Office of the Secretary

[Supplement to Department Circular—Public Debt Series—No. 16–90]

Treasury Notes, Series L–1995

Washington, May 25, 1990.

The Secretary announced on May 24, 1990, that the interest rate on the notes designated Series L–1995, described in Department Circular—Public Debt Series—No. 16–90 dated May 17, 1990, will be 8½ percent. Interest on the notes will be payable at the rate of 8½ percent per annum.

Gerald Murphy,

Fiscal Assistant Secretary.

[FR Doc. 90–13115 Filed 6–6–90; 8:45 am]

BILLING CODE 4810–40–M

[Supplement to Department Circular—Public Debt Series—No. 15–90]

Treasury Notes, Series Z–1992

Washington, May 24, 1990.

The Secretary announced on May 23, 1990, that the interest rate on the notes designated Series Z–1992, described in Department Circular—Public Debt Series—No. 15–90 dated May 17, 1990, will be 8½ percent. Interest on the notes will be payable at the rate of 8½ percent per annum.

Gerald Murphy,

Fiscal Assistant Secretary.

[FR Doc. 90–13114 Filed 6–6–90; 8:45 am]

BILLING CODE 4810–40–M

DEPARTMENT OF VETERANS AFFAIRS

Scientific Review and Evaluation Board for Rehabilitation Research and Development, Meeting

In accordance with Public Law 92–463, the Department of Veterans Affairs gives notice of a meeting of the Scientific Review and Evaluation Board for Rehabilitation Research and Development. This meeting will convene at the Vista International Hotel, 1400 M Street NW., Washington, DC August 21 through August 24, 1990. The session on August 21, 1990, is scheduled to begin at 6:30 p.m. and end at 10:30 p.m. The sessions on August 22, 23, and 24, 1990, are scheduled to begin at 8 a.m. and end at 5 p.m. The purpose of the meeting is to review rehabilitation research and development applications for scientific and technical merit and to make recommendations to the Director, Rehabilitation Research and Development Service, regarding their funding.

The meeting will be open to the public (to the seating capacity of the room) for the August 21 session for the discussion of administrative matters, the general status of the program, and the administrative details of the review process. On August 22–24, 1990, the meeting is closed during which the Board will be reviewing research and development applications.

This review involves oral comments, discussion of site visits, staff and consultant critiques of proposed research protocols, and similar analytical documents that necessitate the consideration of the personal qualifications, performance and competence of individual research investigators. Disclosure of such information would constitute a clearly unwarranted invasion of personal privacy. Disclosure would also reveal research proposals and research underway which could lead to the loss of these projects to third parties and thereby frustrate future agency research efforts.

Thus, the closing is in accordance with 5 U.S.C. 552b(c)(6), and (c)(9)(B) and the determination of the Secretary of the Department of Veterans Affairs under sections 10(d) of Public Law 92–463 as amended by section 5(c) of Public Law 94–409.

Due to the limited seating capacity of the room, those who plan to attend the open session should contact Mr. Jon Peters, Program Manager, Rehabilitation Research and Development Service, Department of Veterans Affairs Central Office, 810 Vermont Avenue, NW., Washington, DC 20420, (Phone: 202–233–5177) at least five days before the meeting.

Dated: May 31, 1990.

By direction of the Secretary.

Sylvia Chavez Long,

Committee Mangement Officer.

Department of Veterans Affairs Scientific Review and Evaluation Board Rehabilitation Research and Development Washington, DC, August 21–24, 1990

Tentative Agenda

Tuesday, August 21, 1990

6:30 p.m.: Greetings, Orientation and Program Overview Margaret J. Giannini, M.D. Director, Rehabilitation Research and Development Service

8 p.m.: Administrative Procedures Ernest Burgess, M.D., Board Chairman

9–10:30 p.m.: Meeting with Panel Chairpersons

Prosthetics/Amputations, Spinal Cord Injury, Communication, Sensory and Cognitive Aids, Aging, Schizophrenia

10:30 p.m.: Adjourn

Wednesday, August 22, 1990

8 a.m.–5 p.m.: Proposal Review and Preparation of Merit Review Board by Subcommittees

12 p.m.–1:30 p.m.: Lunch (Working Meeting)

5 p.m.: Adjourn

Thursday, August 23, 1990

8 a.m.–4 p.m.: Review of Proposals by Subcommittees:

Prosthetics/Amputations, Spinal Cord Injury, Communication, Sensory and Cognitive Aids, Aging, Schizophrenia

12 p.m.–1:30 p.m.: Lunch (Working Meeting)

1:30 p.m.–5 p.m.: Summary Session and Reconvening of the Board for Summary Statements from Subcommittees Closing Remarks by Board Chairperson

5 p.m.: Adjourn

Friday, August 24, 1990

8 a.m.–11:30 a.m.: Final Revision of Summart Statements by Panel Members

11:30 a.m.–1:30 p.m.: Lunch (Working Meeting)

1:30 p.m.–3 p.m.: Meeting of Individual Panel Chairperson with Director of Rehab R&D to Review Final Summary Statements

Special Notes

All times are approximate.

The general business portion of the meeting (6:30 p.m.–10:30 p.m. on August 21, 1990) will be briefly open to the public. The remainder of the meeting, August 22–24, will be closed to the public with the provisions set forth in section 552(b), subsections (c)(6), and (c)(9)(B), title 5, United States Code and the determination of the Secretary of the Department of Veterans Affairs pursuant to section 10(d) the Federal Advisory Committee Act, title 5, U.S.C., Appendix I.

[FR Doc. 90–13255 Filed 6–6–90; 8:45 am]

BILLING CODE 8320–01–M

Wage Committee; Meetings

The Department of Veterans Affairs (VA) in accordance with Public Law 92–463, gives notice that meetings of the VA Wage Committee will be held on:

Wednesday, July 11, 1990, at 2 p.m.
Wednesday, July 25, 1990, at 2 p.m.
Wednesday, August 8, 1990, at 2 p.m.
Wednesday, August 22, 1990, at 2 p.m.

Wednesday, September 5, 1990, at 2 p.m.
Wednesday, September 19, 1990, at 2 p.m.

The meetings will be held in Room 300, Veterans Affairs Central Office, 810 Vermont Avenue, NW., Washington, DC 20420.

The Committee's purpose is to advise the Chief Medical Director on the development and authorization of wage schedules for Federal Wage System (blue-collar) employees.

At these meetings the Committee will consider wage survey specifications, wage survey data, local committee reports and recommendations, statistical analyses, and proposed wage schedules.

All portions of the meetings will be closed to the public because the matters considered are related solely to the international personnel rules and practices of the Department of Veterans Affairs and because the wage survey data considered by the Committee have been obtained from officials of private business establishments with a guarantee that the data will be held in confidence. Closure of the meetings is in accordance with subsection 10(d) of Public Law 92–463, as amended by Public Law 94–409, and as cited in 5 U.S.C. 552b(c) (2) and (4).

However, members of the public are invited to submit material in writing to the Chairperson for the Committee's attention.

Additional information concerning these meetings may be obtained from the Chairperson, VA Wage Committee, room 1175, 810 Vermont Avenue, NW., Washington, DC 20420.

Dated: May 31, 1990.

By Direction of the Secretary.

Silvia Chavez Long,

Committee Management Officer.

[FR Doc. 90–13256 Filed 6–6–90; 8:45 am]

BILLING CODE 8320–01–M

Sunshine Act Meetings

Federal Register
Vol. 55, No. 110
Thursday, June 7, 1990

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

FEDERAL ELECTION COMMISSION

"FEDERAL REGISTER" NUMBER: 90-12780

PREVIOUSLY ANNOUNCED DATE AND TIME: Thursday, June 7, 1990, 10:00 a.m.

Meeting Open to the Public

By direction of the Federal Election Commission, the above-noted meeting is cancelled.

DATE AND TIME: Tuesday, June 12, 1990, 10:00 a.m.

PLACE: 999 E Street, NW., Washington, DC.

STATUS: This Meeting Will Be Closed to the Public.

ITEMS TO BE DISCUSSED:

Compliance and matters pursuant to 2 U.S.C. § 437g.
Audits conducted pursuant to 2 U.S.C. § 437g, § 438(b), and Title 26, U.S.C.
Matters concerning participation in civil actions or proceedings or arbitration.
Internal personnel rules and procedures or matters affecting a particular employee.

DATE AND TIME: Thursday, June 14, 1990, 10:00 a.m.

PLACE: 999 E Street, NW., Washington, DC. (Ninth Floor).

STATUS: This Meeting Will Be Open to the Public.

MATTERS TO BE CONSIDERED:

Correction and Approval of Minutes
Presidential Election Campaign Fund—Projected Shortage for the 1992 Election Cycle
Explanation & Justification of the Allocations Regulations—11 CFR §§ 102.5, 104.8, 104.9, 104.10, 106.1, 106.5 and 106.6.
Draft Advisory Opinions.
A. DAO 1990-7, Maxwell A. Snead, Jr. on behalf of The Schroeder Fund for the Future, Inc.
B. DAO 1990-8, R. Todd Johnson, on bahalf of The CIT Group Holdings, Inc.
C. DAO 1990-9, Ms. Margaret R. Mueller
Administrative Matters

PERSON TO CONTACT FOR INFORMATION: Mr. Fred Eiland, Press Officer, Telephone: (202) 376-3155.

Hilda Arnold,

Administrative Assistant, Office of the Secretariat, Federal Election Commission.

[FR Doc. 90-13360 Filed 6-5-90; 3:24 pm]

BILLING CODE 6715-01-M

NATIONAL SCIENCE BOARD

DATE AND TIME:

June 14, 1990, 8:30 a.m., Open Session
June 15, 1990, 8:00 a.m., Closed Session
June 15, 1990, 9:00 a.m., Open Session

PLACE: National Science Foundation, 1800 G Street, NW, Room 540, Washington, DC 20550.

STATUS:

Most of this meeting will be open to the public.
Part of this meeting will be closed to the public.

MATTERS TO BE CONSIDERED JUNE 14:

Thursday, June 14, 1990

Open Session (8:30 a.m. to 5:30 p.m.)

(Includes lunch break from approximately 12:00 noon to 1:00 p.m.)

1. Introduction
   —Purpose of Meeting
   —Overview
2. Mission - NSF in the Next Decade
   —Mission and Capabilities
   —Outlook
3. Education and Human Resources
   —Traineeships
   —Education and Research
   —NSF Leadership
   —NSF structure
4. Research and Technology
   —Balance and continuity
   —Priority Setting
   —Engineering and Technology

Friday, June 15, 1990

Closed Session (8:00 a.m. to 9:00 a.m.)

5. Minutes—May 1990 Meeting
6. NSB Nominees

Friday, June 15, 1990

Open Session (8:00 a.m. to 12:00 noon)

7. President's Agenda and Crosscuts
   —Environment
   —International Research
   —High Performance Computing/ Networking
   —Materials
8. 1992 Budget Discussion
   —Status of FY 91
   —Summary of NSB Conclusions
   —Assumptions for FY 92
9. Closing

Thomas Ubois,

Executive Officer.

[FR Doc. 90-13361 Filed 6-5-90; 3:57 pm]

BILLING CODE 7555-01-M

Corrections

Federal Register
Vol. 55, No. 110
Thursday, June 7, 1990

This section of the FEDERAL REGISTER contains editorial corrections of previously published Presidential, Rule, Proposed Rule, and Notice documents. These corrections are prepared by the Office of the Federal Register. Agency prepared corrections are issued as signed documents and appear in the appropriate document categories elsewhere in the issue.

COMMODITY FUTURES TRADING COMMISSION

Chicago Board of Trade; Proposed Amendments Relating to Quality Specifications for Corn, Soybean, and Wheat Futures Contracts, and to Delivery Points for Soybean Futures Contract

Correction

In notice document 90-12538 beginning on page 22058, in the issue of Thursday, May 31, 1990, make the following corrections:

1. On page 22058, in the third column, the agency heading should read as set forth above.

2. On page 22059, in the first column, under **DATES:**, "July 2, 1990." should read "July 16, 1990."

BILLING CODE 1505-01-D

FEDERAL MARITIME COMMISSION

Port of San Francisco/Empress Lineas Maritimas, Argentinas S.A. Terminal Agreement, et al; Agreement(s) Filed

Correction

In notice document 90-12019 beginning on page 21437, in the issue of Thursday, May 24, 1990, make the following correction:

On page 21438, in the first column, "**Agreement No: 224-200345**" should read "**Agreement No: 224-200354**".

BILLING CODE 1505-01-D

DEPARTMENT OF THE INTERIOR

Office of Surface Mining Reclamation and Enforcement

30 CFR Part 942

Surface Coal Mining and Reclamation Operations Under a Federal Program for Tennessee

Correction

In rule document 90-11587 beginning on page 20600 in the issue of Friday, May 18, 1990, make the following correction:

On page 20600, in the second column, under **II. Discussion of Amendment**, the third paragraph beginning with "The paragraph should have read:" should have appeared in larger type.

BILLING CODE 1505-01-D

DEPARTMENT OF JUSTICE

Immigration and Naturalization Service

8 CFR Part 103

[INS No. 1136-90]

RIN 1115-AB17

Appeals, Precedents, Certifications, and Motions

Correction

In rule document 90-11695 beginning on page 20767, in the issue of Monday, May 21, 1990, make the following corrections:

§ 103.3 [Corrected]

1. On page 20769, in the second column, in § 103.3(a)(2)(v)(A)(*1*), in the sixth line, "properly" should read "improperly".

2. On the same page, in the third column, in § 103.3(a)(2)(v)(A)(*2*)(*iii*), in the ninth line, "related" should read "relating".

BILLING CODE 1505-01-D

DEPARTMENT OF JUSTICE

Immigration and Naturalization Service

8 CFR Part 210a

[INS No. 1201-90]

RIN 1115-AB05

Powers and Duties of Service Officers; Availability of Service Records; Admission or Adjustment of Status of Replenishment Agricultural Workers

Correction

In rule document 90-11696 beginning on page 20771, in the issue of Monday, May 21, 1990, make the following corrections:

§ 210a.1 [Corrected]

1. On page 20775, in the second column, in § 210a.1(j), in the seventh line, "as" should read "at".

§ 210a.4 [Corrected]

2. On page 20777, in the first column, in § 210a.4(d)(1), in the first line, "9" should be removed.

§ 210a.7 [Corrected]

3. On page 20780, in the third column, in § 210a.7(j), in the first line, "Case" should read "case".

BILLING CODE 1505-01-D

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-250 and 50-25]

Florida Power and Light Co., Proposed No Significant Hazards Consideration Determination

Correction

In notice document 90-11261 beginning on page 20218 in the issue of Tuesday, May 15, 1990, make the following corrections:

1. On page 20220, in the fifth column, the ninth entry from the bottom should read "A.2)b.1,2,3,4,5,6,7,8".

2. On page 20221, in the 2nd column, the 14th entry should read "3.14.4 and 4.15.4".

3. On the same page, in the 6th column, the 15th entry should read "None".

4. On the same page, in the 1st column, the 16th entry should read "3/4.7.9".

5. On the same page, in the 3rd column, the 19th entry should read "3/4 8-11 thru 3/4 8-14".

6. On page 20222, in the sixth column, the first and second entries should read "A.2)b." and "None" respectively.

7. On the same page, in the 3rd column, the 12th entry should read "5-1 thru 5-3".

BILLING CODE 1505-01-D

federal register

Thursday
June 7, 1990

Part II

Environmental Protection Agency

Proposed NPDES General Permit for the Coastal Waters of Louisiana and Texas; Notice of Draft NPDES General permits

ENVIRONMENTAL PROTECTION AGENCY

[FRL-3784-3]

Proposed NPDES General Permit for the Coastal Waters of Louisiana

AGENCY: Environmental Protection Agency.

ACTION: Notice of draft NPDES general permit.

SUMMARY: The Regional Administrator of Region 6 (the "Region") is today issuing a draft National Pollutant Discharge Elimination System (NPDES) general permit for discharges in the Coastal Subcategory of the Oil and Gas Extraction Point Source Category (40 CFR part 435, subpart D). This draft NPDES general permit establishes proposed effluent limitations, prohibitions, reporting requirements, and other conditions on discharges from oil and gas facilities engaged in production, field exploration, drilling, well completion, and well treatment operations. Produced water, produced sand and source waterand sand discharges are excluded from coverage under this general permit, but will, however, be regulated under a separate general coastal permit. This draft permit is being issued as a Best Professional Judgment (BPJ) determination of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) levels of pollution control. This permit, when issued as final, will authorize discharges from oil and gas facilities to the coastal waters of Louisiana. This permit will not authorize discharges to areas defined as "Onshore" (see 40 CFR part 435, subpart C), or from "new sources" (see 40 CFR 122.2 and 40 CFR 122.29).

DATES: *Comment Period.* Comments must be received by July 23, 1990.

ADDRESSES: Comments should be sent to the Regional Administrator, Region 6, U.S. Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202–2733.

FOR FURTHER INFORMATION: Contact Ms. Ellen Caldwell, Region 6, U.S. Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202–2733. Telephone: (214) 655–7190.

FACT SHEET AND SUPPLEMENTAL INFORMATION:

I. Background Information

This section gives a brief overview of Federal NPDES permitting activity for Gulf of Mexico coastal waters over the last 10 years and touches upon future oil and gas guidelines development for the Coastal Subcategory.

The Draft Inland Tidal Waters Permit (in part the same geographic area as covered by this proposed coastal permit) was published on December 27, 1983 at 48 FR 57001. The draft permit was never published as final. Effluent limitations in the proposed permit were based on BPT guidelines for the Coastal Subcategory of the Oil and Gas Extraction Point Source Category (40 CFR part 435, subpart D) The BPT limitations set out in that 1983 proposed permit restricted oil and grease in produced waters to 48 mg/l monthly average and 72 mg/l daily maximum. All other discharges had a no free oil limitation. The discharge of oil based drilling fluids and drilling fluids with diesel oil added were prohibited. The discharge of halogenated phenol compounds was prohibited and the facility operator was required to minimize the discharge of dispersants, surfactants and detergents.

On November 8, 1989 (54 FR 46919), EPA published a notice requesting information to be used in the development of BAT and BCT guidelines and NSPS for all oil and gas effluent discharges in the coastal subcategory and presented a possible modification to the current definition of the Coastal Subcategory.

II. General Permit Coverage

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 *et. seq:* the Clean Water Act, or the "Act"), operators of lease blocks covered by the Coastal Subcategory of the Oil and Gas Extraction Point Source Category, located in the coastal waters of Louisiana will be authorized to discharge to the receiving waters covered by this permit in accordance with effluent limitations, monitoring requirements, and other conditions set forth in the final general permit.

Operators of lease blocks within the general permit area will be required to make a written notification to the Regional Administrator within 45 days of the effective date of this permit that they intend to be covered by the general permit (See permit part I.A.1). Unless otherwise notified in writing by the Regional Administrator after submission of the notification, owners or operators requesting coverage will be authorized to discharge under the general permit (See permit, part I.A.). Operators of lease blocks within the general permit area who fail to notify the Regional Administrator of their intent to be covered by the general permit will not be authorized under the general permit to discharge from those facilities to the receiving waters named.

This permit does not authorize discharges from "new sources" as defined at 40 CFR 122.2.

III. Geographic Coverage

This proposed general permit covers oil and gas extraction facilities in the State of Louisiana that are engaged in production, field exploration, drilling, well completion and well treatment operations in areas defined as "coastal". The geographic scope of the proposed permit implements EPA's regulatory definition of "coastal". As a result of a decision of the U.S. Court of Appeals for the Fifth Circuit, the proposed permit also covers an area between the Chapman line and the inner boundary of the territorial seas. Both the regulatory definition and the area included as a result of the Fifth Circuit decision are explained below.

EPA's regulations define "coastal" as "(1) any body of water landward of the territorial seas as defined in 40 CFR 125.1(gg) or (2) any wetlands adjacent to such waters." 40 CFR 435.41(e). The term wetlands is defined as "those surface areas which are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." 40 CFR 435.41(f). The coastal permit area as described in the regulations is broad by definition. It includes, for example, certain bays and all inland rivers, streams and lakes and adjacent wetlands.

The inner boundary of the area of the proposed permit cannot be delineated as a single line because, under the forgoing definition, facilities located over any body of water landward of the territorial seas and adjacent wetlands are considered to be coastal.

