

**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**

No. ES/SR 89-49

**Structure Removal Activity
Mobile Area, Block 999
Lease OCS-G 7863**

June 1989

**UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
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No. ES/SR 89-49**

**Assessment of the Environmental Impacts of the Proposed Removal of
Caisson No. 1 in Mobile Area, Block 999
(Lease OCS-G 7863)
by BP Exploration Inc.**

**Date Submitted: May 5, 1989
Commencement Date: June 1, 1989
Prepared by Elgin Landry**

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INTRODUCTION AND BACKGROUND

The purpose of this Site-Specific Environmental Assessment (SEA) is to assess the specific impacts associated with a proposed structure-removal activity. The SEA is based on a Programmatic Environmental Assessment (PEA) (USDI, 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 Outer Continental Shelf. The PEA/SEA process is designed to simplify and reduce the size of environmental assessment documents by eliminating repetitive discussions of the same issues. This SEA conforms to MMS and other appropriate guidelines for preparing environmental assessments by utilizing data presented in the PEA to complete the assessment. It presents site-specific data regarding the proposed structure removal 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 OF THE PROPOSAL AND NEED FOR THE PROPOSAL

A. Description of the Proposed Action with Mitigation

BP Exploration Inc. proposes to remove Caisson No. 1 in Mobile Area, Block 999 (Lease OCS-G 7863). The structure is located in a water depth of 84 feet and lies approximately 15 miles south of Mobile County, Alabama. The operator plans to remove the deck and explosively sever and remove the caisson and casings.

Refer to Appendix A for structure specifications for the removal, additional data on removal techniques and sequence of events.

MITIGATION

Refer to the operator's proposal (Appendix A) for mitigative measures proposed to reduce the likelihood of death or injury to sea turtles and marine mammals.

B. Need for the Proposed Action

A discussion of the legal and regulatory mandates to remove abandoned oil and gas structures from Federal waters can be found in the PEA (USDI, MMS, 1987). The operator states in their application (BP Exploration Inc., 1989; Appendix A) that their reason for removing the structure is to comply with P&A procedure for drilling operations specified in 30 CFR Part 250.

II. ALTERNATIVES TO THE PROPOSED ACTION

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

A. Non-Removal of the Structure

BP Exploration Inc. would not proceed with the proposed removal. This alternative would eliminate the possibility that sea turtles, marine mammals or other marine life would be harmed by removal of the structure as proposed.

However, 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 or easement. Additionally the structure poses a safety hazard. Therefore, non-removal does not appear to be a valid alternative.

B. Removal of the Structure by Alternative Non-Explosive Methods

The MMS has discussed various structure-removal techniques in the Final Environmental Impact Statement (FEIS) for Proposed Oil and Gas Lease Sales 118 and 122 (USDI, MMS, 1988) and the PEA (USDI, MMS, 1987). It was concluded that the most effective methods of structure removal are the use of explosives, either bulk or shaped charges, 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, it does not appear to be a feasible alternative for the removal of the subject structure.

Refer to the FEIS (USDI, MMS, 1988) and PEA (USDI, MMS, 1987) 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 operation falls within the category of activities covered by the National Marine Fisheries Service (NMFS) Biological Opinion of July 25, 1988 which addresses "standard" explosive structure removals in the Gulf of Mexico (GOM).

Refer to the terms and conditions of the "generic" Incidental Take Statement (Appendix B), and any mitigation identified by this SEA necessary to reduce the likelihood of death or injury to sea turtles and marine mammals.

Our analysis of the proposal identified the following additional mitigation:

Our analyses indicate that the activity is located in Military Warning Area W-453. In compliance with the lease stipulation regarding control of electromagnetic emissions and operations of boat and/or aircraft traffic into the designated Military Warning Area W-453, the operator will enter into a agreement with the 159th Tactical Fighter Group (ANG), NAS NOLA, Attention: Major David Rhods/Major Bob Lemoine, New Orleans, Louisiana 70143, Telephone: (504) 393-3521/3377.

III. ENVIRONMENTAL EFFECTS, SOCIOECONOMIC CONCERNS, AND OTHER CONSIDERATIONS

A. PHYSICAL ENVIRONMENT

1. Environmental Geology and Geologic Hazards

A discussion of environmental geology and geologic hazards can be found in the PEA (USDI, MMS, 1987). The proposed structure-removal activity is not in an area of sediment instability (mud flows, slumps, or slides). Therefore, geologic conditions are not expected to have an impact on the proposed structure-removal activity.

