presented to show that this rescission will not interfere''.

[FR Doc. E8–13916 Filed 6–18–08; 8:45 am]

BILLING CODE 1505–01–D

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 79

Registration of Fuels and Fuel Additives

CFR Correction

In title 40 of the Code of Federal Regulations, parts 72 to 80, revised as of July 1, 2007, on page 604, in § 79.68, paragraph (f)(5)(vii) is reinstated to read as follows:

§ 79.68 *Salmonella typhimurium* reverse mutation assay.

* * * * *

(f) * * *

(5) * * *

(vii) Dose-response relationship, if applicable.

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[FR Doc. E8–13913 Filed 6–18–08; 8:45 am]

BILLING CODE 1505–01–D

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 216

[Docket No. 080302357–8703–01; I.D. 030905A]

RIN 0648–AT79

Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to the Explosive Removal of Offshore Structures in the Gulf of Mexico

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

ACTION: Final rule.

SUMMARY: NMFS, upon application from the Minerals Management Service (MMS), is issuing regulations to govern the unintentional takings of small numbers of marine mammals incidental to explosive severance activities at offshore oil and gas structures in the Gulf of Mexico (GoM). Issuance of regulations, and Letters of Authorization (LOAs) under those regulations, governing the unintentional incidental takes of marine mammals in connection with particular activities is required by the Marine Mammal Protection Act (MMPA) when the Secretary of Commerce (Secretary), after notice and opportunity for comment, finds, as here, that such takes will have a negligible impact on the affected species or stocks of marine mammals and will not have an unmitigable adverse impact on their availability for taking for subsistence uses, and if the Secretary sets forth the permissible methods of taking and other means of effecting the least practicable adverse impact on affected marine mammal species or stocks and their habitat, and on the availability of such species or stocks for subsistence uses.

These regulations do not authorize offshore structure removal activities as such authorization is not within the jurisdiction of the Secretary. Rather, NMFS' regulations together with LOAs authorize the unintentional incidental take of marine mammals in connection with this activity.

DATES: Effective from July 21, 2008 through July 19, 2013.

ADDRESSES: A copy of the MMS application containing a list of the references used in this document may be obtained by writing to Mr. P. Michael Payne, Chief Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910–3225, by telephoning one of the contacts listed under **FOR FURTHER INFORMATION CONTACT**, or at: *http://www.nmfs.noaa.gov/pr/permits/incidental.htm*.

Documents cited in this final rule may also be viewed, by appointment, during regular business hours (M-F, 8 a.m. until 4:30 p.m., except Federal holidays) at this address.A copy of MMS' Programmatic Environmental Assessment (PEA) is available on-line at: *http://www.gomr.mms.gov/homepg/regulate/environ/nepa/2005-013.pdf*.

Comments regarding the burden-hour estimate or any other aspect of the collection of information requirement contained in this rule should be sent to NMFS via the means stated above, and to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attention: NOAA Desk Officer, Washington, DC 20503, *David__Rostker@eap.omb.gov*.

FOR FURTHER INFORMATION CONTACT: Kenneth Hollingshead, NMFS, at 301–713–2289, ext 128 or *Ken.Hollingshead@noaa.gov*.

SUPPLEMENTARY INFORMATION:

Background

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1361 *et seq.*) directs the Secretary of Commerce (Secretary) to allow, upon request, the incidental, but not intentional taking of small numbers 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 regulations are issued.

An authorization will be granted for periods of 5 years or less if the Secretary 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 taking for subsistence uses, and if regulations are prescribed setting forth the permissible methods of taking and other means of effecting the least practicable adverse impact (i.e., mitigation) the requirements pertaining to the monitoring and reporting of such taking.

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.''

Summary of Request

On February 28, 2005, NMFS received an application from MMS (MMS, 2005a) requesting, on behalf of the offshore oil and gas industry, authorization under section 101(a)(5)(A) of the MMPA to take marine mammals by harassment incidental to explosive severance activities at offshore oil and gas structures in the GoM outer continental shelf (OCS). Except for certain categories of activities not pertinent here, the MMPA, 16 USC 1362(18)(A), 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].

Description of the Activity

During exploration, development, and production operations for mineral extraction in the GoM OCS, the seafloor around activity areas becomes the repository of temporary and permanent equipment and structures. In compliance with OCS Lands Act (OCSLA) regulations and MMS guidelines, operators are required to remove or ''decommission'' seafloor obstructions from their leases within

one year of lease termination or after a structure has been deemed obsolete or unusable. To accomplish these removals, it is necessary to (1) mobilize necessary equipment and service vessels, (2) prepare the decommissioning targets (e.g., piles, jackets, conductors, bracings, wells, pipelines, etc.), (3) sever the target from the seabed and/or sever it into manageable components, (4) salvage the severed portion(s), and (5) conduct final site-clearance verification work.

There are two primary methodologies used in the GoM for cutting decommissioning targets; nonexplosive and explosive severance. Nonexplosive methods include abrasive cutters (sand and abrasive-water jets), mechanical cutters (e.g., carbide or rotary), diamond wire cutting devices, and cutting facilitated by commercial divers using arc/gas torches. Though relatively time-consuming and potentially harmful to human health and safety (primarily for diver severances), nonexplosive-severance activities have little or no impact on the marine environment and would not result in an incidental take of marine mammals (MMS, 2005b (the MMS Final PEA)). A description of non-explosive severing tools and methods can be found in both MMS, 2005a; and MMS, 2005b (see **ADDRESSES**).

Explosive-severance activities use specialized charges to achieve target severance. Severance charges can be deployed on multiple targets and detonated nearly simultaneously (i.e., staggered at an interval of 900 msec), effecting rapid severance. Coupled with safe-handling practices, the reduced ''exposure time'' and omission of diver cutting also makes explosive severance safer for offshore workers. However, since the underwater detonation of cutting charges generates potentially damaging pressure waves and acoustic energy, explosive-severance activities have the potential to result in incidental take of nearby marine mammals. For this reason, MMS has requested an incidental take authorization governing explosive-severance activities conducted under OCSLA structure decommissionings.

Decommissioning operations conducted under OCSLA authority can occur on any day of a given year. Operators often schedule most of their decommissionings from June to December (approximately 80 percent) to take advantage of the often calm seas and good weather and the time period when structure installations tend to decrease.

Depending upon the target, a complete decommissioning operation may span several days or weeks, of which only a few seconds is actually attributed to the explosive-severance activity or ''detonation event'' for most removal targets (even those with multiple severances) because of charge staggering. For complex targets or in instances where the initial explosive-severance attempts are unsuccessful, more than one detonation event may be necessary per decommissioning operation. Even though hours or days may pass to allow for necessary mitigation measures and redeployment of new charges, each detonation event would similarly last only for a few seconds.

During the 10–year period from 1994–2003, there were an average of 156 platform decommissionings per year, with over 60 percent involving explosive-severance activities (see Table 4 in MMS, 2005a). In addition to historical activity averages, many of the older, nominally-producing structures in the mature GoM oil fields are nearing decommissioning age; this will result in an increase in removal operations in future years. Despite advancements in nonexplosive-severance methods and the additional requisite marine protected species mitigation measures, MMS expects explosive-severance activities to continue for at least 63 percent of all platform removals for the foreseeable future. (See Appendix A of MMS; Final PEA for additional forecasting information).

In addition to platform removals, based upon a review of the historical trends, industry projections, and recent forecast modeling, MMS estimates that between 170 and 273 explosive well-severance activities would occur annually over the next 5 years (see Table 7 in MMS' MMPA Application).

Comments and Responses

On April 7, 2006 (71 FR 17790), NMFS published a proposed rule on the taking of marine mammals incidental to offshore structure removals. During the 30–day public comment period on the proposed rule, comments were received from the Marine Mammal Commission (Commission), the Gulf Restoration Network (GRN), the American Petroleum Institute and the National Ocean Industries Association (API/NOIA), LIS Energy Services (LIS), Offshore Operators Committee, DEMEX, Newfield Exploration Company, and Explosive Service International. The comments of these organizations and the specific recommendations by the Commission are addressed next.

Activity Concerns

Comment 1: The GRN notes that the Government Accounting Office (GAO) found that 192 of 570 OCS oil and gas structures were removed by non-explosive methods between 1987 and 1992. GRN believes that serious consideration of the use of non-explosive removal techniques would eliminate potential negative impacts to marine mammal populations and should be required before companies are allowed to use explosive techniques.

Response: The use of non-explosive methods for offshore oil-and-gas structure removals was fully discussed in MMS' Final PEA and cited supporting documentation on this matter. MMS determined that, between 1994 and 2003, an average of 156 platforms were removed annually. Of that total, on average 58 platforms were removed annually by non-explosive methods (37 percent). While NMFS encourages operators to use non-explosive methods whenever feasible and practical, NMFS and MMS recognize that the use of nonexplosive methods leads to greater human health and safety concerns, primarily because (1) divers are often required (for torch/underwater arc cutting), (2) more personnel are required to operate cutting equipment (increasing the risk of injury), (3) lower success rates require that additional cutting attempts be made, and (4) cutters can only sever one target at a time, taking on average 30 minutes to several hours for a complete cut. Considering the low level of impact on affected marine mammal stocks by this activity and the inherent safety risk of using non-explosive methods, NMFS has determined that the structure removal operator needs the flexibility to determine the best method for a structure-removal operation.

Comment 2: The GRN states that the GAO found that the costs and benefits of these alternative methods of removal had not been adequately studied and that the MMS may have encouraged the use of explosives as the preferred method of removal.

Response: In response to a requirement in NMFS' 1995 rulemaking on this matter (60 FR 53753, October 17, 1995), MMS contracted for a study to be conducted on the operational and socioeconomic impacts of non-explosive removal of offshore structures. The information in that report (Twachtmann Synder and Byrd and Center for Energy Studies, 2003) was subsequently incorporated into the MMS PEA. A copy of that report is available via written request to NMFS (see **ADDRESSES**) or on MMS' website at: *http://www.gomr.mms.gov/PDFs/2004/2004-074.pdf*.

Marine Mammal Impact Concerns

Comment 3: While the Commission supports NMFS' preliminary determinations and supports the various proposed mitigation and monitoring activity scenarios, the Commission recommends NMFS clarify the apparent discrepancies between the numbers and species of animals requested by MMS to be taken by Levels A and B harassment versus the numbers and species proposed to be authorized by NMFS in its preamble to the proposed rule and in the proposed rule itself. NMFS estimates that one bottlenose dolphin would be taken by Level A harassment and up to 457 marine mammals of 28 species by Level B harassment. This differs from MMS' request for 5 bottlenose dolphins, one Atlantic spotted dolphin and one pantropical spotted dolphin by Level A harassment over the 5–year period of the proposed regulations and up to 457 marine mammals annually of the following species by Level B harassment: 227 bottlenose dolphins, 65 Atlantic spotted dolphins, 77 pantropical spotted dolphins, 27 Clymene dolphins, 12 rough-toothed dolphins, 14 striped dolphins, 15 melon-headed whales, 10 pilot whales, 5 spinner dolphins, 3 Risso's dolphins, and 2 sperm whales.

Response: NMFS has amended the preamble to this document and the regulations to conform with the request of the MMS, which is based on a clear analysis for projected incidental harassment takes provided in its application.

Comment 4: The Commission recommends that NMFS evaluate and discuss the potential for cumulative indirect effects on marine mammals that could result from the disturbance of hazardous substances that accumulate around production platforms. Disturbance of sediments during decommissioning may release these hazardous substances into the water column where they could enter and potentially affect the food chain up to top-level predators, including marine mammals.

Response: The disturbance of sediments during decommissioning activities is discussed in the MMS' Final PEA on structure removals. The MMS Final PEA notes that resuspension of sediments would be limited in both time and space (24 hr for a water column 4 m (13 ft) off the bottom and above, and 7–10 days for the water layer contained in the first 4 m (13 ft) off the seafloor). Resuspension of sediments would extend about 1000 m (3281 ft) away from the structure. The MMS Final PEA notes:

> Increased water turbidity and mobilization of sediments containing drilling muds and cuttings are both likely due to resuspension of bottom sediments following an explosive severance activity or structure salvaging. The magnitude and extent of sediment resuspension will depend on the hydrographic parameters of the area, the location of removal (above or below mud-line), and the size and composition of the bottom sediments. The impacts to water quality from resuspension of hydrocarbon wastes is expected to be temporary and limited to the immediate, localized structure removal site. Due to the temporary nature of water quality changes following decommissioning activities, no significant impacts to fish, marine mammals or sea turtle resources are expected.