The outer boundary of the proposed permit area, as defined at 40 CFR 435.41(e), is the inner boundary of the territorial seas. Although 40 CFR 435.41(e) refers to 40 CFR 125.1(gg) for a definition of the territorial seas, the latter provision has been deleted from the regulations. However, 40 CFR 125.1(gg) merely repeated section 502(8) of the Clean Water Act, which defines the territorial seas as "the belt of seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending

seaward a distance of three miles." 40 CFR 125.1(gg) (July 1, 1978). That statutory definition is still in effect.

Current National Oceanic and Atmospheric Administration (NOAA) nautical charts can be of assistance in locating the outer boundary of the proposed general permit area. These charts cover the entire coasts of Texas and Louisiana at a 1:80,000 scale, although certain ports and bays have more detailed coverage. They are available from NOAA Charts Agents, such as marinas and marine supply stores.

As is noted above, the geographic scope of the proposed permit also includes the area between the Chapman line and the inner boundary of the territorial seas as a result of a decision of the U.S. Court of Appeals for the Fifth Circuit. The Chapman line is formed by a series of 40 latitude and longitude coordinates that roughly parallel the Louisiana and Texas coastline to the Mexican border. EPA's regulations formerly defined "coastal" to include all land and water areas landward from the inner boundary of the territorial seas and eastward of the point defined by 89 degrees 45 minutes W. Longitude and 29 degrees 46 minutes N. Latitude and continuing west of that point through a series of longitude and latitude coordinates (the Chapman Line) to the point 97 degrees 19 minutes W. Longitude and continuing southward to the U.S.-Mexican border. So defined, the coastal area included areas on the Gulf coast of Texas and Louisiana and other areas. Interim Final Rulemaking, 41 FR 44942–44948 (Oct. 13, 1976). The 1976 boundaries were set to include wells located both in water and on land within the geographic area defined as coastal (At that time most of the facilities were believed to have been located in marshes, bays and estuaries).

On April 13, 1979 (44 FR 22069), The Agency redefined the coastal subcategory as set forth at 40 CFR 435.41(e). Under the new definition, certain wells on land were reclassified into the onshore subcategory and others were reclassified as stripper wells, depending on their rate of production. The wells that were reclassified as onshore were required to attain zero discharge. Industry challenged EPA's 1979 final rule. In *American Petroleum Institute* v. *EPA*, 661 F. 2d 340, 354–57 (5th Cir. 1981), the Court held that the Agency had failed to adequately consider the cost to the reclassified wells and to any wells that came into existence in the affected area after the issuance of the 1979 redefinition. *Oil and Gas Extraction Point source Category; Suspension of Regulations*, 47 FR 31554 (July 21, 1982). The wells affected by the suspension are treated as coastal in this proposed permit.

A facility is considered to be covered under the proposed general permit if the location of the wellhead is within the described permit area. It is the responsibility of the operator to determine if its facility is covered by this permit.

IV. Types of Discharges Covered

The following discharges, as defined below, will be covered under this final NPDES general permit.

Blow-out Preventer Control Fluid: Fluid used to actuate the hydraulic equipment on the blow-out preventer.

Boiler Blowdown: Discharges from boilers necessary to minimize solids build-up in the boilers, including vents from boilers and other heating systems.

Completion Fluids: Salt solutions, weighted brines, polymers and various additives used to prevent damage to the well bore during operations which prepare the drilled well for hydrocarbon production. These fluids move into the formation and return to the surface as a slug with the produced water. Drilling muds remaining in the wellbore during logging, casing and cementing operations or during temporary abandonment of the well are not considered completion fluids and are regulated by drilling fluids requirements.

Deck Drainage: All waste resulting from platform washings, deck washings, spills, rainwater, and runoff from curbs, gutters, and drains, including drip pans and wash areas.

Desalinization Unit Discharge: Wastewater associated with the process of creating fresh water from seawater.

Diatomaceous Earth Filter Media: Filter media used to filter seawater or other authorized completion fluids and subsequently washed from the filter unit.

Domestic Waste: Discharges from galleys, sinks, showers, safety showers, eye wash stations and laundries.

Drill Cuttings: Particles generated by drilling into the subsurface geological formations and carried to the surface with the drilling fluid.

Drilling Fluid: Any fluid sent down the hole, including drilling muds and any specialty products, from the time a well is begun until final cessation of drilling in that hole.

Excess Cement Slurry: The excess cement including additives and wastes from equipment washdown after a cementing operation.

Formation Test Fluid: The discharge that would occur should hydrocarbons be located during exploratory drilling and tested for formation pressure and content.

Muds, Cuttings, and Cement at the Seafloor: Discharges that occur at the seafloor prior to installation of the marine riser and during marine riser disconnect, well abandonment and plugging operations.

Produced Sands: Will be covered in a subsequent coastal waters production permit.

Produced Waters: Will be covered in a subsequent coastal waters production permit.

Sanitary Waste: Human body waste discharged from toilets and urinals.

Source Water and Sand: Will be covered in a subsequent coastal waters production permit.

Treated Wastewater from Dewatered Drilling Fluids and Cuttings: Means wastewater from reserve pits which have been flocculated or otherwise chemically or mechanically treated to meet specific discharge limitations.

Uncontaminated Ballast/Bilge Water: Seawater added or removed to maintain proper draft of a vessel.

Uncontaminated Seawater: Seawater which is returned to the sea without the addition of any chemicals; included are (1) Discharges of excess seawater that permit the continuous operation of fire control and utility lift pumps. (2) excess seawater from pressure maintenance and secondary recovery projects. (3) water released during the training and testing of personnel in fire protection. (4) sea-water used to pressure test piping, and (5) once through, non-contact cooling water.

Uncontaminated Freshwater: Freshwater which is returned to the receiving stream without the addition of any chemicals; included are (1) Discharges of excess freshwater that permit the continuous operation of fire control and utility lift pumps. (2) excess freshwater from pressure maintenance and secondary recovery projects, (3) water released during the training and testing of personnel in fire protection, (4) water used to pressure test piping, and (5) once through, non-contact cooling water.

Well Treatment (stimulation) Fluids: Any fluid used to restore or improve productivity by chemically or physically altering hydrocarbon-bearing strata after a well has been drilled. These fluids move into the formation and return to the surface as a slug with the produced water. Stimulation fluids include substances such as acids, solvents and propping agents.

Workover Fluids: Salt solutions, weighted brines, polymers and other specialty additives used in a producing

well to allow safe repair and maintenance or abandonment procedures. High solids drilling fluids used during workover operations are not considered workover fluids by definition and therefore must meet drilling fluid effluent limitations before discharge may occur. Packer fluids, low solids fluids between the packer, production string and well casing, are considered to be workover fluids and must meet only the effluent requirements imposed on workover fluids.

V. Statutory Basis

The Act, at section 402, sets forth the NPDES program to carry out its objective of reducing and eliminating the discharge of pollutants to surface waters of the U.S. The Water Quality Act amendments of 1987 has extended the original BAT/BCT/NSPS compliance deadline of July 1, 1984 to no later than March 31, 1989 for existing dischargers.

A. Permit Coverage

Under the NPDES permit program, every point source must have a valid permit before discharge may occur. A point source is defined as:

> * * * any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.
> (40 CFR 122.2).

Permits may be issued individually or as general permits that cover categories of dischargers where, among other things, operations are the same or are substantially similar and the types of wastes discharged are the same (40 CFR 122.28). Any discharger falling under the Coastal Subcategory of the Oil and Gas Extraction Point Source Category (40 CFR part 435, subpart D) must notify the Regional Administrator for coverage and comply with the general permit or apply for an individual permit.

B. Clean Water Act Provisions

Sections 301(b), 304, 308, 401, 402, and 403 of the Act provide the basis for the conditions included in NPDES permits. For this coastal waters permit, the conditions fall into four categories: technology-based effluent limitations, limitations based on state water quality standards, best management practices, and monitoring and record keeping requirements.

1. Technology-based Effluent Limitations

Technology-based effluent limitations are categorized by the industrial category, the pollutants covered, and the treatment level required. For existing sources these limitations require that more effective control technologies be accomplished over time. For new sources, the most stringent limitations are immediately effective The first level of effluent limitations for existing sources is based on the Best Practicable Control Technology Currently Available (BPT). This technology represents the average of the best existing waste treatment performance by plants of various sizes, ages and unit processes within the industry or subcategory. BPT guidelines for the Offshore Subcategory of the Oil and Gas Extraction Point Source Category were promulgated on April 13, 1979. (40 CFR part 435, subpart A; 44 FR 22069). These guidelines require "no discharge of free oil" for discharges of drilling muds and cuttings. This limitation is monitored by a visual inspection of the receiving water for evidence of a sheen. Interim Final BPT effluent limitations for the Coastal Subcategory were promulgated by EPA on October 13, 1976 (40 CFR part 435, subpart D; 41 FR 44942). The BPT limits established include: limitations on the discharge of oil and grease in produced water of 72 mg/l as a daily maximum and 48 mg/l as a 30 day average; a prohibition on the discharge of free oil in deck drainage, drilling fluids, drill cuttings, and well treatment fluids; a minimum residual chlorine content of 1 mg/l in sanitary discharges must be maintained; and a prohibition on the discharge of floating solids in sanitary wastes and domestic wastes.

The second level of technology-based effluent limitations is based on the Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT). BAT limitations, in general, represent the best existing performance of technology in the industrial category or subcategory. BAT limitations control listed toxic and nonconventional pollutants (40 CFR 401.15; see Permit Appendix A for listing). BCT limitations control the conventional pollutants listed at 40 CFR 401.16 (pH, BOD, oil and grease, TSS, and fecal coliform) from existing industrial point sources. BAT and BCT may never be less stringent than BPT.

Guidelines for BAT and BCT effluent limitations, as well as New Source Performance Standards (NSPS) were proposed for the offshore subcategory of the oil and gas extraction category in August, 1985. The Agency intends to publish final guidelines covering the offshore subcategory in 1992. On November 8, 1989 (54 FR 46919), EPA published a notice requesting comments regarding various issues on the possible development of BAT, BCT and new source performance standards (NSPS) relating to discharges in the coastal subcategory, including a redefinition of the subcategory. Final promulgated guidelines for the coastal subcategory is not expected until 1995. Therefore, any permit actions by the Region must be based on the Agency's Best Professional Judgment (BPJ) of what BAT or BCT limitations may be (40 CFR 122.44).

2. State of Louisiana Standards and Limitations

All discharges to state waters must comply with state water quality standards and Railroad Commission of Texas pollution control rules for oil and gas operations. Discharges to state waters must also comply with any other limitations that may be imposed by the State as part of its certification of NPDES permits under section 401 of the Act (see below, part VI.A.).

3. Best Management Practices

To carry out the purposes and intent of the Act, Best Management Practices (BMPs) are defined at 40 CFR 122.44(k). Permit conditions can be based on BMPs to control toxic pollutants and hazardous substances under section 304(e) when numeric effluent limitations are infeasible, or when the practices are reasonably necessary to achieve limitations and standards set forth by the Act.

4. Monitoring and Recordkeeping

Section 308 of the Act specifies that to assist in developing effluent limitations and standards and in determining violations of any permit conditions, permits must require that operators monitor and record discharge information. This section of the Act requires owners or operators to maintain records, to supply reports, to install, use, and maintain monitoring equipment, to sample effluents according to prescribed methods, and to allow the Regional Administrator access to the facilities or records.

VI. Other Legal Requirements

A. State Certification

Under section 401(a)(1) of the Act, EPA may not issue a NPDES permit until the State in which the discharge will originate grants or waives certification to ensure compliance with appropriate requirements of the Act and State law. Section 301(b)(1)(C) of the Act requires that NPDES permits contain conditions that ensure compliance with applicable state water quality standards or limitations

B. Oil Spill Requirements

Section 311 of the Act prohibits the discharge of oil and hazardous materials in harmful quantities. In the 1978 amendments to section 311, Congress clarified the relationship between this section and discharges permitted under section 402 of the Act. It was the intent of Congress that routine discharges permitted under section 402 be excluded from section 311. Discharges permitted under section 402 are not subject to section 311 if they are:

(1) In compliance with a permit under section 402 of the Act;

(2) Resulting from circumstances identified, reviewed and made part of the public record with respect to a permit issued or modified under section 402 of the Act, and subject to a condition in such permit; or,

(3) Continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the Act that are caused by events occurring within the scope of the relevant operating or treatment system.

To help clarify the relationship between a spill, regulated under section 311, and a discharge regulated under a section 402 permit, the following list of spills was developed by EPA and has been included in all previous Gulf of Mexico oil and gas discharge permits as guidance (Note: This list is not all-inclusive):

(1) Discharges from a platform or structure on which oil or water treatment equipment is not mounted;

(2) Discharges from burst or ruptured pipelines, manifolds, pressure vessels or atmospheric tanks;

(3) Discharges from uncontrolled wells;

(4) Discharges from pumps or engines;

(5) Discharges from oil gauging or measuring equipment;

(6) Discharges from pipeline scraper, launching, and receiving equipment;

(7) Spills of diesel fuel during transfer operations;

(8) Discharges from faulty drip pans;

(9) Discharges from well heads and associated valves;

(10) Discharges from gas-liquid separators; and

(11) Discharges from flare lines.

C. The Endangered Species Act

The Endangered Species Act (ESA) and its implementing regulations (50 CFR part 402) require that each Federal Agency shall ensure that any agency action, such as permit issuance, is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of their critical habitats.

The discharges from exploration and development activities that could potentially cause the greatest impact to endangered or threatened species are drilling fluids and drill cuttings. Under the proposed permit, these discharges are prohibited and therefore, will cause no impact. Discharges that are permitted include treated wastewater, deck drainage, formation test fluids (prohibited to freshwater), treatment, completion and workover fluids (prohibited to freshwater), sanitary waste, domestic waste and several miscellaneous discharges. These discharges must meet applicable technology-based limitations and limitations designed to assure compliance with standards for the protection of water quality.

Thus, based on the terms, conditions, and limitations of this permit, EPA has concluded in its biological assessment that the discharges authorized by this general permit are not likely to adversely affect any endangered or threatened species nor adversely affect their critical habitat. EPA will provide copies of the draft permit, fact sheet, and biological assessment to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service prior to issuing the permit, requesting comment on this conclusion.

D. The Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) and its implementing regulations (15 CFR part 930, subpart D) require that any Federally licensed or permitted activity affecting the coastal zone of a State with an approved Coastal Zone Management Program (CZMP) be consistent with the CZMP (section 307(c)(3)(A). The State of Louisiana has a CZMP that has been approved by the National Oceanic and Atmospheric Administration (NOAA). The Region has reviewed Louisiana's Coastal Use Guidelines (including guidelines 10.1–10.14 for oil and gas and other mineral activities) and has determined that this proposed permit action is consistent with the intent of those guidelines. A copy of the draft permit, along with a consistency certification, will be submitted to Louisiana for a consistency determination.

E. The Marine Protection, Research and Sanctuaries Act

The Marine Protection, Research and Sanctuaries Act (MPRSA) of 1972 regulates the dumping of all types of materials into ocean waters and establishes a permit program for ocean dumping. In addition the MPRSA establishes the Marine Sanctuaries Program, implemented by NOAA, which requires NOAA to designate ocean waters as marine sanctuaries for the purpose of preserving or restoring their conservation, recreational, ecological or aesthetic values.

Section 302(i) of MPRSA requires that the Secretary of Commerce, after designation of a marine sanctuary, consult with other Federal agencies, and issue necessary regulations to control any activities permitted within the boundaries of the marine sanctuary. It also provides that no permit, license, or other authorization issued pursuant to any other authority shall be valid unless the Secretary shall certify that the permitted activity is consistent with the purpose of the marine sanctuaries program and/or can be carried out within its promulgated regulations. There are presently no existing marine sanctuaries in the coastal waters of Louisiana.

F. Economic Impact (Executive Order 12291)

The Office of Management and Budget has exempted this action from the review requirements of Executive Order 12291 pursuant to section 8(b) of that order.

G. The Paperwork Reduction Act

The information collection required by this permit has been approved by the Office of Water Management and Budget (OMB) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*, in submissions made for the NPDES permit program and assigned OMB control numbers 2040–0086 (NPDES permit application) and 2040–0004 (discharge monitoring reports).

All facilities affected by this permit will need to submit a request for coverage under the Louisiana Coastal Waters general permit. EPA estimates that it will take an affected facility three hours to prepare the request for coverage. All affected facilities will be required to submit discharge monitoring reports (DMRs). EPA estimates the DMR burden to be 36 hours per facility per year.

The public is invited to send comments regarding this burden estimate for any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM–223, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460; and the Office of Water Management and Budget, Paperwork Reduction Project (2040–0086 and 2040–0004), Washington, DC 20503, marked "Attention: Desk Officer for EPA".

H. The Regulatory Flexibility Act

After review of the facts presented in this document, I hereby certify, pursuant to the provisions of 5 U.S.C. 605(b), that this general permit will not have a significant impact on a substantial number of small entities. This certification is based on the fact that the majority of parties regulated by this permit have greater than 500 employees and are not classified as small businesses under the Small Business Administration regulations established at 49 FR 5024 *et. seq.* (February 9, 1984). These facilities are classified as Major Group 13—Oil and Gas Extraction SIC 1311 Crude Petroleum and Natural Gas. For those operators having fewer than 500 employees this permit will not have significant economic impact. Effluent limitations being imposed in this permit are similar to those being drafted in state discharge permits. Moreover, the permit reduces a significant administrative burden of applying for individual permits, on regulated sources.

Robert E. Layton, Jr.,

Regional Administrator, Region 6.

VII. Specific Permit Conditions

Appropriate conditions for each discharge were determined through consideration of: (A) Technology-based effluent limitations to control conventional pollutants under BCT (BPJ); (B) Technology-based effluent limitations to control toxic and nonconventional pollutants under BAT (BPJ); (C) Louisiana State Water Quality Standards; (D) Best Management Practices; (E) Monitoring and record keeping requirements; and (F) Miscellaneous requirements.

Discussions of the specific effluent limitations and monitoring requirements, derived from the above considerations, appear below in parts A through F. This factsheet discusses all potential effluent limits for each waste stream, however, the permit only contains the most stringent limitations. Permit conditions are organized first, in the text by their statutory authority and second by the type of discharge. For convenience, these requirements and their regulatory basis are cross-referenced by the type of discharge in Table 1.

Detailed discussions of the information base and the Agency's decision making process is presented in the Administrative Records of the BAT/BCT (BPJ) Federal waters permit for the Gulf of Mexico and the BAT/BCT/NSPS effluent guideline rulemaking. Consequently, discussions on BAT, BCT, and BMP limitations are presented briefly in this fact sheet where they are the same as those found in the OCS general permit GMG280000. New permit-specific BAT and BCT considerations for this proposed Coastal permit will be discussed in detail where effluent limitations were not considered previously or are different from those found in the OCS general permit. The reader is referred to the Federal Register notifications for the proposed and final permits and proposed effluent guidelines for these detailed discussions (see part I., above). The information base and rationale for the permit-specific conditions resulting from consideration of state water quality standards are also new, and therefore, presented in detail in this fact sheet.

A. Best Conventional Pollutant Control Technology (BCT) Conditions

BCT (BPJ) conditions include both prohibitions and limitations on conventional pollutants. BCT parameters that are regulated in this permit include oil and grease (also regulated as "free oil"), solids, pH, and fecal coliform.

For waste streams for which no effluent guidelines exist, the Region is establishing BPT effluent limitations on a best professional judgment basis. In doing so, the Region has considered all statutory requirements of section 304(b)(1) (a) and (b) of the Clean Water Act. These considerations included the total cost of the application, the age of the equipment and facility, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impacts and such other factors as are appropriate.

1. Drilling Fluids

a. Prohibitions—Discharge of oil-based drilling fluids and inverse emulsion drilling fluids is prohibited. This prohibition is based on the Agency's determination that such discharges cannot comply with the free oil limitation required below. This is a condition of the OCS BAT/BCT general permit.

b. Limitations—Free Oil. The BCT limitation on free oil is the same as the BPT limitation: None shall be detected, using the visual sheen on the surface of the receiving water method. The monitoring frequency is once per day, when discharging. For water-based drilling fluids to which any oil has been added, discharge is limited to those times that visual sheen observation is possible. The number of days a sheen is observed must be recorded.