2. Meteorological Conditions

No impacts are expected as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

3. Physical and Chemical Oceanography

a. Physical Oceanography

No impacts are expected as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

b. Chemical Oceanography

Impacts are expected to be very low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

4. Water Quality

Impacts are expected to be low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

5. Air Quality

Impacts are expected to be very low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

B. BIOLOGICAL ENVIRONMENT

1. Coastal Habitats

No impacts are expected as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

2. Protected, Endangered, and/or Threatened Species

a. Birds

The PEA (USDI, MMS, 1987) delineates sensitive areas along the Texas coastline where whooping cranes and brown pelicans could be adversely impacted by structure-removal support activities. The operator has indicated that helicopter flights and boat traffic would utilize a shorebase in Venice, Louisiana. No impacts on threatened or endangered birds and their habitats are expected.

b. Marine Mammals

A discussion of marine mammals occurring across the GOM and an assessment of the potential impacts of structure-removal activities on marine mammals can be found in the PEA (USDI, MMS, 1987). 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 probably the most likely marine mammal to be encountered at the proposed structure removal. MMS 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 charge would 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 detonation. Such an occurrence is considered highly unlikely and with the indicated protective mitigation measures, the proposed structure-removal activity is expected to have only a low impact on marine mammals.

c. Sea Turtles

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 (USDI, MMS, 1987). Studies by Fritts, et al. (1983) and Fuller and Tappan (1986) as well as stranding data from the Sea Turtle Stranding and Salvage Network (Warner, 1988) indicate that sea turtles occur in the vicinity of the proposed activity and therefore could be impacted by the structure-removal operation. Definitive information on the probability of encountering sea turtles at the removal site during the explosive operation is scarce. NMFS and/or MMS observers may be utilized to look for sea turtles prior to detonation of the primary charge. If sea turtles are detected at the structure-removal site, detonation of the primary charge will be delayed until the animals are removed from the area. As in the case of marine mammals, the possibility exists that sea turtles could enter the blast area undetected and could be injured or killed by the underwater, subsurface detonation. This occurrence is considered unlikely, and with the indicated protective mitigation measures, the proposed structure-removal activity is expected to have only a low impact on sea turtles. A cumulative incidental take has been authorized by NMFS for this category action, but with all the precautions to be taken as mitigating measures, it is unlikely that any sea turtles will be affected by this proposed operation.

3. Birds

Impacts are expected to be very low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

4. Sensitive Marine Habitats

A discussion of sensitive marine habitats in the central and western GOM and an assessment of the potential impacts of structure-removal activities on these areas can be found in the PEA (USDI, MMS, 1987). The proposed activity is not near any sensitive marine habitats. Therefore, the subject structure-removal activity will not impact any sensitive marine habitats or their resident biota.

5. Offshore Habitats and Biota

Impacts are expected to be low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

C. SOCIOECONOMIC CONCERNS

1. Employment

Impacts are expected to be very low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

2. Economics

Impacts are expected to be very low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

3. Onshore Support Facilities, Land Use, and Coastal Communities and Services

The operator has indicated that Venice, Louisiana would be the shore base for the proposed structure-removal activity. No impacts are expected as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

D. OTHER CONSIDERATIONS

1. Commercial and Recreational Fisheries

a. Commercial Fisheries

Impacts are expected to be low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

b. Recreational Fisheries

Impacts are expected to be low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

2. Archaeological Resources

Impacts are expected to be low as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

3. Military Use/Warning Areas and Explosive Dumping Areas

A description of military use/warning areas and explosive dumping areas, their locations and potential impacts of structure-removal activities on these areas can be found in the PEA (USDI, MMS, 1987). The proposed structure-removal activity will take place in Military Warning Area W-453. Because of the mitigation required a very low impact is expected.

4. Navigation and Shipping

The proposed structure-removal activity is not located adjacent to a vessel safety fairway or in an anchorage area. Structures located nearshore may serve as "landmarks" to vessels or helicopter operating in the area on a regular basis. The overall impacts of the proposed work on navigation and shipping are expected to be very low. More information on the impacts of structure removals on navigation and shipping can be found in the PEA (USDI, MMS, 1987).