For cumulative impacts, that document states:

> Based on the cumulative impact scenarios and assessments presented in the multi-sale EIS's, it is expected that the incremental contribution of potential impacts from decommissioning activities (i.e., vessel discharges, re-suspended sediments, and expended explosive/nonexplosive-severance products) would not result in significant cumulative impact on the water quality of the Gulf of Mexico OCS.

Based on the information in the MMS Final PEA, NMFS believes it very unlikely that there will be significant cumulative effects from resuspension of bottom sediments due to explosive structure removals on marine mammals.

Comment 5: The API/NOIA note that the ''safe'' peak pressure level to avoid physical injury recommended by Ketten (1995) is 100 psi (237 dB re 1 microPa, or about 212 dB re 1 microPa^2–s). The preamble to the proposed rule states that Level A harassment is assumed to occur at an energy flux density value of 1.17 in-lb/in^2 (which is about 205 dB re 1 microPa^2–s). There appears to be a discrepancy in the dB values quoted as ''safe'' versus that at which Level A harassment occurs.

Response: Estimating impacts to marine mammals from underwater detonations is difficult due to complexities of the physics of explosive sound under water and the limited understanding with respect to hearing in marine mammals. Compounding to the difficulty, NMFS understands that Ketten (1995) contains air-to-water conversion errors. For injury, NMFS uses two criteria: eardrum rupture (i.e., tympanic membrane [TM] rupture) and onset of slight lung injury, whichever is more conservative. In most cases, TM rupture is more likely at lower pressures and is used for this action to indicate the onset of injury. The threshold for TM rupture corresponds to a 50 percent rate of rupture (i.e., 50 percent of animals exposed to the level are expected to suffer TM); this is stated in terms of an energy flux density (EFD) value of 1.17 in-lb/in^2 (approximately 205 dB re 1 Pa^2–s). This recognizes that TM rupture is not necessarily a serious or life-threatening injury, but is a useful index of possible injury that is well-correlated with measures of permanent hearing impairment (e.g., Ketten (1998) indicates a 30 percent incidence of permanent threshold shift [PTS] at the same threshold). Ketten (1998) also found that peak blast overpressures of 1,034 kPa (150 psi) were associated with 50 percent tympanic membrane rupture. Based on the incidence of eardrum rupture in sheep exposed to underwater explosions by Richmond *et al.* (1973), Craig (2001) estimated that 50 percent tympanic membrane rupture would occur at an energy flux density of 1.17 in-lb/in^2 (about 205 dB re 1 microPa^2–s). While this latter criterion is more conservative than the 100 psi (237 dB re 1 Pa) derived by Ketten (1995), it was used in the WINSTON CHURCHILL ship shock trial Final EIS as the criterion for auditory injury, and is used by MMS and NMFS in this action based on the CHURCHILL findings (see 66 FR 22450, May 4, 2001).

Comment 6: The API/NOIA note that MMS and NMFS are adopting ''without modification'' NMFS' acoustic criteria (for explosives) because they are conservative. To confirm the conservative nature of these values, they are contrasted in the same paragraph with much higher values reported by Finneran *et al.* (2003) for experimental exposures of a single bottlenose dolphin. This adoption of ''conservative'' criteria becomes compounded by other conservative assumptions used in subsequent discussions.

Response: NMFS agrees that the dual criteria of a 12–psi peak pressure and a received energy greater than 182 dB re 1 microPa^2–s within any 1/3–octave band are conservative. The research mentioned by API/NOIA (Finneran *et al.*, 2003) was completed after the Navy released the WINSTON CHURCHILL Final EIS and MMS finished modeling the impacts from explosives on marine mammals (incorporated into the MMS Draft PEA). Therefore, unavailable for use without incurring a significant delay by MMS in completing the Final PEA. NMFS intends to utilize any new empirical research prior to renewal of these new 5–year regulations.

Comment 7: The API/NOIA notes that NMFS' conservative criteria derive from open water detonations of a 10,000 lb charge in open water used for the WINSTON CHURCHILL shock trial. ''Conservative'' safety zones based on

the CHURCHILL shock trial and propagation models based on similar charge weight and placement assumptions for structure removals, grossly overestimates impacts from structure removal activities (which are much smaller charges).

Response: NMFS disagrees. The criteria used to determine the safety zones for the WINSTON CHURCHILL shock trial safety zones were the same criteria used for the structure removal program; however, the safety zones established for each activity were based on their respective explosive weight (10,000 lbs (4536 kg) for the CHURCHILL shock trial versus less than 500 lbs (227 kg) for this action). In the shock trial program, the Navy uses its REFRMS model to estimate zones of impact while MMS used the UnderWater Calculator (UWC), which is a verified model that predicts the detonation pressure/energy propagation resulting from underwater detonations, that is capable of propagation modeling for explosives contained within pipes of varying diameters and wall thicknesses. The integration of the UWC model with Marine Acoustics Inc.'s Acoustic Integration Model (AIM) made it possible to perform comprehensive, 3–dimensional modeling of the effects of explosive-removal activities on marine mammals. For more information, please refer to Chapter 4 of the MMS Final PEA.

The Navy recently released a new Draft EIS for the shock trial of the USS MESA VERDE (for a copy go to *http://www.mesaverdeeis.com*), which contains slightly modified explosives criteria based on explosives research completed since the WINSTON CHURCHILL Final EIS was released. These new criteria may be used by MMS and NMFS in future explosive removal regulations.

Comment 8: The API/NOIA asks for the source of the criterion for Level A harassment definition as tympanic membrane rupture and lung hemorrhage in a 27 lb. (12.2 kg) dolphin calf. How did this criteron become adopted by NMFS?

Response: As noted in the MMS Final PEA (page 103–104), the source for the calf criterion is Young (1991). Young used the results from experimental data on terrestrial animals to develop a computer simulation model for determining the region of injury to marine mammals subjected to an underwater explosion. For a 50–lb (22.7 kg) explosive charge, the model's contour plot indicated that slight injury could occur 936 ft (285.3 m) and 1,352 ft (412.1 m) from the explosion in open water for an adult and calf bottlenose dolphin, respectively. Because the more conservative criterion was for the calf, that was the criterion used. This reference was first cited for offshore structure removals in API's 1995 application for taking marine mammals incidental to this activity.

Proposed Rule Concerns

Comment 9: DEMEX recommends that sound energy flux and sound pressure level (SPL) should be referenced in their common scientific format of units (i.e., decibels, dB). For example, Level A harassment should be stated as: an energy flux density of above 205 dB re 1 microPa^2–sec in any 1/3 octave band and Level B harassment is an EFDL (energy flux density level) above 182 dB re 1 microPa^2–sec in any 1/3 octave band. Both are unnecessary as SPL is an inherent component of the Energy Flux Density. SPLs are an instantaneous reference and do not reflect intensity or duration. EFDL values readily give a true description of the sound event and potential harm that may be caused.

Response: NMFS believes that the EFDL concept is unfamiliar to many of the reviewers of underwater acoustics authorizations under the MMPA. Accordingly, NMFS has provided both SEL and SPL units where possible.

Comment 10: DEMEX notes that the proposed rule does not have a provision to handle emergency situations such as for human safety and weather. DEMEX recommends a provision within the rule that would allow detonation of an explosive device because of weather or safety to personnel, and even leaving the project with explosives still on location.

Response: Leaving the charge unexploded in place is unlikely to result in the taking of marine mammals so a provision in NMFS' regulations is not necessary. The regulations do not allow for the take of marine mammals incidental to use of explosives absent the necessary mitigation and monitoring requirements. The industry did not provide documentation during the public comment period on the NMFS Notice of Receipt on this action or on the MMS PEA substantiating that an exception, due to weather or safety, was necessary. Since industry has not provided any information on the processes, conditions, or protocols by which ''emergency detonation'' should be allowed, NMFS has determined that exceptions to required mitigation and monitoring are not warranted at this time.

Comment 11: DEMEX notes that the proposed rule does not have a provision for shooting internal strings within oil wells. DEMEX believes that small scale shooting of internal strings will not have any effect on the environment. However, this particular process is used during plugging and abandonment (P&A) activities that are not governed by the proposed regulations.

Response: Since P&A activities related to ''downhole'' casing work or perforation guns generally employ very small charges detonated several dozen to hundreds of feet below the mudline, NMFS does not believe that the activity will have an impact on marine mammals or result in incidental take. Therefore, the activities need not be governed by these regulations. However, if any P&A activities involve the explosive severance of internal strings as it relates to a subsequent conductor or well-stub severance, they may occur close enough to the mudline and utilize enough explosives to have the potential to harm marine mammals. In these cases, MMS' environmental review procedures for structure removal permit applications or Applications for Permit to Modify (APMs) for P&A work are designed to analyze the severance activities and proscribe the appropriate level of mitigation measures for marine protected species.

Comment 12: DEMEX asks who is required to have an LOA? Is it the structure operator, the primary removal contractor, the explosives contractor, or some combination of these? API/NOIA recommends that as a practical matter it would be prudent to require that the person-in-charge of explosive operations have a copy of the appropriate LOA available for inspection on site.

Response: An LOA should be held by either the company responsible for the offshore structure or the contractor hired by the company to remove the structure. However, the entity holding the LOA needs to have onsite representation to ensure that the requirements of the LOA and these regulations are carried out.

Comment 13: DEMEX notes that Table 2 (in the preamble of the proposed rule) for the Small Blasting Category, >10–20 lbs, BML (Below Mudline) is a B1 & B2 Scenario which requires a helicopter survey. DEMEX believes it would be more of an incentive for explosive shaped charges if the helicopter survey was not required.

Response: The MMS and NMFS protected species scientists determined that aerial surveys would be necessary to ensure protection, to the maximum extent practicable, of marine mammals and sea turtles for all scenarios using explosives greater than 10 lbs (4.5 kg) BML. The impact zone for the B1 and B2 Scenarios (10–20 lbs/4.5–9.1 kg) is 373 m (1,224 ft), an additional 112 m

(367 ft) beyond the 261 m (856 ft) impact zone projected for charges less than 10 lbs. This information was presented to participants at the Explosive-Severance Mitigation Workshop hosted by MMS' GoM Region in May 2004. MMS incorporated this mitigation measure into its Draft PEA and its MMPA application, both of which were released for public review and comment. As DEMEX did not raise significant concerns regarding this issue at either the 2004 workshop or during the comment periods for the Draft PEA, and NMFS' notice of receipt of MMS' application, NMFS does not believe a modification at this stage of the action is warranted until improved survey techniques are proposed and/or additional acoustic data is collected.

Comment 14: The API/NOIA states that under the proposed regulations, many important requirements for individual explosive removal activities will be specified in LOAs. This approach offers great flexibility in tailoring requirements to conditions unique to individual or classes of activities; however, it also underscores the need to address concerns discussed previously by the industry.

Response: Requirements for the mitigation, monitoring and reporting the effects of explosive removal of offshore structures are contained in the regulations, not in the LOAs. The appropriate mitigation and monitoring requirements have been standardized depending upon a number of factors. As a result, NMFS does not believe that it is necessary to repeat this information in LOAs.

If an operator desires a variance from the regulations in its LOA application, it must provide information in its LOA application (or a revision to the original application) supporting that variance and analyzing impacts of that change. LOA modifications may require a 30–day public review and comment period prior to issuance of an LOA. As a result, applicants would need to provide sufficient time for this review before undertaking the activity.

Comment 15: The API/NOIA believes that further clarification of the phrase ''cooperate with NMFS and any other Federal, state or local agency monitoring the impacts of the activity on marine mammals'' is needed. Also this requirement should be limited to agencies with appropriate regulatory authority and should acknowledge the responsibility of the operator for the safety of the operations and personnel engaged in or observing such operations.