[Exception] Discharge of water-based muds to which oil has been added is not restricted only to periods when observation is possible if the operator uses the static sheen test method for detecting free oil.

The Region is proposing to establish this permit's BCT limitation for drilling fluids to be equal to BPT because the Region does not have technology performance data available at this time on which to base a more stringent limitation. As this limitation is equal to the BPT level of control, there is no incremental cost involved.

2. Drill Cuttings

[Special Note] The permit prohibitions and limitations that apply to drilling fluids also apply to fluids that adhere to drill cuttings. Any permit condition that applies to the drilling fluid system, therefore, also applies to cuttings discharges. Monitoring requirements, however, are not the same.

a. Prohibitions—Discharge of cuttings derived from oil-based and inverse emulsion drilling fluids is prohibited. This prohibition is based on the Agency's determination that such discharges cannot comply with the free oil limitation required below. This is a condition in the OCS BAT/BCT general permit.

b. Limitations—Free Oil. The BCT limitation for free oil from cuttings is the same as that for drilling fluids: there shall be no free oil detected by use of the visual sheen on the surface of the receiving water method. Operators are cautioned that this limitation applies not only at the time of discharge, but at any time subsequent to discharge. Operators can be, and have been, held liable for permit violations resulting from cuttings piles from which oil has seeped even after the operator has left the site. The monitoring frequency is once per day, when discharging. If oil has been added to the mud system for any reason, discharge is only authorized during times when a visual sheen observation is possible.

[Exception] Discharge of cuttings from a mud system to which oil has been added is not restricted only to those periods when a visual observation is possible if the operator uses the static sheen test method for detecting free oil.

The Region is establishing this permit's BCT limitation for drilling fluids to be equal to BPT because the Region does not have technology performance data available at this time on which to base a more stringent limitation. As this limitation is equal to the BPT level of control, there is no incremental cost involved.

3. Produced Water

Produced water discharges to the coastal waters of Louisiana are not

covered by this permit action. This waste stream will, however, be covered under a separate permit for oil and gas production related activities.

4. Produced Sand

Produced sand discharges to the coastal waters of Louisiana are not covered by this permit action. This waste stream will, however, be covered under a separate permit for oil and gas production related activities.

5. Treated Wastewater from Drilling fluids and Cuttings Dewatering Activities, and Pit Closure Activities

a. Limitations—Oil and Grease. Treated wastewater must meet a daily maximum limitation of 15 mg/l prior to discharge. Samples must be collected as a grab and analyzed once per day. If the effluent is batch treated and discharged, then the monitoring is once per discharge event.

Total Suspended Solids. Treated wastewater shall not exceed 50 mg/l TSS, as a daily maximum. A grab sample must be collected and analyzed once per day. If the effluent is batch treated and discharged, then the monitoring is once per discharge event.

pH. Discharges of treated wastewater must meet a pH limitation of not less than 6.0 and not greater than 9.0 at the point of discharge. Samples must be collected as a grab and analyzed once per day. If the effluent is batch treated and discharged, then the monitoring is once per discharge event.

Note: Dilution of the reserve pit effluent or the use of dispersants or surfactants to meet any of the above standards is prohibited.

It is this Region's best professional judgment that the above limitations for oil and grease, total suspended solids and pH appropriately reflect a BPT level of control and are based on current pit dewatering technology (chemical flocculation and mechanical treatment). No technology performance data available to the Region indicate that more stringent limits are appropriate at this time. Therefore, the Region is setting BCT effluent limitations equal to BPT. Because these same effluent limitations are required by the State of Louisiana prior to discharging treated wastewater from reserve pit dewatering activities, there is no incremental cost to the operator to achieve BCT.

6. Formation Test Fluids

a. Limitations—Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

[Exception] Discharge may not be restricted to only times when observation of a sheen is possible if the operators uses the static sheen test method for detecting free oil.

Region 6 has determined that the BPT effluent limitation guideline of no discharge of free oil from deck drainage. drilling muds, drill cuttings, well treatment, workover, and completion fluids and other miscellaneous discharges should also apply to formation test fluids. The no free oil limitation for formation test fluids can be achieved through the use of oil-water separator technology or discharge of the effluent through an oil-water sump pile. No technology performance data available to the Region indicate that a more stringent limit is appropriate at this time. Thus, the Region has established BCT equal to BPT level of control for this waste stream. In addition, the State of Louisiana prohibits the discharge of free oil from any waste stream from facilities conducting drilling, workover or production operations into waters of the State; therefore, there is no incremental cost to achieve BCT.

pH. Formation test fluids must meet the BCT effluent limitation where the pH shall not be less than 6.0 and greater than 9.0 prior to discharge. Once per discharge, a grab sample must be collected and analyzed.

The pH of discharged formation test fluids may have a substantially different pH from that of ambient receiving water due to various well stimulation operations such as acidizing. The purpose of this limitation is to prevent the discharge of formation test fluids into shallow water areas where there is potential of increasing the background pH. The technology employed to maintain the pH of formation test fluids within the range of 6.0 to 9.0 is simple chemical buffering of the effluent in a catch tank prior to discharging or passage through the water treatment equipment. It is this Region's best professional judgment that the above limitation appropriately reflects a BPT level of control. No technology performance data available to the Region indicate that a more stringent standard is appropriate at this time. Therefore, the Region is setting a BCT effluent limitation for the pH of test fluids to equal that of BPT. Operators routinely buffer fluids passing through their oil water separator equipment to avoid equipment corrosion and upset conditions, thus, the above limitation for pH does not reflect any incremental cost.

7. Well Treatment Fluids, Completion Fluids, and Workover Fluids

a. Limitations—Free Oil. The BCT limitation on free oil is the same as the BPT limitation: A visual sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day when discharging, during conditions when an observation of a sheen is possible. The number of days a sheen is observed must be recorded.

[Exception] Discharge may not be restricted only to periods when observation of a sheen is possible if the operator uses the static sheen test method for detecting free oil.

The Region is establishing this permit's BCT limitation for free oil to be equal to BPT because the Region does not have technology performance data available at this time on which to base a more stringent limitation. In addition, the State of Louisiana prohibits the discharge of free oil from any waste stream from facilities conducting drilling, workover or production operations into waters of the State, therefore there is no incremental cost to achieve BCT.

pH. Well treatment, completion and workover fluids must meet the BCT requirement for pH of, not less than 6.0 and not greater than 9.0, at the point of discharge. Once per discharge, a grab sample must be taken and analyzed.

The pH of discharged well treatment, completion and workover fluids may have a substantially different pH from that of ambient receiving water due to various well stimulation operations such as acidizing. The purpose of this limitation is to prevent the discharge of well treatment, completion and, workover fluids into shallow water areas where there is potential of increasing the background pH. The technology employed to maintain the pH of well treatment, completion and workover fluids within the range of 6.0 to 9.0 is simple chemical buffering of the effluent in a catch tank prior to discharging or passage through the water treatment equipment. It is this Region's best professional judgment that the above limitation appropriately reflects a BPT level of control. No technology performance data available to the Region indicate that a more stringent standard is appropriate at this time. Therefore, the Region is setting a BCT effluent limitation for the pH of well treatment, completion and workover fluids to equal that of BPT. Operators routinely buffer fluids passing through their oil water separator equipment to avoid equipment corrosion

and upset conditions, thus, the above limitation for pH does not reflect any incremental cost.

8. Deck Drainage

a. Limitations—Free Oil. The BCT limitation on the discharge of free oil is the same as the BPT limitation: a visual sheen shall not be detected on the surface of the receiving water. As this limitation is equal to the BPT level of control, there is no incremental cost involved. No technology performance data available to the Region indicate that a more stringent standard is appropriate at this time. Monitoring shall be accomplished once a day, when discharging, during conditions when a sheen could be observed. The number of days a sheen is observed must be recorded.

[Exception] Discharge may not be restricted only to periods when a visual observation is possible if the operator uses the static sheen test method for detecting free oil.

9. Sanitary Waste

a. Prohibitions—Solids. No floating solids may be discharged to the receiving waters. An observation must be made once per day during daylight in the vicinity of sanitary waste outfalls following either the morning or midday meals and at a time during maximum estimated discharge. The number of days solids are observed must be recorded.

The Region is establishing this permit's BCT limitation for floating solids equal to BPT because the Region does not have technology performance data available at this time on which to base a more stringent limitation. As this limitation is equal to the BPT level of control, there is no incremental cost involved.

b. Limitations—Biological Oxygen Demand (BOD5). It is this Region's best professional judgment that the BCT requirement for BOD in sanitary waste is 45 mg/l as a daily maximum. A grab sample must be collected and analyzed once per quarter. Data from manufacturers of offshore sanitation systems (those currently in use on most offshore and coastal platforms and rigs) show that when these units are properly operated and maintained can under optimum conditions meet 20–30 mg/l, and under normal use meet the proposed permit limitation of 45 mg/l. Most rigs and platforms in the Gulf of Mexico and state coastal waters already operate Type II—Marine Sanitation Devices which can meet the above limitation thus, there is no incremental cost associated with this limitation.

Total Suspended Solids. Sanitary waste discharges shall meet a 45 mg/l daily maximum BCT discharge limitation for total suspended solids. A grab sample shall be collected and analyzed once per quarter. Data from manufacturers of offshore sanitation systems (those currently in use on most offshore and coastal platforms, rigs, and barges) show that when these units are properly operated and maintained can, under optimum conditions meet 20–30 mg/l and under normal use, meet the proposed permit limitation of 45 mg/l. Most rigs and platforms in the Gulf of Mexico and state coastal waters already operate Type II—Marine Sanitation Devices which can meet the above limitation, thus, there is no incremental cost associated with this limitation.

Fecal Coliform. Sanitary waste discharges must meet a maximum limitation of 200/100 ml for fecal coliform bacteria. A grab sample must be collected and analyzed once per quarter. In previous permits residual chlorine has been used as a surrogate parameter for fecal coliform. The BCT limitation of 200/100 ml in this proposed permit, based on the Region's best professional judgment, is equivalent to the BPT limitation of a minimum of 1 mg/l residual chlorine (maintained as close as to this concentration as possible). Because the proposed BCT effluent limitation is equivalent to the BPT level of control, there is no incremental cost. Data from manufacturers of offshore sanitation systems (those currently in use on most offshore and coastal platforms and rigs) show that when these units are properly operated and maintained can, under normal operations meet the permit limitations of 200/100 ml.

10. Domestic Waste

a. Prohibition—Solids. No floating solids may be discharged to the receiving waters. An observation must be made once per day during daylight in the vicinity of domestic waste outfalls at times during maximum estimated discharge. The number of days solids are observed must be recorded.

The Region is proposing this permit's BCT limitation to be equal to BPT because the Region does not have technology performance data available at this time on which to base a more stringent limitation. As this limitation is equal to the BPT level of control, there is no incremental cost involved.

11. Miscellaneous Discharges

Desalination Unit Discharge
Blowout Preventor Fluid
Uncontaminated Ballast Water
Uncontaminated Bilge Water
Mud, Cuttings, and Cement at the Seafloor
Uncontaminated Seawater
Uncontaminated Freshwater
Boiler Blowdown
Excess Cement Slurry
Diatomaceous Earth Filter Media

a. Limitations—Free Oil. The limitation for all of these discharges of no free oil is that none shall be detected using the visual sheen on the surface of the receiving water method. Monitoring must be accomplished during periods when a sheen can be detected. The number of days a sheen is observed must be recorded.

[Exception] Discharges may not be restricted only to periods when observation of a sheen is possible if the operator uses the static sheen method for detecting free oil.

This Region has determined that the BPT effluent limitation guideline of no discharge of free oil from the discharge of deck drainage, drilling muds, drill cuttings, and well treatment fluids should also apply to the above miscellaneous discharges. Thus, the no free oil limitation is the Regions best professional judgment determination of BPT controls for these discharges. No technology performance data available to the Region indicate that a more stringent standard is appropriate at this time. For this permit, the Region has proposed BCT effluent limitations equal to the BPT level of control. The above BCT effluent limitations for miscellaneous discharges are the same as those established in the OCS BAT/BCT general permit. In addition, the State of Louisiana prohibits the discharge of free oil from any waste stream from facilities conducting drilling, workover or production operations into waters of the State, therefore, there is no incremental cost to achieve BCT.

12. Miscellaneous BCT Prohibitions or Limitations

a. Limitations—Floating Solids or Visible Foam. There shall be no discharge of floating solids or visible foam, from any source, in other than trace amounts. This is a condition of the OCS BAT/BCT general permit.

The BCT prohibition on floating solids is equal to the BPT level of control for sanitary and domestic wastes. The Region has determined that the BPT effluent limitations guideline of no discharge of floating solids from sanitary wastes and domestics wastes should apply to all other discharges as well. Thus, the no floating solids limitation is the Region's best professional judgment determination of BPT limitations for these discharges.

Therefore the no floating solids discharge limitation for these discharges is equal to the BPT level of control. As such, the extension of this limitation to all discharges will involve no incremental cost.

B. Best Available Technology Economically Achievable (BAT) Conditions

BAT conditions include both prohibitions and limitations on toxic and nonconventional pollutants. BAT (BPJ) effluent limitations proposed for drilling muds and drill cuttings would prohibit their discharge. The legal, technical and economic basis for this determination will be discussed below in detail (See Derivation of Permit Conditions based on EPA's Best Professional Judgment of BAT for Drilling Fluids and Cuttings Discharges).

1. Drilling Fluids

a. Prohibitions. There shall be no discharge of drilling fluids.

2. Drill Cuttings

Special Note: The permit prohibitions and limitations that apply to drilling fluids also apply to fluids that adhere to drill cuttings. Any permit condition that may apply to the drilling fluid system, therefore, also applies to cuttings discharges.

a. Prohibitions. There shall be no discharge of drill cuttings.

3. Derivation of Permit Conditions Based on EPA's Best Professional Judgment of BAT for Drilling Fluids and Cuttings Discharges

a. Sources of Data and Information. A variety of information sources were used in the development of this proposed general permit. These data sources are referenced within the body of the text and cited in full at the end of this section. The major categories of information employed included Environmental Protection Agency technical reports and guidance documents, Minerals Management Service environmental impact reports for lease sale activities, data from State oil and gas regulatory agencies, American Petroleum Institute reports and studies, proceedings from industry conferences and symposia, industry technical manuals, and industry trade publications. In addition to the above sources, a number of industry, public, and academic specialists through personal communications provided data and opinions on certain technical and economic considerations. These contacts are referenced in the document when they are the principal source of information. Beyond these contacts, no formal opinion or data collection surveys were undertaken.

b. Legal Basis—Introduction. The Clean Water Act establishes a comprehensive program to "restore and maintain the chemical, physical and biological integrity of the Nation's waters". The national goals established by the Act included eliminating the discharge of pollutants into navigable waters, prohibiting the discharge of toxic pollutants in toxic amounts, and developing technology necessary to eliminate the discharge of pollutants into navigable waters. To accomplish these goals, Congress set dates by which existing industrial dischargers would have to meet best practicable control technology currently available (BPT), best available technology economically achievable (BAT) for nonconventional and toxic pollutants and best conventional pollutant control technology (BCT) for parameters such as BOD, TSS, pH, fecal coliform and oil and grease. Initially, industries were required to meet BPT by July 1, 1977 with BAT and BCT required by July 1, 1984. EPA was unable to promulgate many of the toxic pollutant regulations and guidelines within the original time frame specified within the Act Subsequently, amendments to the Act state that BAT effluent limitations shall be achieved as expeditiously as practicable, but in no case, later than three years after the date such limitations are promulgated under section 304 (b), and in no case later than March 31, 1989.

Criteria for Imposing BAT Technology Based Treatment Requirements Under 301(b) and 402 of the Act. Technology based treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act.

This BAT (BPJ) determination for drilling fluids and drill cuttings will result in a reasonable attempt toward the national goal of eliminating the discharge of pollutants into waters of the United States. BAT limitations in general represent the best existing performance of technology in the applicable industrial category or subcategory. The Act establishes BAT as a principal national means of controlling the direct discharge of toxic and non conventional pollutants.

The factors considered in assessing best available technology economically achievable (BAT) (40 CFR 125.3) include the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non water quality environmental impacts (including energy requirements) and the cost of achieving such effluent reduction (see section 304(b)(2)(B) of the Act). At a minimum, the BAT level of technology represents the best economically achievable performance of plants of various ages, sizes, processes, or other shared characteristics. Where the Agency has found the existing performance to be uniformly inadequate, BAT may be transferred from a different industrial category or subcategory. BAT may include feasible process changes or internal controls, even when not in common industry practice. The required statutory assessment of BAT "considers" costs, but does not require a balancing of costs against pollutant removal benefits (see *EPA* v. *National Crushed Stone Association*, 449 U.S. 64, 71 (1980)).

BAT (BPJ) Permit Requirements for Drilling Fluids and Drill Cuttings. The BAT (BPJ) effluent limitation for all drilling fluids and drill cuttings established for this proposed Louisiana Coastal general permit is "no discharge". This limitation is substantially different from the BPT effluent limitation for drilling fluids and cuttings for coastal wells, which only requires no discharge of free oil. It is also more stringent than the BAT (BPJ) effluent limitations in effect for drilling muds and cuttings in the Outer Continental Shelf general permit GMG280000 (see 51 FR 24897). BAT limitations in that permit prohibit the discharge of free oil in drilling fluids and cuttings, prohibit the discharge of oil based or invert emulsion drilling fluids and cuttings generated while using oil based muds, prohibit the discharge of drilling fluids that contain diesel oil and diesel contaminated cuttings, and limit the acute toxicity of drilling fluid discharges to a minimum 96 hour LC50 (lethal concentration to 50% of the test organisms) of 30,000 ppm Suspended Particulate Phase (SPP).

The decision to propose different BAT effluent limitations for drilling fluids and drill cuttings was primarily the result of two new technology considerations applicable to the Coastal Subcategory. The first consideration involved a more detailed examination of modern solids control equipment currently in use by industry. When such equipment is properly configured and operated a significant reduction in the volume of drilling fluids generated from drilling operations can be achieved and consequently, results in a reduced volume of pollutants discharged. Industry sources have documented that it is possible to reduce the volume of

drilling fluid wastes generated by as much as 90 percent by using a closed drilling fluid system (API 1987, SWACO 1989). The second consideration reexamined the feasibility and cost effectiveness of barging (or trucking) and onshore disposal of drilling wastes as an effluent treatment option. The nearness of coastal drilling operations to onshore nonhazardous oilfield waste treatment and disposal facilities coupled with the ability to reduce the volume of drilling fluid wastes generated through efficient solids control dictates that the "no discharge" option is both technologically feasible and economically achievable. A detailed description of the rationale and economic evaluation used in developing the BAT effluent limitation will be discussed in the following sections.

c. Existing Drilling Fluid Treatment Technology and Control Options. This section describes some of the control and treatment technologies that are currently being used by industry in coastal waters, wetlands and onshore for the treatment and disposal of drilling fluids and drill cuttings. Treatment options examined in developing a best professional judgment BAT permit limitation included closed cycle drilling fluid systems, annular disposal, barging and commercial landfarming and on site disposal.

Rotary Drilling Technology. Analysis of geological and geophysical data (i.e., well logs, cores, seismic, gravity, magnetics, etc.) provide the basic information on where potential hydrocarbon deposits are located. However, the only mechanism that can absolutely confirm the presence of oil and gas is exploratory drilling. When commercial accumulations of hydrocarbons are discovered, the field is then "put on production" by drilling development wells. Exploratory and development drilling are mechanically very similar and generate similar types of wastes up to the point of production. Development wells will also generate completion, treatment and workover fluid wastes sometime during their life.

