

UNITED STATES DEPARTMENT OF THE INTERIOR

MINERALS MANAGEMENT SERVICE

Gulf of Mexico OCS Region

New Orleans, Louisiana

FINAL

SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT

ENDANGERED SPECIES / STRUCTURE REMOVAL

ES/SR No. 05-005

Assessment of the Environmental Impacts
of the Proposal to Remove Caisson #3 in
Brazos Area, Block 494
Lease OCS-G 6071
by Apache Corporation

Date Submitted: February 25, 2005

Commencement Date: April, 2005

Prepared by:

William H. Engelhardt

Biologist

SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT/FONSI/EIS DETERMINATION

Apache Corporation's application to use explosives to remove Caisson #3 in Brazos Area, Block 494, OCS-G 6071, has been reviewed. Our SEA, ES/SR 05-005, on the subject action is complete and results in a Finding of No Significant Impact. Based on the conclusions of the SEA, there is no evidence to indicate that the proposed action will significantly (40 CFR 1508.27) affect the quality of the human environment. Preparation of an environmental impact statement is not required. Mitigation is imposed to ensure environmental protection, consistent environmental policy and safety as required by the National Environmental Policy Act (NEPA), as amended; or measures needed for compliance with 40 CFR 1500.2(f) regarding the requirement for Federal agencies to avoid or minimize any possible adverse affects of their actions upon the quality of the human environment.

The operator will comply with the terms of Notice to Lessees and Operators NTL No. 2004-G06, Structure Removal Operations. A copy of this NTL is available at:

<http://www.gomr.mms.gov/homepg/regulate/regs/ntls/ntl04-g06.html>

Under the Magnuson-Stevens Fisheries Conservation and Management Act, 50 CFR 600.725 prohibits the use of explosives to take reef fish in the Exclusive Economic Zone. Consequently, those involved in explosive structure removals must not take such stunned or killed fish on board their vessels. Should this happen, they could be charged by NOAA Fisheries with violation of the Act. If you have questions, contact NOAA Fisheries at (727) 570-5305.

The operator will comply with NTL No. 2003-G10 Vessel Strike Avoidance and Injured/Dead Protected Species Reporting. It can be accessed on the web at:

<http://www.gomr.mms.gov/homepg/regulate/regs/ntlltl.html>

The operator will comply with NTL No. 2003-G11 Marine Trash and Debris Awareness and Elimination. It can be accessed on the web at:

<http://www.gomr.mms.gov/homepg/regulate/regs/ntlltl.html>

Caisson #3 is located in a vessel safety fairway and anchorage. The operator will take appropriate precautions to reduce the potential for collisions.

Richard E. Defenbaugh
Acting Chief, Project Management Section
Leasing and Environment, GOM OCS Region

March 1, 2005
Date

INTRODUCTION AND BACKGROUND

The purpose of this Site-Specific Environmental Assessment (SEA) is to assess the specific impacts associated with proposed structure-removal activities. This SEA implements the tiering process outlined in 40 CFR 1502.20, which encourages agencies to tier environmental documents and eliminates repetitive discussions of the same issue. The SEA is based on a Programmatic Environmental Assessment (PEA) (USDOI, MMS 1987) which evaluates a broader spectrum of potential impacts resulting from the removal of structures (e.g., platforms/caissons across the central and western planning areas of the Gulf of Mexico (GOM) Outer Continental Shelf). This SEA conforms to the Minerals Management Service (MMS) and other appropriate guidelines for preparing environmental assessments by tiering to the PEA, to the most recent Final Environmental Impact Statements (FEIS) for the Central and Western Planning Areas, and by use of reference to related environmental documents. It presents site-specific data regarding the proposed structure removal activities and evaluates the potential impacts. Mitigation measures are contained in this document to lessen potential impacts. Preparation of this SEA has allowed the determination of whether a Finding of No Significant Impact (FONSI) is appropriate or whether further assessment of the proposal is necessary.

I. DESCRIPTION AND NEED FOR THE ACTION

Apache Corporation proposes to use explosives to remove Caisson #3 in Brazos Area, Block 494, Lease OCS-G 6071. The structure is located at a water depth of 84 feet, and lies approximately 17 miles from the nearest Texas shoreline, and 95 miles from the onshore support base in Harbor Island, Texas. The operator will explosively remove all casing, wellhead equipment, and piling to a depth of at least 15 feet below the mudline. The maximum anchor radius will be 5,000 feet. (Apache Corporation, 2005).

