines "harassment" as:

any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Subsection 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of small numbers of marine mammals. Within 45 days of the close of the comment period, NMFS

must either issue or deny issuance of the authorization.

**Summary of Request**

On January 29, 2003, NMFS received an application from L-DEO for the taking, by harassment of several species of marine mammals incidental to conducting a seismic survey program in the Hess Deep portion of the Eastern Equatorial Pacific Ocean about 600 nautical miles (nm)(690 land miles; 1111.2 km) west of the Galapagos Islands during March and April 2003, but rescheduled for July, 2003. The purpose of this survey is to obtain information on movements of the earth's plates and on formations associated with those movements. More specifically, the Hess Deep survey will obtain information on the geologic nature of boundaries of the earth's crust at fast-spreading and intermediate-spreading ridges at the boundaries of tectonic plates.

**Description of the Activity**

The seismic survey will involve a single vessel, the *R/V Maurice Ewing* (*Ewing*), which will deploy and retrieve the Ocean Bottom Seismometers (OBSs) and conduct the seismic work. The *Ewing* will deploy an array of airguns as an energy source, plus a 6-km (3.2-nm) towed streamer containing hydrophones to receive the returning acoustic signals.

Water depths in the Hess Deep survey area will range from approximately 2,000 to 3,400 m (6,560 to 11,150 ft). A total of 912 km (492 nm) of MCS (Multi Channel Seismic) surveys using a 10-gun array and 189 km (102 nm) of OBS surveys using a 12-gun array are planned to be conducted. These line-kilometer figures represent the planned production surveys. There will be additional operations associated with equipment testing, startup, line changes, and repeat coverage of any areas where initial data quality is sub-standard.

The procedures to be used for the 2003 seismic survey will be similar to those used during previous seismic surveys by L-DEO, (e.g., in the equatorial Pacific Ocean (Carbotte et al., 1998, 2000)). The proposed program will use conventional seismic methodology with a towed airgun array as the energy source and a towed streamer containing hydrophones as the receiver system, sometimes in combination with OBS receivers placed on the bottom. The energy to the airgun array is compressed air supplied by compressors on board the source vessel. In addition, a multi-beam bathymetric sonar will be operated from the source vessel at most times during the Hess Deep survey.

The *Ewing* will be used as the source vessel. It will tow the airgun array (either 10 or 12 guns) and a streamer containing hydrophones along predetermined lines. The vessel will travel at 4-5 knots (7.4-9.3 km/hr), and seismic pulses will be emitted at intervals of 60-90 seconds (OBS lines) and approximately 20 seconds (all other lines). The 20-sec spacing corresponds to a shot interval of about 50 m (164 ft). The 60-90 sec spacing along OBS lines is to minimize previous shot noise during OBS data acquisition, and the exact spacing will depend on water depth. The 10-gun array will be used during MSC surveys and the 12 gun-array will be used during OBS surveys. The airguns will be widely spaced in an approximate rectangle with dimensions 35 m (114.9 ft)(across track) by 9 m (29.5 ft)(along track). Individual airguns range in size from 80 to 850 in<sup>3</sup>, with total volumes of the arrays being 3050 and 3705 in<sup>3</sup> for the 10- and 12-gun arrays, respectively.

The 10-airgun array will have a peak sound source level of 248 dB re 1 µPa or 255 dB peak-to-peak (P-P). The 12-airgun array will have a peak sound source level of 250 dB re 1 µPa or 257 dB P-P. These are the nominal source levels for the sound directed downward, and represent the theoretical source level close to a single point source emitting the same sound as that emitted by the array of 10 or 12 sources. Because the actual source is a distributed sound source (10 or 12 guns) rather than a single point source, the highest sound levels measurable at any location in the water will be less than the nominal source level. Also, because of the downward directional nature of the sound from these airgun arrays, the effective source level for sound propagating in near-horizontal directions will be substantially lower than sounds projected directly beneath the array.

Along selected lines, OBSs will be positioned by the *Ewing* prior to the time when it begins airgun operations in that area. After OBS lines are shot, the *Ewing* will retrieve the OBSs, download the data, and refurbish the units.

Along with the airgun operations, one additional acoustical data acquisition activity will occur throughout most of the cruise. The ocean floor will be mapped with an Atlas Hydrosweep DS-2, multi-beam 15.5-kHz bathymetric sonar (Atlas Hydrosweep). The Atlas Hydrosweep is mounted in the hull of the *Ewing*, and it operates in three modes, depending on the water depth. The first mode is when water depth is <400 µ(<1312.3 ft). The source output is 210 dB re 1 µPa-m rms and a single 1-

millisec (msec) pulse or “ping” per second is transmitted, with a beam-width of 2.67 degrees fore-aft and 90 degrees in beam-width. The beam-width is measured to the 3 dB point, as is usually quoted for sonars. The other two modes are deep-water modes: The Omni mode is identical to the shallow-water mode except that the source output is 220 dB rms. The Omni mode is normally used only during start up. The Rotational Directional Transmission (RDT) mode is normally used during deep-water operation and has a 237 dB rms source output. In the RDT mode, each “ping” consists of five successive transmissions, each ensonifying a beam that extends 2.67 degrees fore-aft and approximately 30 degrees in the cross-track direction. The five successive transmissions (segments) sweep from port to starboard with minor overlap, spanning an overall cross-track angular extent of about 140 degrees, with tiny (<1  $\mu$ s) gaps between the pulses for successive 30-degree segments. The total duration of the “ping”, including all 5 successive segments, varies with water depth but is 1 msec in water depths <500 m (<1640.4 ft) and 10 msec in the deepest water. Additional information on the airgun array and Atlas Hydrosweep specifications is contained in the application, which is available upon request (see ADDRESSES).