Since the early 1900's, the primary mechanism used to evaluate potential hydrocarbon deposits has been with the use of a rotary drilling rig. Rotary drilling is accomplished by rotating a bit at the end of a drill string which cuts and chips the rock formations encountered at the bottom of the hole. The drill string consists of 30 foot lengths of special high strength steel pipe ranging from 3.5 inches to 5 inches in diameter. Each length is referred as a joint and three joints make up a stand of pipe. When making a bit trip (retrieving and replacing a worn bit), pipe is pulled from the hole and separated into stands each consisting of three joints. This reduces trip time by reducing the number of pipe connections that must be made. Heavy-walled pipe (drill collars) are placed at the base of the drill pipe nearest the bit and provide the weight needed to drill. The type of bit used will vary depending upon the rock type being drilled. Most commonly tri-cone bits are used and get their name from the three cone shaped cutting wheels studded with teeth or buttons. The drill string also provides the mechanism of pumping drilling fluid to the bit and that fluid is then circulated back up the hole where the drilled rock cuttings are then removed by surface solids control equipment. The kelly, a multi-sided joint of pipe is screwed into the upper end of the drill string each time a new joint of pipe is added to deepen the hole. The kelly bushing is located in the rotary table and allows the kelly and entire drill string to rotate. The rotary motion is provided by the rotary table located on the rig floor through which the kelly passes. The kelly and drill string are supported by a block and tackle system which is in turn supported by the drilling derrick.

During a drilling operation the open hole is periodically lined with steel pipe called casing to prevent the borehole from caving in, to protect weak formations from being fractured by high density drilling muds and to protect productive horizons from drilling mud contamination. Usually two or more casing strings are run in the hole in a telescoping fashion. The first string, the surface casing, is the largest diameter and is run at fairly shallow depths. Successive strings are smaller in diameter and run in longer sections. To establish a bond between the casing and the hole a cement slurry is pumped down the casing, out a valve at the bottom (casing shoe) and up the annular space between the casing and the hole. When the casing has set for approximately 10 hours drilling resumes with a smaller bit.

Drilling Fluid Circulation System. Most rotary drilling operations employ a drilling fluid circulation system or active mud system which consists primarily of mud storage tanks or pits, mud pumps, stand pipe, kelly hose, kelly, drill string, well annulus, mud return flowline and solids separation equipment. The primary function of drilling fluid circulation is to carry drilled rock fragments from the bottom of the hole to the surface where they are then separated out. The mud circulation system begins with the mud pumps which are capable of moving large volumes of fluids at high pressures (up to 4,000 psi). The pumps draw drilling mud from the suction pit and forces it up the stand pipe a long vertical pipe attached to the derrick. The mud then enters the swivel through the kelly hose (or rotary hose). From the swivel, mud travels into the kelly and down to the bit through the drill string. The bit is usually equipped with three nozzles or jets, which causes the mud to be ejected from the bit at high velocity. The jets enable the drilling fluid to scour the bottom of the hole and also keep the teeth on the bit free of previously drilled cuttings. Completing the cycle of circulation, the mud returns to the surface through the space between the drill string and the borehole, commonly referred to as the well annulus. At the surface the mud flows by gravity feed through the mud flow line to the shale shakers and into the sand trap or settling pit. The settling pit, a large rectangular steel tank, receives the underflow from the shale shakers (a series of vibrating screens) which have removed the coarsest rock cuttings from the mud system. As its name implies, the settling pit has no agitation and thus allows the finer sand size particles to settle to the bottom and out of the mud system. The mud may then pass through other various solids removal equipment (removing successively smaller rock particles) and into additional pits for chemical treatment, storage, or mixing new mud (i.e., makeup pit) before returning to the suction pit.

Drilling Fluids. The drilling fluid plays a major role in a safe and successful drilling operation. Early drilling fluids were a simple mixture of clays and water. But as the search for hydrocarbons has expanded to deeper, higher temperature horizons and with the advent more radical directional drilling, so too have the requirements of the drilling fluid expanded. Drilling fluids have become complex mixtures of liquids, solids and chemicals, designed to interact in a predictable manner under given drilling conditions. The principal functions of drilling fluids include; transport cuttings to the surface, suspend cuttings when circulation is stopped, control subsurface pressures, cool and lubricate the bit and drill string, support the walls of the wellbore, minimize damage to the formation, help support the weight of the drill string, transfer hydraulic energy to the bit, and provide a suitable medium for running wireline logs.

The composition of a drilling mud will depend upon the requirements of the particular drilling operation. Holes must

be drilled through different types of formations, requiring different types of drilling muds. The majority of drilling fluids are classified as water-based muds. This refers to any drilling fluid having water as the liquid or continuous phase and in which other materials are suspended or dissolved. There are numerous mud additives used to obtain special properties, but basically water based muds have three phases: (1) The continuous phase or water phase, (2) the reactive solids phase (commercial hydratable clays and drilled shales held in suspension) and are chemically treatable and (3) the inert solids phase (primarily drilled solids, limestone, sandstone and dolomite, and added barite for weighting) and are chemically unreactive. The solids in a drilling fluid can be separated into two distinct classes based on their specific gravity. Low gravity solids (drill cuttings) have specific gravities that range between 2.3 to 3.0 and average around 2.5. High gravity solids, primarily barite, have specific gravities above 4.2. The size of solid particles in the mud also play a significant role in maintaining proper drilling fluid characteristics. Solids produced by the drill bit vary considerably in size and range from colloidal to large cuttings. Particles less than 2 microns are classified as colloidal. These particles due to their small size are generally sensitive to surface electrical charges and thus are typically more active solids. Silt size particles range from between 2 microns and 74 microns in size. Particles over 74 microns are classified as API sand. A 200 mesh screen is used for the API sand test, and all particles which do not pass through the screen are classified as sand.

The instability of a drilling fluid (chemical and physical properties) tends to increase as the percentage of solids by volume in the mud increases (IMCO 1978). The concentration, particle size, type and reactivity of the drilled solids will determine the mud properties that will be affected. Specifically, mud weight, funnel viscosity, plastic viscosity, yield point, fluid loss characteristics and gel strength are directly affected by increasing solids concentration and can require constant dilution and building of new mud to maintain desired mud properties (SWACO 1989). The funnel viscosity or relative viscosity increases as the percent solids by volume increases. Solids generated viscosity means that not enough free water is available for particles to move past each other. Solids develop a water envelope when introduced to the mud system which effectively enlarges the particle and reduces the free water content. Therefore, as solids increase so does the relative viscosity. An increase in solids also causes an increase in mud weight and can result in lower penetration rates. Plastic viscosity is a measure of the frictional forces in the drilling fluid. As solids concentration in the mud increases, the space between the particles decreases resulting in greater frictional forces. As solids are ground into the colloidal and ultra fine size ranges, their effective surface areas increase dramatically and so does the plastic viscosity. From a control point of view it is extremely important to remove large solids early before they become entrained in the mud system and ground to finer and finer size fractions. High gel strengths are also associated with excessive solids buildup and result in higher pressure losses in the well annulus. This leads to high surge and swab pressures and could ultimately lead to lost circulation. High solids buildup can also affect the thickness of the wellbore filter cake. Filtrate volume is lowered by incorporating solids in the cake and the thickness of the cake generally increases which may also result in severe hole problems such as differential pressure sticking. Drill solids are generally not good solids substitutes for building an impermeable and compressible filter cake (Magcobar Solids Analysis Seminar).

In summary, mud solids control is one of the most important phases of mud control and exerts considerable influence on mud and well costs, drilling rates, hydraulics and the possibility of well kicks and lost returns.

There are four principal methods used to reduce the solids content of a drilling fluid: (1) Dilution, (2) displacement, (3) gravity settling and (4) mechanical separation.

The dilution method reduces the concentration of drilled solids by the addition of the liquid phase to the active mud system to reduce the relative volume occupied by the drilled solids. Eventually the increase in the mud volume will require a portion of the active system to be discharged. Typically, dilution and displacement are practiced concurrently. This method used alone can generate large volumes of drilling wastes.

The displacement method involves the removal or discharge of large volumes of drilling fluids from the active mud system and replacing the volume removed with new mud having the desired rheological properties. This method of solids removal can be very expensive because every barrel of mud that is discarded must be replaced which increases the overall cost of the mud system.

Settling is the separation of solid particles due to gravity and results from the difference in the specific gravities of the solids and the liquid. Settling rate depends upon particle size, specific gravity, and viscosity of the mud. The effective settling rate of solids can be increased by flocculants and viscosity reducing chemicals; however, settling is an extremely inefficient and slow method of solids removal.

Mechanical equipment separation selectively separates drill solids from the drilling fluid by either size or mass. Therefore all mechanical separators are designed to operate within certain particle size ranges for a given material. The specific equipment necessary to maintain desired mud properties and mud and well costs will be described in detail in a later section.

Current Industry Solids Control Practices. Solids processing equipment is an integral part of any drilling fluid system (Leyendecker 1986) and proper solids control management is absolutely essential in reducing the volume of waste fluids generated during a drilling operation (Rafferty 1985). The specific equipment present on the rig is dependent upon the depth, type of formations being drilled and the imposition of environmental controls by state or federal regulation. Typical solids separation equipment present on any given rig might include any or all of the following: shale shakers, desander, desilter, centrifuge, mud cleaner, mud gas separator, and various forms of mud agitators (mud guns and mechanical stirrers). An adequate solids control program is a key factor in drilling fluid economics as well as being able to maintain the system so as to minimize drilling problems (Leyendecker 1986).

Proper solids control practices are often disregarded by industry primarily due to up front cost considerations (equipment installation and rental) irrespective of information that shows the cost effectiveness of maintaining good solids control (Cagle 1987). A simple dilution model showed that a minimal 10 percent increase in solids removal efficiency resulted in a significant savings of over $500.00 per day in mud costs. Cagle also concluded from the results of numerous rig surveys that lower solids control efficiencies require more dilution. Every barrel of dilution fluid must be purchased and converted to drilling mud (cost dependent upon fluid type and weight) and higher dilution requirements automatically require higher mud costs.

Instead of removing drilled solids through by mechanical means to maintain an acceptable level of low gravity solids (cuttings) in the drilling fluid it is also possible to discharge part of the mud system and replace it with new mud (lower solids fluid), effectively diluting the solids content of the overall mud system. This dilution practice greatly increases the volume of drilling wastes generated over the life of the well. A recent rig survey by Cagle 1987, indicated that the typical drilling rig operating with the typical contractor solids control equipment was operating at between 25 percent and 50 percent efficiency.

Hoberock and Williams in 1983, conducted a field survey of 33 drilling rigs, with the intent of evaluating the use of solids control equipment and to focus on the most common and detrimental errors made in using the technology. The results showed that; 56 percent failed to meet minimum performance criteria for shale shaker installation; 53 percent of the desilter/desander installations had insufficient capacity to process the full flow of the drilling fluid; 66 percent had improper centrifugal pump installations with the main problems resulting from incorrect motor or impeller sizing; 78 percent were equipped with difficult to maintain or poorly maintained solids removal equipment (roping cones verified low efficiency); and 81 percent had drilling fluid routing errors associated with the desander/desilter installations which resulted in as little as one-half of the rig circulation being processed. In general, this survey showed that industry was a long way from implementing known technology. Leon Robinson, a research advisor at Exxon Production Research an expert in solids control equipment, gave an interview to the Petroleum Engineer International trade publication in June 1988 on the merits of good solid control. He too found that one of the most common problems in relation to solids control was improper plumbing of the equipment. With improper plumbing only 30 percent to 60 percent of the entire drilling fluid system is typically processed through the solids separation equipment. Other problems with equipment plumbing were; failure to install partitions in mud tanks, and improper feeding of the mud from the suction tank.

Closed Cycle Drilling Fluid Systems. Closed cycle drilling fluid systems are defined as systems in which mechanical solids control equipment (screen shakers, hydroclones, mud cleaners, centrifuges, mud gas separators, etc.) and collection equipment (roll off boxes, vacuum trucks, shale barges, etc.) are used to minimize waste mud and cutting volumes to be disposed of onsite or offsite. This ultimately serves to maximize the volume of drilling fluid returned to the active mud system (Hanson et al. 1986). The primary economic benefit of implementing an effective solids control program using a closed cycle system is a reduced mud cost; however, other less tangible but equally significant economic factors include increased penetration rates, reduced cost for chemical treatment, increased bit life, increased control of mud properties, reduced maintenance costs of surface equipment, improved accuracy of downhole information, reduced risk of differential pressure sticking, reduced cementing problems, reduced formation damage, reduction in reserve pit size or elimination of reserve pit for onland applications, and ultimately a reduced volume of drilling waste fluids generated.

Closed cycle systems can be used in both offshore and onshore drilling operations (Hanson et al 1936) and are currently being used in the coastal waters of Louisiana (per. comm. w/ SWACO and Cliffs Drilling contractors).

The equipment and technology that comprises closed cycle drilling fluid systems has been available for a number of years. Field-practical decanting centrifuges were first introduced in 1952, efficient 6" hydrocyclones in 1954, much more efficient 4" hydrocyclones in 1962 and very fine shale shaker screens in 1966 (Ormsby in Moore 1974). In the last 10 years additional progress has been made in the field of solids control. In regard to more conventional equipment, finer and more durable screens are being run on shale shakers, more durable centrifugal pumps are available, more efficient degassers have been developed, high efficiency hydrocyclones have been introduced, and centrifuges with more wear resistant conveyers and higher G-levels are available. In addition, more specialized equipment has been introduced, such as the vacuum-belt filter (Cagle 1987). Regardless of these significant improvements in solids control technology, Cagle (1987) found that efficient solids control practices are not being implemented in many of the wells being drilled. The results of poor solids control is slower rate of penetration, increased mud costs, increased downhole problems, and increased wear on surface equipment. Poor solids control increases the cost of drilling and usually far exceeds the cost of installing and operating the equipment.

The first functionally complete closed cycle drilling fluid system was developed and operated in early 1976. Since then, closed systems have been used in numerous locations throughout the world. An efficient solids control system (closed cycle system) is composed of various pieces of mechanical equipment, each installed in its proper place with all required auxiliary equipment correctly sized and positioned. In addition it is important that the equipment be properly operated and maintained to achieve maximum efficiency, and each is sized to handle the maximum circulation rate to be expected during drilling operations. A pump is sized to supply each unit of solids removal equipment, and all flow lines are properly plumbed and designed to be as short and straight as possible (Churchwell 1981). Solids control equipment should be arranged in order of their respective particle size separation i.e. shakers at the flowline and centrifuges just before the pump suction. Each piece of solids removal equipment must take suction from an upstream compartment and discharge to a compartment downstream of its own suction. The type of solids removal equipment installed in the removal section of an active mud system is dependent upon the type of drilling operation and disposal requirements. Generally the equipment is configured for unweighted mud systems, weighted mud systems and oil mud systems or dry location zero fluid discharge situations. In general, the solids processing equipment found on an effective closed cycle system would include some or all of the following depending upon the drilling requirements: two or more fine screen shakers, desander, desilter, mud cleaner(s), microclones, decanting centrifuges, and mud degasser.

A typical closed cycle drilling fluid system for an unweighted mud would be configured as follows. The shale shakers are the first piece of equipment located at the flowline to remove solids as the drilling fluid returns to the surface. The complete flow of the mud should be processed evenly over both of the duel screen fine mesh shakers. The finest mesh screen possible should be used that will allow at least 75 percent of the surface of the screens to be covered with mud. Drilled solids larger than the screens openings pass off the end of the shakers and into a reserve tank. The drilling fluid that passes through the screens collects in the sand trap compartment. The sand trap is the first mud collection compartment of the

active mud system. The sand trap is a settling tank that functions as a safety device to protect other downstream solids removal equipment by trapping the large solids in the event of a shaker bypass or if a screen becomes damaged or torn. The sand trap delivers mud to the rest of the active mud system over a high overflow weir into the next downstream compartment. If the mud has the potential to contain gas or become "gas-cut" the degasser should be utilized in the first compartment downstream of the sand trap so that gas free mud is fed to the remaining solids removal equipment. Hydroclones and centrifugal pumps do not operate efficiently on gas-cut muds. The desander is the first hydroclone used following the shaker. The feed pump should take its suction from the first compartment downstream of the sand trap or the discharge compartment from the degasser. The desander should be sized to handle at least 125 percent of the highest anticipated circulating volume. The overflow from the desander is discharged in the next downstream compartment and the underflow is discarded to the reserve tank. The desilter hydroclone receives is feed from the desander overflow compartment. The overflow of the desilter is discharged to the next downstream compartment and the underflow is discarded to the reserve tank. To maintain proper operating efficiency both the desander and desilter should have their own correctly sized centrifugal pump. If a mud cleaner is used on an unweighted mud system, it should be rigged up in the same location as the desilter and operated as a desilter, reducing the chance of introducing ultra-fine particles back to the active system. High efficiency microclones (20 2" hydroclones) take their suction from the desilter overflow compartment. The overflow or liquids and fine solids are returned to the next downstream compartment of the active mud system. The wet solids underflow (10–17 micron size fraction) is then directed to the decanting centrifuge for processing. In this particular instance the centrifuge is rigged up for solids removal (not barite recovery) and is used primarily to dry up the very wet microclone discharge. The centrifuge underflow (>7 micron solids) are discarded to the reserve tank and the liquid and fine solids overflow is discharged to the next downstream compartment. At this point a second decanting centrifuge takes its suction from the overflow tank of the first centrifuge. This high speed centrifuge is used primarily as a clarifier to remove the remaining ultra-fine, 2–3 micron sized solids. The solids are discarded to the reserve tank and the liquids are returned to the active mud system. From here the mud is pumped to other various treatment or mixing tanks before returning to the suction tank where it is recycled back down the well annulus.

In a weighted mud system the desander and desilters are usually replaced by mud cleaners and the microclone is not operated. In both instances barite passes through the mud cleaner screens and returns to the active mud system with the liquid and solids underflow. Drilled solids are discarded to the reserve tank from the screen overflow. Duel decanting centrifuges are used for barite recovery, maximum removal of drilled solids, and retention of chemical and liquids to the active mud system. Drilling fluid from the underflow of the desilter/mud cleaner is directed to the first centrifuge to recover the barite weighting material. The solids underflow containing the removed barite is returned to the active mud system. The liquid and fine solids discharge is directed to a holding tank where it is then fed to a high speed centrifuge to remove the ultra-fine solids. The solid fraction is discarded and the liquid is returned to the mud system.

The use of mud recirculation systems as described above is a common practice for onshore drilling and are beginning to be used more in offshore and coastal waters. Their use represents great benefit, as they can reduce the water and mud input requirements. This translates into cost savings on raw materials and also results in a reduction of waste material generated requiring disposal (EPA 1986).

Equipment Characteristics. Following is a more detailed discussion on the operational characteristics of the previously described solids removal equipment.

Shale Shakers. Solids control on most wells begin with the shakers which have the potential of removing large amounts of solids before they are broken up into finer particles and become entrained in the mud system. The smaller the solids particle the more difficult it becomes to remove later.

Shale shakers are large single or double decked vibrating screens through which the mud flow returning from the well bore is first directed. The principle behind screening separation is that the larger sized material (larger than the openings in the screen) is retained on the screen's surface and is discarded as waste, whereas the smaller sized solids that pass through the screen are retained and returned to the active mud system. Wire screens are usually classified by their API "mesh" size, which specifies the number of wires per linear inch. The mesh sizes available range from a very coarse 10 mesh to ultra fine 325 mesh (SWACO 1989).

Shale shakers have undergone vast improvements over the last 10 years with most of the work being done in the areas of screen design and vibrating pattern. The results of these improvements is the ability to run finer screens greatly improving solids removal capability. Up until about 1978, the practical limit for shaker screens was about 80 mesh (Cagle 1987) but, with the development of new screen technology much finer screens are now possible. A 200 mesh (74 micron) screen now seems to be the practical operating limit for shaker screens. This size screen would permit 97 percent of the barite in the system to pass through and be retained in the mud system. The remaining 3 percent would be discarded with the drilled solids (SWACO 1989). Bonded screens now being employed are generally of two types, perforated metal plate to which screen is bonded and a fine screen bonded to a stiff coarse backup cloth. One of the principal advantages over earlier fine screens is that rips and tears can now be easily repaired which results in a much longer usable life (Cagle 1987).

The types of vibratory motion available in different models of shakers include circular, elliptical and most recently linear. The type of motion used is dependent upon type of solids, drilling fluid and volume being processed.

