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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 in³, with total volumes of the arrays being 3050 and 3705 in³ for the 10- and 12-gun arrays, respectively.

The 10-airgun array will have a peak sound source level of 248 dB re 1 μ Pa or 255 dB peak-to-peak (P-P). The 12-airgun array will have a peak sound source level of 250 dB re 1 μ Pa 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 μ Pa-m rms and a single 1-