#### Comments and Responses

A notice of receipt of the L-DEO application and proposed IHA was published in the **Federal Register** on April 14, 2003 (68 FR 17909). That notice described in detail the proposed activity, including the characteristics of the Ewing’s acoustic sources, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. That information is not repeated here. During the 30-day public comment period, comments were received from the Marine Mammal Commission (Commission) and the Center for Biological Diversity (CBD).

#### Activity Concerns

*Comment 1:* The CBD believes that the proposed authorization is flawed because it lacks a disclosure and analysis of the impacts of the multi-beam bathymetric sonar planned for use on this voyage. The proposed authorization indicates that the dB level of this sonar is 210–220 dB rms, yet concludes without sufficient analysis that the sonar is unlikely to result in any take by harassment.

*Response:* A complete description of the Atlas Hydrosweep is contained in the proposed IHA document (68 FR 17916, April 14, 2003), pages 54–56 of

the L-DEO application, and pages 65–66 of the National Science Foundation (NSF) Environmental Assessment (EA). The reason for concluding that the Atlas Hydrosweep is unlikely to result in a take by harassment is contained in those documents. In summary, any given marine mammal at depth near the Ewing trackline would be in the main beam for only 1/5th or at most 2/5th of the 1 10 msec duration of the signal. The Atlas Hydrosweep is less powerful, has a shorter pulse duration and projects downwards as compared to standard Navy sonars that have been linked to avoidance reactions and stranding of cetaceans. Also, because the area of possible influence of the Atlas Hydrosweep is much smaller (a narrow band below the source vessel), marine mammals that encounter the Atlas Hydrosweep at close range are unlikely to be subjected to repeated pulses because of the narrow fore-aft width of the beam, and will receive only limited amounts of pulse energy because of the short pulses. This effectively eliminates a marine mammal receiving the additional acoustic stimulus needed to induce a significant behavioral response.

#### Marine Mammal Impact Concerns

*Comment 2:* The CBD notes that the proposed IHA **Federal Register** document states that approximately 8,901 marine mammals will be taken by the 10-gun and 12-gun array with peak source levels of 255 dB P-P (peak-to-peak) and 257 dB P-P (or approximately 239 rms (root-mean-squared) and 241 rms). According to the CBD, this does not constitute “small numbers” of marine mammals.

*Response:* Section 101(a)(5)(D) of the MMPA authorizes takings of marine mammals incidental to an applicant’s activity if, among other things, the incidental taking, by harassment, is of small numbers of marine mammals of a species or population stock. The regulations at 50 CFR 216.103 define “small numbers” to mean “a portion of a marine mammal species or stock whose taking would have a negligible impact on that species or stock.” An activity would affect “small numbers” of a species or stock when it is determined that the total taking (of the species or stock by the activity over the period of the authorization) will be small relative to the estimated population size and relevant to the behavioral, physiological, and life history characteristics of the species. In other words, NMFS considers the kind of take (e.g., mortality, injury, or harassment); an individual mammal’s hearing ability, and the affected species

hearing capability in the frequency of the subject anthropogenic sounds; and the robustness of the affected marine mammal populations when determining whether the incidental taking would be small. There is no requirement that the total cumulative taking of all species be small.

Table 7 in the application (and referenced in the proposed authorization notice) provides an estimate of the number of animals that might be exposed to a sound pressure level (SPL) of 160 dB (RMS) or greater. This does not necessarily mean that 100 percent of all marine mammals exposed to seismic sounds will have a significant disruption in a biologically important activity at 160 dB. It is likely that some lower percentage would be affected either because of the hearing ability of the affected species or an individual animal to the projected frequencies. For example, Table 7 provides estimates of the number of animals of the 13 species of Delphinidae that might be exposed to received levels  $\geq$  160 dB. However, the Delphinidae have their best hearing in the higher frequencies and are unlikely to be as sensitive as the mysticete whales to the low frequency of the airgun array. Therefore, they are less likely to experience Level B harassment at 160 dB. A more likely threshold for Delphinidae for onset of Level B harassment in response to seismic sounds is at about 170 dB.

However, based on either sound pressure level, Level B harassment take levels for almost every species would be significantly less than 1 percent of the affected stock and one could reach a level of 2 percent. Since this activity will not result in mortality or serious injury of any marine mammals and has the potential to result in the incidental behavioral (Level B) harassment of only a small percentage of the estimated population size of affected stocks, NMFS has concluded that the takings will be small.