Hydroclones. The next separation equipment after the shale shaker are the desander and desilter hydroclones and the microclone. The desander is designed to remove particles down to approximately 40 microns, the desilter will remove particles as small as approximately 20 microns and microclone will remove solids in the 10–14 micron range. Hydroclones are conical-cylindrical devices with no internal moving parts. The conical portion of the hydroclone is at the bottom of the clone and the cylindrical feed chamber is at the top. At the apex of the conical section or bottom is the underflow opening through which the separated solids are discharged. Near the top of the feed chamber is an inlet opening that is positioned perpendicular to the axis of the clone. The vortex finder, a hollow cylinder, extends from below the inlet feed up through the feed chamber and forms the outlet for the overflow. During operation, drilling fluid is pumped through the tangential

opening (feed inlet) in the cylindrical section of the housing which forces the mud to start spiraling downward toward the apex of the cone body. Centrifugal force acts upon the larger and heavier particles which are thrown outward toward the wall of the cone, while finer, lighter particles move toward the center with the moving fluid. The large particles and small amounts of fluid are discarded out the apex. The remaining fluid and finer solids reverse direction and pass back up inside the cone of fluid and out the vortex finder at the top of the clone. As in a natural cyclone, there is a central air core within the inner spiral.

In general, separation efficiency is dependent upon the following general parameters: Plastic viscosity of the fluid, feed solids load, flow, hydroclone size and proper rig up. The main advances in hydroclone technology have taken place in wear resistant synthetic materials and improved design. Most of the hydroclones in use today are replaceable and are made of polyurethane (Cagle 1987). Size and proper rigging are also important factors. Improper fluid routing may reduce the amount of drilling fluid treated by 50 percent (Cagle 1987). Young (1987) showed that new smaller hydroclones should operate 25 to 50 percent more efficiently than 4 inch desilter hydroclones more typically used today.

Mud Cleaner. Mud cleaners were developed in the early 1970's for removing sand from weighted mud systems. Desanders and desilters can be used for this purpose, but barite losses quickly reduce the economics of the operation. The mud cleaner is a combination hydroclone-shale shaker device and consists of hydroclones (size of clone dependent upon the size of particle being removed) mounted above a fine screen shaker. The hydroclone underflow is directed to a fine mesh screen where the solids (barite and small cuttings) and liquid muds will be returned to the mud system through the screen. The solids that collect on the screen are discarded. The need for mud cleaners has been reduced considerably with finer screens being run on shale shakers and specifically in unweighted mud systems where the mud cleaner should be operated as a desilter with the screen blocked off and the underflow being discarded to the reserve pit (Cagle 1987).

Decanting Centrifuge. The decanting centrifuge consists of a rotating cone shaped drum that rotates at a high rate of speed (1200–3500 rpms) and a screw conveyor within the bowl turning at a slower speed (20–90 rpms slower) that moves the coarse particles toward the discharge port. This differential speed allows a slow relative motion to exist within the bowl while the high rate of rotation develops a strong centrifugal force that throws heavier particles toward the outside of the bowl. The screw conveyor scrapes off the solid material where it is then discarded through the discharge ports at the small end of the centrifuge. The liquid fraction is returned to the active mud system through the liquid regulating weirs at the large end of the centrifuge.

Centrifuge applications may be categorized as either primary or secondary separation. Primary separation is where the centrifuge is used directly on the active mud system for the purpose of recovering barite in weighted drilling muds. In this application up to 95 percent of the usable barite is returned to the active mud system while the liquid effluent containing ultra-fine solids is discarded to the reserve pit. Secondary recovery is where the centrifuge is processing the effluent or underflow from hydroclones, mud cleaners or centrifuges. Secondary recovery using duel centrifuges has the added advantage of processing the liquid effluent from the first centrifuge by a second high speed centrifuge which remove a large percentage of the ultra-fine solids, and returns costly chemicals, bentonite and liquids back to the active mud system. Benefits are reduction of liquid consumption, reserve pit size (if applicable) and disposal costs.

d. Economic Analysis. This section evaluates the cost requirements and economic feasibility of imposing the selected BAT technology based permit limitations on the discharge of drilling muds and drill cuttings to coastal waters. Cost estimates used in the following economic analysis were obtained from various industry contractors based on current pricing schedules and actual cost information.

Model Well Characteristics. Model well characteristics were established for the purpose of estimating compliance costs per facility for the no discharge of drilling fluids and drill cuttings limitation in this permit. The characteristics of the model well used in this analysis generally represents a maximum cost/worst case scenario for most input parameters (Table 2). This approach was taken because it is impractical to analyze all drilling situations which might occur in the subcategory. Generally, the depth of the well and correspondingly the number of days required to drill the well gives the most direct indication of the overall cost of the drilling operation and would represent the highest expected cost for solids control equipment and the largest volume of drilling wastes. Thus, if the economics for the proposed permit limitations proved feasible for the worst case scenario, then it was assumed that shallower less costly wells would also be economic.

Economic Scenarios. Three economic scenarios were developed that are representative of the different levels of solids control that are currently in use in the coastal area. Each represents an increasing level of up front expenditures such as retrofitting costs, and equipment rental costs and also represents a decrease in the volume of drilling fluid waste generated. Cost estimates presented below were obtained through personal communications with various drilling contractors and are believed to reflect current industry rates.

Scenario 1. This model represents the minimum level of solids treatment technology and imposes the lowest level of equipment cost to the operator. This scenario is probably most representative of current industry practice in coastal waters. The equipment used for solids maintenance would include one or two shakers, a desilter and a desander. Average equipment efficiency for removing drilled solids would be approximately 38 percent (See Cagle 1987). This model represents a minimal treatment/barging option (Table 3).

Scenario 2. This model represents an intermediate level of solids control efficiency, with the equipment being used to include shale shakers, desilters, desanders, mud cleaners, and microclones. Average equipment efficiency would be approximately 62 percent (Table 4).

Scenario 3. The third model represents the closed cycle drilling fluid system, and characterizes the best solids control technology in use by industry. The equipment used would the same equipment found in scenario 2 but would also include decanting centrifuges and possibly a polymer flocculation unit. Equipment efficiency would average around 90 percent (Table 5).

In summary, to meet the no discharge limitation for drill cuttings and drilling fluids, an expenditure of $183,450 per well (approx. 11 percent of the total cost) would be required (Table 6). This is believed to represent a worst case/highest cost estimate and is expected to be lower for most drilling operations. Drilling disposal costs have been estimated at the high end for water based muds and may more typically run between $5 to $10 per bbl range.

depending upon oil content and salinity (see Non Water Quality Impacts Section). In addition substantial retrofitting costs have been included in the model each time a well is drilled. These costs are incurred by the operator when the solids equipment contractor or drilling contractor bids the job. However, once a rig or barge has been modified so that the equipment can be installed then this cost (approx. $35,000) would not be charged again to the operator. This would substantially lower the overall cost of compliance. This analysis has not taken into consideration cost savings (pit construction and pit closure) to operators in marsh areas that use reserve pits and ring levees to contain drilling fluids. This analysis also does not include more difficult to document savings to the operator on drilling costs due to improved mud properties using closed cycle systems i.e., increased rate of penetration and fewer rig days, lower probability of stuck pipe, decreased number of bits required, reduced wear on surface equipment etc.

Since closed system drilling fluids technology is routinely used both in onshore and offshore drilling operations (onshore areas where reserve pits are prohibited by private land owners, offshore waters where operators drill with oil based muds, and coastal waters where discharge of drilling muds are prohibited by state permit) the Region believes that this technology is directly applicable to the permits it is proposing for the coastal waters of Texas and Louisiana. Thus, based on the current use of closed mud systems this technology has been demonstrated to be technically feasible and economically achievable.

e. Non Water Quality Environmental Impacts. This section evaluates the non-water quality environmental impacts of implementing the BAT permit limitations. These aspects include energy requirements, solid waste generation and onshore disposal, air pollution, dredging, and water use.

Land Disposal Facilities for Non-Hazardous Wastes (NOW). The most significant non-water quality environmental impact of the proposed permit action prohibiting the discharge of drilling fluids and drill cuttings is the onshore disposal of the drilling wastes. Closed cycle drilling systems effectively reduce the volume of drilling fluid waste generated and consequently the volume of waste that must be disposed of at an onshore disposal site.

There are presently 31 approved commercial facilities in the state of Louisiana that are capable of storing, treating or disposing of non-hazardous wastes generated from oilfield operations. Non-hazardous oilfield wastes (NOW) are divided into 16 categories with certain facilities treating some or all of the waste types. Of the 31 approved disposal facilities, eight are currently accepting drilling muds and cuttings for treatment and land disposal. The Injection Mining Division of the Louisiana Department of Natural Resources maintains a list of the approved NOW commercial facilities, types of wastes they are approved to process and statistics on volumes of wastes currently being processed. This information was used to characterize the availability of disposal sites and ability to process the additional waste load as a result of this permit action. In 1988, state statistics show that a total of approximately 3 million barrels of drilling fluids and cuttings were processed with the largest waste treatment facility handling approximately 1.33 million barrels and the smallest approximately 20,000 barrels. Based on the above information, it appears that adequate capacity is available for land disposal of drilling fluids as a result of this proposed permit action. It is believed that additional processing capacity of drilling wastes would be directly related to demand. Several NOW facilities are currently shut down due to insufficient activity.

Energy Requirements. Additional energy requirements necessary to meet the proposed BAT effluent limitations on drilling muds and cuttings are assumed negligible. Diesel electric rig generators that supply energy to run the standard solids equipment would be adequate to power any additional equipment load.

Air Pollution. Additional air emissions may be created due to the increased activity in hauling shale barges or trucking drilling wastes to the treatment facility. However, these minor increases in airborne emissions are deemed to be insignificant when compared to the pollutant removal associated with the treatment technology.

Consumptive Water Use. Since little or no additional water is added to the operation above usual consumption, no water loss is expected as a result of the proposed permit limitations.

Dredging. Only minor additional dredging may be required as a result of this permit action. It is believed that the channels dredged for rig placement, crew boats and supply boats are sufficient to support the additional traffic from barging drilling wastes to collection and transfer terminals.

C. State Water Quality Standards, Rules and Regulations

EPA is required under 40 CFR 122.44(d)(1) to include conditions as necessary to achieve the States' water quality standards as established under section 303 of the Clean Water Act.

1. Drilling Fluids

a. Prohibitions. There shall be no discharge of Drilling Fluids.

The no discharge provision for drilling fluids is based on the state narrative criteria for Floating, Suspended and Settleable Solids. The standard for solids requires that "there shall be no substances present in concentrations sufficient to produce distinctly visible solids or scum, nor shall there be any formation of long term bottom deposits of slimes or sludge banks attributable to waste discharges from municipal, industrial, or other sources including agricultural practices, mining, dredging and the exploration for and the production of oil and natural gas". EPA solicits comment on the bulk discharge of drilling fluids and resuspension of drilling discharge piles as it relates to the state turbidity standard of not to exceed background plus 10 percent.

b. Limitations—Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

The Louisiana Department of Environmental Quality (LDEQ) has established a no discharge of free oil requirement for all facilities conducting drilling, workover, and production activities from oil and gas exploration, development, and production operations.

2. Drill Cuttings

a. Prohibitions. There shall be no discharge of Drill Cuttings.

The no discharge provision for drill cuttings is based on the state narrative criteria for Floating, Suspended and Settleable Solids. The standard for solids requires that "there shall be no substances present in concentrations sufficient to produce distinctly visible solids or scum, nor shall there be any formation of long term bottom deposits of slimes or sludge banks attributable to waste discharges from municipal, industrial, or other sources including agricultural practices, mining, dredging and the exploration for and the production of oil and natural gas". EPA solicits comment on the bulk discharge

of drill cuttings and resuspension of drilling discharge piles as it relates to the state turbidity standard of not to exceed background plus 10 percent.

b. Limitations—Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

The Louisiana Department of Environmental Quality (LDEQ) has established a no discharge of free oil requirement for all facilities conducting drilling, workover, and production activities from oil and gas exploration, development, and production operations.

3. Produced Water

Produced water discharges to the coastal waters of Texas are not covered by this permit action. This waste stream will however, be covered under a separate subsequent permit for oil and gas production related activities.

4. Produced Sand

Produced sand discharges to the coastal waters of Texas are not covered by this permit action. This waste stream will however, be covered under a separate subsequent permit for oil and gas production related activities.

5. Treated Wastewater from Drilling fluids and cuttings dewatering activities, and Pit closure activities

The State of Louisiana currently allows the discharge of treated wastewater from dewatered drill site reserve pits, shale barges, ring levees and inactive or abandoned reserve pits when the following discharge limitations are met.

Limitations—Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

The Louisiana Department of Environmental Quality (LDEQ) has established a no discharge of free oil requirement for all facilities conducting drilling, workover, and production activities from oil and gas exploration, development, and production operations.

Oil and Grease. Treated wastewater must meet a daily maximum limitation of 15 mg/l prior to discharge. Samples must be collected as a grab and analyzed once per day. If the effluent is batch treated and discharged, then the monitoring is once per discharge event.

Total Suspended Solids. Treated wastewater shall not exceed 50 mg/l TSS, as a daily maximum. A grab sample must be collected and analyzed once per day. If the effluent is batch treated and discharged, then the monitoring is once per discharge event.

Chemical Oxygen Demand. Treated wastewater shall not exceed 125 mg/l COD, as a daily maximum. A grab sample must be collected and analyzed once per day. If the effluent is batch treated and discharged, then the monitoring is once per discharge event.

pH. Discharges of treated wastewater must meet a pH limitation of not less than 6.0 and not greater than 9.0 at the point of discharge. Samples must be collected as a grab and analyzed once per day. If the effluent is batch treated and discharged, then the monitoring is once per discharge event.

Total Chromium. Discharges of treated wastewater shall meet a 0.5 mg/l daily maximum limitation. The monitoring frequency is once per day when discharging. If however, the effluent is batch treated and discharged the monitoring frequency shall be once per discharge event.

Zinc. Discharges of treated wastewater shall not exceed 5.0 mg/l as a daily maximum. The monitoring frequency is once per day when discharging. If however, the effluent is batch treated and discharged the monitoring frequency shall be once per discharge event.

Chlorides. Discharges of treated wastewater shall not exceed 500 mg/l chlorides as a daily maximum. The monitoring frequency is once per day when discharging. If however, the effluent is batch treated and discharged the monitoring frequency shall be once per discharge event.

6. Formation Test Fluids

a. Prohibition. The state of Louisiana prohibits the discharge of produced water to lakes, rivers, streams, or freshwater to intermediate wetlands in their oil and gas discharge permits. Brines brought to the surface during a production test are considered to be the same as those produced during production operations and have the same effluent limitations. Therefore, there shall be no discharge of formation test fluids to lakes, rivers, streams, or freshwater to intermediate wetlands. In addition, there shall be no discharge to wildlife refuges, game preserves, scenic streams, or other specially protected lakes or waterbodies.

Note: Freshwater and intermediate wetland areas, wildlife refuges and preserves can be determined from the 1978 Vegetative Type Map of the Louisiana (or any subsequent revisions), published by the Louisiana Department of Wildlife and Fisheries. The listing of scenic streams in Louisiana is found in the Louisiana Department of Wildlife and Fisheries publication "Natural and Scenic Streams System", (1981).

[Exception] Discharge of formation test fluids are allowed on the Mississippi River below Venice, Atchafalaya River below Morgan City, and Wax Lake Outlet. Discharges are also allowed to waterbodies and adjacent wetlands in brackish or saline marsh areas with the following limitations.

b. Limitations—Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

The Louisiana Department of Environmental Quality (LDEQ) has established a no discharge of free oil requirement for all facilities conducting drilling, workover, and production activities from oil and gas exploration, development, and production operations.

7. Well Treatment Fluids, Completion Fluids, and Workover Fluids

a. Prohibition. The state of Louisiana prohibits the discharge of well treatment, completion, and workover fluids to lakes, rivers, streams, freshwater to intermediate wetlands, wildlife refuges, game preserves, scenic streams, and other specially protected lakes and waterbodies.

Note: Freshwater and intermediate wetland areas, wildlife refuges and game preserves can be determined from the 1978 Vegetative Type Map of the Louisiana (or any subsequent revisions), published by the Louisiana Department of Wildlife and Fisheries. The listing of scenic streams in Louisiana is found in the Louisiana Department of Wildlife and Fisheries publication "Natural and Scenic Streams System", (1981).

b. Limitations—Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

The Louisiana Department of Environmental Quality (LDEQ) has established a no discharge of free oil requirement for all facilities conducting

drilling, workover, and production activities from oil and gas exploration, development, and production operations.

8. Deck Drainage

a. Limitations—Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

The Louisiana Department of Environmental Quality (LDEQ) has established a no discharge of free oil requirement for all facilities conducting drilling, workover, and production activities from oil and gas exploration, development, and production operations.

9. Excess Cement Slurry

a. Prohibition. The state of Louisiana prohibits the discharge of excess cement slurry, to lakes, rivers, streams, freshwater to intermediate wetlands, wildlife refuges, game preserves, scenic streams, and other specially protected lakes and waterbodies.

Note: Freshwater and intermediate wetland areas, wildlife refuges and game preserves can be determined from the 1978 Vegetative Type Map of the Louisiana (or any subsequent revisions), published by the Louisiana Department of Wildlife and Fisheries. The listing of scenic streams in Louisiana is found in the Louisiana Department of Wildlife and Fisheries publication "Natural and Scenic Streams System", (1981).

b. Limitations—Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

The Louisiana Department of Environmental Quality (LDEQ) has established a no discharge of free oil requirement for all facilities conducting drilling, workover, and production activities from oil and gas exploration, development, and production operations.

10. Sanitary Waste

a. Limitations—Biological Oxygen Demand (BOD5). The requirement for BOD in sanitary waste is 45 mg/l, reported as a daily maximum. A grab sample must be collected and analyzed once per quarter.

Total Suspended Solids. The requirement for TSS in sanitary waste is 45 mg/l, reported as a daily maximum. A grab sample shall be collected and analyzed once per quarter.

Total Residual Chlorine. The total residual chlorine level in sanitary waste discharges must be maintained between 0.2 mg/l and 0.8 mg/l. A grab sample must be collected and analyzed once per quarter.

11. Miscellaneous Discharges

Desalination Unit Discharge
Blowout Preventor Fluid
Uncontaminated Ballast Water
Uncontaminated Bilge Water
Mud, Cuttings, and Cement at the Seafloor
Uncontaminated Seawater
Uncontaminated Freshwater
Boiler Blowdown
Diatomaceous Earth Filter Media

Free Oil. The limitation of free oil is that a sheen shall not be detected on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

12. Derivation of Permit Conditions Based on State Water Quality Standards

a. Description of Applicable State Water Quality Standards. The Louisiana Water Quality Standards, set forth by the Louisiana Department of Environmental Quality, establish general and numeric criteria for discharges to state waters. The State of Louisiana has established the following narrative criteria which states: "No substances shall be present in the waters of the state or the sediments underlying said waters in quantities that alone or in combination will be toxic to human, plant, or animal life or significantly increase health risks due to exposure to the substances or consumption of contaminated fish or other aquatic life". General criteria apply at all times to the surface waters of the state (i.e., including waters within a mixing zone), except where specifically exempted, and apply to the following parameters:

- Aesthetics.
- Color.
- Floating, Suspended, and Settleable Solids.
- Taste and Odor.
- Toxic Substances.
- Oil and Grease.
- Foaming or Frothing Materials.
- Nutrients.
- Turbidity.
- Flow.
- Radioactive Materials.
- Other Substances and Characteristics.

General criteria clearly appropriate for regulating drilling fluids and cuttings discharges include those for floating, suspended and settleable solids, toxic substances and turbidity. The standard for solids requires that "there shall be no substances present in concentrations sufficient to produce distinctly visible solids or scum, nor shall there be any formation of long term bottom deposits of slimes or sludge banks attributable to waste discharges from municipal, industrial, or other sources including agricultural practices, mining, dredging and the exploration for and the production of oil and natural gas". The Administrative Authority of Louisiana may exempt certain short-term activities which are permitted under sections 402 or 404 or certified under section 401 of the Clean Water Act, such as dredging of navigable waterways, or other short term activities determined by the state as necessary to accommodate legitimate uses or emergencies or to protect the public health and welfare.