Response: This concern has been raised in other regulatory actions previously. As a result, NMFS has recently modified the ''cooperation'' requirement to clarify that it is limited to Federal, state, or local agencies with regulatory authority over the subject activity. It is unnecessary for NMFS to make any statements in regard to who is responsible for operational safety concerns.

Mitigation and Monitoring Concerns

Comment 16: The GRN states that the requirement for the use of shipboard visual observers is not sufficiently protective of whales. Submerged whales are not very visible at the surface. This is particularly true of sperm whales, which may dive for up to two hours, but routinely dive between 30 and 60 minutes. Under these circumstances, the use of visual observers is potentially ineffective in avoiding impacts. In order to ensure that impacts to whales, particularly sperm whales, are minimized, visual monitoring of an impact zone must be coupled with passive acoustic monitoring (PAM) systems.

Response: In addition to shipboard monitoring, aerial monitoring and PAM are required in slope waters where sperm whales and several other deep-diving marine mammals are more likely to be found than in shelf waters. In shelf waters, where bottlenose and spotted dolphins predominate, PAM is not a requirement, but aerial monitoring is required for all detonations greater than 10 lbs (4.5 kg).

Comment 17: The API/NOIA and DEMEX note that it is very difficult to identify species or to determine ranges and direction to those animals by use of passive acoustics. The detection is of no practical value for protecting these animals if their proximity to impact zones cannot be determined. Therefore, it is premature to require deployment of such a developmental tool. The problems associated with its use include: (1) inability to determine direction of the marine mammal's location, (2) inability to determine distance to the marine mammal, (3) passive acoustics only work when the marine mammal is vocalizing, and (4) there are no NMFS-approved acoustic monitoring instruments or operators.

Response: Despite the identification, range, and bearing limitations, PAM surveys would be able to indicate if a vocalizing marine mammal is in the vicinity of the severance activities; therefore, used in conjunction with simultaneous surface and aerial observations, PAM will assist the observers and focus their attention for possible sightings.

Comment 18: The Commission recommends NMFS encourage the MMS, in cooperation with the industry and acoustic consultants, to continue to collect on-site data from explosive severance activities for comparison with, and verification of, model predictions of the impacts of explosive severance activities.

Response: The MMS has a new acoustic measurement program approved through their Technology Assessment & Research (TA&R) Program. Information on the project can be found at: *http://www.mms.gov/tarprojects/570.html*. The MMS expects to conduct the measurement activities during future decommissioning season(s). Data recorded during the on site exercises will be used for verification of existing models and similitude equations, which will be essential for improving future mitigation measures.

Comment 19: Industry representatives (API/NOIA/DEMEX) state that the UWC has not been calibrated against field measurements of acoustic and pressure emissions from actual structure removal detonations. Based on limited on site data collected by Connor and MMS, it appears that the UWC overestimates the distances from detonations at which acoustic and peak pressure limits are reached by at least 4 times. Safety zones based on the UWC are thus extremely conservative and may have the effect of diluting the intensity of the monitoring in the much smaller areas where the real impacts could occur. Though NMFS discounts these and other *in-situ* measurements due to imprecise location or malfunction, industry feels they represent the best available ''affirmation'' that the UWC greatly overestimates impact ranges in the far field by a factor of three or more. Future field measurements should be integrated into the model as they become available.

Response: The impact ranges developed using the UWC were discussed at the 2004 Explosive-Severance Mitigation Workshop and are contained in MMS' Final PEA. As detailed in the MMS' PEA, Appendix E (Page E–4), MMS utilized in-situ data collected from TAR Project No. 429 to help verify that the UWC could be used for incorporating the attenuation effects for BML detonations. It also determined that the impact ranges projected by the UWC were conservative and would be highly-protective for marine mammals and sea turtles when used in survey mitigation parameters. NMFS does not agree that monitoring effectiveness will be diluted with the establishment of these conservative monitoring zones. Monitoring zones range from 261 m (856

ft) for very small charges up to 1528 m (5012 ft) for large specialty charges. With monitoring times for the stationary surface observer(s) ranging from 60–180 minutes and for the aerial survey of 30–90 minutes, NMFS believes that all impact zones will be adequately monitored prior to detonation.

New measurement activities under TAR Project No. 570 will help provide additional data that MMS hopes to use for subsequent calibration of the UWC. The in-situ testing will provide additional data that MMS hopes to use for subsequent calibration of the UWC. However, at the present time, MMS has not been able to secure assistance from industry or any volunteered ''targets of opportunity.''

Comment 20: The API/NOIA note that past efforts to measure detonation effects are not considered while criteria derived from the CHURCHILL shock trial and results of the UWC are embraced. The appearance is that the UWC has been used to apply theoretical propagation calculations to the CHURCHILL criteria to produce estimated impact zones several times larger than those based on actual measurements-in favor of overly conservative impact zones derived from theory (UWC) and improper application of the CHURCHILL criteria to structure removal detonations. This in turn has led NMFS to attach monitoring requirements beyond what is necessary. Additional in-situ measurements are needed before models such as the UWC can be treated as credible. The commenters state that industry has been willing to provide ''targets of opportunity'' for such measurements and will doubtless continue to do so.

Response: Please see response to comment 19.

Comment 21: API/NOIA note that NMFS proposes to make any future take authorization from explosive removal activities contingent on additional in-situ measurements of explosive decommissionings. This contingency does not make clear which entity (MMS, NMFS, or the regulated community) is responsible for conducting such measurements. It is also unclear what kinds of measurements are expected, what acceptance criteria will be used by NMFS or what purpose they will serve.

Response: See previous responses regarding the TAR program. Information on the project can be found on MMS' website (). MMS conducted measurement activities during the 2007 decommissioning season. Data recorded during the in-situ exercises will be used for verification of existing models (including the UWC) and similitude equations, which will be essential for improving future mitigation measures. Therefore, MMS (the petitioner) is already working to meet this requirement.

Comment 22: The API/NOIA believe that a requirement to use helicopters ''running standard low-altitude search patterns'' is unclear. Reference to an intended procedure or definition should be provided. Is there a specified aerial flight survey ''grid pattern'' found in NMFS' observer guidelines?

Response: NMFS believes that the helicopter grid pattern described in the proposed rule and this final rule provide sufficient detail. The NMFS observer who will participate in each aerial survey will be able to provide more information regarding the grid pattern.

Comment 23: DEMEX notes that there should be some flexibility in the number of observers on a project. The size and scope of the project as well as the living-space and other logistical issues should all be considered. DEMEX recommends one observer for the surface surveys and one observer for the aerial survey. If possible, the surface survey observer could join the aerial observer for that portion of the observation. LIS recommends observers for all charges over 20 lbs (9.1 kg).

Response: The number of observers is based on a number of variables such as size of charge, depth of water, etc. A minimum of two observers is necessary to provide enough coverage to conduct both the surface survey and the aerial monitoring. The minimum number of observers could be increased by the NMFS Platform Removal Observer Program (PROP) Manager to accomodate the size and scope of larger projects.

Comment 24: The API/NOIA believe that justification is warranted for requiring two teams of observers (3 observers in each team). It is also not clear what constitutes a ''team.'' Is it meant to describe two groups of three observers (one each for surface, aerial and acoustic monitoring)? If so, why, if the observations are only allowed during daylight hours in favorable weather, or does one team comprise a surface and an aerial observer and the other an acoustic observer? These uncertainties should be clarified, consistent with industry's position that (passive) acoustic monitoring has not yet been demonstrated to be practical for operational applications. As a practical matter it is often disruptive, costly and potentially unsafe to accommodate unnecessary personnel in a working marine environment.

Response: NMFS believes that the proposed rule warrants clarification on this matter. Generally, two observers will be assigned to each operation for detection survey duties. However, because certain mitigation scenarios (C2, C4, D2, D4, E2, and E4), which are described later in the preamble to this rule, require implementation of an acoustics monitoring program, a minimum of three observers for the simultaneous surface, aerial, and acoustic surveys will be required. There is no requirement for multiple ''teams'' to be deployed.

In the proposed rule (71 FR 17790, April 10, 2006) and later during the Endangered Species Act (ESA) Section 7 consultation, it was determined that two NMFS observers would perform marine protected species detection surveys for those scenarios taking place in waters greater than 200 m (656 ft). For scenarios in waters greater than 200 m (656 ft), at least 3 observers are needed for simultaneous surface, aerial, and acoustic monitoring. The PROP Manager will determine if additional observers are required to compensate for the complexity of severance activities or structure configuration. As previously discussed, since PAM requirements remain in this Final Rule, operators covered by an LOA under this rule will have to work with the NMFS PROP Manager to ensure that the logistics for their removal operations can accommodate the required number of observers.

Comment 25: DEMEX asks whether nighttime observations are going to be required as they were under the 1995 Biological Opinion (BiOp) and Incidental Take Statement (ITS)?

Response: Those requirements in the 1995 ESA BiOp and ITS were determined to be ineffective due to limitations on visibility. Therefore, nighttime observations are no longer required.

Comment 26: Some industry representatives (API/NOIA, DEMEX) believe there is too much confusion regarding the definition of daylight and dawn which will cause difficulties in the field. Previous rules and regulations allowed the detonation 1 hour after dawn. If the proposed rule means that the 90–minute surface survey would begin 1 hour after dawn, followed by a 30–minute aerial survey, that would mean it would be over 3 hours after dawn before explosives could be detonated. DEMEX believes it would be much more practical to conduct surface and aerial surveys during daylight hours beginning at dawn and concluding at least one hour before sunset. (Dawn and sunset conventionally refer to times when the upper edge of the disk of the sun is on the horizon, considered unobstructed relative to the location of

interest.) This schedule would allow detonations to occur no later than one hour before sunset.

Response: All pre-detonation surveys will be restricted to daylight hours as defined by ''legal sunrise'' to ''legal sunset'' (conventionally referred to as the time when the upper edge of the disk of the Sun is on the horizon (as determined by the NMFS onboard observer)) to ensure that the operator can easily confirm these times. Therefore, the time periods for pre-detonation surveys outlined in this rule cannot begin until legal sunrise and all detonations must be concluded so that post-detonation surveys can be completed by legal sunset.

Comment 27: The API/NOIA believe the statement in the proposed rule that ''surface surveys are to be conducted during daylight hours only'' is vague.

Response: See previous response.

Comment 28: DEMEX asks whether a project can be halted because of the unavailability of observers?

Response: Observers are necessary components of the mitigation requirements for lawful incidental take of marine mammals and compliance with these regulations and LOAs issued thereunder (as well as for sea turtles under the BiOp and ITS). Because the previous ESA requirements relating to the 48–hr pre-detonation monitoring have been eliminated, the NMFS PROP program manager does not foresee a problem related to the availability of personnel. However, if NMFS observers are unavailable, a project will be temporarily halted until observers are onsite.

Comment 29: DEMEX notes that the proposed rule requires observers to conduct a 90–minute surface survey prior to a severance-charge detonation. DEMEX recommends detonation times should be 90 minutes after dawn up until 1 hour before sunset.

Response: As pre-detonation surveys are restricted to daylight hours (as defined by ''legal sunrise'' to ''legal sunset''), and as vessel surveys may take as long as 150–180 minutes to complete for large and specialty charges, the suggestion to limit pre-detonation surveys to 90 minutes would not provide an acceptable monitoring period for these large charges.

Comment 30: DEMEX notes that the proposed rule states that: (1) detonation operations ''cannot begin until the requisite surface monitoring survey has been completed,'' and (2) post-post-detonation aerial monitoring surveys must be conducted ''within 2–7 days after detonation activities have been concluded.'' DEMEX recommends the 30–minute aerial survey be done at the same time as the surface monitoring to allow blasting to commence 90 minutes after dawn. DEMEX opposes having the usable blasting daylight hours become less than they already were in the previous regulations.

Response: Aerial surveys are to commence at the conclusion of the surface monitoring because (1) one of the surface observers will have to accompany the helicopter pilot and (2) the observation work is to be conducted afterward (and not concurrently) to improve the overall effectiveness of detection prior to detonation. Reference to ''within 2–7 days after detonation activities have concluded'' relates to Post-Post-Detonation Aerial Monitoring Surveys and not the standard Pre-Detonation Aerial Monitoring Surveys.