*Comment 3:* The CBD states that NMFS has not demonstrated that the level of take will have a “negligible impact.” The drafters of the MMPA’s small take provision defined “negligible impact” as an impact that is “so small or unimportant or of so little consequence as to warrant little or no attention” (H. Rept. 228, 97th Cong. 1st sess. 19 (1981)). According to the proposed IHA, animals subjected to sound levels above 160 dB may alter their behavior and distribution. The take by harassment of 8,901 marine mammals by underwater noise far exceeding the thresholds for harassment and injury is not negligible. The *Ewing* should not be permitted to use the 10–

gun and 12-gun array at the planned levels.

*Response:* The definition quoted in the comment was modified by Public Law 99-659 when Congress expanded the small take authorization to include marine mammal species listed under the ESA. NMFS interprets negligible impact to mean that the impact resulting from the specified activity cannot reasonably be expected to, and is not reasonably likely to, adversely affect the species or stock through effects on reproduction or survival. NMFS believes that this definition of negligible impact captures Congressional intent since it adopted, substantially without change, the definition set out in the Senate's "Section-by-Section Analysis" (132 Cong. Rec. S16305 (October 15, 1986)).

Discussion regarding the potential for taking by Level B harassment of up to 8,901 marine mammals is provided in the previous response. As required by the MMPA, L-DEO has provided significant documentation in its application that the harassment of marine mammals incidental to conducting a scientific survey using a seismic array will have a negligible impact on affected species and stocks of marine mammals. NMFS concurs with this finding and believes that the information contained in the L-DEO application and the NSF EA is a compilation of the best scientific information available on this subject. NMFS is unaware of additional scientifically-based information on which to make an alternative decision and the commenter has not provided any information to support the statement. Refer to the proposed authorization notice (68 FR 17909, April 14, 2003) for discussion on potential seismic noise impacts on marine mammals.

#### Mitigation Concerns

*Comment 4:* The CBD states that while the proposed IHA notice outlines several mitigation measures the action will include, these measures do not ensure the "least practicable adverse impact" as required by the MMPA. It is unclear from the proposed IHA that the safety radii dB levels are sufficient to protect marine mammals (from injury). It appears that L-DEO determined the safety radii based on exposure to 180 dB (cetaceans) and 190 dB (pinnipeds). These levels are far too high to be deemed "safety" radii and should be modified accordingly.

*Response:* The safety radii are based on the findings of two public workshops (High-Energy Seismic Survey (HESS) Workshop, June 12-13, 1997; NMFS Acoustic Criteria Workshop, September,

1998). A panel of nine experts in marine biology and acoustics sponsored by Southern California's HESS Team convened to develop marine mammal exposure criteria (Knastner, 1998). The consensus of the experts was that they were

apprehensive about levels above 180 dB re 1  $\mu$ Pa (rms) with respect to overt behavioral, physiological, and hearing effects on marine mammals in general. Therefore, the 180-dB radius, as initially defined by transmission loss model and verified on-site, is recommended as the safety zone distance to be used for all seismic surveys within the southern California study area.

The 1998 NMFS workshop clarified that, because pinniped hearing is different from that of cetaceans, 190 dB would be a safe level preventing pinniped injury from exposure to impulse sounds.

While there is limited empirical evidence on injury at levels below 180 dB, the 180- and 190-dB levels make sense, given that Frankel (1994) estimated the source level for singing humpback whales to be between 170 and 175 dB while Au and Andrews (2001) measured humpback whale calls off Hawaii at 189 dB; the average call source level for blue whales was calculated by McDonald et al. (2001) to be 186 dB; Watkins et al. (1987) and Charif et al. (2002) found source levels for fin whales up to 186 dB; and Mhl et al. (2000) recorded source levels for sperm whale clicks up to 223 dB. If marine mammals vocalize at these levels, it is realistic to believe that these species have also evolved mechanisms to protect themselves and conspecifics from high SPLs.

*Comment 5:* The CBD states that it is far from clear that the vessel-based observers will detect marine mammals in the area in order to trigger the necessary shutdown of operations. For example, Cuvier's beaked whales in the vicinity of the airgun array and sonar are likely to escape observance due to the documented extreme difficulty in detecting this species.

*Response:* The MMPA requires NMFS to ensure that takings are at the lowest level practicable. The mitigation measures, which include (1) course alteration; (2) power-down procedures; (3) ramp-up procedures; and (4) vessel-based observers, are discussed in detail later in this document (see Mitigation). In combination, they are more likely to be effective mitigation than the use of observers alone. These same measures are included in the Interim Operational Guidelines for High-Energy Seismic Surveys off Southern California (HESS, 1999) and are standard mitigation measures for high-energy seismic sources used in the Beaufort Sea and

other areas. NMFS reviewed the practicality of adding other mitigation measures, and has added an additional measure discussed later in this document (see Monitoring Concerns) and clarified timing for events such as ramp-up and observation periods (see Mitigation). Other mitigation measures, such as aircraft overflights and limiting operations to daylight hours, are not practicable. Overflights, for example, in addition to the prohibitive cost, would be unable to spend much time in the area for observation after flying 600 nm (1111.2 km) from the Galapagos Islands. Therefore, NMFS determined that the takings, by Level B harassment, are at the lowest level practicable without compromising the ability of L-DEO to obtain the scientific information on movements of the earth's plates and on formations associated with those movements at the Hess Deep.