A discussion of the legal and regulatory mandates to remove abandoned oil and gas structures from Federal Waters can be found in the PEA. According to the operator, the structure will be removed because production from the platform has been terminated..

II. ALTERNATIVES TO THE PROPOSED ACTION

Alternatives to the proposed structure removal with mitigation originally submitted are:

A. NON-REMOVAL OF THE STRUCTURE

The alternative to the proposed structure removal as originally submitted is non-removal. Non-removal of the structure would represent a conflict with Federal legal and regulatory requirements, which mandate the timely removal of obsolete or abandoned structures within a period of one year after termination of the lease, or upon termination of a right-of-use and easement. Therefore, non-removal is not an acceptable alternative.

B. REMOVAL OF THE STRUCTURE BY ALTERNATIVE NON-EXPLOSIVE METHODS

MMS initially discussed various structure-removal techniques in the Final Environmental Impact Statement (FEIS) for Proposed Oil and Gas Lease Sales 118 and 122 (USDOl, MMS, 1988) and in the PEA. Updated information is found in the FEIS for Gulf of Mexico OCS Oil and Gas Lease Sales: 2003-2007 (USDOl, MMS, 2002). It was concluded that the most effective methods of structure removal are the use of explosives, either bulk or shaped charges, abrasive cutters, and underwater arc cutting. Other methods appear promising but require additional development to solve the operational and logistical problems associated with these techniques. Primarily for this reason, these methods do not appear to be feasible alternatives for the removal of the subject structure.

Refer to the FEIS (USDOl, MMS, 1988 and 2002) and PEA referenced in the Introduction for detailed information concerning alternative methods of structure removal.

C. REMOVAL OF THE STRUCTURE AS PROPOSED WITH ADDED MITIGATION

It has been determined that the proposed operations fall within the category of activities covered by the National Marine Fisheries Service (NMFS) also known as National Oceanic and Atmospheric Administration (NOAA Fisheries) Biological Opinion of July 25, 1988, which addresses "standard" explosive structure removals in the GOM. Outer Continental Shelf Operating Regulations, Notices to Lessees and Operators, and other regulations and laws were identified throughout this assessment as existing mitigation for potential environmental effects associated with the proposed structure removal application. Additional information can be found in the PEA. A copy of the 1988 'Generic' Biological Opinion is on the MMS Internet website at <http://www.gomr.mms.gov/homepg/regulate/environ/generic-consultation.pdf>.

The operator will comply with NTL No. 2003-G11 Marine Trash and Debris Awareness and Elimination. It can be accessed on the web at: <http://www.gomr.mms.gov/homepg/regulate/regs/ntl1tl.html>

Measures that Apache Corporation proposes to implement to reduce the likelihood of death or injury to sea turtles and marine mammals are discussed in the structure removal application incorporated herein by reference (Apache Corporation, 2005).

The following mitigative measures will be included in MMS's approval of the proposed structure removal to ensure environmental protection, consistent environmental policy, and safety as required by the National Environmental Policy Act:

The operator will comply with the terms of MMS's Notice to Lessees and Operators NTL No. 2004-G06, Structure Removal Operations. A copy of this NTL is available at: <http://www.gomr.mms.gov/homepg/regulate/regs/ntls/ntl04-g06.html>

Under the Magnuson-Stevens Fisheries Conservation and Management Act, 50 CFR 600.725 prohibits the use of explosives to take reef fish in the Exclusive Economic Zone. Consequently, those involved in explosive structure removals must not take such stunned or killed fish on board their vessels. Should this happen, they could be charged by NOAA Fisheries with violation of the Act. If you have questions, contact NOAA Fisheries at (727) 570-5305.

The operator will comply with NTL No. 2003-G10 Vessel Strike Avoidance and Injured/Dead Protected Species Reporting. It can be accessed on the web at: <http://www.gomr.mms.gov/homepg/regulate/regs/ntlltl.html>

Caisson #3 is located in a vessel safety fairway and anchorage. The operator will take appropriate precautions to reduce the potential for collisions.