It is this Region's opinion that the discharge of drilling fluids and cuttings in shallow water areas would result in the formation of long term bottom deposits because of inadequate water depth for dispersion. The discharge of drilling fluids and cuttings to the coastal bays and estuaries in many cases produces distinctly visible cutting piles that typically are subareally exposed and can become semipermanent due to vegetative colonization (per. comm. LDEQ). The geographic area covered by this permit is one of very shallow water (approximately 95 percent of the permit area is in 10 feet of water or less). Numerous studies have been conducted and papers written on the dispersion of drilling fluids and cuttings from rigs that show that the bulk of the discharge (even in deep water environments) remain relatively near the discharge point and thus, it is obvious that the discharge of solids and high density fluids such as drilling muds in very shallow water areas will have much less of a dispersion pattern and will be concentrated near the discharge point. According to one industry source, Ayers 1981, approximately 3,000 to 6,000 barrels of wet solids are discharged from solids control equipment over the life of a well and some 5,000 to 30,000 barrels of drilling fluids are discharged. When just looking at the quantity of solids discharged (excluding water) approximately 1,000 m^3 approximately 2,000 tons) of dry solids (formation cuttings and drilling fluid additives) are discharged both in bulk and from solids control equipment over the life of a typical well. This data is in good agreement with the information presented in this permit on the volumes

of waste fluids and solids generated from drilling operations.

The standard for turbidity states that discharges "* * * shall not cause substantial visual contrast with the natural appearances of the waters of the state" (in this case, not exceed background values plus 10%). In many instances after a well has been drilled, the U.S. Corps of Engineers requires the operator to return the bottom profile to its original contour. This is generally accomplished by "prop washing" the cuttings and drilling fluids pile with a tug. This reduces the size of the pile by resuspending the material. EPA solicits information and comments as to whether this activity would locally increase the turbidity of the surrounding water over background levels plus 10 percent.

Numerical criteria for Gulf waters of the State of Louisiana, which are standards that must be met outside the mixing zone, are established for the following parameters:

- pH: 6.0 to 9.0.
- Chlorides, sulfates,. and total dissolved solids: not available (case-by-case).
- Dissolved oxygen:

Freshwater areas not less than 5 mg/l
Estuarine areas not less than 4 mg/l
Coastal marine waters not less than 5 mg/l

- Temperature:

Freshwater areas
Maximum 2.8 °C above ambient for streams
Maximum 1.7 °C above ambient for lakes and reservoirs
Maximum temperature 32.2 °C
Estuarine and coastal waters areas
Maximum 2.2 °C above ambient October to May;
Maximum 1.1 °C above ambient June to September;
Maximum temperature 35 °C

- Bacteria: <14 per dl (MPN); <43 per dl (MPN) for 90% of samples.
- Toxic substances: (See discussion below).

Specific numerical criteria are established for toxic substances in Louisiana's newly revised water quality standards, where the state has determined that adequate toxicity information is available. Louisiana has specified 49 instream numerical criteria (3 metals) expressed as freshwater acute, freshwater chronic, marine water acute, marine water chronic, drinking water supply and non drinking water supply.

Mixing zones, under Louisiana's water quality standards, are those portions of waterbodies where effluent waters are dispersed into receiving waters and are to be mixed in the smallest practicable area. Mixing zones are exempted from general and numerical criteria except as otherwise specified below. Small zones of initial dilution (ZIDS) are allowed at each discharge site and are areas where receiving water criteria do not apply. ZIDs are restricted to the immediate point of discharge and generally shall not exceed 10 percent of the mixing zone. Mixing zones must also be free from floating debris, oil, scum, or other materials at levels that constitute a nuisance; substances that produce undesirable or nuisance aquatic life; and materials in concentrations that will cause acute toxicity to aquatic life. Mixing zones shall not be allowed to significantly affect a nursery areas for aquatic life, habitat for water fowl, and areas approved for oyster propagation. Mixing zones must not include existing drinking water supply intakes. Mixing zones shall not overlap. Mixing zones for freshwater lakes and reservoirs will be expressed in terms of a maximum radius (100 feet) in all directions from the discharge point. The ZID will be no more than 25 feet. Mixing zones for discharges into bays, estuaries and coastal lakes will be expressed in terms of a maximum radius of 200 feet in all directions from the discharge point and the ZID shall not exceed 50 feet. In cases where unique site-specific or other considerations preclude the application of specific mixing zone requirements, the State may determine the mixing zone on a case-by-case basis.

For the purpose of determining compliance with Louisiana numerical criteria drilling fluids were characterized by three data sets for metals and organics. The analytical data set for metals found in drilling fluids is from the 8 generic muds (CENTEC, 1984), the 11 PESA used muds supplied to EPA Gulf Breeze (SAIC, 1984), and 66 muds analyzed as a part of the Diesel Pill Monitoring Program (DPMP) under NPDES general permit GMG 280000 (EPA, 1987). These data sets were combined to yield weighted average mean values and weighted average upper 95th percentile concentrations. The marine acute and chronic criteria for the three listed metals (arsenic, chromium and zinc) were compared to the concentrations estimated for drilling fluid metals at the zone of initial dilution (ZID) and at the edge of the mixing zone. The mixing zone established to assess compliance with the Louisiana standards was 200 feet. Metal concentrations from the drilling fluid data base was modelled to assure that the no chronic toxicity at the edge of the mixing zone requirement would be met. Louisiana also allows for a small zone of initial dilution, in this case 50 feet, to be exempt from numerical criteria. Metal concentrations in the drilling fluid data set were modelled to determine their concentrations at the 50 foot ZID to determine if acute toxicity would be present within the mixing zone.

Modelling results showed that neither acute or chronic criteria were exceeded at a 100 barrel per hour discharge rate at a 2 meter water depth when looking at mean metal concentrations.

D. Best Management Practices

1. Dispersants, Surfactants, and Detergents

The facility operator is required to minimize the discharge of dispersants, surfactants and detergents except as necessary to comply with the safety requirements of the Occupational Safety and Health Administration and the Minerals Management Service. This restriction applies to tank cleaning and other operations which do not directly involve the safety of workers. This restriction is proposed because detergents disperse and emulsify oil, thereby increasing toxicity and making the detection of a discharge of oil more difficult. These limitations have been established pursuant to NPDES permit regulations at 40 CFR 122.44(k) (Best Management Practices).

2. Halogenated Phenol Compounds

There shall be no discharge of halogenated phenol compounds as a part of any waste stream authorized in this permit. The class of halogenated phenol compounds used primarily as biocides includes toxic pollutants which can be reduced through product substitution. The discharge prohibition of this compound is based on a Minerals Management Service requirement (published at 44 FR 39031, July 3, 1979), and has been included in all Gulf of Mexico oil and gas general permits.

3. Priority Pollutants

For well treatment fluids, completion fluids, and workover fluids, the discharge of priority pollutants is prohibited, except in trace amounts. The discharge of these toxic pollutants can be reduced through product substitution. This is the same permit condition as found in the OCS BAT/BCT general permit.

E. Monitoring and Recordkeeping (section 308)

Monitoring. Monthly volume estimates are required for deck drainage, formation test fluids and well treatment, completion, and workover fluids. Monthly flow estimates are required for sanitary waste. Discharge Monitoring Reports must be submitted annually. A chemical inventory of all materials added and circulated down the well must be maintained and all

records retained for three years. Inventory data for effluents must be recorded and maintained, on a well specific basis, upon completion of each well if such effluents are discharged at any time in the drilling or completion of the well.

1. Formation Test Fluids

Volume. Once per month, an estimate must be recorded for the average discharge volume.

2. Well Treatment Fluids, Completion Fluids, Workover Fluids

Volume. Once per month, an estimate must be recorded for the average discharge volume.

Priority Pollutants. For well treatment fluids, completion fluids, and workover fluids, the discharge of priority pollutants is prohibited except in trace amounts. Information on the specific chemical composition of any additives containing priority pollutants must be recorded.

3. Treated Wastewater from drilling Fluid Dewatering Activities

Volume. Once per month, an estimate must be recorded for the average discharge volume.

4. Deck Drainage

Volume. An estimate of the monthly total discharge (bbl) must be recorded.

5. Sanitary Waste

Flow. Once per month, the average flow (MGD) must be estimated and recorded for the flow of sanitary wastes.

F. Miscellaneous [Section 402(a)(1)] Requirements

Rubbish, Trash, and Other Refuse. The discharge of any solid material not authorized in the permit (as described above) is prohibited (*See* section 402(a)(1)). This condition includes unopened or partially used sacks of drilling fluids additives, portland cement, or other chemicals. This is the same condition as established in the OCS general permit for oil and gas operations in the Gulf of Mexico.

Domestic Waste. This permit follows the limitations set out by the U.S. Coast Guard in their proposed rulemaking implementing Annex V of MARPOL 73/78 for domestic, waste disposal from all fixed or floating offshore platforms and associated vessels engaged in exploration or exploitation of seabed mineral resources. These limitations, as specified by Congress (33 U.S.C. 1901, the Act to Prevent Pollution from Ships), apply to all navigable waters of the United States. Therefore, these limitations would apply to all waterbodies in the coastal permit area.

This permit prohibits the discharge of "garbage" including food wastes, comminuted or not, within the permit area. Graywater, drainage from dishwater, shower, laundry, bath, and washbasins are not considered garbage within the meaning of Annex V. Incineration ash and clinkers are also prohibited from discharge within the permit area. (*See* Interim Final Regulations Implementing Annex V of MARPOL 73/78, 54 FR 18384, Friday, April 28, 1989).

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TABLE 1.—DISCHARGE, PERMIT CONDITION AND STATUTORY BASIS

Discharge and permit condition	Statutory basis
Drilling muds:	
No discharge	BAT, LWQS.
Drill cuttings:	
No discharge	BAT, LWQS.
Treated wastewater from dewatering activities:	
No free oil	LDEQ permit.
Oil and grease: (15 mg/l daily max.).	BCT, LDEQ permit.
Total suspended solids (50 mg/l).	BCT, LDEQ permit.
Chemical oxygen demand (125 mg/l).	LDEQ permit.
pH (6.0–9.0)	BCT, LDEQ permit.
Chlorides: (500 mg/l)	LDEQ permit.
Total chromium (0.5 mg/l)	LDEQ permit.
Zinc (5.0 mg/l)	LDEQ permit.
Monitor volume	Section 308.
Deck drainage:	
No free oil	BCT, LDEQ permit.
Monitor volume	Section 308.
Formation test fluid:	
No discharge (to rivers, lakes, streams, or freshwater to intermediate wetlands)—	
No free oil	BCT, LDEQ permit.
pH (6.0–9.0)	BCT.
Monitor volume	Section 308

TABLE 1.—DISCHARGE, PERMIT CONDITION AND STATUTORY BASIS—Continued

Discharge and permit condition	Statutory basis
Well treatment, completion and workover fluid:	
No discharge (to rivers, lakes, streams, or freshwater to intermediate wetlands)—	
Priority pollutants (no discharge).	BMP.
No free oil	BCT, LDEQ permit.
pH (6.0–9.0)	BCT.
Monitor volume	Section 308.
Sanitary waste:	
No floating solids	BCT.
Biological oxygen demand (45 mg/l).	BCT, LDEQ permit.
Total suspended solids (45 mg/l).	BCT, LDEQ permit.
Fecal coliform (200/100 ml)	BCT, LDEQ permit.
Monitor flow	Section 308.
Domestic waste:	
No discharge (food waste & incineration ash).	MARPOL 73/78, Annex V.
Miscellaneous discharges:	
No free oil	BCT, LDEQ permit.
All discharges:	
No halogenated phenols	BMP.
No floating solids or foam	BCT.
No discharge of rubbish, trash or refuse.	Section 402(a)(1).
Minimize use of surfactants, dispersants and detergents.	BMP.

TABLE 2—MODEL WELL INPUT PARAMETERS

Engineering Data:			
Drilled Interval (ft)	800	5,400	15,000
Number of Days	3	8	39
Bit Size (in)	17.5	12.3	7.9
Casing Depth (ft)	100	800	5,400
Avg. Hole Washout (%)	40	30	15
Avg. Mud Wt. (lb/gal)	8.6	8.9	9.1
Low Grav. Solids (%)	4.0	4.0	5.0
Pit Volume (bbls)	700	700	700
Calc. Hole Volume (bbls)	372.2	1,162.8	1,525.8
Total Fluid Volume (bbls)	1,072.2	1,862.8	2,225.8
Drill Solids Generated (bbls)	303.3	793.6	605.5
Drilling Expenditures:			
Number of Days on Location	50	.....	.....
Total Well Cost (AFE)	$1,680,000	.....	.....
Drilling Barge (fuel & marine pkg)	420,000	$8400/day	(25%)
Drilling Intangibles (mud, bits, etc)	537,600	.....	(32%)
Tubulars (casing, well head, etc)	722,400	.....	(43%)
Disposal Expenditures:			
Shale Barge Rental ($/day)	180	.....	.....
Tug Rental ($/day)	1,400	.....	.....
Mud & Cuttings Disposal & Trans. ($/bbl)	10	.....	.....

TABLE 3.—ECONOMIC SCENARIO 1

Engineering Data:				
Drilled Interval (ft)	800	5,400	15,000	Well
Drill Solids in Mud System (bbls)	303.3	793.6	605.5	.....
Equipment Removal (bbls)	115.3	301.6	230.1	.....
Liquids lost w/Solids (bbls)	288.2	753.9	575.2	.....
Solids Remaining in Mud System (bbls)	188.1	492.0	375.4	.....
Dilution Needed (bbls)	3,761.3	9,840.6	7,507.9	.....
Cuttings/Sludge Generated (bbls)	404	1,055	805	2,264
Liquid Mud Generated (bbls)	3,761	9,841	7,508	21,110

Cost Analysis:	
Vol of Fluids for Disposal (23,374 bbls @ $10/bbl)	$233,740
Based on 38 percent equipment efficiency.	
Barge Rental (2 barges @ $180/day for 50 days)	18,000
Average shale barge capacity assumed to be 1,400 bbls.	
Tug Rental (17 hauls @ $1,500)	25,500
Does not include cost saving due to long term contracts nor does it assume that the rig tug could be used to haul the shale barges to collection terminal.	
Retro-fitting Costs (rig equipment)	0
No additional cost when using rig equipment.	
Solids Equipment Rental ($200/day for 50 days)	10,000
Total Expenditure	287,240

TABLE 4.—ECONOMIC SCENARIO 2

Engineering data				
Drilled interval (ft)	800	5,400	15,000	Well.
Drill solids in mud system (bbls)	303.3	793.6	605.5	
Equipment removal (bbls)	188.1	492.0	375.4	
Liquids lost w/ solids (bbls)	400.1	1046.9	798.7	
Solids remaining in mud system (bbls)	115.3	301.6	230.1	
Dilution needed (bbls)	2,305.3	6,031.3	4,601.6	
Cuttings/ sludge generated (bbls)	588	1,539	1,174	3,301
Liquid mud generated (bbls)	2,305	6,031	4,602	12,938

Cost analysis:	
Vol. of fluids for disposal (16,239 bbls @ $10/bbl)	$162,390
Based on 62 percent equipment efficiency.	
Barge rental (2 barges @ $180/day for 50 days)	18,000
Average shale barge capacity assumed to be 1,400 bbls.	
Tug rental (12 hauls @ $1,500)	18,000
Does not include cost saving due to long term contracts nor does it assume that the rig tug could be used to haul the shale barges to collection terminal.	
Retro-fitting costs (intermediate equipment)	35,000
Cost includes a cantilevered configuration over drill barge and re-plumbing mud flow lines.	
Solids equipment rental ($600/day for 50 days)	30,000
Subtotal	263,390
Drilling fluid savings	(14,505)
Savings to operator based on equipment efficiency and cost of drilling fluid.	
Total expenditure	248,885

TABLE 5.—ECONOMIC SCENARIO 3

Engineering data:				
Drilled interval (ft)	800	5,400	15,000	Well.
Drill solids in mud system (bbls)	303.3	793.6	605.5	
Equipment removal (bbls)	273.0	714.2	544.9	
Liquids lost w/solids (bbls)	420.0	1,098.8	838.3	
Solids remaining in mud system (bbls)	30.3	79.4	60.5	
Dilution needed (bbls)	606.7	1,587.2	1,210.9	
Cuttings/ sludge generated (bbls)	693	1,813	1,383	3,889
Liquid mud generated (bbls)	607	1,587	1,211	3,405

Cost analysis:	
Vol. of fluids for disposal (7,294 bbls @ $10/bbl)	$72,940
Based on 90 percent equipment efficiency.	
Barge rental (2 barges @ $180/day for 50 days)	18,000
Average shale barge capacity assumed to be 1,400 bbls.	
Tug rental (6 hauls @ $1,500)	9,000
Does not include cost saving due to long term contracts nor does it assume that the rig tug could be used to haul the shale barges to collection terminal.	
Retro-fitting Costs (closed cycle system)	35,000
Cost includes a cantilevered configuration over drill barge and re-plumbing mud flow lines.	
Solids equipment rental ($1600/day for 50 days)	80,000
Subtotal	214,940
Drilling Fluid Savings	(31,500)
Savings to operator based on equipment efficiency and cost of drilling fluid.	
Total expenditure	183,440

TABLE 6—SUMMARY OF DRILLING SCENARIO'S 1, 2, & 3

	Scenario 1	Scenario 2	Scenario 3
Equipment Efficiency (%)	38	62	90
Well Depth (ft)	15,000	15,000	15,000
Equipment Day Rate	$200	$600	$1,600
Days to Drill Well	50	50	50
Equipment Cost	$10,000	$30,000	$80,000
Drilling mud—Haul off (bbls)	21,110	12,938	3,405
Drill cuttings—Haul off (bbls)	2,264	3,301	3,889
Total Volume for Disposal (bbls)	23,374	16,239	7,294
Average Haul off Bbls/day	467	325	146
Haul off Bbls/ft	1.56	1.08	.49
Disposal Cost/ft (@ $10/bbl)	$15.58	$10.83	$4.87
Solids Equipment Cost/ft	$0.67	$2.00	$5.33
Misc. Costs/ft (retrofitting, tug and barge rentals)	$2.90	$4.73	$4.13
Mud Savings $/ft drilled	($0.00)	($0.97)	($2.10)
Total Cost/ft	$19.15	$16.59	$12.23
Total Expenditure	$278,250	$248,850	$183,450
Total Well Cost (AFE)	$1,680,000	$1,680,000	$1,680,000
Percent of AFE	17.1	14.8	10.9

General Permit Authorization To Discharge Under the National Pollutant Discharge Elimination System in the Coastal Waters of Louisiana, Permit No. LAG330000

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 *et seq:* the "Act"), the following discharges are authorized from coastal oil and gas facilities (defined in 40 CFR part 435, subpart D) to receiving waters, described below (encompassing the coastal waters of Louisiana) in accordance with effluent limitations, monitoring requirements and other conditions set forth in parts I, II, III, and IV thereof:

Drilling Fluids,
Drill Cuttings,
Deck Drainage,
Sanitary Wastes,
Domestic Wastes,
Desalinization Unit Discharge,
Diatomaceous Earth Filter Media,
Excess Cement Slurry,
Uncontaminated Ballast/Bilge Water,
Boiler Blowdown,
Blowout Preventer Control Fluid,
Well Treatment Fluids,
Workover Fluids,
Completion Fluids,
Formation Test fluids,
Treated Wastewater from Dewatered Drilling Fluids/Cuttings,
Muds, Cuttings, and Cement at the Seafloor,
Uncontaminated Seawater,
Uncontaminated Freshwater.

This permit authorizes discharges to the coastal waters of Louisiana from oil and gas facilities engaged in production, field exploration, drilling, well completion, and well treatment operations. Produced water, produced sand and source water and sand discharges are excluded from coverage under this general permit, but will however, be regulated under a separate general coastal permit.

For the purpose of this NPDES general permit, the 40 CFR part 435 subpart D, Oil and Gas Extraction Point Source Subcategory definition of "coastal" shall describe the area authorized for coverage under this permit, including the geographic area (land and water areas) suspended from the onshore subcategory described in 40 CFR part 435 subpart C. The guidelines definition of coastal used here, is described as "any body of water landward of the territorial seas or any wetlands adjacent to such waters" (40 CFR 435.41(e). The term wetlands shall mean "those surface areas which are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, swamps, marshes, bogs and similar areas" (40 CFR 435.41(f). Territorial seas refers to "the belt of the seas measured from the line of ordinary low water along that portion of the coast which is direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles." (See Clean Water Act section 502).