#### Monitoring Concerns

*Comment 6:* The Commission believes that NMFS' preliminary determinations are reasonable, provided NMFS is satisfied that the proposed mitigation and monitoring activities are adequate to detect marine mammals in the vicinity of the proposed operations and ensure that marine mammals are not being taken in unanticipated ways or numbers. In this regard, NMFS' **Federal Register** notice and the application state that "[v]essel-based observers will monitor marine mammals near the seismic source vessel during all daylight airgun operations and during any nighttime startups of the airguns;" and that bridge personnel will watch for marine mammals during nighttime activities but that "[o]bservers will not be on duty during ongoing seismic operations at night." The **Federal Register** notice states that an image-intensifier night-vision devices (NFDs) will be available for use at night, although past experience has shown that NFDs are of limited value for this purpose." Thus it is unclear that, for nighttime activities, the monitoring effort will be sufficient to determine that no marine mammals are within the safety zones at start-up or will be an effective means of detecting when marine mammals enter the safety zones during operations such that activities are suspended before received levels of 180 and 190 dB (rms) are reached.

*Response:* As part of the IHA, NMFS is requiring that if the airguns are started up at night, two marine mammal observers will monitor for marine mammals within the safety radii for 30 minutes prior to start up using night vision devices as described later (see Monitoring and Reporting). If the entire

safety radii is not visible for 30 minutes prior to ramp-up in either daylight or nighttime, ramp-up may not commence unless at least one airgun has maintained an SPL of at least 180 dB (rms) during the interruption of seismic survey operations. This latter IHA condition ensures that marine mammals will have sufficient opportunity to move away from the track of the Ewing prior to receiving high dB levels. The combination of the two conditions ensures, to the greatest extent practicable, that no mammals will be within the appropriate safety zones whenever the airguns are turned on, either in daylight or nighttime.

However, it is noted that at times, pinnipeds and even some small cetaceans will actively approach a vessel during transmissions (the vessel itself moving forward at about 3–5 knots) from the side of the vessel or the stern, meaning that the animal is voluntarily approaching a noise source that is increasing in strength as the animal gets closer. Experience indicates that pinnipeds will come from great distances to scrutinize seismic-reflection operations. Seals have been observed swimming within airgun bubbles only 10 m (33 ft) away from active arrays. Also, Canadian scientists, who were using a high-frequency seismic system that produced sound frequencies closer to pinniped hearing than those used by the Ewing, describe how seals frequently approached close to the seismic source, presumably out of curiosity. Therefore, because at least pinnipeds indicated no adverse behavioral reaction to seismic noise, NMFS has concluded that the above-mentioned mitigation requirement is reasonable because the bridge-watch will be concentrating on marine mammals approaching the vessel from the bow. Also, the night-vision ability of the trained bridge-watch staff will be better than observers elsewhere on the vessel where normal ship-board lighting is more likely. Finally, an observer is still required to be on standby, meaning his/her presence would be in the vicinity of the bridge and is not precluded from conducting observations during night-time.

*Comment 7:* The Commission notes that there is no discussion on why nighttime operations are considered necessary.

*Response:* The daily cost to the Federal government to operate the Ewing is approximately \$33,000–\$35,000/day, or approximately \$350,000 for this 10–day research cruise (Ljunggren, pers. comm. May 28, 2003). If the Ewing is prohibited from operating during nighttime, the 10–day

trip would require an additional 3–5 days, or up to \$105,000–175,000 more, depending upon average daylight at the time of the work.

Therefore, because NMFS has determined that the safety zone must be visible during ramp-up, and because once the Ewing is underway and ramp-up completed, mammals will have sufficient notice of a vessel approaching (at least one hour) to avoid the approaching array if the sounds are annoying, NMFS determined that it is neither practical nor necessary to limit seismic operations to daylight hours since marine mammals are unlikely to be injured. Finally, with an extension of the time needed to complete the work if limited to daylight only operations, ship time would likely be limited for scheduled future research projects, possibly resulting in the utilization of alternative vessels.

*Comment 8:* The Commission notes that it is unclear whether vessel-based passive acoustic monitoring will be conducted as an adjunct to visual monitoring during daytime and particularly during nighttime operations to detect, locate, and identify marine mammals, and, if not, why not.

*Response:* The passive acoustical monitoring equipment that was used onboard the Ewing during the 2003 Gulf of Mexico (GOM) Sperm Whale Seismic Study (SWSS), is not the property of L-DEO or the Ewing, and therefore is not available for the Hess Deep cruise. As a result of this comment, L-DEO is evaluating the scientific results of the passive sonar from the SWSS trip to determine whether it is practical to incorporate into future seismic research cruises. NMFS expects a report on this analysis within 90 days of completion of the SWSS cruise.

*Comment 9:* The Commission asks whether conducting monitoring for at least 30 minutes prior to the planned start of airgun operations during the day and at night is sufficient, particularly for detecting the presence of species that make long dives.