III. ENVIRONMENTAL EFFECTS, SOCIOECONOMIC CONCERNS, AND OTHER CONSIDERATIONS.

In accordance with *The National Environmental Policy Act (NEPA) of 1969, as amended (Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, § 4[b], Sept. 13, 1982)* and the Council on Environmental Quality (CEQ) implementing regulations (40 CFR Sec. 1502.15) *Affected Environment*, the following potential environmental effects were identified from the proposed action. Mitigative measures are included to eliminate or reduce the potential effect from the proposed activities to a level of insignificance as described in 40 CFR Sec. 1508.27

A. PHYSICAL ENVIRONMENT

A discussion of environmental geology, geologic hazards, meteorological conditions, physical and chemical oceanography, water quality and air quality can be found in the PEA. The proposed structure-removal activities are not in an area of sediment instability (mud flows, slumps, or slides). Other potential impacts from the proposed activities to the physical environment have been considered, but were deemed insignificant (40 CFR 1508.27) and are not discussed in this SEA.

B. BIOLOGICAL ENVIRONMENT

Coastal habitats, protected, endangered and threatened species (birds, marine mammals, and sea turtles), and sensitive marine habitats are discussed in the PEA. The PEA delineates sensitive areas along the Texas coastline where whooping cranes and brown pelicans could be adversely impacted by structure-removal support activities. Since the operator will use a shore base in Harbor Island, Texas, no impacts to these sensitive areas are expected.

In accordance with the provisions of Section 7 of the Endangered Species Act (ESA), as amended, the proposed structure-removal operations are covered by the Biological Opinion issued by NMFS (NOAA Fisheries) on July 25, 1988, which established a category of "standard" explosive structure-removal operations. NOAA Fisheries concluded that this category of

structure-removal activities will not likely jeopardize the continued existence of any threatened or endangered species under their purview. Additionally, they concluded that this type of "standard" structure-removal activity may result in injury or mortality of loggerhead, Kemp's ridley, green, hawksbill, and leatherback turtles. Therefore, they established a cumulative level of incidental take and discussed various measures necessary to monitor and minimize this impact (NMFS, 1988). NOAA Fisheries noted that no incidental taking of marine mammals was authorized under Section 101(a)(5) of the Marine Mammal Protection Act of 1972 in connection with this category of structure-removal activities. Therefore, taking of marine mammals by the operator will be prohibited unless they successfully apply for and obtain a Letter of Authorization to do so from NOAA Fisheries. A copy of the 1988 'Generic' Biological Opinion is on the MMS Internet website at:

<http://www.gomr.mms.gov/homepg/regulate/envIRON/generic-consultation.pdf>

On February 2, 2004, Subpart M (50 CFR §216.141 - §216.147) of the MMPA regulations expired, and operators can no longer acquire Letters of Authorization (LOA) for the incidental take (by harassment) of bottlenose and spotted dolphin during decommissioning operations using either explosive or nonexplosive severing. The MMS believes there will be no change in the protection offered to marine mammals, since 1) the nearly identical mitigation requirements designed to protect sea turtles (found in the "generic" and "de minimus" Biological Opinions) will remain in effect and will also protect dolphins; and 2) we have a well-documented record of more than 18 years of NOAA observer monitoring and reporting on every explosive severing operation (>1,750), during which no "take" of a marine mammal has ever been recorded. Therefore, since Subpart M neither authorizes nor prohibits any aspect of structure removal activities, the MMS will continue to permit decommissionings proposing explosive severing under "status quo" conditions until new incidental take regulations can be promulgated by NOAA Fisheries. Please refer to the Federal Register of August 1, 2002 for the description of the specific activity and specific geographic region, permissible methods of taking, prohibitions, mitigation, and requirements for monitoring and reporting.

In June of 2003, the MMS requested that NOAA Fisheries establish a minimum or "de minimus" explosive limit of 5 lb to reflect the decreased impact zone and limited mitigation needed to ensure adequate protection of marine protected species. A new Biological Opinion issued by NOAA Fisheries on October 10, 2003 offers severing contractors and operators the opportunity to reduce mitigation and conduct their own pre-detonation monitoring (in lieu of NOAA staff and aerial surveys) if they choose to use explosive charges = 5 lb. A copy of the 2003 'De Minimus' Biological Opinion is on the MMS Internet website at:

<http://www.gomr.mms.gov/homepg/regulate/envIRON/de-minimus-consultation.pdf>

ESA-listed species under the purview of NOAA fisheries include the sperm whale (*Physeter macrocephalus*), leatherback sea turtle (*Dermochelys coriacea*), green sea turtle (*Chelonia mydas*), Kemp's ridley sea turtle (*Lepidochelys kempii*), hawksbill sea turtle (*Eretmochelys imbricate*), and loggerhead sea turtle (*Caretta caretta*), and the Gulf sturgeon (*Acipenser oxyrinchus desotoi*). No critical habitat has been designated in the project area.