Comment 31: One requirement forbids initiation of aerial surveys until the surface monitoring surveys have been completed. If two or more observers are available, this appears to be a counterproductive restriction. Industry representatives (API/NOIA) recommend amending the rule to permit aerial surveys to begin at any time and to conclude no earlier than when final clearance to detonate charges is given by the observer team. The duration of aerial surveys, of course, would still be consistent with the times given in the relevant table.

Response: See response to comment 30.

Comment 32: The API/NOIA note that ''post-post-detonation'' aerial surveys are to be conducted 2–7 days after the decommissioning charges are detonated. In the many years that these surveys have been conducted, there has never been a sighting of a dead or injured animal. Frequently changing winds and currents make it nearly impossible to determine the direction and distance a dead or injured animal may have been carried since the detonation occurred. Representatives of the industry (API/NOIA, DEMEX and LIS) believe the 2–7 day aerial survey should be reconsidered.

Response: Although there were prior opportunities to raise and discuss these concerns (e.g., the 2004 Explosive-Severance Mitigation Workshop and the comment period on MMS' Draft PEA), the commenters did not raise them before or suggest alternatives. Absent additional information, NMFS believes there is merit to continuing the post-post detonation monitoring. The fact that these surveys have not detected an injured or dead animal does not necessarily mean they are ineffective. It could mean the pre-detonation mitigation and monitoring has been effective.

Comment 33: The API/NOIA note that the regulations would require an operator to cease an explosive severance activity if a marine mammal or sea turtle is found shocked, injured, or dead. The commenters believe the intent is to cease detonation of any additional charges, not to cease related activity such as supporting, lifting and/or loading severed structures for transport. Halting those post-detonation operations could lead to unsafe conditions such as losing control of the structure or endangering vessels and crew. Although multiple-charge operations are normally executed in almost instantaneous sequences of detonations, occasionally additional charges may be required to complete severing of some structural members. If additional charges are required, operations would automatically cease when the operator completes activities such as inspection of the structure, preparation and placement of charges, repositioning of lifting equipment, etc. These activities may take several hours to complete. If this interpretation of the requirement is correct, compliance would not likely be a problem.

Response: As noted in the comment, the intent is that only explosive detonation and charge deployment work cease, and not the other decommissioning activities such as jacket securing, lifting, loading, and transport. Direction will be given by NMFS PROP Manager/representative on resuming any explosive-severance activities after any event impacting marine protected species.

ESA Concerns

Comment 34: The API/NOIA note that the preamble to the proposed rule states that the mitigation scenarios developed for this proposed rule will also apply to sea turtles (and this thread continues through subsequent parts of the preamble). The industry agrees that the mitigation measures developed here for marine mammals will provide adequate protection for sea turtles. However, will these measures supercede existing requirements applicable to turtles?

Response: On August 28, 2006, NMFS issued a new BiOp for MMS' permitting of structure-removal operations on the GoM OCS and for NMFS' issuance of LOAs to the industry to take marine mammals by harassment incidental to structure removal operations. The 2006 BiOp and Amended ITS, which contain measures to protect sea turtles, replace the previous 1987 BiOp.

Description of Habitat and Marine Mammals Affected by the Activity

Explosive severance activities could occur in all water depths of the offshore areas designated by MMS as the GoM Central and Western Planning Areas (CPA and WPA) and a portion of the Eastern Planning Area (EPA) offered under Lease Sale 181/189 (see Figure 2 or 3 in MMS' MMPA Application). Water depths in the areas of the proposed action range from 4 to 3,400 m (13–11,155 ft), with the majority of existing facilities and wells found within the CPA, concentrated on the upper shelf waters (less than 200 m (656 ft) water depth) off of Louisiana. A detailed description of the northern GoM area and its associated marine mammals can be found in the MMS application and PEA and in a number of documents referenced in the application. Detailed information on the marine mammals in the GoM can also be found in the NMFS status of stocks reports (Waring *et al.*, 2007), which are available for downloading or reading at: *http://www.nefsc.noaa.gov/nefsc/publications/tm/tm201/tm201.pdf*.

A total of 28 cetacean species and one species of sirenian (West Indian manatee) are known to occur in the GoM. These cetacean species are the sperm whale, pygmy sperm whale, dwarf sperm whale, Cuvier's beaked whale, Sowerby's beaked whale (extralimital), Gervais' beaked whale, Blainville's beaked whale, rough-toothed dolphin, bottlenose dolphin, pantropical spotted dolphin, Atlantic spotted dolphin, spinner dolphin, Clymene dolphin, striped dolphin, Fraser's dolphin, Risso's dolphin, melon-headed whale, pygmy killer whale, false killer whale, killer whale, short-finned pilot whale, North Atlantic right whale (extralimital), humpback whale (rare), minke whale (rare), Bryde's whale, sei whale (rare), fin whale (rare), and the blue whale (extralimital).

A description of the status, distribution, and seasonal distribution of the affected species and stocks of marine mammals that might be affected by explosive severance activities is provided in MMS' MMPA Application).

Potential Impacts to Marine Mammals

Underwater explosions are the strongest manmade point sources of sound in the sea (Richardson *et al.*, 1995). The underwater pressure signature of a detonating explosion is composed of an initial shock wave, followed by a succession of oscillating bubble pulses (if the explosion is deep enough not to vent through the surface) (Richardson *et al.*, 1995). The shock wave is a compression wave that expands radially out from the detonation point of an explosion. Although the wave is initially supersonic, it is quickly reduced to a normal acoustic wave. The broadband source levels of charges weighing 0.5–20 kg (1.1–44 lb) are in the range of 267–280 dB re 1 microPa (at a nominal 1–m distance), with dominant frequencies below 50 Hz (Richardson *et al.*, 1995; CSA, 2004). The following sections discuss the potential impacts of underwater explosions on marine mammals, including mortality, injury, hearing effects, and behavioral effects.

Mortality or Injury

It has been demonstrated that nearby underwater blasts can injure or kill marine mammals (Richardson *et al.*, 1995). Injuries from high-velocity underwater explosions result from two factors: (1) the very rapid rise time of the shock wave; and (2) the negative pressure wave generated by the collapsing bubble, which is followed by a series of decreasing positive and negative pressure pulses (CSA, 2004). The extent of injury largely depends on the intensity of the shock wave at the receiver (marine mammal) and the size and depth of the animal (Yelverton *et al.*, 1973; Craig, 2001).

The greatest damage occurs at boundaries between tissues of different densities because different velocities are imparted that can lead to their physical disruption; effects are generally greatest at the gas-liquid interface (Landsberg, 2000; CSA, 2004). Gas-containing organs, especially the lungs and gastrointestinal tract, are susceptible to this type of damage. Lung injuries (including lacerations and the rupture of the alveoli and blood vessels) can lead to hemorrhage, air embolisms, and breathing difficulties. The lungs and other gas-containing organs (nasal sacs, larynx, pharynx, and trachea) may also be damaged by compression/expansion caused by oscillations of the blast gas bubble (Reidenberg and Laitman, 2003). Intestinal walls can bruise or rupture, which may lead to hemorrhage and the release of gut contents. Less severe injuries include contusions, slight hemorrhaging, and petechia (Yelverton *et al.*, 1973; CSA, 2004). Ears are the organs most sensitive to pressure and, therefore, to injury (Ketten, 2000; CSA, 2004). Severe damage to the ears can include rupture of the tympanic membrane, fracture of the ossicles, cochlear damage, hemorrhage, and cerebrospinal fluid leakage into the middle ear. By themselves, tympanic membrane rupture and blood in the middle ear can result in partial, permanent hearing loss. Permanent hearing loss can also occur when the hair cells are damaged by loud noises (ranging from single, very loud events to chronic exposure).

Hearing Effects

Mammalian hearing functions over a wide range of sound intensities, or loudness. The sensation of loudness increases approximately as the logarithm of sound intensity (Richardson and Malme, 1993). Sound intensity is usually expressed in decibels (dB), units for expressing the relative intensity of sounds on a logarithmic scale. Because sound pressure is easier to measure than intensity and intensity is proportional to the square of sound pressure, sound pressure level is usually reported in units of decibels relative to a standard reference pressure.

Based on the information presented in Richardson *et al.* (1995), the possible behavioral effects of noise from underwater explosions on marine mammals may be categorized as follows:

1. The noise may be too weak to be heard at the location of the animal (i.e., below the local ambient noise level, below the hearing threshold of the animal at the relevant frequencies, or both);

2. The noise may be audible, but not loud enough to elicit an overt behavioral reaction;

3. The noise may elicit behavioral reactions, which may vary from subtle effects on respiration or other behaviors (detectable only statistically) to active avoidance behavior;

4. With repeated exposure, habituation (diminishing responsiveness) to the noise may occur. Continued disturbance effects are most likely with sounds that are highly variable in their characteristics, unpredictable in occurrence, and associated with situations perceived by the animal as threatening;

5. Any anthropogenic noise that is strong enough to be heard has the potential to reduce (mask) the ability of a marine mammal to hear natural sounds at similar frequencies, including calls from conspecifics, and underwater environmental sounds such as surf noise.

6. If mammals remain in an area because it is important for feeding, breeding or some other biologically important purpose even though there is chronic exposure to noise, it is possible that there could be noise-induced physiological stress; this might in turn have negative effects on the well-being

or reproduction of the animals involved; and

7. Very strong sounds have the potential to cause temporary or permanent reduction in hearing sensitivity. In terrestrial mammals, and presumably marine mammals, received sound levels must far exceed the animal's hearing threshold for there to be any TTS in its hearing ability. For transient sounds, the sound level necessary to cause TTS is inversely related to the duration of the sound exposure. Received sound levels must be even higher for there to be risk of permanent hearing impairment. In addition, intense acoustic or explosive events may cause trauma to tissues associated with organs vital for hearing, sound production, respiration and other functions. This trauma may include minor to severe hemorrhage.

Temporary Threshold Shift (TTS)

The mildest form of hearing impairment, TTS, is defined as the temporary elevation of the minimum hearing sensitivity threshold at particular frequency(s) (Kryter, 1985; CSA, 2004). TTS may last from minutes to days. Although few data exist on the effects of underwater sound on marine mammal hearing, in terrestrial mammals, and presumably in marine mammals, received levels must exceed an animal's hearing threshold (i.e., maximum sensitivity) for TTS to occur (Richardson *et al.*, 1995; Kastak *et al.*, 1999; Wartzok and Ketten, 1999).

Most studies involving marine mammals have measured exposure to noise in terms of SPL, measured in dBrms or dBpeak pressure re 1 microPa. Exposure to underwater sound can also be expressed in terms of energy (SEL), or acoustic energy (measured in dB re 1 microPa2–s), which, unlike SPL measurements, considers both intensity and duration of the sound. If TTS is defined as a measurable threshold shift of 6 dB or more (Finneran *et al.*, 2000, 2002), then based on experiments with beluga whales and bottlenose dolphins, the onset of TTS is associated with an energy level of about 184 dB re 1 microPa2–s (CSA, 2004). However, the data are very limited, and Finneran (2003) has noted that they should be interpreted with caution.

Permanent Threshold Shift (PTS)

PTS is a permanent decrease in the functional sensitivity of an animal's hearing system at some or all frequencies (CSA, 2004). The principal factors involved in determining whether PTS will occur include sound impulse duration, peak amplitude, and rise time. The criteria are location- and species-specific (Ketten, 1995) and are also influenced by the health of the receiver's ear.

At least in terrestrial animals, it has been demonstrated that the received level from a single exposure must be far above the TTS threshold for there to be a risk of PTS (Kryter, 1985, Richardson *et al.*, 1995; CSA, 2004). Sound signals with sharp rise times (e.g., from explosions) produce PTS at lower intensities than do other types of sound (Gisner, 1998; CSA, 2004).