*Response:* A 30–minute observation period is practical and NMFS believes it is unnecessary to lengthen this period considering that the ramp-up period will increase SPLs at a rate no greater than 6 dB per 5–minutes for a total ramp-up duration of approximately 18–20 min for the 10–12 gun arrays. Also, while some whale species may dive for up to 45 minutes, it is unlikely that the ship's bridge watch would miss a large whale surfacing from its previous dive if it is within a mile or two of the vessel.

#### *Endangered Species Act (ESA) Concerns*

*Comment 10:* The CBD believes that NMFS and NSF have not yet completed consultation under section 7 of the ESA. As this research voyage will impact endangered species, including blue and sperm whales, the CBD expects that NMFS and NSF will complete consultation prior to authorizing this action and will forward a copy of the resulting documentation to the CBD.

*Response:* NMFS has completed consultation on this action and has forwarded a copy of the Biological Opinion, the NSF EA, and the L-DEO application to the CBD as requested in its letter.

#### **Mitigation**

For the seismic operations in the Hess Deep, a 12–gun array with a total volume of 3705 in3 and a 10–gun array of 3050 in3 will be used. The airguns comprising these arrays will be spread out horizontally, so that the energy from the array will be directed mostly downward. The directional nature of the two alternative airgun arrays to be used in this project is an important mitigating factor, resulting in reduced sound levels at any given horizontal distance than would be expected at that distance if the source were omnidirectional with the stated nominal source level. Also, the use of the 10- or 12–gun array of 3,050 or 3,705 in3 rather than the largest airgun array that the L-DEO's source vessel can deploy (20 airguns totaling almost 8,600 in3) is another significant mitigation measure.

#### *Safety Radii*

Modeled results for the 10- and 12–gun arrays indicate that the 180–dB (re 1  $\mu$ Pa (rms)) isopleths (i.e., the current potential injury threshold for cetaceans) are 830 and 880 m (2,723 and 2,887 ft), respectively. The radii around the 10- and 12–gun arrays corresponding to the 190 dB (re 1  $\mu$ Pa (rms)) isopleths (the current potential injury threshold for pinnipeds), are estimated as 250 and 300 m (820 and 984 ft), respectively. A calibration study was conducted prior to this survey to determine the actual radii corresponding to each sound level. These actual radii will be implemented for this study. Until then, or if those measurements appear defective, L-DEO will use a precautionary 1.5 times the 180–dB and 190–dB radii predicted by the model as the safety radii. Under those circumstances, the safety radii for cetaceans would be 1,245 and 1,320 m (4,085 and 4,331 ft), respectively, for the 10- and 12–gun arrays, and the safety radii for pinnipeds would be 375 and 450 m (1,230 and 1,476 ft), respectively.

### *Power-down Procedures*

Vessel-based observers will monitor marine mammals near the seismic vessel during daylight and for 30 minutes prior to start up during darkness throughout the program. Airgun operations will be suspended immediately when marine mammals are observed within, or about to enter, designated safety zones where there is a potential for injury (based on the 180- and 190-dB criteria). The power-down procedure should be accomplished within several seconds or a single seismic "ping" of the determination being made that a marine mammal is within or about to enter the safety zone.

### *Restart Procedures*

After a power-down of the airguns, the observer(s) will maintain watch to determine when the animal is outside the safety radius. Airgun transmissions can commence/ resume after the mammal(s) is observed to have left the safety zone or 15 minutes (for small odontocetes and pinnipeds) or 30 minutes (for mysticetes/large odontocetes (sperm, pygmy sperm, dwarf sperm, beaked, and bottlenose whales)) from the last visual detection of the mammal(s) within the safety zone. Once the safety zone is clear of marine mammals, the observer will advise that restart procedures can commence.

A 30-minute pre-ramp-up observation period must be conducted after a shutdown (but not after power-down) of the array for a length of time greater than it would take a seismic vessel to travel the distance to the 160-dB isopleth at the time of shutdown. For example, traveling at 4.0 knots (4.0 nm/hr), the Ewing would need about 1 hr to reach that isopleth while operating the 10-gun array and 1.25 hrs when using the 12-gun array. For this cruise, the IHA requires the 30-minute observation period to take place after a shut-down of 1 hour or more. The "ramp-up" procedure will then be followed.

### *Ramp-up Procedure*

L-DEO will use the standard "ramp-up" (soft-start) procedure when the airgun arrays begin operating after a period without any airgun operations as specified in this paragraph. From a shut-down, ramp-up will begin with the smallest gun in the array that is being used (80 in3 for the 10- and 12-gun arrays), and guns will be added in a sequence such that the source level of the array will increase at a rate no greater than 6 dB per 5-minutes for a total ramp-up duration of approximately 18–20 min (10–12 gun arrays). Under

normal operational conditions (vessel speed 4–5 knots), a ramp-up would be required after a "no shooting" period lasting 2 minutes or longer. At 4 knots, the source vessel would travel 247 m (810 ft) during a 2-minute period. If the towing speed is reduced to 3 knots or less, as sometimes required when maneuvering in shallow water (not a factor in Hess Deep), ramp-up is required after a "no shooting" period lasting 3 minutes or longer. At towing speeds not exceeding 3 knots, the source vessel would travel no more than 277 m (909 ft) in 3 minutes. These procedures would require modification if the normal seismic shot interval were more than 2 or 3 min, but that is not expected to occur during the Hess Deep project.