5. Pipelines and Cables

The PEA (USDI, MMS, 1987) contains a description of the impacts of structure-removal activities on pipelines and cables. There are no existing pipelines or cables within 500 feet of the structure-removal activity, therefore no impact is expected.

6. Other Mineral Resources

No impacts are expected as a result of the proposed activity. For analysis information, see the PEA referenced in the Introduction.

7. Human Health and Safety

The PEA (USDI, MMS, 1987) describes the hazardous conditions for workers during structure-removal activities. The operator has proposed the use of explosives in conjunction with the structure-removal activity. Existing legal and regulatory safety requirements will keep the impacts of the proposed work on human health and safety at a very low level.

E. UNAVOIDABLE ADVERSE IMPACTS

A discussion of unavoidable adverse impacts can be found in the PEA (USDI, MMS, 1987). Two areas of primary concern are 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. Other unavoidable adverse impacts are considered to be minor.

IV. PUBLIC OPINION

A discussion of public concerns regarding structure-removal activities can be found in the PEA (USDI, MMS, 1987). The proposed structure-removal activity has generated no comments from the public.

V. CONSULTATION AND COORDINATION

In accordance with the provisions of Section 7 of the Endangered Species Act, the proposed structure-removal operation is covered by the biological opinion issued by NMFS on July 25, 1988, which established a category of "standard" explosive structure removal operations. Their comments are included in Appendix B. The NMFS concluded that this category of structure-removal activity 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 (see Appendix B). The NMFS 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 activity. Therefore, taking of marine mammals by the operator would be prohibited unless they successfully apply for and obtain a permit or waiver to do so from NMFS.

VI. BIBLIOGRAPHY AND SPECIAL REFERENCES

BP Exploration Inc. 1989. OCS platform/structure removal application.

Fritts, T.H. A.B. Irvine, R.D. Jennings, L.A. Collum, W. Hoffman, and M.A. McGehee. 1983. Turtles, birds, and mammals in the northern Gulf of Mexico and nearby Atlantic waters. U.S. Fish and Wildlife Service, Division of Biological Services, Washington, D.C.

Fuller, D.A. and A.M. Tappan. 1986. The occurrence of sea turtles in Louisiana coastal waters. Coastal Fisheries Institute. Center for Wetland Resources. Louisiana State University. Baton Rouge, LA.

U.S. Department of the Interior. Minerals Management Service. 1988. Final Environmental Impact Statement. Proposed OCS oil and gas lease sales 118 and 122 (Central and Western Gulf of Mexico). OCS 88/MMS 880044. Washington, D.C. Available from NTIS, Springfield, VA: PB89-14185/AS.

U.S. Department of the Interior. Minerals Management Service. 1987. Programmatic Environmental Assessment. Structure-removal activities Central and Western Gulf of Mexico Planning Areas. OCS/EP 87-0002. Gulf of Mexico OCS Region, New Orleans, LA.

Warner A. A. 1988. Third quarter report of the sea turtle stranding and salvage network. Atlantic and Gulf Coasts of the United States. June - September 1988. National Marine Fisheries Service. Southeast Fisheries Center, Miami Laboratory, 75 Virginia Beach Drive Miami, FL.

VII. PREPARERS

Author

Elgin Landry - Meteorologist

Typist

Joan L. Boiteaux

VIII. APPENDICES

- A. BP EXPLORATION INC. CORRESPONDENCE**
- B. NMFS CORRESPONDENCE**

APPENDIX A
F.P. EXPLORATION INC. CORRESPONDENCE

UNITED STATES GOVERNMENT
MEMORANDUM

GET LEM. PAE
Change to
Gulf of Mexico Two/10/89 OK
Larkin
89-49 TWO OK 5/8/89

To: Environmental Operations Section (LE-5)
From: Office of Structural and Technical Support, Field Operations,
Gulf of Mexico OCS Region (OSTS)
Subject: Platform Removal

OPERATOR: 89-49

Control No: ES/SR BP

RECEIVED

Minerals Service
Department

<u>Platform</u>	<u>Area/Block</u>	<u>Lease</u>
<u>Caisson No 1</u>	<u>MO 999</u>	<u>OCS - G 7863</u>
_____	_____	_____
_____	_____	_____

Shore Base: * Venice, LA

The attached application is forwarded to your office so that the Finding of No Significant Impact can be prepared. We believe this proposed activity meets the requirements of the generic Endangered Species Act Section 7 Consultation Document. There ~~are~~ are no existing pipeline(s) within 500 feet of the proposed removal location.