For explosives, Ketten (1995) estimated that greater than 50–percent PTS would occur at peak pressures of 237–248 dB re 1 microPa and that TTS would occur at peak pressures of 211–220 dB re 1 microPa. Ketten (1995) recommended a ''safe'' peak pressure level to avoid physical injury of 100 psi (237 dB re 1 microPa (peak), or an SEL of about 212 dB re 1 microPa^2–s). Ketten (1998) found that peak blast overpressures of 1,034 kPa (150 psi) were associated with 50 percent tympanic membrane rupture. Based on the incidence of eardrum rupture in sheep exposed to underwater explosions by Richmond *et al.* (1973), Craig (2001) estimated that 50 percent tympanic membrane rupture would occur at an energy flux density of 1.17 in-lb/in^2. This criterion is more conservative than the one derived by Ketten (1995) and was used in the ship shock EISs as a criterion for injury, and is used by MMS and NMFS in this action. PTS is assumed to occur at received levels 30 dB above TTS-inducing levels. Studies have shown that injuries at this level involve the loss of sensory hair cells (Ahroon *et al.*, 1996; CSA, 2004).

Behavioral Effects

Behavioral reactions of marine mammals to sounds such as those produced by underwater explosives are difficult to predict. Whether and how an animal reacts to a given sound depends on factors such as the species, hearing acuity, state of maturity, experience, current activity, reproductive state, time of day, and weather.

Richardson *et al.* (1995) summarized available information on the reported behavioral reactions of marine mammals to underwater explosions. Observations following the use of seal bombs as scare charges indicate that pinnipeds rapidly habituate to and, in general, appear quite tolerant of, noise pulses from explosives. Klima *et al.* (1988) reported that small charges were not consistently effective in moving bottlenose dolphins away from blast sites in the GoM. Since dolphins may be attracted to the fish killed by such a charge, rather than repelled, scare charges are not used in the GoM platform removal program (G. Gitschlag, personal communication, in Richardson *et al.*, 1995).

There are few data on the reactions of baleen whales to underwater explosions. Gray whales were apparently unaffected by 9- to 36–kg (20- to 97–lb) charges used for seismic exploration (Fitch and Young, 1948). However, Gilmore (1978) felt that similar underwater blasts within a few kilometers of the gray whale migration corridor did ''sometimes'' interrupt migration.

Humpback whales have generally not been observed to exhibit behavioral reactions (including vocal ones) to explosions, even when close enough to suffer injury (hearing or other) (Payne and McVay, 1971; Ketten *et al.*, 1993; Lien *et al.*, 1993; Ketten, 1995; Todd *et al.*, 1996). In Newfoundland, humpbacks displayed no overt reactions within about 2 km (1 nm)of 200- to 2,000–kg explosions. Whether habituation and/or hearing damage occurred was unknown, but at least two whales were injured (and probably killed) (Ketten *et al.*, 1993). Other humpback whales in Newfoundland, foraging in an area of explosive activity, showed little behavioral reaction to the detonations in terms of decreased residency, overall movements, or general behavior, although orientation ability appeared to be affected (Todd *et al.*, 1996). Todd *et al.* (1996) suggested caution in interpretation of the lack of visible reactions as indication that whales are not affected or harmed by an intense acoustic stimulus; both long- and short-term behavior as well as anatomical evidence should be examined. The researchers interpreted increased entrapment rate of humpback whales in nets as the whales being influenced by the long-term effects of exposure to deleterious levels of sound.

As mentioned previously, Finneran *et al.* (2000) exposed captive bottlenose dolphins and belugas to single, simulated sounds of distant explosions. The broad-band received levels were 155–206 dB; pulse durations were 5.4–13 ms. This was equivalent to a maximum spectral density of 102–142 dB re 1 μPa/Hz^2 at a 6.1 Hz bandwidth. Although pulse durations differed, the source levels required to induce a behavioral response to the introduced sounds were similar to those found by Ridgway *et al.* (1997) and Schlundt *et al.* (2000).

Estimates of Take by Harassment During Explosive Severance Activities in the GoM.

The MMS has requested NMFS to issue authorizations, under section

101(a)(5)(A) of the MMPA, to cover any potential take by Level A or Level B harassment for the 28 species of cetaceans listed previously in this document, incidental to the oil and gas industry conducting explosive-severance operations regulated by the MMS. Explosive severance operations have the potential to take marine mammals by contact with shock wave and acoustic energy released from underwater detonations and the resultant injury, hearing damage, and behavioral effects. For this activity, NMFS and MMS used take thresholds and criteria for explosives used in the incidental take authorization for shock trials for the U.S. Navy's USS WINSTON CHURCHILL (Navy, 2001). While these criteria remain a subject for future discussion and revision (see 69 FR 21816, April 22, 2004, and 70 FR 48675, August 19, 2005), the WINSTON CHURCHILL criteria (i.e., 12 pounds/in^2 (psi) peak-pressure and 182 dB (re 1 microPa^2–sec)) have been used because these criteria remain conservative. For example, Finneran *et al.* (2003) did not find masked TTS in the single bottlenose dolphin tested at the highest exposure conditions: peak pressure of 207 kPa (30 psi), 228 dB re 1 microPa pk-pk pressure, and 188 dB re 1 microPa^2–s total energy flux. These criteria will be updated in 2008 when NMFS and the Navy complete an evaluation for these criteria as applied to the shock trial of the USS MESA VERDE (see 72 FR 61329, October 30, 2007 and 73 FR 19789, April 11, 2005).

The criteria for nonlethal, injurious impacts (Level A harassment) are currently defined as the incidence of 50–percent tympanic-membrane (TM) rupture and the onset of slight lung hemorrhage for a 12.2–kg (27 lb) dolphin calf. Level A harassment take is assumed to occur:

1.at an energy flux density value of 1.17 in-lb/in^2 (which is about 205 dB re 1 μPa^2–s); or

2.if the peak pressure exceeds 100 psi for an explosive source; i.e., the ''safe'' peak pressure level recommended by Ketten (1995) to avoid physical injury.

The horizontal distance from the explosive to each threshold is considered the distance at which Level A harassment would occur (U.S. Dept. Navy, 2001. FEIS for the Shock Trial of the USS WINSTON CHURCHILL).

NMFS recognizes two levels of noninjurious acoustic impacts (Level B harassment). One criterion for Level B harassment is defined by the onset of TTS. Two thresholds are applied. TTS is assumed to be induced:

1.At received energies greater than 182 dB re 1 microPa2–s within any 1/3–octave band; or

2.If, for an explosive source, the peak pressure at the animal exceeds 12 psi.

As with Level A harassment, the horizontal distance to each threshold is considered the distance at which Level B harassment (TTS) would occur. These distances have been used for estimating conservative zones of impact.

''Sub-TTS'' behavioral effects may also be considered to constitute a take by Level B harassment if a marine mammal reacts to an activity in a manner that would affect some behavioral pattern in a biologically significant way. Single, minor reactions (such as startle or ''heads-up'' alert displays, short-term changes in breathing rates, or modified single dive sequences) that have no biological context would not qualify as takes (66 FR 22450, May 4, 2001). This would include minor or momentary strictly behavioral responses to single events such as underwater explosions. Since explosive severance activities result in single, almost instantaneous detonations, with no repetitive detonations, NMFS does not believe marine mammals would be subject to sub-TTS behavioral harassment, although there may be behavioral modifications as a result of TTS (e.g., changes in conspecific spatial separation).

In order to estimate incidental take numbers for explosive severance activities, fundamental modeling components require: (1) predictive modeling of detonation pressure/energy propagation, (2) propagation model verification and utilization, (3) predictive modeling of marine mammal take estimates, and (4) take-estimate calculation. These models and the calculations resulting from those models are explained in detail in MMS (2005a and 2005b).

Based on MMS calculations for all explosive-severance monitoring scenarios, Level A harassment takes would be limited to 5 bottlenose dolphins, one Atlantic spotted, and one pantropical spotted dolphin over the five-year period of these regulations. Annual Level B harassment takes would be limited to 227 bottlenose dolphins, 65 Atlantic spotted dolphins, 77 pantropical spotted dolphins, 27 Clymene dolphins, 12 rough-toothed dolphins, 14 striped dolphins, 15 melon-headed whales, 10 pilot whales, 5 spinner dolphins, 3 Risso's dolphins, and 2 sperm whales. It should be noted that Level A and Level B harassment estimates are made without consideration of the implementation of mitigation measures to protect marine mammals, so actual harassment numbers would likely be lower. Post-activity monitoring conducted by trained biological observers since 1989 has not produced any sightings of distressed marine mammals.

Mitigation and Monitoring

Based upon the analysis found in the MMS Final PEA (MMS, 2005b), NMFS believes that implementation of the mitigation measures listed in this section will prevent the occurrence of any mortality or serious injury to marine mammals.

Charge Criteria

The charge criteria discussed here (e.g., charge size, detonation staggering, and explosive material) are applicable for all of the explosive-severance scenarios conducted under the proposed action.

Charge Size

The options available under the multiple explosive- severance scenarios allow for the utilization of any size charge between 0 and 500 lb (226.8 kg). Most often determined in the early planning stages, the final/actual charge weight establishes the specific monitoring scenario that must be adhered to as a condition of an MMPA authorization. Increasing the charge size results in the need for increasing levels of mitigation/monitoring. Using explosives greater than 500 lb (226.8 kg) is not covered for lawful incidental taking of marine mammals under the MMPA. Use of explosives greater than 500 lb (226.8 kg) would require additional NEPA analyses, ESA consultations and an MMPA authorization prior to usage.

Detonation Staggering

Multiple-charge detonations will be staggered at an interval of 0.9 sec (900 msec) between blasts to prevent an additive pressure event. For decommissioning purposes, a ''multiple-charge detonation'' refers to any configuration where more than one charge is required in a single detonation ''event.''

Explosive Material

There are many important properties (i.e., velocity, brisance, specific-energy, etc.) related to the explosive material(s) used in developing severance charges. Material needs vary widely depending upon target characteristics, marine conditions, and charge placement. Since specific material and personnel safety requirements must be established and followed, all decisions on explosive composition, configuration, and usage

should be made by the qualified (i.e., licensed and permitted) explosive contractors in accordance with the applicable explosive-related laws and regulations. However, limiting charge size or material may result in incomplete severing possibly requiring even larger charge weight to complete the severing.

Specific Mitigation/Monitoring Requirements

Explosive severance activities, as described in the MMS MMPA application and Final PEA, have been grouped into five blasting categories (very small, small, standard, large, and specialty). Since the level of detonation pressure and energy is primarily related to the amount of the explosives used, these categories were developed based upon the specific range of charge weights needed to conduct current and future GoM OCS decommissionings. Depending on the design of the target and other variable marine conditions, the severance charges developed under each of these categories could be designed for use in either a below-mudline (BML) or above mudline (AML) configuration. These factors, combined with an activity location within either the shelf (less than 200 m (656 ft)) or slope (greater than 200 m (656 ft)) species-delineation zone, result in 20 separate explosive-severance monitoring scenarios as depicted in Table 1.

The charge criteria previously listed are standard for all decommissionings employing explosive severance activities. However, depending upon the severance scenario, there are six different types of marine mammal monitoring surveys that must be conducted before and after all detonation events (sea turtles were included in MMS' specified activity mitigation and monitoring activities because they will also minimize impacts to ESA-listed sea turtles). The specific monitoring requirements, survey times, and impact zone radii for all explosive severance monitoring scenarios are summarized in Table 1.