### *Course Alteration*

If a marine mammal is detected outside its safety radius and, based on its position and relative motion, is likely to enter the safety radius, alternative ship tracks will be plotted against anticipated mammal locations. The vessel's direct course and/or speed will be changed to avoid the marine mammal entering the safety radius, but in a manner that also minimizes the effect to the planned science objectives. The marine mammal activities and movements relative to the seismic vessel will be closely monitored to ensure that the marine mammal does not approach within the safety radius. If the mammal appears likely to enter the safety radius, further mitigative actions will be taken, i.e., either further course alterations or power-down of the airguns. The Ewing is required to adopt this mitigation measure during the Hess Deep seismic survey program provided that doing so will not compromise operational safety requirements.

### **Marine Mammal Monitoring**

L-DEO will conduct marine mammal monitoring during its seismic program in the Hess Deep in order to verify that the taking of marine mammals, by harassment, incidental to conducting the seismic survey will have a negligible impact on marine mammal stocks and to ensure that these harassment takings are at the lowest level practicable.

A minimum of two marine mammal observers will be onboard the Ewing to monitor marine mammals near the seismic vessel. Observers will watch for marine mammals during all daylight periods with seismic shooting, and for at least 30 minutes prior to any start-up of airgun operations after shutdown. At least one observer must have previous observation experience. Prior to seismic operations commencing, observers must complete a 1-day training/refresher

course on marine mammal monitoring procedures, given by a contract employee experienced in vessel-based seismic monitoring projects. The Ewing is considered a suitable platform for marine mammal observations. The observer's eye level will be approximately 11 m (36 ft) above sea level when stationed on the bridge, allowing for good visibility within a 210° arc for each observer. Airgun operations will be suspended and the source powered-down whenever marine mammals are observed within, or about to enter, designated safety zones.

Observers will be on duty in shifts of duration no longer than 4 hours. The second observer will also be on watch part of the time, including the 30-minute periods preceding startup of the airguns and during ramp ups. Use of two simultaneous observers will decrease the potential that marine mammals near the source vessel will be missed. Bridge personnel that are additional to the dedicated observers will also assist in detecting marine mammals and implementing mitigation requirements, and before the start of the seismic survey will be given proper instruction for observing and reporting marine mammals and sea turtles.

Observers will not normally be on duty during ongoing seismic operations at night; bridge personnel will watch for marine mammals during this period and will immediately call for the airguns to be powered down and the stand-by observer will be notified if marine mammals are observed in or about to enter the safety radii. However, if the airguns are started up at night after a shutdown duration of 1 hour or greater, two observers will monitor for marine mammals within the safety radii for 30 minutes prior to beginning ramp-up using night vision devices (NVDs), although NMFS notes that past experience has shown that NVDs are of limited value for this purpose. If the complete safety radii are not visible for at least 30 minutes prior to ramp-up in either daylight or nighttime, ramp-up may not commence unless the seismic source has maintained an SPL of at least 180 dB during the interruption of seismic survey operations. While the 30-minute observation period is only required prior to commencing seismic operations following an extended shut down period, if ramp-up procedures must be performed at night, the two observers must be on duty 30 minutes prior to the start of seismic shooting and during the ramp-up procedures.

The observer(s) will watch for marine mammals from the bridge, the highest practical vantage point on the vessel. The observer(s) will systematically scan

the area around the vessel with 7 X 50 Fujinon reticle binoculars or with the naked eye during the daytime. At night, NVDs will be available (ITT F500 Series Generation 3 binocular image intensifier or equivalent), and used, if necessary. Laser rangefinding binoculars (Bushnell Lytespeed 800 laser rangefinder with 4 optics or equivalent) will be available to assist with distance estimation.

The vessel-based monitoring will provide data required to estimate the numbers of marine mammals exposed to various received sound levels, to document any apparent disturbance reactions, and thus to estimate the numbers of mammals potentially taken by Level B harassment. It will also provide the information needed in order to power-down the airguns at times when mammals are present in or near the safety zone. Results from the vessel-based observations will provide (1) the basis for real-time mitigation (airgun power-down); (2) information needed to estimate the number of marine mammals potentially taken by harassment, which must be reported to NMFS; (3) data on the occurrence, distribution, and activities of marine mammals in the area where the seismic study is conducted; (4) information to compare the distance and distribution of marine mammals relative to the source vessel at times with and without seismic activity; and (5) data on the behavior and movement patterns of marine mammals seen at times with and without seismic activity.

### Reporting

When a mammal sighting is made, the following information about the sighting will be recorded: (1) Species, group size, age/size/sex categories (if determinable), behavior when first sighted and after initial sighting, heading (if consistent), bearing and distance from seismic vessel, sighting cue, apparent reaction to seismic vessel (e.g., none, avoidance, approach, paralleling, etc.), and behavioral pace; and (2) time, location, heading, speed, activity of the vessel (shooting or not), sea state, visibility, cloud cover, and sun glare. The data listed under (2) will also be recorded at the start and end of each observation watch and during a watch, whenever there is a change in one or more of the variables.