W-453

Arvind Shah
Arvind Shah (OSTS)
Extension 2894

Enclosure

cc:

* Pending
:

AShah: :LEXITYPE:Disk 5

BP EXPLORATION

BP Exploration Inc.
9401 Southwest Freeway
Suite 1200
Houston, Texas 77074
(713) 552-8500

May 2, 1989



Mr. Arvind Shah
Office of Structural and Technical Support
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, LA. 70123-2394

Re: P&A with explosives
Mobile 999, Well #1 OCS-G-7863

Dear Mr. Shah:

BP Exploration Inc. seeks "generic" approval for plugging and abandoning the above referenced well using explosive charges. The sundry for the proposed work, the "Proposed OCS Platform/Structure Removal" form, and the well schematic is attached for your information.

The explosive (50 lb. molded) will be a single charge inside the 10-3/4" casing at 20' below the mud line (BLM) with a detonating velocity of 8400 meters/second. A focusing device will be used to direct the cutting force to a small horizontal plane. Detonation will be accomplished with a 50 grain/foot prima cord with a velocity of 22,000 FPS.

The explosive's compressive force, mostly in the horizontal plane, is as follows:

1. Outside of 60" drive pipe, 20 foot BLM - 10,000 psi.
2. 10' from pipe at 20 foot BLM - 1000 psi.
3. At 50 feet from pipe at 20 foot BLM - Negligible.

We propose to commence P&A operations sometime during the first part of June, 1989. Therefore if you see any problems with our proposal, please let us know as soon as possible in order that we may reschedule our activity in concert with your approval.

If a meeting would facilitate your efforts, please call at your convenience. I can be reached at (713) 552-3119, if you need additional information.

Thank you for your cooperation concerning this matter.

Sincerely,

Cary W. Kerlin
Cary W. Kerlin
Regulatory Supervisor

CHW/dh:1563U

PROPOSED CCS PLATFORM/STRUCTURE REMOVAL

I. Responsible Party

- A. Lease Operator Name BP Exploration Inc. (formerly Sohio Petroleum Company)
- B. Address 9401 Southwest Freeway, Suite 1200
Houston, TX 77074
- C. Contact Person and Telephone Number Cary M. Kerlin
(713) 552-3119
- D. Shore Base N/A

II. Identification of Structure to be Removed

- A. Platform Name Well #1 casing
- B. Location (Lease, Area, Block, and Block Coordinates) Mobile Block 999
OCS-G-7863 - 10,252.74'FEL & 5,237.66'FNL
- C. Date Installed (Year) 2/88 drilling operations complete & implemented
T&A procedure.
- D. Proposed Date of Removal (Month/Year) 06/01/89
- E. Water Depth 84'

III. Description of Structure to be Removed

- A. Configuration (Attach a Photograph or a Diagram)
- B. Size 60" drive pipe and associated casing string. See attached schematic.
- C. Number of Legs/Casings/Pillings Well casing

- D. Diameter and Wall Thickness of Legs/Casings/Pillings 60" Drive - Pipe 2" thick, 20" casing - .635" thick, 13-5/8" casing - .625" thick, 10-3/4" casing - 7" thick.
- E. Are Piles Grouted? _____ Inside or Outside? _____
Cement in the 10-3/4" x 13-5/8" annulus & in the 60" x 20" annulus.
- F. Brief description of soil composition and condition 0'-9' BLM loose olive gray clay, 9'-20' firm to stiff olive gray clay, 20'-53' medium dense to dense olive gray clay

IV. Purpose

Brief discussion of the reason for removing the structure To comply with P&A procedure for drilling operations specified in 30 CFR Part 250.