TABLE 1. BLAST CATEGORIES, MITIGATION SCENARIOS, SURVEY AND TIME REQUIREMENTS FOR ALL EXPLOSIVE SEVERANCE SCENARIOS.1

Blasting Category	Configuration (Charge wt/ placement)	Species Delineation Zone	Mitgation Scenario	Impact Zone Radius	Pre Det Surface Survey (min)	Pre Det Aerial Survey (min)	Pre Det Acoustic Survey (min)	Post Det Surface Survey (min)	Post Det Aerial Survey (min)	Post Post Det Aerial Survey (Yes/ No)	Waiting Period (min)
	BML	Shelf (<200 m)	A1	261 m	60	N/A	N/A	30	N/A	No	30
Very-	(0-10 lb)	Slope (>200 m)	A2	(856 ft)	90	N/A	N/A	30	N/A	No	30
Small	AML	Shelf (<200 m)	A3	293 m	60	N/A	N/A	30	N/A	No	30
	(0-5 lb)	Slope (>200 m)	A4	(961 ft)	90	N/A	N/A	30	N/A	No	30
	BML	Shelf (<200 m)	B1	373 m	90	30	N/A	N/A	30	No	30
Small	(>10-20 lb)	Shelf (>200 m)	B2	(1,224 ft)	90	30	N/A	N/A	30	No	30
	AML	Shelf (<200 m)	B3	522 m	90	30	N/A	N/A	30	No	30
	(>5-20 lb)	Slope (>200 m)	B4	(1,714 ft)	90	30	N/A	N/A	30	No	30
	BML	Shelf (<200 m)	C1	631 m	90	30	N/A	N/A	30	No	30
Standard	(>20-80 lb)	Slope (>200 m)	C2	(2,069 ft)	90	30	120	N/A	30	No	30
	AML	Shelf (<200 m)	C3	829 m	90	45	N/A	N/A	30	No	30
	(>20-80 lb)	Slope (>200 m)	C4	(2,721 ft)	90	60	150	N/A	30	Yes	45
	BML	Shelf (<200 m)	D1	941 m	120	45	N/A	N/A	30	No	30
Large	(>80-200 lb)	Slope (>200 m)	D2	(3,086 ft)	120	60	180	N/A	30	Yes	45
	AML	Shelf (<200 m)	D3	1,126 m	120	60	N/A	N/A	30	No	30
	(>80-200 lb)	Slope (>200 m)	D4	(3,693 ft)	150	60	210	N/A	30	Yes	45
	BML	Shelf (<200 m)	E1	1,500 m	150	90	N/A	N/A	45	No	45
Specialty	(>200-500 lb)	Slope (>200 m)	E2	(4,916 ft)	180	90	270	N/A	45	Yes	45
	AML	Shelf (<200 m)	E3	1,528 m	150	90	N/A	N/A	45	No	45
	(>200-500 lb)	Slope (>200 m)	E4	(5,012 ft)	180	90	270	N/A	45	Yes	45

[1] Severance of subsea structures that do not penetrate the sea surface will follow the mitigation scenario for above mudline (AML) detonations even if charges are placed below mudline.

Accounting for similar pre- and post-detonation surveys, the 20 explosive-severance monitoring scenarios correspond roughly with 8 basic mitigation processes that differ only in impact zone ranges and survey times. As noted in Appendix E of MMS' Final PEA, these impact zone radii were derived using the UWC, a verified model that predicts the detonation pressure/energy propagation resulting from underwater detonations. Time requisites were established by NMFS and MMS scientists, taking into consideration likely marine mammals (and sea turtles) and their surfacing/diving rates. The mitigation and monitoring processes for each of the 20 explosive-severance scenarios are found in MMS' MMPA application and are not repeated here because of length and complexity. Instead, the mitigation and monitoring measures are summarized in Table 1 and are illustrated by using the Standard Blasting Category for shelf and slope waters as examples.

Shelf Waters (<200 m (<656 ft)): Scenarios C1 and C3

An operator proposing shelf-based (<200 m), explosive- severance activities conducted under the standard blasting category will be limited to 80–lb charge sizes (BML or AML) and will be required to conduct all requisite monitoring during daylight hours out to the associated impact-zone radii listed here:

C1BML631 m (2,069 ft)
C3AML829 m (2,721 ft)

Required Observers

Generally, two NMFS observers are required to perform marine mammal (and sea turtle) detection surveys for standard-blasting under shelf water scenarios C1 and C3. If necessary, the PROP manager will determine if additional observers are required to compensate for the complexity of severance activities and/or structure configuration. In addition to meeting all reporting requirements, the NMFS observers will:

1. Brief affected crew and severance contractors on the monitoring requirements and instruct topsides personnel to immediately report any sighted marine mammals (or sea turtles) to an observer or designated company representative;

2. Establish an active line of communication (i.e., 2–way radio, visual signals, etc.) with company and blasting personnel; and

3. Devote the entire, uninterrupted survey time to marine mammal (and sea turtle) monitoring.

Pre-Detonation Mitigation/Monitoring

Before severance-charge detonation, the NMFS observers will conduct a 90–minute surface monitoring survey of the impact zone. The monitoring will be conducted from the highest vantage points and other location(s) that provide the best, clear view of the entire impact zone. The vantage points may be on the structure being removed or proximal surface vessels such as crew boats and/or derrick barges. Once the surface monitoring is complete (i.e., the impact zone determined to be clear of marine mammals (and sea turtles)), the NMFS observer(s) will conduct the aerial monitoring survey by helicopter to conduct a 30–minute (Scenario C1) or 45–minute (Scenario C3) survey. When two NMFS observers are on site, NMFS may decide to have both observers fly the aerial survey or have one observer continue surface monitoring while the other observer flies the survey. The helicopter will transverse the impact zone at low speed/altitude in a specified grid pattern (see Table A–2 of the Appendix to the 2006 Biological Opinion).

The following is a description of the surface and aerial mitigation and monitoring protocol.

If during the surface survey a marine mammal (or sea turtle) is:

1. Not sighted inside the impact zone or sighted outside the impact zone (and not inbound towards the impact zone), proceed with the aerial survey;

2. Sighted inside the impact zone and subsequently re-sighted outside the impact zone, proceed with the aerial survey;

3. Sighted inside the impact zone and not subsequently re-sighted outside the impact zone,

a. Halt the initiation of the aerial survey,

b. Conduct an additional surface survey equal to the waiting period specified in Table 1 with a start time of the last marine mammal (or sea turtle) sighting recorded inside the impact zone or inbound towards the impact zone; or

4. Sighted outside the impact zone and moving inbound towards the impact zone,

a. Halt initiation of the aerial survey,

b. Conduct an additional surface survey equal to the waiting period specified in Table 1 with a start time of the last marine mammal (or sea turtle) sighting recorded inside the impact zone or inbound towards the safety zone.

If during the *aerial survey* a marine mammal (or sea turtle) is:

1. Not sighted in the impact zone or sighted outside the impact zone (and not inbound towards the impact zone), proceed with the detonation;

2. Sighted inside the impact zone and, upon completion of the aerial survey, re-sighted outside the impact zone, proceed with the detonation to avoid re-entry,

3. Sighted inside the impact zone and, upon completion of the aerial survey, not re-sighted outside the impact zone,

a. Halt the detonation,

b. Monitor opportunistically for the waiting period specified in Table 1 with a start time of the last marine mammal (or sea turtle) sighting recorded inside the impact zone or inbound towards the impact zone, and

c. Re-conduct the entire aerial monitoring survey; or

4. Sighted outside the impact zone and moving inbound towards the impact zone,

a. Halt the detonation,

b. Monitor opportunistically for the waiting period specified in Table 1, with a start time beginning at the time of the last marine mammal (or sea turtle) sighting recorded inside the impact zone or inbound towards the impact zone; and

c. Re-conduct the entire aerial monitoring survey.

Post-Detonation Monitoring

After severance charge detonation, the NMFS observers will conduct a 30–minute aerial monitoring survey of the impact zone to look for impacted marine mammals (and sea turtles). If a marine mammal (or sea turtle) is found shocked, injured, or dead, the operations will cease, attempts will be made to collect/resuscitate the animal, and NMFS' Southeast Regional Office (SERO) will be contacted. If the animal does not revive, efforts should be made to recover it for necropsy in consultation with the appropriate NMFS' Stranding Coordinator. If no marine mammals (or sea turtles) are observed to be impacted by the detonation, the NMFS observer(s) will record all of the necessary information as required in MMS's permit approval letter and guidelines for the preparation of a trip report.

A flowchart of the monitoring process and associated survey times for standard severance-scenarios C1 and C3 is provided in Figure 6 in MMS' LOA application.

Slope Waters (>200 m (>656 ft)): Scenarios C2 and C4

An operator proposing slope-based (>200 m), explosive- severance activities conducted under the standard blasting category will be limited to 80–lb charge sizes (BML or AML) and shall conduct

all requisite monitoring during daylight hours out to the associated impact-zone radii listed below:

C2BML631 m (2,069 ft)
C4AML829 m (2,721 ft)

Required Observers

Slope water scenarios will require a minimum of three NMFS observers for the coordinated surface, aerial, and acoustic monitoring surveys. The NMFS PROP manager will determine the number of observers depending upon the complexity of severance activities and/or structure configuration. In addition to meeting all reporting requirements, the NMFS observers would perform the same functions as the observers in the shelf water scenarios C1 and C3.

Pre-Detonation Monitoring

Before severance charge detonation, NMFS observers will begin a 90–minute surface monitoring survey and a 120–minute (scenario C2) or 150–minute (scenario C4) PAM survey of the impact zone. The surface monitoring will be conducted in the same manner as the C1 and C3 scenarios. Once the surface monitoring is complete (i.e., the impact zone cleared of marine mammals and sea turtles), the acoustic survey will continue while one or two of the NMFS observers transfer to a helicopter to conduct a 30–minute (scenario C2) or 60–minute (scenario C4) aerial monitoring survey. The helicopter will transverse the impact zone at low speed/altitude in a specified grid pattern (Table A–2 of the Appendix to the 2006 Biological Opinion).

The requirements on marine mammal (and sea turtle) sightings for the C1 and C3 scenarios would apply here except that the wait times and aerial survey times differ and PAM is also required (see Table 1).

Post-Detonation Monitoring

Scenarios C2 and C4 both require the same post-detonation monitoring explained for the C1 and C3 scenarios. Scenario C4 also requires a post-post-detonation aerial monitoring survey to be conducted within 2–7 days after detonation activities conclude.

Conducted by helicopter or fixed-wing aircraft, observations are to start at the removal site and proceed leeward and outward of wind and current movement. A 7 nm X 7 nm (13 km X 13 km) grid centered near the removal site will be surveyed. This grid includes 8 parallel transect lines each measuring 7 nm (13 km) long and spaced approximately 7 nm (13 km) apart. Any injured or dead marine mammal (or sea turtle) must be recorded, and if possible, tracked after notifying NMFS SERO. If no marine mammals (or sea turtles) are observed to be dead, injured, distressed, or shocked during either aerial survey, the NMFS observers will record all of the necessary information as detailed in MMS's permit approval letter and guidelines for the preparation of a trip report.

A flowchart of the monitoring process and associated survey times for standard explosive-severance monitoring scenarios C2 and C4 is provided in Figure 7 in MMS' MMPA application.

Reporting Requirements

Operators of explosive-severance activities in the GoM are mandated to abide by the reporting requirements listed in this section. The information collected will be used by MMS and NMFS to continually assess mitigation effectiveness and the level of impacts on marine mammals (and sea turtles).

The reporting responsibilities will be undertaken by the NMFS' marine mammal/sea turtle observer for scenarios B1–E4 (Table 1) and the collected data will be prepared in report form and distributed by the PROP to NMFS, MMS, industry and others.

For very-small blasting scenarios A1–A4, the company observer will be responsible for recording the data and preparing a trip report for submission within 30 days of completion of the severance activities. Trip reports for scenarios A1–A4 will be sent to MMS Gulf and the NMFS SER offices.

In addition to basic operational data (i.e., area and block, water depth, company/platform information, etc.), the observer reports must contain the following information:

• Monitoring • Survey Type pre-detonation
post-detonation
surface, aerial
• Time(s) initiated/terminated
• Marine Conditions (sea state etc.)
• Observed Marine Protected Species (mammals/sea turtles)
• Type/number - basic description or species identification (if possible)
• Location/orientation - inside/outside impact zone, inbound/outbound, etc.
• Any ''halted-detonation'' details - i.e., waiting periods, re-surveys, etc.
• Any ''Take-Event'' details - actual injury/mortality to marine protected species

In the event that a marine mammal (or sea turtle) is discovered stressed, shocked, injured, or dead following the severance activities, the observer will report the incident to MMS and NMFS' SERO at the earliest opportunity.