All mammal observations and airgun power-downs will be recorded in a standardized format. Data will be entered into a custom database using a laptop computer when observers are off-duty. The accuracy of the data entry will be verified by computerized validity data checks as the data are entered and by subsequent manual checking of the

database. These procedures will allow initial summaries of data to be prepared during and shortly after the field program, and will facilitate transfer of the data to statistical, graphical or other programs for further processing and archiving.

A draft report will be submitted to NMFS for review within 90 days after the end of the seismic program in the Hess Deep area which is predicted to occur on or about July 28, 2003. The draft report will cover the seismic surveys in the Hess Deep area and will provide full documentation of methods, results, and interpretation pertaining to all monitoring tasks. The draft report will summarize the dates and locations of seismic operations, sound measurement data, marine mammal sightings (dates, times, locations, activities, associated seismic survey activities), and estimates of the amount and nature of potential "take" of marine mammals by harassment or in other ways. The draft report will be considered the final report unless comments and suggestions are provided by NMFS within 60 days of its receipt of the draft report.

### Estimates of Take by Harassment for the Hess Deep Cruise

As described previously (see 68 FR 17909, April 14, 2003) and in the L-DEO application, animals subjected to sound levels above 160 dB may alter their behavior or distribution, and therefore might be considered to be taken by Level B harassment.

Based on summer marine mammal survey data collected by NMFS and density calculations by Ferguson and Barlow (2001), L-DEO used their average marine mammal density to compute a "best estimate" of the number of marine mammals that may be exposed to seismic sounds  $\geq 160$  dB re  $1\mu\text{Pa}$  (rms). The average densities were then multiplied by the proposed survey effort (912 and 189 km for the 10-gun and 12-gun array, respectively) and twice the 160 dB safety radius from the source vessel (the 160-dB radius was 6.5 and 7.25 km for the 10-gun and 12-gun array, respectively) to estimate the "best estimate" of the numbers of animals that might be exposed to sound levels  $\geq 160$  dB re  $1\mu\text{Pa}$  (rms) during the proposed seismic survey program. Separate estimates were made for the 10-gun and 12-gun arrays because the 160-dB radius was different for the two arrays (see Tables 5 and 6 in L-DEO (2003)). Based on this method, Table 7 in LDEO (2003) provided a "best estimate" of the number of marine mammals (by species) that would be exposed to  $\geq 160$  dB (rms), and thus potentially taken by Level B

harassment, during the proposed survey, by both the 10-gun and 12-gun arrays. Twelve animals would be endangered species, sperm whales (11) and a single blue whale, while two stocks of dolphins would account for 96 percent of the overall estimate for potential taking by harassment.

### Conclusions

#### *Effects on Cetaceans*

Strong avoidance reactions by several species of mysticetes to seismic vessels have been observed at ranges up to 6 to 8 km (3.2–4.3 nm) and occasionally as far as 20–30 km (10.8–16.2 nm) from the source vessel. Some bowhead whales avoided waters within 30 km (16.2 nm) of the seismic operation. However, reactions at such long distances appear to be atypical of other species of mysticetes, and even for bowheads may only apply during migration.

Odontocete reactions to seismic pulses, or at least those of dolphins, are expected to extend to lesser distances than are those of mysticetes. Odontocete low-frequency hearing is less sensitive than that of mysticetes, and dolphins are often seen from seismic vessels. In fact, there are documented instances of dolphins approaching active seismic vessels. However, dolphins as well as some other types of odontocetes sometimes show avoidance responses and/or other changes in behavior when near operating seismic vessels.

Taking account of the mitigation measures that are planned, effects on cetaceans are expected to be limited to avoidance of the area around the seismic operation and short-term changes in behavior, falling within the MMPA definition of "Level B harassment." In the cases of mysticetes, these reactions are expected to involve small numbers of individual cetaceans because few mysticetes occur in the areas where seismic surveys are proposed. L-DEO's "best estimate" is that 10 Bryde's whales, or 0.1 percent of the estimated Eastern Equatorial Bryde's whale population, will be exposed to sound levels  $\geq 160$  dB re  $1\mu\text{Pa}$  (rms) and potentially affected, and 1 blue whale, or 0.1 percent of the endangered ETP blue whale population, would receive  $\geq 160$  dB. Therefore, these potential takings by Level B harassment will have a negligible impact on their populations.

Larger numbers of odontocetes may be affected by the seismic survey activities, but the population sizes of the main species are large and the numbers potentially affected are small (<0.1 percent) relative to the population sizes. The total number of odontocetes that might be exposed to  $\geq 160$  dB (re  $1\mu\text{Pa}$

(rms)) in the Hess Deep area is estimated as 8,890. Of these, 8,532 are delphinids, and of these about 3,076 might be exposed to  $\geq 170$  dB. Both estimates are <0.1 percent of the eastern equatorial populations of these species.

As noted earlier in this document, NMFS believes that Level B harassment take levels would, for almost every affected stock, be significantly less than 1 percent of the stock and only a single stock has the potential of reaching a level of 2 percent for Level B harassment.