V. Removal Method

- A. Brief description of the method to be used 50 lb molded explosive to be set inside 10-3/4 casing at 20 ft BLM with focusing devise to cut all casing strings.
- B. If explosives are to be used, provide the followings:
 - 1. Kind of Explosives molded
 - 2. Number and Sizes of Charges One 50 lb charge with 50 grain prima cord.
 - a. Single Shot or Multiple Shots? Single
 - b. If multiple shots, sequence and timing of detonations N/A

3. Bulk or Shaped Charge? Molded with focusing device

a. Depth of Detonation Below Mud Line 20 ft BLM

b. Inside or Outside Piling? Inside cason

C. Pre-Removal Monitoring Techniques

1. Is the use of scare charges or acoustic devices proposed? No

If yes, provide the following:

a. Number and Kind If required, a single 20' prima scare charge would be used.

b. Size of Charges _____

c. Brief description of how, where, and when scare charges or acoustic devices will be used _____

2. Will divers or acoustic devices be used to conduct a pre-removal survey to detect presence of turtles and marine mammals? No

If yes, briefly describe the proposed detection method _____

D. Post-Removal Monitoring Techniques

1. Will transducers be used to measure the pressure and impulse of the detonations? No

2. Will divers be used to survey the area after removal to determine any effects on marine life? If required.

VI. Biological Information

If available, provide the results of any recent biological surveys conducted in the vicinity of the structure. If available, describe any recent observations of turtles or marine mammals at the structure site. None available (recent).

APPENDIX B
NMFS CORRESPONDENCE



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Washington, D.C. 20235

JUL 25 1988

Mr. William D. Bettenberg
Director
Minerals Management Service
U.S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Bettenberg:

Enclosed is the Biological Opinion prepared by the National Marine Fisheries Service (NMFS) pursuant to Section 7 of the Endangered Species Act (ESA) concerning potential impacts on endangered and threatened species associated with removal of certain oil and gas platforms and related structures in the Gulf of Mexico (GOM) using explosives.

This "standard" consultation covers only those removal operations that meet specified criteria pertaining to the size of explosive charge used, detonation depth, and number of blasts per structural grouping. Consultation must be initiated on a case-by-case basis for all dismantling operations requiring the use of explosives that do not meet the established criteria.

NMFS concludes that structure removals in the GOM that fall within the established criteria are not likely to jeopardize the continued existence of listed species under the jurisdiction of NMFS. However, it is our opinion that the proposed activities may result in the injury or mortality of endangered and threatened sea turtles. Therefore, pursuant to Section 7(b)(4) of the ESA, we have established a low level of incidental take, which is cumulative for all removals covered by this consultation, and terms and conditions necessary to minimize and monitor any impacts, should they occur. The terms and conditions are contained in the enclosed incidental take statement. Also enclosed is a list of pending consultations that meet, with noted exceptions, the criteria established in the "standard" consultation. This biological opinion and the mitigating measures and terms and conditions contained in the related incidental take statement apply to these proposed removal operations. Therefore, formal consultation is concluded for these proposed actions.



Consultation must be reinitiated if: (1) the amount or extent of taking specified in the incidental take statement is exceeded; (2) new information reveals impacts of the proposed activities that may affect listed species in a manner or to an extent not considered thus far in our opinions; (3) the identified activities are modified in a manner that causes an adverse effect to listed species not previously considered; or (4) a new species is listed or critical habitat is designated that may be affected by the project.

I look forward to your continued cooperation in future consultations.

Sincerely,


James W. Brennan
Assistant Administrator
for Fisheries

Enclosures

Biological Opinion

Agency: Minerals Management Service, U.S. Department
of the Interior

Activity: Consultation for Removal of Certain Outer Continental
Shelf Oil and Gas Structures in the Gulf of Mexico

Consultation Conducted By: National Marine Fisheries Service
(NMFS)

Date Issued: _____

Background Information:

In a letter dated November 19, 1986, the Minerals Management Service (MMS) made an initial request for formal consultation pursuant to Section 7 of the Endangered Species Act (ESA) for the removal of an offshore oil and gas platform located in the Federal waters of the Gulf of Mexico (GOM). MMS and NMFS determined that removal of oil and gas platforms and related structures in the GOM may affect endangered and threatened marine species. This "may affect" determination was based on a possible relationship between endangered and threatened sea turtle mortalities and the dismantling of platforms using explosives. On November 25, 1986, NMFS issued the first of a series of biological opinions addressing, in detail, the potential impacts to listed marine species that may occur as a result of OCS abandonment activities.

MMS and NMFS established procedures for expediting Section 7 consultations on platform abandonment activities in the GOM referred to as "expedited consultations." Following those procedures, approximately 44 consultations have been completed for removal operations in the GOM region. All of the consultations have concluded that the proposed abandonment activities were not likely to jeopardize the continued existence of any listed species, but that the proposed activities may result in the incidental taking of endangered and threatened sea turtles.