Research

To help determine the impact zones for the blasting categories, MMS contracted for development of a model that would estimate shock wave and acoustic energy propagation caused by underwater explosive-severance tools (Dzwilewski and Fenton, 2003). As with most ''theoretical'' models developed to consider a wide range of parameters under multiple conditions, the contractor suggested that their modeling results be compared with in-situ data from actual explosive-severance activities. Previous in-situ research had been performed by the Naval Surface Warfare Center (NSWC) for MMS (Conner, 1990), but uncertainties concerning transducer ranging devalued the sediment-attenuation conclusions. Considering the uncertainties, NMFS provided guidance suggesting that additional in-situ data comparison must be conducted.

In November 2002, MMS's TAR Program began working with MMS's GoM Region to modify an existing project designed to develop and test the efficiency of linear shaped charges (Saint-Arnaud *et al.*, 2004; see *http://www.mms.gov/tarprojects/429.htm*). The modifications made it possible to allow BML in-situ data measurements to be taken during the final testing on actual OCS targets. While developing the measurement phase of the project, MMS again coordinated with NMFS to address the concerns expressed over the NSWC's range uncertainties, ultimately modifying field procedures to include the use of a sector-scanning sonar in conjunction with reflectors attached to each transducer array string. The testing was conducted, and Annex B of the project's final report (Appendix C of the Final PEA) compares the peak overpressure (psi), impulse (psi-s), and energy flux density (EFD; psi-in) measurements collected from the testing with calculated results from both the UWC and the applicable NSWC similitude equations.

Since the number of targets, charge sizes, and marine conditions were limited, MMS is working with both industry and acoustic measurement groups to conduct additional research on targets offering a wider range of parameters. Similar to the TAR project, the research program under development will focus on in-situ ''targets-of-opportunity'' offered by industry. As with previous work, the program will use transducer array assemblies to measure, record, and calculate the peak pressure, impulse, and acoustic energy released into the water column from severance charges.

With a greater knowledge of the actual impacts, alternative protective and mitigative measures may be developed in the future. In addition, the potential new information on impact-reducing factors (i.e., lower charge weights, increased BML cut depths, experimental mitigation techniques, etc.) will encourage industry to push research and development of less harmful and more efficient charges.

As a result, NMFS is encouraging MMS to continue its research on the actual impacts of explosive severance activities, including, but not limited to, additional in-situ acoustic measurement testing on decommissioning targets over the 5–year period of these regulations.

Determinations

Based upon information contained in this document, the MMS Final PEA, and the NMFS 2006 BiOp issued under section 7 of the ESA, NMFS has determined that explosive-severance activities in the Gulf of Mexico will result in the taking (by Level A and Level B harassment) of small numbers of marine mammals, but will have no more than a negligible impact on affected marine mammal stocks. Projected Level A harassment takes are very unlikely and would be limited to a total of 7 cetaceans in 3 species over the 5–year period of these regulations. Up to 457 cetaceans in 11 species will be taken by Level B harassment annually. No deaths or serious injuries to marine mammals or sea turtles are projected. If any marine mammals are displaced from preferred habitat, it will be for a short period of time (extending no greater than the structure removal activity itself). No critical habitat is involved in structure removal operations. No effect is projected on annual recruitment or survival. With mitigation measures required by these regulations in place, the taking by Level B harassment will be limited to only small numbers of marine mammals. There will be no effect on subsistence activities described in section 101(a)(5)(A) of the MMPA.

ESA

On August 28, 2006, NMFS' Office of Protected Resources' (OPR) Endangered Species Division concluded consultation with MMS on permitting the removal of offshore oil and gas structures in the U.S. GoM and with NMFS' OPR's Permits, Conservation and Education Division on the issuance of regulations and associated LOAs under those regulations. The finding of that consultation was that this activity is not likely to jeopardize the continued existence of the sperm whale, leatherback sea turtle, hawksbill sea turtle, loggerhead sea turtle, Kemp's ridley sea turtle and green sea turtle. Also, no critical habitat will be affected.

NEPA

MMS completed and released its PEA to the public for review on February 28, 2005. That document is available (see **ADDRESSES**) to the public. On April 7, 2006 (71 FR 17790), NMFS announced that the MMS had prepared a PEA for offshore structure removal activities and noted that this PEA was available upon request.

In accordance with 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 MMS' PEA and determined that the MMS PEA 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. Therefore, NMFS has determined it is not necessary to issue a new EA, supplemental EA or an environmental impact statement for the issuance of LOAs to the oil and gas industry IHA for this activity. Based on this review and analysis, NMFS is adopting MMS' PEA under 40 CFR 1506.3 and has issued a FONSI. A copy of the MMS PEA and the NMFS FONSI for this activity is available upon request (see **ADDRESSES**).

Classification

This action has been determined to be not significant for purposes of Executive Order 12866.

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration at the proposed rule stage, that this rule, if adopted, would not have a significant economic impact on a substantial number of small entities since it would have no effect, directly or indirectly, on small businesses. The factual basis for this certification is found in the proposed rule and is not repeated here. As a result, no final regulatory flexibility analysis was required or prepared.

Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act (PRA) unless that collection of information displays a currently valid OMB control number. This final rule contains collection-of-information requirements subject to the provisions of the PRA. These requirements have been approved by OMB under control number 0648–0151, and include applications for LOAs and reports.

The reporting burden for the approved collections-of-information is estimated to be approximately 3 hours for each company applying for an annual LOA. As in previous years, NMFS expects that up to 30 companies will apply for LOAs annually. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection-of-information. Send comments regarding these burden estimates, or any other aspect of this data collection, including suggestions for reducing the burden, to NMFS and OMB (see **ADDRESSES**).

Changes from the Proposed Rule

In addition to minor edits to the rule for clarification and consistency with the mitigation measures submitted by MMS and considered in this document, NMFS has made the following change to the rule:

1. Modified § 216.210(b) to clarify the species of cetaceans authorized for taking by Level A and Level B harassment.

List of Subjects in 50 CFR Part 216

Exports, Fish, Imports, Indians, Labeling, Marine mammals, Penalties, Reporting and recordkeeping requirements, Seafood, Transportation.

Dated: June 12, 2008.

James W. Balsiger,

Acting Assistant Administrator for Fisheries, National Marine Fisheries Service.

■ For reasons set forth in the preamble, 50 CFR part 216 is amended as follows:

PART 216—REGULATIONS GOVERNING THE TAKING AND IMPORTING OF MARINE MAMMALS

■ 1. The authority citation for part 216 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq.*

■ 2. Subpart R is added and reserved.

■ 3. Subpart S is added consisting of §§ 216.211 through 216.219 to read as follows:

Subpart S—Taking of Marine Mammals Incidental to Explosive Severance Activities Conducted During Offshore Structure Removal Operations on the Outer Continental Shelf in the U.S. Gulf of Mexico

Sec.

Subpart S—Taking of Marine Mammals Incidental to Explosive Severance Activities Conducted During Offshore Structure Removal Operations on the Outer Continental Shelf in the U.S. Gulf of Mexico

§ 216.211 Specified activity and specified geographical region.

(a) Regulations in this subpart apply only to the incidental taking of those marine mammal species specified in paragraph (b) of this section by U.S. citizens engaged in explosive severance activities conducted during offshore oil and gas structure removal activities in areas within state and Federal waters in the U.S. Gulf of Mexico adjacent to the coasts of Texas, Mississippi, Louisiana, Alabama, and Florida. The incidental, but not intentional, taking of marine mammals by U.S. citizens holding a Letter of Authorization issued pursuant to § 216.218 is permitted during the course of severing pilings, well conductors, and related supporting structures, and other activities related to the removal of the oil and gas structure.

(b) The incidental take of marine mammals under the activity identified in paragraph (a) of this section is limited to a total of 5 bottlenose dolphin, one Atlantic spotted dolphin, and one pantropical spotted dolphin by Level A harassment over the period of validity of these regulations; and Level B harassment of the following species annually: 227 bottlenose dolphins, 65 Atlantic spotted dolphins, 77 pantropical spotted dolphins, 27 Clymene dolphins, 12 rough-toothed dolphins, 14 striped dolphins, 15 melon-headed whales, 10 pilot whales, 5 spinner dolphins, 3 Risso's dolphins, and 2 sperm whales.

§ 216.212 Effective dates.

Regulations in this subpart are effective from July 21, 2008 until July 19, 2013.

§ 216.213 Permissible methods of taking.

The Holder of a Letter of Authorization issued pursuant to § 216.218, may incidentally, but not intentionally, take marine mammals by harassment within the area described in § 216.211(a), provided the activity is in compliance with all terms, conditions, and requirements of these regulations and the appropriate Letter of Authorization.

§ 216.214 Prohibitions.

No person in connection with the activities described in § 216.211(a) shall:

(a) Take any marine mammal not specified in § 216.211(b);

(b) Take any marine mammal specified in § 216.211(b) in a manner or amount greater than described therein;

(c) Take any marine mammal specified in § 216.211(b) if NMFS determines that the taking of marine mammals incidental to the activities described in § 216.211(a) is having more than a negligible impact on the species or stocks of marine mammals;

(d) Violate, or fail to comply with, the terms, conditions, and requirements of these regulations or a Letter of Authorization issued pursuant to §§ 216.106 and 216.218;

(e) Take any marine mammal in violation of these regulations by using a charge with a weight greater than 500 lbs (227 kg);

(f) Take any marine mammal when conditions preclude conducting mitigation and monitoring requirements of these regulations or a Letter of Authorization.

§ 216.215 Definitions, terms, and criteria

(a) *Definitions.*

(1) *Below-mud-line or BML* means that the explosives are detonated below the water-mud interface, either inside or outside a pipe, other structure or cable.

(2) *Above-mud-line or AML* means that the explosives are detonated in the water column above the water-mud interface, either inside or outside a pipe, other structure or cable.

(3) *Multiple charge detonation* means any explosive configuration where more than one charge is required in a single detonation event.

(4) *Scenario* means an alpha-numeric designation provided to describe charge size, activity location, and target design employed in order to determine the appropriate marine mammal mitigation/monitoring measures.

(b) *Terms*

(1) *Impact zone (required for all scenarios)* means the area around a decommissioning target measured by the horizontal radius, in which a marine mammal could be affected by the pressure or acoustic energy released during the detonation of an explosive-severance charge.

(2) *Predetonation survey (required for all scenarios)* means any marine mammal monitoring survey (e.g., surface, aerial, or acoustic) conducted prior to the detonation of any explosive severance tool.

(3) *Postdetonation survey (required for all scenarios)* means any marine mammal monitoring survey (e.g., surface, aerial, or post-post-detonation aerial) conducted after the detonation event occurs.

(4) *Waiting period (required for all scenarios)* means the amount of time detonation operations must hold before the requisite monitoring survey(s) can be repeated.

(5) *Company observer (for scenarios A1–A4 only)* means trained company observers authorized to perform marine mammal detection surveys only for ''very-small'' blasting scenarios A1–A4.

(6) *NMFS observer (for scenarios B1–E4)* means observers trained and approved by an instructor with experience as a NMFS Platform Removal Observer Program trainer. NMFS observers are required to perform marine mammal detection surveys for all detonation scenarios with the exception of scenarios A1–A4. Two NMFS observers will be assigned to each operation for detection survey duties, except mitigation-scenarios C2, C4, D2, D4, E2, and E4 require a minimum of three NMFS observers for the simultaneous surface, aerial, and acoustic surveys.

(c) *Criteria*

(1) *Blasting category parameters and associated severance scenarios.* To determine the appropriate marine mammal mitigation and monitoring requirements in §§ 216.218 and 216.219, holders of Letters of Authorization for activities described in § 216.211(a) of this subpart must determine, from Table 1 in § 216.217(b)(1), the appropriate explosive severance mitigation/monitoring scenario to follow for the blasting category, species-delineation zone, and charge configuration for their activity.

(2) [Reserved]

§ 216.216 Mitigation.