A discussion of marine mammals occurring across the Gulf of Mexico (GOM) and an assessment of the potential impacts of structure-removal activities on marine mammals can be

found in the PEA. Fritts et al. (1983) conducted aerial surveys across a 9,514 square-mile area of GOM waters. Results of these surveys indicate that the bottlenose dolphin is by far the most likely marine mammals to be encountered in the GOM. MMS and NOAA Fisheries observers may be utilized to look for marine mammals prior to detonation of the primary charges at the removal site. If marine mammals are detected at the structure-removal site, detonation of the primary charges will be delayed until the animals are removed from the area. In spite of these precautions, a low probability exists that marine mammals could enter the blast area undetected and could be injured or killed by the underwater, subsurface detonations. Such an occurrence is considered highly unlikely and, with the indicated protective mitigation measures outlined in the "Generic" Biological Opinion, the proposed structure-removal activities are expected to have only a low impact on marine mammals.

A discussion of sea turtles occurring across the central and western GOM and an assessment of the potential impacts of structure-removal activities on sea turtles can be found in the PEA. Studies by Fritts et al. (1983) and Fuller and Tappan (1986) as well as stranding data from the Sea Turtle Stranding and Salvage Network (Teas 1995) indicate that sea turtles may occur in the vicinity of the proposed activities and therefore could be impacted by the structure-removal operations. Definitive information on the probability of encountering sea turtles at the removal site during explosive operations is scarce. NOAA Fisheries and/or MMS observers will be utilized to look for sea turtles prior to detonation of the primary charges. If sea turtles are detected at the structure-removal site, detonation of the primary charges will be delayed until the animals are removed from the area. The possibility exists that sea turtles could enter the blast areas undetected and could be injured or killed by the underwater, subsurface detonations. However, with the indicated protective mitigation measures, we expect the proposed structure-removal activities to have only a low impact on sea turtles. NOAA Fisheries authorized a cumulative incidental take for this category action, but with all the precautions to be taken as mitigating measures, it is unlikely these proposed operations will affect any sea turtles.

Other potential impacts from the proposed activities to the biologic environment have been considered, but were deemed insignificant (40 CFR 1508.27) and are not discussed further in this SEA.

C. OTHER CONSIDERATIONS

A discussion of socioeconomic, commercial and recreational fisheries, archaeological resources, military warning areas, explosive dumping areas, navigation and shipping areas, pipelines, cables, other mineral uses, and health and human safety can be found in the PEA referenced in the Introduction.

Other environmental effects have been considered, but potential impacts from the proposed activities were deemed insignificant (40 CFR 1508.27) and are not discussed further in this SEA.

Since the PEA was originally written, new concerns have emerged concerning the impacts of explosive structure removals on reef fish populations. On May 9, 1991, the GOM Fishery Management Council expressed concern over the declining stocks of reef fish, especially red snapper. They referred to the anecdotal accounts of finfish kills associated with explosive removals of offshore structures in order to link these activities with their concerns about declining populations of reef fish. They further suggested that MMS should hold all explosive structure removals in abeyance until more information becomes available on the effects of these activities on fish stocks. See the PEA (Section on Offshore Habitats and Biota) for a discussion of fish kills in association with explosive structure removals.

MMS has declined to hold all explosive structure removals in abeyance citing the regulatory mandates for structure removals and problems with current non-explosive structure-removal methods. MMS has stated a commitment to carry out studies to assess the impacts of oil and gas structure removals on Gulf fisheries resources and the results of these studies will be used to determine future policies with respect to these activities.

MMS continues to consider the overall impacts of structure removals on commercial fishing to be low. MMS policy of encouraging an active rigs-to-reefs program will help to offset cumulative structure-removal impacts to fisheries resources.

D. UNAVOIDABLE ADVERSE IMPACTS

A discussion of unavoidable adverse impacts can be found in the PEA. Two areas of ongoing concern have been the potential impact to protected, threatened, and/or endangered species and potential loss of habitat to the marine environment. Both topics are discussed in the PEA and previously in this document. A more recent issue of concern has surfaced regarding the impacts of explosive structure-removals on reef fish stocks. Although the impacts to commercial and recreational fisheries are considered to be low, further studies information about this issue will be available in the future. Other unavoidable adverse impacts are considered to be minor.