#### *Effects on Pinnipeds*

Very few if any pinnipeds are expected to be encountered in the Hess Deep area. Thus, a maximum of 20 pinnipeds in the Hess Deep area may be affected by the proposed seismic surveys. If pinnipeds are encountered, the proposed seismic activities would have, at most, a short-term effect on their behavior and no long-term impacts on individual seals or their populations. Responses of pinnipeds to acoustic disturbance are variable, but usually quite limited. Effects are expected to be limited to short-term and localized behavioral changes falling within the MMPA definition of Level B harassment.

#### **Determinations**

Based on the information contained in the L-DEO application, the NSF EA, the April 14, 2003, proposed authorization notice (68 FR 17909) and this document, NMFS has determined that conducting a seismic survey by the *Ewing* at the Hess Deep in the eastern equatorial Pacific Ocean in 2003 by L-DEO would result in the harassment of small numbers of marine mammals; would have no more than a negligible impact on the affected marine mammal species or stocks; and would not have an unmitigable adverse impact on the availability of stocks for subsistence uses. This activity will result, at worst, in a temporary modification in behavior by affected species of marine mammals. While behavioral modifications may be made by these species as a result of seismic survey activities, this behavioral change is expected to result in no more than a negligible impact on the affected species. Also, while the number of actual incidental harassment takes will depend on the distribution and abundance of marine mammals in the vicinity of the survey activity, the number of potential harassment takings is estimated to be small. In addition, no take by injury and/or death is anticipated, and the potential for temporary or permanent hearing impairment is low and will be avoided

through the incorporation of the mitigation measures mentioned in this document and required under the IHA. For these reasons therefore, NMFS has determined that the requirements of section 101(a)(5)(D) of the MMPA have been met and the authorization can be issued.

#### **Consultation**

NMFS has concluded consultation under section 7 of the ESA on NMFS' issuance of an IHA to take small numbers of marine mammals, by harassment, incidental to conducting calibration measurements of its seismic array in the Hess Deep by L-DEO. The finding of that consultation was that this study is not likely to jeopardize the continued existence of marine species listed as threatened or endangered under the ESA. No critical habitat has been designated for these species in the equatorial Pacific Ocean; therefore, none will be affected. A conservation recommendation was made to ensure that the safety zone is clear of sea turtles prior to ramp up. This recommendation has been implemented through the IHA to L-DEO. A copy of the Biological Opinion is available upon request (see ADDRESSES).

#### **National Environmental Policy Act (NEPA)**

On March 18, 2003, the NSF made a determination, based on information contained within its EA that implementation of the subject action is not a major Federal action having significant effects on the environment within the meaning of Executive Order 12114. NSF determined therefore, that an environmental impact statement would not be prepared. On April 14, 2003 (68 FR 17909), NMFS noted that the NSF had prepared an EA for the Hess Deep survey. In accordance with section 6.01 of the NOAA Administrative Order 216-6 (Environmental Review Procedures for Implementing the National Environmental Policy Act, May 20, 1999), NMFS has reviewed the information contained in NSF's EA and determined that the NSF EA accurately and completely describes the proposed action alternative, reasonable additional alternatives, and the potential impacts on marine mammals, endangered species, and other marine life that could be impacted by the preferred alternative and the other alternatives. As a result, NMFS has determined that it is not necessary to issue either a new EA or a Supplemental EA for the issuance of an IHA to L-DEO for this activity. Therefore, based on this review and analysis, NMFS is adopting the NSF EA

under NEPA. A copy of the NSF EA for this activity is available upon request (see ADDRESSES).

#### **Authorization**

NMFS has issued an IHA to take small numbers of marine mammals, by harassment, incidental to conducting a seismic survey by the *Ewing* in the eastern equatorial Pacific Ocean to L-DEO for a 1-year period, provided the mitigation, monitoring, and reporting requirements described in this document and the IHA are undertaken.

Dated: July 3, 2003.

**Laurie K. Allen,**

*Acting Director, Office of Protected Resources, National Marine Fisheries Service.*

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## **DEPARTMENT OF DEFENSE**

### **GENERAL SERVICES ADMINISTRATION**

### **NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

[OMB Control No. 9000-0011]

#### **Federal Acquisition Regulation; Information Collection; Preaward Survey Forms (Standard Forms 1403, 1404, 1405, 1406, 1407, and 1408)**

**AGENCIES:** Department of Defense (DOD), General Services Administration (GSA), and National Aeronautics and Space Administration (NASA).

**ACTION:** Notice of request for public comments regarding an extension to an existing OMB clearance (9000-0011).

**SUMMARY:** Under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35), the Federal Acquisition Regulation (FAR) Secretariat will be submitting to the Office of Management and Budget (OMB) a request to review and approve an extension of a currently approved information collection requirement concerning preaward survey forms (Standard Forms 1403, 1404, 1405, 1406, 1407, and 1408). This clearance currently expires October 31, 2003.

Public comments are particularly invited on: Whether this collection of information is necessary for the proper performance of functions of the FAR, and whether it will have practical utility; whether our estimate of the public burden of this collection of information is accurate, and based on valid assumptions and methodology; ways to enhance the quality, utility, and clarity of the information to be