(a) The activity identified in § 216.211(a) must be conducted in a manner that minimizes, to the greatest extent practicable, adverse impacts on marine mammals and their habitats. When conducting operations identified in § 216.211(a), all mitigation measures contained in this subpart and in the Letter of Authorization issued pursuant to §§ 216.106 and 216.218 must be

implemented. When using explosives, the following mitigation measures must be carried out:

(1)(i) If marine mammals are observed within (or about to enter) the marine mammal impact zone identified in Table 1 in § 216.217(b)(1) column 5 for the relevant charge range and configuration (i.e., BML or AML) for the activity, detonation must be delayed until the marine mammal(s) are outside that zone;

(ii) Pre-detonation surveys shall not begin prior to sunrise and detonations shall not occur if the post-detonation survey cannot be concluded prior to sunset;

(iii) Whenever weather or sea conditions preclude adequate aerial, shipboard or subsurface marine mammal monitoring as determined by the trained observer, detonations must be delayed until conditions improve sufficiently for marine mammal monitoring to be undertaken or resumed;

(iv) Whenever the weather or sea conditions prevent implementation of the aerial survey monitoring required under § 216.217(c)(2), the aerial survey must be repeated prior to detonation of charges; and

(v) Multiple charge detonations must be staggered at an interval of 0.9 sec (900 msec) between blasts.

(2) [Reserved]

(b) If a marine mammal is found seriously injured, or dead, the explosive severance activity will immediately cease and the holder of the Letter of Authorization, designee or the designated lead observer will contact the Minerals Management Service and the Regional Administrator, National Marine Fisheries Service' Southeast Regional Office, or designee at the earliest opportunity. Procedures and monitoring methods will be reviewed and, if necessary, appropriate changes made to the mitigation and monitoring measures prior to conducting the next detonation to avoid future injury or mortality takings.

(c) Any mitigation measures proposed to be contained in a Letter of Authorization that are not specified in this subpart, or not considered an emergency requirement under § 216.219(d), will first be subject to notice and comment through publication in the **Federal Register**, as provided in § 216.219(c).

§ 216.217 Requirements for monitoring and reporting.

(a) Holders of Letters of Authorization issued for activities described in § 216.211(a) are required to cooperate with the National Marine Fisheries Service, and any other Federal, state or local agency with regulatory authority over the offshore oil-and-gas activities for the purpose of monitoring the impacts of the activity on marine mammals.

(b)(1) Table 1 summarizes the required mitigation and monitoring survey modes, duration and zones for all blasting scenarios of marine mammal impact zones for implementation of surface and aerial monitoring requirements depending upon charge weight and severance scenario.

(2) Holders of Letters of Authorization must fully comply with the relevant mitigation and monitoring program for the explosive-severance activity described in subparagraph (c) of this paragraph that corresponds to the holder of the Letter of Authorization's blast scenario shown in Table 1.

TABLE 1. BLAST CATEGORIES, MITIGATION SCENARIOS, SURVEY AND TIME REQUIREMENTS FOR ALL EXPLOSIVE SEVERANCE SCENARIOS.1

Blasting Category	Configuration (Charge wt/ placement)	Species Delineation Zone	Mitgation Scenario	Impact Zone Radius	Pre Det Surface Survey (min)	Pre Det Aerial Survey (min)	Pre Det Acoustic Survey (min)	Post Det Surface Survey (min)	Post Det Aerial Survey (min)	Post Post Det Aerial Survey (Yes/ No)	Waiting Period (min)
	BML	Shelf (<200 m)	A1	261 m	60	N/A	N/A	30	N/A	No	30
Very-	(0-10 lb)	Slope (>200 m)	A2	(856 ft)	90	N/A	N/A	30	N/A	No	30
Small	AML	Shelf (<200 m)	A3	293 m	60	N/A	N/A	30	N/A	No	30
	(0-5 lb)	Slope (>200 m)	A4	(961 ft)	90	N/A	N/A	30	N/A	No	30
	BML	Shelf (<200 m)	B1	373 m	90	30	N/A	N/A	30	No	30
Small	(>10-20 lb)	Shelf (>200 m)	B2	(1,224 ft)	90	30	N/A	N/A	30	No	30
	AML	Shelf (<200 m)	B3	522 m	90	30	N/A	N/A	30	No	30
	(>5-20 lb)	Slope (>200 m)	B4	(1,714 ft)	90	30	N/A	N/A	30	No	30
	BML	Shelf (<200 m)	C1	631 m	90	30	N/A	N/A	30	No	30
Standard	(>20-80 lb)	Slope (>200 m)	C2	(2,069 ft)	90	30	120	N/A	30	No	30
	AML	Shelf (<200 m)	C3	829 m	90	45	N/A	N/A	30	No	30
	(>20-80 lb)	Slope (>200 m)	C4	(2,721 ft)	90	60	150	N/A	30	Yes	45
	BML	Shelf (<200 m)	D1	941 m	120	45	N/A	N/A	30	No	30
Large	(>80-200 lb)	Slope (>200 m)	D2	(3,086 ft)	120	60	180	N/A	30	Yes	45
	AML	Shelf (<200 m)	D3	1,126 m	120	60	N/A	N/A	30	No	30
	(>80-200 lb)	Slope (>200 m)	D4	(3,693 ft)	150	60	210	N/A	30	Yes	45
	BML	Shelf (<200 m)	E1	1,500 m	150	90	N/A	N/A	45	No	45
Specialty	(>200-500 lb)	Slope (>200 m)	E2	(4,916 ft)	180	90	270	N/A	45	Yes	45
	AML	Shelf (<200 m)	E3	1,528 m	150	90	N/A	N/A	45	No	45
	(>200-500 lb)	Slope (>200 m)	E4	(5,012 ft)	180	90	270	N/A	45	Yes	45

[1] Severance of subsea structures that do not penetrate the sea surface will follow the mitigation scenario for above mudline (AML) detonations even if charges are placed below mudline.

(c) Holders of Letters of Authorization must ensure that the following monitoring programs are conducted as appropriate for the required monitoring scenario.

(1) *Surface monitoring survey.* A surface monitoring survey must be conducted for the length of time that corresponds to the relevant explosive severance scenario. Surface monitoring surveys are to be conducted from the highest vantage point and/or other location(s) that provide the best, clear view of the entire impact zone. These vantage points may be on the structure being removed or proximal surface vessels (i.e., crewboats, derrick barges, etc.). Surface surveys are restricted to daylight hours only, and the monitoring will cease if the designated lead observer determines that weather or marine conditions are not adequate for visual observations.

(2) *Aerial monitoring survey.* Aerial surveys are required for all explosive severance scenarios except monitoring scenarios A1–A4. Aerial monitoring surveys are to be conducted from helicopters running standard low-altitude search patterns over the extent of the impact zone that corresponds to the appropriate explosive severance scenario. Aerial surveys will be restricted to daylight hours only (defined as ''legal sunrise'' to ''legal sunset''), and cannot begin until the requisite surface monitoring survey has been completed. Aerial surveys will cease if the designated lead observer determines that weather or marine conditions are not adequate for visual observations, or when the pilot/removal supervisor determines that helicopter operations must be suspended.

(3) *Acoustic monitoring survey.*

(i) Acoustic monitoring surveys are required to be conducted on all Standard, Large, and Specialty blasting scenarios conducted at slope (≤200 m (656 ft)) locations (i.e., scenarios C2, C4, D2, D4, E2, and E4).

(ii) Persons conducting acoustic surveys will be required to comply with NMFS-approved passive acoustic monitoring protocols and use approved devices and technicians.

(iii) Acoustic surveys will be run concurrent with requisite pre-detonation surveys, beginning with the surface observations and concluding at the finish of the aerial surveys when the detonation(s) is allowed to proceed.

(4) Post-detonation surface monitoring survey. A 30–minute post-detonation surface survey must be conducted by the trained company observer for scenarios A1 – A4 immediately upon conclusion of the detonation.

(5) Post-detonation aerial monitoring survey. For scenarios B1–D4, a 30–minute aerial survey must be conducted immediately upon conclusion of the detonation. For scenarios E1–E4, a 45–minute aerial survey must be conducted immediately upon conclusion of the detonation.

(6) Post-post-detonation aerial monitoring survey. Post-post-detonation aerial monitoring surveys must be conducted for scenarios C4, D2, D4, E2 and E4 within 2–7 days after detonation activities conclude, by either helicopter or fixed-wing aircraft. Observations are to start at the removal site and proceed leeward and outward of wind and current movement. Any distressed, shocked, injured or dead marine mammals will be noted in the survey report, and if possible, tracked and collected after notifying the National Marine Fisheries Service within the time requirements stated in § 216.217(f).

(7) If unforeseen conditions or events occur during an explosive severance operation that may necessitate additional monitoring not specified in this paragraph, the designated NMFS lead observer will contact the appropriate National Marine Fisheries Service and Minerals Management Service personnel as detailed in the Letter of Authorization for additional guidance.

(d) Holders of Letters of Authorization must conduct all monitoring and research required under the Letter of Authorization. Any monitoring or research measures proposed to be contained in a Letter of Authorization that are not specified in this subpart or not considered an emergency requirement under § 216.218(d), will first be subject to public notice and comment through publication in the **Federal Register**, as provided by § 216.219(c).

(e) *Reporting* (1) A report summarizing the results of structure removal activities, mitigation measures, monitoring efforts, and other information as required by a Letter of Authorization, must be submitted to the Director, Office of Protected Resources, within 30 days of completion of the removal activity.

(2) The National Marine Fisheries Service will accept the NMFS observer report as the activity report required by subparagraph (1) of this paragraph if all requirements for reporting contained in the Letter of Authorization are provided to the NMFS observer before the NMFS observer's report is submitted to the PROP Manager.

(3) If a marine mammal is found shocked, injured, or dead, the Holder of the Letter of Authorization, or designee, must report the incident to the National Marine Fisheries Service Southeast Regional Office, at the earliest opportunity.

§ 216.218 Letters of Authorization.

(a) To incidentally take marine mammal species listed in § 216.211(b) pursuant to these regulations, each company or contractor responsible for the removal of the structure or an industry-related seafloor obstruction in the area specified in § 216.211(a) must apply for and obtain either a Letter of Authorization in accordance with § 216.106 or a renewal under § 216.219(a).

(b) An application for a Letter of Authorization must be submitted to the National Marine Fisheries Service at least 30 days before the explosive removal activity is scheduled to begin.

(c) Issuance of a Letter of Authorization and renewal of a Letter of Authorization under § 216.219(a) will be based on a determination by the National Marine Fisheries Service that the number of each species or stock of cetaceans taken annually by the activity will be small and that the total taking over the 5–year period will have a negligible impact on the species or stock of affected marine mammal(s).

(d) A Letter of Authorization may be renewed annually, subject to conditions in § 216.219(a).

(e) A Letter of Authorization for activities in this subpart will not be valid after the effective period of this subpart.

(f) A copy of the Letter of Authorization must be in the possession of the persons conducting the activity specified in § 216.211(a) that may involve incidental takings of marine mammals.

(g) Notice of issuance or denial of a Letter of Authorization will be published in the **Federal Register** within 30 days of a determination.

§ 216.219 Renewal and modifications of Letters of Authorization.

(a) A Letter of Authorization issued for the activity identified in § 216.211(a) will be renewed annually upon:

(1) Receipt of an application for renewal of a Letter of Authorization under § 216.218.

(2) Timely receipt of the report(s) required under § 216.217(f), which have been reviewed by the Assistant Administrator and determined to be acceptable; and

(3) A determination that the required mitigation, monitoring and reporting measures have been undertaken.

(b) Notice of issuance of a renewal of the Letter of Authorization will be

published in the **Federal Register** within 30 days of issuance.

(c) In addition to complying with the provisions of § 216.106, except as provided in paragraph (d) of this section, no substantive modification, including a request for a variance in the mitigation or monitoring requirements in this subpart or a withdrawal or suspension of the Letter of Authorization issued pursuant to § 216.106 and subject to the provisions of this subpart, shall be made until after notice and an opportunity for public comment. For purposes of this paragraph, renewal of a Letter of Authorization under § 216.219, without modification other than an effective date change, is not considered a substantive modification.

(d) If the Assistant Administrator determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in § 216.211(b), a Letter of Authorization issued pursuant to §§ 216.106 and 216.118, or renewed pursuant to this paragraph may be modified without prior notice and opportunity for public comment. A notice will be published in the **Federal Register** subsequent to the action.

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