The dismantling of platforms and related structures using explosives has evolved to a point where a "standard" protocol can be established for removal operations meeting certain criteria. Based upon removal techniques developed and reviewed in conjunction with the previously conducted "expedited consultations," MMS has requested, by letter of May 24, 1988, a "generic consultation" that would be applicable to all future removal operations that fall within a distinct category, defined by specific parameters. A category has been designed to include those structure types and removal techniques most commonly encountered during the expedited consultations and dismantling operations already completed. Since approximately 1000 structures that may be scheduled for future removal fall within the parameters of the established category, NMFS agrees that a "generic" consultation is appropriate at this time. The objective of the consultation is to reduce the administrative burden on both MMS and NMFS for conducting repetitive consultations on activities that may result in similar impacts to listed species and that require identical mitigating measures to maintain adequate protection for such species. This biological opinion responds to MMS' May 24, 1988, consultation request. The opinion is based on the best scientific and commercial data presently available and incorporates information from: 1) previous MMS Summary Evaluations, 2) previous NMFS biological opinions on platform removal, 3) the scientific literature, and 4) other pertinent and available information. Consultation must be reinitiated if new information becomes available concerning impacts to listed species that would alter the conclusions reached in this opinion or require modification of the measures identified in the attached incidental take statement. Consultation will continue on a case-by-case basis for those structure removals that do not meet the criteria established for "standard" removals.

Description of Proposed Action:

The proposed action involves the removal, by explosive means, of offshore oil and gas structures located in Federal waters in the Gulf of Mexico. Removal of the structures will be accomplished by severing the support pilings, caissons, well conductors, etc., using varying amounts of explosives to permit salvage of the structures. This involves the placement of explosives inside or outside of supporting structures and detonating charges primarily using electronically controlled signals.

This "generic" consultation considers only those removal operations that meet certain criteria pertaining to the size of the explosive charge used, detonation depths, and number of blasts per structural grouping. The specific criteria established to cover such removals are as follows:

- 1) Use of high velocity explosives (detonation rate greater than 7,600 meters/second).
- 2) A maximum of eight individual blasts per group of detonations with charges staggered at an interval of 0.9 seconds (900 milliseconds).
- 3) Charges must be set at a minimum depth of 15 feet below the sediment surface. Severing of structures above the sediment surface "open water" must be accomplished by mechanical (non-explosive) methods.
- 4) The maximum amount of explosives per detonation is not to exceed 50 pounds.

Species Occurring in the Project Area:

Listed species under the jurisdiction of NMFS that may occur in the project area:

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>STATUS</u>	<u>LISTED</u>
right whale	<u>Eubalaena glacialis</u>	E	6/2/70
finback whale	<u>Balaenoptera physalus</u>	E	6/2/70
humpback whale	<u>Megaptera novaeangliae</u>	E	6/2/70
sei whale	<u>Balaenoptera borealis</u>	E	6/2/70
sperm whale	<u>Physeter catodon</u>	E	6/2/70
green turtle	<u>Chelonia mydas</u>	Th E*	7/28/78
Kemp's ridley turtle	<u>Lepidochelys kempi</u>	E	12/2/70
leatherback turtle	<u>Dermochelys coriacea</u>	E	6/2/70
loggerhead turtle	<u>Caretta caretta</u>	Th	7/28/78
hawksbill turtle	<u>Eretmochelys imbricata</u>	E	6/2/70

*All of the U.S. green turtle populations are listed as threatened except the Florida breeding population, which is listed as endangered.

No critical habitat has been designated in the project area for the above species.

Assessment of Impacts:

Based upon their known distribution and abundance in the GOM, endangered whalms are believed unlikely to occur in the vicinity of the proposed structure removal activities, and, therefore, unlikely to be adversely affected by the proposed action.

Previous NMFS biological opinions (November 25, 1986 and February 26, 1987) have addressed, in detail, removal of structures in the GOM. Accounts of endangered and threatened species which occur in the project area, and the "Assessment of Impacts" contained in these prior opinions also apply to this consultation and are incorporated by reference.