The coastal permit area as described in the regulations is broad by definition and includes all rivers, streams and lakes, bays, estuaries and adjacent wetlands that occur inland of the territorial seas. The coastal subcategory also includes the geographic area along the coast of Texas and Louisiana (Chapman line area) which was originally defined as coastal in EPA's 1976 Interim Final Regulations for the onshore subcategory (See Suspension of Regulations, 47 FR 31554, July 21, 1982). A facility is considered to be covered under the proposed general permit if the location of the wellhead is within the described permit area.

This permit does not authorize discharge from "new sources" as defined in 40 CFR 122.2.

This permit shall become effective on [_____].

This permit and the authorization to discharge shall expire at midnight, [5 years from date of issuance].

Signed this [_____] day of [_____].

Myron O. Knudson,

Director, Water Management Division, EPA Region 6.

Permit No LAG330000

Part I

Section A. General Permit Coverage

1. Intent to be Covered. Written notification of intent to be covered, including the legal name and address of the operator, the lease block number assigned by the Louisiana Minerals Board or, if none, the name commonly assigned to the lease area, and the type of facility to be covered, and the water depth at which it is located, shall be submitted:

(a) By operators in lease blocks that are located within the geographic scope of this permit, within 45 days of the effective date of this permit.

Note: Operators must request coverage under this general permit or have an effective individual permit.

(b) By operators of leases obtained subsequent to the effective date of this permit fourteen days prior to the commencement of discharge.

2. Termination of Operations. Lease block operators shall notify the Regional Administrator within 60 days after the permanent termination of discharges from their facilities. In addition, lease block operators shall notify the Regional Administrator within 30 days of any transfer of ownership.

Section B. NPDES Individual Versus General Permit Applicability

1. The Regional Administrator May Require Application for an Individual NPDES Permit. The Regional Administrator may require any person authorized by this permit to apply for and obtain an individual NPDES permit when:

(a) The discharge(s) is a significant contributor of pollution;

(b) The discharger is not in compliance with the conditions of this permit;

(c) A change has occurred in the availability of the demonstrated technology or practices for the control or abatement of pollutants applicable to the point sources;

(d) Effluent limitation guidelines are promulgated for point sources covered by this permit;

(e) A Water Quality Management Plan containing requirements applicable to such point source is approved;

(f) The point source(s) covered by this permit no longer:

(1) Involve the same or substantially similar types of operations;

(2) Discharge the same types of wastes;

(3) Require the same effluent limitations or operating conditions;

(4) Require the same or similar monitoring; or

(5) In the opinion of the Regional Administrator, are more appropriately controlled under an individual permit than under a general permit.

The Regional Administrator may require any operator authorized by this permit to apply for an individual NPDES permit only if the operator has been notified in writing that a permit application is required.

2. An Individual NPDES Permit May Be Requested. (a) Any operator authorized by this permit may request to be excluded from the coverage of this general permit by applying for an individual permit. The operator shall submit an application together with the reasons supporting the request to the Regional Administrator no later than September 5, 1990.

(b) When an individual NPDES permit is issued to an operator otherwise subject to this general permit, the applicability of this permit to the owner

or operator is automatically terminated on the effective date of the individual permit.

3. General Permit Coverage May Be Requested. A source excluded from coverage under this general permit solely because it already has an individual permit may request that its individual permit be revoked, and that it be covered by this general permit. Upon revocation of the individual permit, this general permit shall apply to the source after the notification of intent to be covered is filed (see A.1. above).

Part II

Section A. Effluent Limitations and Monitoring Requirements

Specific effluent limitations and monitoring requirements are discussed below. They are organized by the type of discharge in the text, and by discharge type, effluent limitation and monitoring requirements in Table 1.

1. Drilling Fluids—(a) Applicability. Permit conditions apply to all drilling fluids (muds) that are discharged, including fluids adhering to cuttings.

(b) Prohibitions. This permit prohibits the discharge of all drilling fluids.

2. Drill Cuttings. Special Note: The permit prohibitions and limitations that apply to drilling fluids also apply to drilling fluids that adhere to drill cuttings. Any permit condition that applies to the drilling fluid system, therefore, also applies to cuttings discharges.

(a) Prohibitions. This permit prohibits the discharge of drill cuttings.

3. Treated Wastewater from Drilling Fluids/Cuttings, Dewatering Activities and Pit Closure Activities—(a) Applicability. Treated wastewater from dewatered drill site reserve pits, shale barges, ring levees and inactive/abandoned reserve pits.

(b) Limitations—Free Oil. Discharges containing free oil are prohibited as determined by a visual sheen on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

[Exception] Treated wastewater may be discharged at any time if the operator uses the static sheen method for detecting free oil.

Oil and Grease. Treated Wastewater must meet a 15 mg/l daily maximum limitation.

Total Suspended Solids. Treated Wastewater shall not exceed 50 mg/l daily maximum.

Chemical Oxygen Demand. Treated wastewater shall not exceed 125 mg/l daily maximum.

pH. Discharges of treated wastewater must meet a pH limitation of not less than 6.0 and not greater than 9.0 at the point of discharge.

Chlorides. Treated wastewater shall not exceed a 500 mg/l daily maximum discharge limitation.

Total Chromium. Discharges of treated wastewater shall meet a 0.5 mg/l daily maximum limitation.

Zinc. Treated wastewater shall not exceed 5.0 mg/l daily maximum for zinc.

Monitoring. The monitoring frequency for the above limitations are once per day when discharging. However, if the effluent is batch treated and discharged, the monitoring requirements for all effluent characteristics are once per discharge event by grab sample.

(c) Other Monitoring—Volume. The volume (bbls) of discharged treated wastewater must be estimated once per day, when discharging. If the effluent is being batch treated and discharged then the estimated volume discharged in barrels must be recorded per discharge event.

4. Deck Drainage—(a) Limitations—Free Oil. Discharges containing free oil are prohibited as determined by a visual sheen on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

[Exception] Deck drainage may be discharged at any time if the operator uses the static sheen method for detecting free oil.

(b) Other Monitoring—Volume. Once per month, the total monthly volume (bbl) must be estimated.

5. Formation Test Fluid—(a) Prohibitions. There shall be no discharge of formation test fluids to lakes, rivers, streams, or freshwater to intermediate wetlands. In addition, discharges are prohibited to wildlife refuges, game preserves, scenic streams, or other specially protected lakes or waterbodies.

Note: Freshwater and intermediate wetland areas, wildlife refuges and game preserves can be identified from the 1978 Vegetative Type Map of the Louisiana (or any subsequent revisions), published by the Louisiana Department of Wildlife and Fisheries. The listing of scenic streams in Louisiana is found in the Louisiana Department of Wildlife and Fisheries publication "Natural and Scenic Streams System", (1981).

[Exception] Discharge of formation test fluids are allowed on the Mississippi River below Venice, Atchafalaya River below Morgan City, and Wax Lake Outlet. Discharges are also allowed to waterbodies and adjacent wetlands in brackish or saline marsh areas.

(b) Limitations—Free Oil. Discharges containing free oil are prohibited as determined by a visual sheen on the surface of the receiving water. Discharge is authorized only at times when a visual sheen observation is possible. The monitoring frequency is once per discharge.

[Exception] Formation test fluids may be discharged at any time if the operator uses the static sheen method for detecting free oil.

pH. Discharges of formation test fluid must meet a pH limitation of not less than 6.0 and not greater than 9.0. A grab sample must be taken once per discharge. Any spent acidic test fluids shall be neutralized before discharge such that the pH at the point of discharge meets the limitation.

(c) Other Monitoring—Volume. Once per discharge, the total volume reported as number of barrels sent downhole during testing and the number of barrels discharged shall be estimated and reported once per month.

6. Well Treatment Fluids, Completion Fluids, Workover Fluids—(a) Prohibitions. There shall be no discharge of well completion, treatment or workover fluids to lakes, rivers, streams, or freshwater to intermediate wetlands. In addition, discharges are prohibited to wildlife refuges, game preserves, scenic streams, or other specially protected lakes or waterbodies.

Note: Freshwater and intermediate wetland areas, wildlife refuges and game preserves can be identified from the 1978 Vegetative Type Map of the Louisiana (or any subsequent revisions), published by the Louisiana Department of Wildlife and Fisheries. The listing of scenic streams in Louisiana is found in the Louisiana Department of Wildlife and Fisheries publication "Natural and Scenic Streams System", (1981).

[Exception] Discharge of well completion, treatment or workover fluids are allowed on the Mississippi River below Venice, Atchafalaya River below Morgan City, and Wax Lake Outlet. Discharges are also allowed to waterbodies and adjacent wetlands in brackish or saline marsh areas.

Priority (Toxic) Pollutants. For well treatment fluids, completion fluids, and workover fluids, the discharge of priority pollutants (see Appendix A) is prohibited, except in trace amounts. If well completion, treatment or workover fluids are discharged, the permittee is

required to certify by letter to the Director of the Water Management Division that the discharge did not contain priority pollutants, except in trace amounts. This letter shall be sent to the same address as the discharge monitoring reports.

Information on the specific chemical composition of additives used in these fluids, and their concentrations in the fluid, must be recorded if priority pollutants are present, in any amount, in these additives.

(b) Limitations—Free Oil. Discharges containing free oil are prohibited as determined by a visual sheen on the surface of the receiving water. Discharge is authorized only at times when a visual sheen observation is possible. The monitoring frequency is once per discharge.

[Exception] Well treatment fluids, completion fluids, or workover fluids may be discharged at any time if the operator uses the static sheen method for detecting free oil.

pH. Well treatment, completion and workover fluids must meet a pH limitation of not less than 6.0 and not greater than 9.0 prior to being discharged. Sampling must be accomplished once per day when discharging.

(c) Other Monitoring—Volume. Once per month, the average discharge volume (bbls) must be estimated.

7. Sanitary Waste—(a) Prohibitions—Solids. No floating solids may be discharged.

(b) Limitations—Biological Oxygen Demand (BOD5). Sanitary waste discharges must meet a 45 mg/l daily maximum limitation. A grab sample must be collected and analyzed once per quarter.

Total Suspended Solids. Sanitary waste discharges shall meet a 45 mg/l daily maximum limitation. A grab sample shall be collected and analyzed once per quarter.

Fecal Coliform. Sanitary waste discharges must meet a daily maximum limitation of 200/100 ml for fecal coliform. A grab sample must be taken and analyzed once per quarter.

(c) Other Monitoring—Flow. Once per month, the average flow (million gallons per day; MGD) must be estimated.

8. Domestic Waste—(a) Prohibitions—Solids. This permit prohibits the discharge of "garbage" including food wastes (comminuted or not), incineration ash and clinkers. Graywater is not considered garbage under this definition.

9. Excess Cement Slurry—(a) Prohibitions. There shall be no discharge of excess cement slurry to lakes, rivers, streams, or freshwater to intermediate wetlands. In addition, discharges are prohibited to wildlife refuges, game preserves, scenic streams, or other specially protected lakes or waterbodies.

Note: Freshwater and intermediate wetland areas, wildlife refuges and game preserves can be identified from the 1978 Vegetative Type Map of the Louisiana (or any subsequent revisions), published by the Louisiana Department of Wildlife and Fisheries. The listing of scenic streams in Louisiana is found in the Louisiana Department of Wildlife and Fisheries publication "Natural and Scenic Streams System", (1981).

[Exception] Discharge of excess cement slurry is allowed on the Mississippi River below Venice, Atchafalaya River below Morgan City, and Wax Lake Outlet. Discharges are also allowed to waterbodies and adjacent wetlands in brackish or saline marsh areas.

(b) Limitations—Free Oil. Discharges containing free oil are prohibited as determined by a visual sheen on the surface of the receiving water. Discharge is authorized only at times when a visual sheen observation is possible. The monitoring frequency is once per discharge.

[Exception] Excess cement slurry may be discharged at any time if the operator uses the static sheen method for detecting free oil.

10. Miscellaneous Discharges: Desalinization Unit Discharge, Blowout Preventer Fluid, Uncontaminated Ballast Water, Uncontaminated Bilge Water, Mud, Cuttings, and Cement at the Seafloor, Uncontaminated Seawater, Uncontaminated Freshwater, Boiler Blowdown, Diatomaceous Earth Filter Media—(a) Limitations—Free Oil. Discharges containing free oil are prohibited as determined by a visual sheen on the surface of the receiving water. Monitoring must be accomplished once per day, when discharging during conditions when an observation of a sheen is possible. The number of days a sheen is detected must be recorded.

[Exception] Miscellaneous discharges may occur at any time if the operator uses the static sheen method for detecting free oil.

11. Other Discharge Conditions—(a) Prohibitions—Halogenated Phenol Compounds. There shall be no discharge of halogenated phenol compounds.

Rubbish, Trash, and Other Refuse. The discharge of any solid material not authorized in the permit (as described above) is prohibited.

(b) Limitations—Floating Solids or Visible Foam. There shall be no discharge of floating solids or visible foam in other than trace amounts.

Surfactants, Dispersants, and Detergents. The discharge of surfactants, dispersants, and detergents used to wash working areas shall be minimized except as necessary to comply with applicable State and Federal safety requirements.

Section B. Other Conditions

1. Samples of Wastes—If requested, the permittee shall provide EPA with a sample of any waste in a manner specified by the Agency.

Part III

Section A. General Conditions

1. Introduction. In accordance with the provisions of 40 CFR part 122.41, et seq., this permit incorporates by reference all conditions and requirements applicable to NPDES Permits set forth in the Clean Water Act, as amended (hereinafter known as the "Act"), as well as ALL applicable CFR regulations.

2. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the Clean Water Act and is grounds for enforcement action or for requiring a permittee to apply for and obtain an individual NPDES permit.

3. Toxic Pollutants. Notwithstanding III.A.5 below, if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the permittee so notified.

The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

4. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must submit notice of intent to be covered and must apply for a new permit. Continuation of the expiring permit shall be governed by regulations at 40 CFR 122.6 and any subsequent amendments.

5. Permit Flexibility. This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following (see 40 CFR 122.62.64):

(a) Violation of any terms or conditions of this permit;

(b) Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

(c) A change in any condition that requires either a temporary or a permanent reduction or elimination of the authorized discharge; or

(d) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under section 301, 304, and 307 of the Clean Water Act, if the effluent standard or limitation so issued or approved:

(a) Contains different conditions or limitations than any in the permit; or

(b) Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

6. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Duty to Provide Information. The permittee shall furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Regional Administrator upon request, copies of records required to be kept by this permit.

8. Civil and Criminal Liability. Except as provided in permit conditions on "Bypassing" and "Upsets" (see III.B.4 and III.B.5), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or misleading misrepresentation or concealment of information required to be reported by the provisions of the permit, the ACT, or applicable CFR regulations which avoids or effectively defeats the regulatory purpose of the permit may subject the permittee to criminal enforcement pursuant to 18 U.S.C. section 1001.

9. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Clean Water Act.

10. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by section 510 of the Clean Water Act.

11. Severability. The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Section B. Operation and Maintenance of Pollution Controls

1. Need to Halt or Reduce Not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

3. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

4. Bypass of Treatment Facilities—(a) Definitions. (1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

(2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(b) Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of section B, paragraphs 4.c and 4.d of this section.

(c) Notice. (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in section D, paragraph 6 (24-hour reporting).

(d) Prohibition of Bypass. (1) Bypass is prohibited, and the Regional Administrator may take enforcement action against a permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(c) The permittee submitted notices as required under Section B, paragraph 4.c.

(2) The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator determines that it will meet the three conditions listed above in section B, paragraph 4.d.(1).

5. Upset Conditions—(a) Definition. *Upset* means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond

the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an Upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of section B, paragraph 5.(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions Necessary for a Demonstration of Upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required in section D, paragraph 5; and,

(4) The permittee complied with any remedial measures required under section B, paragraph 2.

(d) Burden of Proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. Removed Substances. Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters. Any substance specifically listed within this permit may be discharged in accordance with specified conditions, terms, or limitations.

Section C. Monitoring and Records

1. Inspection and Entry. The permittee shall allow the Regional Administrator or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment),practices, or operations regulated or required under this permit; and

(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

2. Representative Sampling. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

3. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit, for a period of at least 3 years from the date of the sample, measurement, or report. This period may be extended by request of the Regional Administrator at any time.

The operator shall maintain records at development and production facilities for 3 years, wherever practicable and at a specific shore-based site whenever not practicable. The operator is responsible for maintaining records at exploratory facilities while they are discharging under the operator's control and at a specified shore-based site for the remainder of the 3-year retention period.

4. Record Contents. Records of monitoring information shall include:

(a) The date, exact place, and time of sampling or measurements,

(b) The individual(s) who performed the sampling or measurements,

(c) The date(s) analyses were performed,

(d) The individual(s) who performed the analyses,

(e) The analytical techniques or methods used, and

(f) The results of such analyses.

5. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this permit (*see* part IV.A., below).

6. Discharge Rate/Flow Measurements. Appropriate flow measurement devices consistent with accepted practices shall be selected, maintained, and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±10% from true discharge rates throughout the range of expected discharge volumes

Section D. Reporting Requirements

1. Planned Changes. The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(a) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b) (48 FR 14153, April 1, 1983, as amended at 49 FR 38049, September 26, 1984); or

(b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1) (48 FR 14153, April 1, 1983, as amended at 49 FR 38049, September 26, 1984).

2. Anticipated Noncompliance. The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers. This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

4. Discharge Monitoring Reports. The operator of each lease block shall be responsible for submitting monitoring results for each facility within each lease block. If there is more than one facility (platform, jack-up, drilling barge, etc.), the discharge shall be designated in the following manner: 101 for the first facility; 201 for the second facility; 301 for the third facility; etc.

Monitoring results obtained during the previous 12 months shall be summarized and reported on a Discharge Monitoring Report (DMR) Form (EPA No. 3320–1). The highest monthly average for each facility shall be reported. The highest daily maximum sample taken during the reporting period shall be reported as the daily maximum concentration. (See

"Definitions" for more detailed explanations of these terms.)

If any category of waste (discharge) is not applicable due to the type of operation (e.g., drilling, production), either "no activity" or "no discharge" must be reported in the appropriate categories on the DMR. A blank on the DMR indicates a non-reported discharge and signifies a violation. If no activity occurs for a permitted facility "No Activity" must be written on the DMR and it must be signed and submitted on the reporting date.

Upon receipt of a notification of intent to be covered, (part I.A.) the permittee will be notified of its specific permit number applicable to that lease block. Furthermore, the Permittee will be informed of the discharge monitoring report due date for that facility.

All notices and reports required under this permit shall be sent to EPA Region 6 at the address below: Director, Water Management Division, USEPA, Region 6, P.O. Box 50625, Dallas, TX 75270.

5. Additional Monitoring by the Permittee. If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased monitoring frequency shall also be indicated on the DMR.

6. Averaging of Measurements. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Regional Administrator in the permit.

7. Twenty-Four Hour Reporting. The permittee shall report any noncompliance which may endanger health or the environment (this includes any spill that requires oral reporting to the state regulatory authority). Information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Regional Administrator may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

The following shall be included as information which must be reported within 24 hours:

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit;

(b) Any upset which exceeds any effluent limitation in the permit.

(c) Violations of a maximum daily discharge limitation or daily minimum toxicity limitation for any of the pollutants listed by the Regional Administrator in part III of the permit to be reported within 24 hours.

The reports should be made to Region 6 by telephone at (214) 655–6593. The Regional Administrator may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

8. Other Noncompliance. The permittee shall report all instances of noncompliance not reported under part III, section D, paragraphs 4 and 7 at the time monitoring reports are submitted. The reports shall contain the information listed in section D, paragraph 7.

9. Other Information. When the permittee becomes aware that it failed to submit any revellant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, it shall promptly submit such facts or information.

10. Changes in Discharges of Toxic Substances. For any toxic pollutant (see appendix A) that is not limited in this permit, either as an additive itself or as a component in an additive formulation, the permittee shall notify the Regional Administrator as soon as he knows or has reason to believe:

(a) That any activity has occurred or will occur which would result in the discharge of such toxic pollutants, on a routine or frequent basis, if that discharge will exceed the highest of the "notification levels" described at 40 CFR 122.42(a)(1) (i) and (ii);

(b) That any activity has occurred or will occur which would result in any discharge of such toxic pollutants, on a non-routine or infrequent basis, if that discharge will exceed the highest of the "notification levels" described at 40 CFR 122.42 (a)(2) (i) and (ii).