IV. PUBLIC OPINION

A discussion of public concerns regarding structure removals can be found in the PEA. No public comments have been received regarding the proposed structure-removal operations.

In May 1991, the GOM Fishery Management Council requested that MMS place a moratorium over the explosive removal of offshore structures with three or more supports. Non-removal of these structures would conflict with current Federal legal and regulatory requirements which mandate the timely removal of abandoned or obsolete structures within a period of one year after termination of the lease, or upon termination of a right-of-use and easement.

MMS believes that current data on the effects of explosive removals on fish mortality are insufficient to draw any conclusions, and a moratorium on all but single pile caissons at this time is unjustified. In order to quantify explosive effects, MMS initiated an interagency study with the NMFS to determine fish mortalities from removal operations. In addition to the above study,

MMS supports an active rigs-to-reefs program and encourages industry to search for a method that will minimize effects on fish from structure-removal operations.

V. CONSULTATION AND COORDINATION

In accordance with the provisions of Section 7 of the Endangered Species Act, as amended, the proposed structure-removal operations are covered by the Biological Opinion issued by NMFS (NOAA Fisheries) on July 25, 1988, which established a category of "standard" explosive structure-removal operations. NOAA Fisheries concluded that this category of structure-removal activities will not likely jeopardize the continued existence of any threatened or endangered species under their purview. Additionally, they concluded that this type of "standard" structure-removal activity may result in injury or mortality of loggerhead, Kemp's ridley, green, hawksbill, and leatherback turtles. Therefore, they established a cumulative level of incidental take and discussed various measures necessary to monitor and minimize this impact (NMFS, 1988). NOAA Fisheries noted that no incidental taking of marine mammals was authorized under Section 101(a)(5) of the Marine Mammal Protection Act of 1972 in connection with this category of structure-removal activities. Therefore, taking of marine mammals by the operator will be prohibited unless they successfully apply for and obtain a Letter of Authorization to do so from NOAA Fisheries. A copy of the 1988 'Generic' Biological Opinion is on the MMS Internet website at:

<http://www.gomr.mms.gov/homepg/regulate/envIRON/generic-consultation.pdf>

On February 2, 2004, Subpart M (50 CFR §216.141 - §216.147) of the MMPA regulations expired, and operators can no longer acquire Letters of Authorization (LOA) for the incidental take (by harassment) of bottlenose and spotted dolphin during decommissioning operations using either explosive or nonexplosive severing. The MMS believes there will be no change in the protection offered to marine mammals, since 1) the nearly identical mitigation requirements designed to protect sea turtles (found in the "generic" and "de minimus" Biological Opinions) will remain in effect and will also protect dolphins; and 2) we have a well-documented record of more than 18 years of NOAA observer monitoring and reporting on every explosive severing operation (>1,750), during which no "take" of a marine mammal has ever been recorded. Therefore, since Subpart M neither authorizes nor prohibits any aspect of structure removal activities, the MMS will continue to permit decommissionings proposing explosive severing under "status quo" conditions until new incidental take regulations can be promulgated by NOAA Fisheries.

In June of 2003, the MMS requested that NOAA Fisheries establish a minimum or "de minimus" explosive limit of 5 lb to reflect the decreased impact zone and limited mitigation needed to ensure adequate protection of marine protected species. Since the most effective mitigation for explosive severing is reduction of net explosive weight, the MMS felt a 'de minimus' limit would also provide operators with an incentive to design and utilize small and effective, explosive shaped-charges. NOAA Fisheries entered into an informal Section 7 Consultation with MMS and then issued a new Biological Opinion on October 10, 2003 that offers severing contractors and operators the opportunity to reduce mitigation and conduct their own pre-detonation monitoring (in lieu of NOAA staff and aerial surveys) if they chose to use

explosive charges = 5 lb. A copy of the 2003 'De Minimus' Biological Opinion is on the MMS Internet website at :

<http://www.gomr.mms.gov/homepg/regulate/enviro/de-minimus-consultation.pdf>

VI. BIBLIOGRAPHY AND SPECIAL REFERENCES

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VII. PREPARER

William H. Engelhardt-Biologist