In summary, the opinions referenced above acknowledge the existence of a possible relationship between the use of underwater explosives in removing platforms and related structures and the occurrence of stranded sea turtles, marine mammals (*Tursiops truncatus*) and fish. Limited experiments conducted by NMFS, Galveston Laboratory confirm that sea turtles (and other marine vertebrates) found in proximity to petroleum platforms can be injured or killed by removal operations employing underwater explosives (Klima, 1986).

Technology most commonly used in the dismantling of platforms includes: bulk explosives, shaped explosive charges, mechanical and abrasive cutters and underwater arc cutters. The use of bulk explosives has become the industry's standard procedure for severing pilings, well conductors and related supporting structures (approx. 90% use). When using bulk charges, the inside of the structure can be jettied out to at least 15 feet below the sediment floor to allow placement of explosives inside of the structure, resulting in a decrease in the impulse and pressure forces released into the water column upon detonation. The use of high velocity shaped charges is reported to have some advantages over bulk explosives and has been used in combination with smaller bulk charges. The cutting action obtained by a shaped charge is accomplished by focusing the explosive energy with a conical metallic liner. A major advantage associated with use of high velocity shaped charges is that a smaller amount of explosive charge is required to sever the structure, which also results in reductions in the impulse and pressure forces released into the water column. Use of mechanical cutters and underwater arc cutters is successful in some circumstances and do not produce the impulse and pressure forces associated with detonation of explosives, however, these methods are, in most instances, more time consuming, costly and more hazardous to divers. As a result, these methods are not used on a routine basis (MMS Report on Platform Removal Techniques).

Based upon data obtained during previously conducted "expedited" consultations on platform removals, the following is a comparison of the types of explosives most likely to be used in the proposed removal operations:

<u>Explosive</u>	<u>Detonating Velocity</u>	<u>Brisance*</u>
RDX	approx. 8,199 m/sec.	1.35
C-4	approx. 8,001 m/sec.	1.15
Comp.-B	approx. 7,803 m/sec.	1.32

* Brisance is the measure of shattering power as compared to TNT which has brisance of 1.00. (MMS Report on Platform Removal Techniques, 1986.)

The proposed removal operations will be accomplished using high velocity explosives. Use of this type of explosive charge should minimize the duration of the impulse and pressure forces produced by detonation of the charges, while providing the amount of force required to sever the structures. According to MMS, restricting the grouping of detonations to eight individual blasts per group and staggering blasts by 0.9 seconds (900 milliseconds) will minimize the area affected by the blasts and suppress phasing of shock waves, thereby decreasing the cumulative effects of the blasts. In addition, since all detonations will occur at least 15 feet below the sediment surface and no more than 50 pounds of explosives per blast will be permitted, the amount of residual energy released into the marine environment should be reduced significantly. As a result, NMFS believes that minimal shock and impulse forces will be released in the vicinity of removal operations at any given time.

To date, of approximately 44 previously conducted consultations covering abandonment activities, about 33 structure removals have been completed. Each removal operation was monitored by NMFS observers and was conducted using appropriate mitigating measures. At the present time, eight turtles have been sighted in areas near structures being dismantled, at least two of which were green turtles. Of the eight documented sightings, one turtle was reported to be floating on it's back near a platform after detonation of charges, apparently stunned or injured. No other incidents of sea turtle injury or mortality have been reported. Therefore, NMFS believes that the proposed actions are not likely to result in significant adverse impacts to endangered and threatened sea turtle populations.

Conclusions:

Based on the above, it is our opinion that removal of platforms and related structures in the GOM is not likely to jeopardize the continued existence of threatened and endangered species under the jurisdiction of NMFS. However, NMFS concludes that the proposed activities may result in the injury or mortality of loggerhead, Kemp's ridley, green, hawksbill and leatherback turtles. Therefore, pursuant to Section 7(b)(4) of the ESA, we have established a low level of incidental take and terms and conditions necessary to minimize and monitor this impact. Compliance with these terms and conditions is the responsibility of MMS and the permit applicant.

Reinitiation of Consultation:

Consultation must be reinitiated if: 1) the amount or extent of taking specified in the incidental take statement is met or exceeded; 2) new information reveals impacts of the project that may affect listed species in a manner or to an extent not considered in this opinion; 3) the identified activities are modified in a manner that causes an adverse effect on listed species not previously considered; or 4) a new species is listed or critical habitat is designated that may be affected by the proposed activities.

INCIDENTAL TAKE STATEMENT

Section 7(b)(4) of the Endangered Species Act requires that when a proposed agency action is found to be consistent with section 7(a)(2) of the Act and the proposed actions may incidentally take individuals of listed species, NMFS will issue a statement that specifies the impact (amount or extent) of such incidental taking. Incidental taking by the Federal agency or applicant that complies with the specified terms and conditions of this statement is authorized and exempt from the taking prohibitions of the ESA.

Based on stranding records, incidental captures aboard commercial shrimp vessels and historical data, five species of sea turtles are known to occur in northern Gulf of Mexico waters. Current available information on the relationship between sea turtle mortality and the use of high-velocity explosives to remove oil platforms indicates that injury and/or death of sea turtles may result from the proposed actions. Therefore, pursuant to Section 7(b)(4) of the ESA, an incidental take (by injury or mortality) level of one documented Kemp's ridley, green, hawksbill or leatherback turtle or ten loggerhead turtles is set for all removal operations conducted under the terms and conditions of this incidental take statement. The level of taking specified here is cumulative for all removals covered by this consultation. If the incidental take meets or exceeds this specified level, MMS must reinstate consultation. The Southeast Region, NMFS, will cooperate with MMS in the review of the incident to determine the need for developing further mitigation measures.

The reasonable and prudent measures that NMFS believes are necessary to minimize the impact of incidental takings have been discussed with MMS and will be incorporated in the removal design for "standard" structure removals. The following terms and conditions are established for these removals to implement the identified mitigation measures and to document the incidental take should such take occur:

- 1) Qualified observer(s), as approved by NMFS, must be used to monitor the area around the site prior to, during and after detonation of charges. Observer coverage will begin 48 hours prior to detonation of charges. If sea turtles are observed in the vicinity of the platform and thought to be resident at the site, pre- and post-detonation diver surveys must be conducted.

2) On days that blasting operations occur, a 30-minute aerial survey must be conducted within one hour before and one hour after each blasting episode. The NMFS-approved observer and/or NMFS on-site personnel (NMFS employee only) must be used to check for the presence of turtles and, if possible, to identify species. If weather conditions (fog, excessive winds, etc.) make it impossible to conduct aerial surveys, blasting activities may be allowed to proceed if approved by the NMFS and/or MMS personnel on-site.

3) If sea turtles are observed in the vicinity of the platform (within 1000 yards of the site) prior to detonating charges, blasting will be delayed until attempts are successful in removing them at least 1000 yards from the blast site. The aerial survey must be repeated prior to resuming detonation of charges.

4) Detonation of explosives will occur no sooner than 1 hour following sunrise and no later than 1 hour prior to sunset. However, if it is determined by NMFS and/or MMS on-site personnel that special circumstances justify a modification of these time restrictions and that such modification is not likely to adversely impact listed species, blasting may be allowed to proceed outside of this time frame.

5) During all diving operations (working dives as required in the course of the removals), divers will be instructed to scan the subsurface areas surrounding the platform (blasting) sites for turtles and marine mammals. Any sightings must be reported to the NMFS or MMS on-site personnel. Upon completion of blasting, divers must report and attempt to recover any sighted injured or dead sea turtles or marine mammals.

6) Charges must be staggered 0.9 seconds (900 milliseconds) for each group of structures, to minimize the cumulative effects of the blasts. If a removal operation involves multiple groupings of structures, the interval between detonation of charges for each group should be minimized to avoid the "chumming" effect. Whenever such intervals exceed 90-minutes, the aerial survey must be repeated.

7) The use of scare charges should be avoided to minimize the "chumming effect." Use of scare charges may be allowed only if approved by the NMFS and/or MMS on-site personnel.

8) A report summarizing the results of the removal and mitigation measures must be submitted to the MMS Gulf of Mexico Region within 15 working days of the removal. A copy of the report must be forwarded to NMFS, Southeast Region.

This incidental take statement applies only to endangered and threatened sea turtles. In order to allow an incidental take of a marine mammal species, the taking must be authorized under Section 101(a)(5) of the Marine Mammal Protection Act of 1972. Although interest has been expressed in obtaining an exception authorizing a limited take of dolphins incidental to abandonment activities, no marine mammal take is authorized until appropriate small take regulations are in place and related "Letters of Authorization" are issued.

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