11. Signatory Requirements. All applications, reports, or information submitted to the Regional Administrator shall be signed and certified as required at 40 CFR 122.22.

(a) All permit applications shall be signed as follows:

(1) For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or

(ii) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

(b) Authorized Representative. All reports required by the permit and other information requested by the Regional Administrator shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and,

(3) The written authorization is submitted to the Regional Administrator.

(c) Changes to Authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly

responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

12. Availability of Reports. Except for data determined to be confidential under 40 CFR part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of the Regional Administrator. As required by the Clean Water Act, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

13. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

Section E. Penalties for Violations of Permit Conditions

1. Criminal. (a) *Negligent Violations.* The Act provides that any person who negligently violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

(b) *Knowing Violations.* The Act provides that any person who knowingly violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

(c) *Knowing Endangerment.* The Act provides that any person who knowingly violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000 per day of violation, or by imprisonment for not more than 15 years, or both.

(d) *False Statements.* The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both. (See section 309.c.4 of the Clean Water Act.)

2. Civil Penalties. The Clean Water Act at section 309 provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed $25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. The maximum penalty may be assessed for each violation occurring on a single day. A single operational upset which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation.

3. Administrative Penalties. The Act at section 309 allows that the Regional Administrator may assess a Class I or Class II civil penalty for violations of sections 301, 302, 306, 307, 308, 318, or 405 of the Act. A Class I penalty may not exceed $10,000 per violation except that the maximum amount shall not exceed $25,000. A Class II penalty may not exceed $10,000 per day for each day during which the violation continues, except that the maximum amount shall not exceed $125,000. An upset that leads to violations of more than one pollutant parameter will be treated as a single violation.

Part IV

Section A. Test Procedures

For test procedures not specified below, the only authorized procedures are those described at 40 CFR part 136.

1. Visual Sheen Test. The visual sheen test is used to detect free oil by observing the surface of the receiving water for the presence of a sheen while discharging. A sheen is defined as a 'silvery' or 'metallic' sheen, gloss, or increased reflectivity; visual color; or iridescence on the water surface. The operator must conduct a visual sheen test only at times when a sheen can be observed. This restriction eliminates observations at night or when atmospheric or surface conditions prohibit the observer from detecting a sheen (e.g. overcast skies, rough seas, etc.). Certain discharges can only occur if a visual sheen test can be conducted.

The observer must be positioned on the rig or platform, relative to both the discharge point and current flow at the time of discharge, such that the observer can detect a sheen should it surface down current from the discharge. For discharges that have been occurring for at least 15 minutes previously, observations may be made any time thereafter. For discharges of less than 15 minutes duration, observations must be made during both discharge and at 5 minutes after discharge has ceased. Discharges that are prohibited unless a visual sheen test can be conducted may be allowed if the operator uses the static sheen method for detecting free oil.

2. Static Sheen Test. The static sheen test shall be conducted according to the following methods; "Minimal Volume Static Sheen Test".

1. Scope and Application. This method is to be used as a compliance test for all discharges in this permit with the "no discharge of free oil" requirement, when it is not possible for the operator to accomplish a visual sheen observation on the surface of the receiving water. Free oil refers to any oil contained in a waste stream that when discharged will cause a film or sheen on or a discoloration of the surface of the receiving water.

2. Summary of Method. Samples of drilling fluids, deck drainage, well treatment, completion and workover fluids, formation test fluids, and treated wastewater from drilling fluid dewatering activities (5 ml) and samples of drill cuttings and produced sand (15 g, wet weight basis) are introduced into a 125 ml sample container (surface area approximately 26.5 cm^2 or 4.1 in^2) with test water from a drinking-quality water source. Fluid samples are introduced by automatic pipet into the container after filling with test water; samples of solids are introduced prior to adding test water. Care should be taken to minimize agitation when adding the fluid sample or the receiving water. Observations are made immediately and five minutes later. To aid in interpretation, an oil-free drilling fluid blank and a 0.5% volume to volume (v/v) oil contaminated drilling fluid standard are tested concurrently with the effluent samples. Observations are made to ascertain if these materials cause a sheen, iridescence, gloss, or increased reflectance on the surface of the test demonstration that the tested material contains "free oil", and

therefore results in a prohibition on its discharge into receiving waters.

3. Interferences. Residual "free oil" adhering to sampling containers and the stainless steel spatula (used to transfer drill cuttings or produced sand) will be the principal sources of contamination problems. These problems should only occur if improperly washed and cleaned equipment are used for the test. The use of disposable equipment minimizes the potential for similar contamination from pipets and test containers.

4. Apparatus, Materials, and Reagents.

4.1 Apparatus.

4.1.1 Sampling Containers—1 L polyethylene screw-cap containers.

4.1.2 Graduated cylinder—100 ml graduated cylinder required only for operators where predilution of mud discharges is required.

4.1.3 Triple-beam scale.

4.1.4 Automatic pipet capable of delivering 5 ml volumes of test samples, and disposable polypropylene pipet tips. (Equivalent to Oxford MACRO-SET 5–10 ml transfer pipet, product number 8885–890502 and MACRO-SET 5–10 ml pipet tips, approximately 132 mm x 11 mm, product number 8885–081508).

4.1.5 Stainless steel spatula.

4.1.6 Test container—120 ml (4 oz) polypropylene or polyethylene specimen or sample cups, with or without screw-cap covers; approximate dimensions 72 mm high × 60 mm top diameter (od) / 48 mm bottom diameter (od). Surface area approximately 26.5 cm^2 (59 mm id). (Equivalent to Fisherbrand 118 ml clear polypropylene screw-cap containers, product number 14–375–112A or Lab-Tek 4 oz polyethylene disposal cups, product number 4719).

4.2 Materials and Reagents.

4.2.1 Test water—from a drinking-quality water source.

4.2.2 Oil-free generic drilling fluids.

4.2.3 Samples of diesel oil or mineral oil, added either directly or as a component of a complex additive, or diesel oil from the rigs fuel supply.

5. Calibration. None currently specified.

6. Quality Control Procedures. Both negative control and positive control samples are tested concurrently with the effluent test sample. The negative control consists of an oil-free sample of the type of generic drilling mud that was being used at the time that sampling was performed. The positive control is this same generic mud to which a 0.5% (v/v) spike of oil has been freshly added (within 12 hours, if tightly sealed in a screw-capped container; within 1 hour if left open to air). The added oil should be one of the following: (a) If no oil or oil-based additives have been used in the mud system, diesel oil from the rig's fuel supply; (b) if a specific diesel or mineral oil has been used in the mud system, a sample of that oil.

7. Sample Collection and Handling.

7.1 Sampling containers must be thoroughly washed with detergent, rinsed a minimum of three times with fresh water, and allowed to air dry before samples are collected.

7.2 Samples of drilling fluid must be obtained once per day unless otherwise specified in a permit from the active mud pit; the sample volume should range between 200 ml and 500 ml.

7.3 Samples of drill cuttings or produced sand must be obtained from each type of solids control equipment from which the discharges occur on any given day prior to the addition of any washdown water; samples should range between 200 g and 500 g.

7.4 Samples of deck drainage, well treatment, completion and workover fluids, formation test fluids and treated wastewater from drilling fluid dewatering activities must be obtained from the holding facility prior to discharge; the sample volume should range between 200 ml and 500 ml.

7.5 Samples must be tightly sealed with screw-cap enclosures immediately after sample collection and tested no later than 1 hour after collection.

7.6 If predilution is imposed as a permit condition, drilling fluid samples must be diluted at the same ratio with the same prediluting water as the discharged muds until the slurry is homogeneously mixed. Muds should be mixed in screw-wap sampling containers by shaking.

8. Procedure.

8.1 Test water that will be used as "receiving water" in the test must be obtained from a drinking-quality source of water. The test container must have an air to liquid interface area of 26.5±2.5 cm^2. The surface of the water should be no more than 1 cm below the top of the test container.

8.2 Drilling fluid materials, deck drainage, well treatment, completion and workover fluids, formation test fluids, and treated wastewater from drilling fluid dewatering activities must be sampled by introducing the disposable pipet tip of the automatic pipet 1.5 inches below the surface of the effluent. Fluid is withdrawn from the effluent sample and carefully transferred to the test container without cleaning or scraping the pipet tip or touching it to the sides of either the effluent sample container or the test container. The effluent sample is then transferred to the test container by introducing the pipet tip containing the test sample into the test container at least 1.5 inches below the surface level of the test water, and the test material is then slowly injected into the test water. Care must be taken to keep the pipet tip stationary as possible while expelling the sample to avoid creating turbulence in the test container. Care also must be taken to avoid discharging air bubbles, which can occur especially for viscous muds, and which generally occur when most of the sample has been expelled. Test containers and pipet tips must be used only once and discarded.

8.3 Drill cuttings or produced sand should be transferred from the sampling container directly into the test containers. Test containers should be tared and 15 g of wet solids added to the container. Test water should be added slowly; the container should be tipped slightly so that water can be added along the wall of the container and not directly onto the solids material at the bottom of the container.

8.4 Observations must be made immediately and 5 minutes after the test material is transferred to the test container. Viewing points above the test container should be made from at least 3 perspectives of the test container, at viewing angles of approximately 60° and 30° from the horizontal. Illumination of the test container must be representative of adequate lighting for a working environment to conduct routine laboratory procedures. The order for the testing should be (1) the negative control, (2) the positive control, (3) the test sample(s).

8.5 Detection of a "silvery" or "metallic" sheen, gloss, or increased reflectivity; visual color; or iridescence on the surface of the test water shall constitute a demonstration of "free oil". These visual observations include droplets, patches, streaks, or sheets of such altered surface characteristics. Generally, the appearance of free oil, as oil content increases, will proceed from droplets to swirls or streaks, to patches or sheets. With increasing time, the larger surface forms generally break down into the smaller forms, i.e. sheets will cast off swirls, which further desegregate into droplets. Iridescence, i.e., a multi-color appearance of the oil film, is generally a transient phenomenon; in many cases it may only last for 15–30 seconds after the sample is introduced. It may occur immediately after the test material added (or test water in the case of effluents solids), but as the film spreads and its thickness decreases, color will degenerate into a "silvery" appearance, or areas of increased light reflectance.

8.5 Interpretation

Several interferences in detecting a sheen can occur with drilling fluids. Two of these are bubbling or foaming in the test container and particulate surface deposits. Bubbles may be formed when pipetting the test sample into the test water (especially for viscous muds) and some muds (e.g., lime muds) may foam or effervesce for a short time when added to water.

Bubbles may interfere with the ability to detect oil, leading to false negative responses. Care must be taken to carefully observe the instant that the pipet tip touches the surface of the test water and the first few seconds thereafter. However, it is also useful to wait a minute or two and recheck the test containers to determine if a sheen has developed after foaming has stopped and bubbles have broken. The appearance of a sheen must persist for at least 30 seconds before it may be scored as a positive result.

Particulate surface deposits also interfere with interpreting the sheen test results, leading to false positive results. This interference occurs when drilling fluid fines remain at the surface of the test water, normally occurring for the first 15–30 seconds, after which time they sink into the test water. Some fines do not sink, however. Generally, these can be differentiated from oil sheens because fines have a "flat" appearance whereas oil sheens have a "glossy" or more reflective appearance. Also, oil sheens tend to "disappear" when the viewing angle is changed away from the angle of reflected light. Surface patches of particulate fines, on the other hand, tend to appear as darkened patches, or shadow-like appearances regardless of the viewing angle.

Section B. Definitions

Administrator means the administrator of EPA Region 6, or an authorized representative.

Areas of Biological Concern (ABC) are locations identified by the State of Louisiana as "no activity zones" or areas determined by EPA and the State, collectively, containing significant biological resources or features that require a "No Discharge" conditions.

Average daily discharge limitation means the highest allowable average of discharges over a 24-hour period, calculated as the sum of all discharges measured divided by the number of discharges measured that day.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of discharges measured that month.

Batch or bulk discharge any discharge of a discrete volume or mass of effluent from a pit, tank or similar container that occurs on a one time or infrequent or irregular basis.

Batch or bulk treatment any treatment of a discrete volume or mass of effluent from a pit, tank, or similar container prior to discharge.

Blow-out preventer control fluid is fluid used to actuate the hydraulic equipment on the blow-out preventer.

BOD5 five day biological oxygen demand.

Boiler blowdown is discharge from boilers necessary to minimize solids build-up in the boilers, includes vents from boilers and other heating systems.

Clinkers small lumps of melted plastic.

Coastal any body of water landward of the territorial seas or any wetlands adjacent to such waters.

COD chemical oxygen demand.

Completion fluids salt solutions, weighted brines, polymers and various additives used to prevent damage to the well bore during operations which prepare the drilled well for hydrocarbon production. These fluids move into the formation and return to the surface as a slug with the produced water. Drilling muds remaining in the wellbore during logging, casing and cementing operations or during temporary abandonment of the well are not considered completion fluids and are regulated by drilling fluids requirements.

Daily maximum discharge limitation means the highest allowable "daily discharge" during the calendar month.

Deck drainage is all waste resulting from platform washings, deck washings, spills, rainwater, and runoff from curbs, gutters, and drains, including drip pans and wash areas.

Desalinization unit discharge means wastewater associated with the process of creating fresh water from seawater.

Diatomaceous earth filter media means filter media used to filter seawater or other authorized completion fluids and subsequently washed from the filter.

Domestic waste is discharges from galleys, sinks, showers, safety showers, eye wash stations, hand wash stations and laundries.

Drill cuttings are particles generated by drilling into the subsurface geological formations and carried to the surface with the drilling fluid.

Drilling fluid is any fluid sent down the hole, including drilling muds and any specialty products, from the time a well is begun until final cessation of drilling in that hole.

Excess Cement Slurry the excess cement including additives and wastes from equipment washdown after a cementing operation.

Free Oil is oil that causes a sheen when discharges are released or when a static sheen test is used.

Formation test fluids are the discharge that would occur should hydrocarbons be located during exploratory drilling and tested for formation pressure and content.

Garbage means all kinds of victual, domestic and operational waste * * * generated during the normal operation of the ship and liable to be disposed of continuously or periodically * * * (*see* MARPOL 73/78 regulations).

Grab sample a single representative effluent sample taken at the recognized discharge point in as short a period of time as feasible.

Graywater means drainage from dishwater, shower, laundry, bath, and washbasin drains and does not include drainage from toilets, urinals, hospitals, and drainage from cargo areas. (*See* MARPOL 73/78 regulations.)

Inverse emulsion drilling fluids means an oil-based drilling fluid that also contains a large amount of water.

Maximum hourly rate means the greatest number of barrels of drilling fluids discharged within one hour, expressed as barrels per hour.

MGD units of flow measurement, as million gallons per day.

MPN most probable number.

Muds, cuttings, and cement at the seafloor are discharges which occur at the seafloor prior to installation of the marine riser and during marine riser disconnect and well abandonment and plugging operations.

No Activity Zones are those areas identified by MMS where no structures, drilling rigs, or pipelines will be allowed. See Areas of Biological Concern.

No Discharge Areas are areas specified by EPA where discharge of pollutants may not occur.

Packer Fluid low solids fluids between the packer, production string and well casing, (*see* workover fluids).

Priority Pollutants are those chemicals or elements identified by EPA, pursuant to section 307 of the Clean Water Act, and 40 CFR 401.15. *See* appendix A.

Sanitary waste means human body waste discharged from toilets and urinals.

Source water and sand means water from non-hydrocarbon bearing formations for the purpose of pressure maintenance or secondary recovery, including the entrained solids.

Static Sheen is the procedure described in part IV, section A.2. of the permit.

Territorial Seas is "the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open ocean and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles" (CWA section 502).

TDS total dissolved solids.

Toxic Pollutants (see Priority Pollutants, appendix A).

Treated wastewater from dewatered drilling fluids and cuttings means wastewater from reserve pits which have been flocculated or otherwise chemically or mechanically treated to meet specific discharge conditions.

TSS total suspended solids.

Uncontaminated ballast/bilge water is seawater added or removed to maintain proper draft of a vessel.

Uncontaminated Freshwater: Freshwater which is returned to the receiving stream without the addition of any chemicals; included are (1) discharges of excess freshwater that permit the continuous operation of fire control and utility lift pumps, (2) excess freshwater from pressure maintenance and secondary recovery projects, (3) water released during the training and testing of personnel in fire protection, (4) water used to pressure test piping, and (5) once through, non-contact cooling water.

Uncontaminated Seawater is seawater which is returned to the sea without the addition of chemicals. Included are: (1) Discharges of excess seawater which permit the continuous operation of fire control and utility lift pumps, (2) excess seawater from pressure maintenance and secondary recovery projects, (3) water released during the training and testing of personnel in fire protection, (4) seawater used to pressure test piping, and (5) once through, noncontact cooling water.

Visual Sheen means a "silvery" or "metallic" sheen, gloss, or increased reflectivity; visual color; or iridescence on the water surface.

Well treatment (stimulation) fluids any fluid used to restore or improve productivity by chemically or physically altering hydrocarbon-bearing strata after a well has been drilled. These fluids move into the formation and return to the surface as a slug with the produced water. Stimulation fluids include substances such as acids, solvents and propping agents.

Workover fluids salt solutions, weighted brines, polymers and other specialty additives used in a producing well to allow safe repair and maintenance or abandonment procedures. High solids drilling fluids used during workover operations are not considered workover fluids by definition and therefore must meet drilling fluid effluent limitations before discharge may occur. Packer Fluids, low solids fluids between the packer, production string and well casing, are considered to be workover fluids and must meet only the effluent requirements imposed on workover fluids.

TABLE 1—PERMIT CONDITIONS AND DISCHARGE MONITORING FREQUENCY

Effluent characteristic	Discharge limitation	Monitoring requirements		
		Measurement frequency	Sample type/method	Recorded value(s)
(A). Drilling Fluids—no discharge.				
(B). Drill Cuttings—no discharge.				
(C). Treated Wastewater from Drilling Fluids/Cuttings, Dewatering Activities, and Pit Closure Activities.				
Free oil	No free oil	Once/day [1]	Visual sheen on receiving water [2]	Number of days sheen observed.
Oil and grease	15 mg/l	Once/day [1]	Grab	Daily maximum.
TSS	50 mg/l	Once/day [1]	Grab	Daily maximum.
COD	125 mg/l	Once/day [1]	Grab	Daily maximum.
pH	6.0–9.0 [3]	Once/day [1]	Grab	pH value.
Chlorides	500 mg/l	Once/day [1]	Grab	Daily maximum.
Total chromium	0.5 mg/l	Once/day [1]	Grab	Daily maximum.
Zinc	5.0 mg/l	Once/day [1]	Grab	Daily maximum.
Volume	Report (bbls)	Once/day [1]	Estimate	Daily total. [4]
(D). Deck Drainage.				
Free oil	No free oil	Once/day	Visual sheen on receiving water [2]	Number of days sheen observed.
Volume	Report (bbls)	Once/month	Estimate	Monthly total. [4]
(E) Formation Test Fluids.				
Free oil	No free oil	Once/discharge	Visual sheen on receiving water [2]	Number of days sheen observed.
pH	6.0–9.0 [3]	Once/discharge	Grab	pH value.
Volume	Report (bbls)	Once/discharge	Estimate	Monthly total. [4]
LDEQ field wide permits—no discharge to lakes, rivers, streams, and freshwater to intermediate wetlands.				
(F). Well Treatment, Completion, and Workover Fluids.				
Priority Pollutants	No discharge	Once/discharge	Certification [5]	
Free oil	No free oil	Once/discharge	Visual sheen on receiving water [2]	Number of days sheen observed.
pH	6.0–9.0 [3]	Once/discharge	Grab	pH value.
Volume	Report (bbls)	Once/discharge	Estimate	Monthly total.
(G). Sanitary Waste.				
Solids	No floating solids	Once/day	Observation [6]	Number of days solids observed.
BOD5	45 mg/l	Once/quarter	Grab	Daily maximum.
TSS	45 mg/l	Once/quarter	Grab	Daily maximum.
Fecal coliform	200/100 ml	Once/quarter	Grab	Daily maximum.
Flow	Report (MGD)	Once/month	Estimate	Monthly avg. [4]
(H). Domestic Waste.				
Solids	No discharge [7]			
(I). Excess Cement Slurry.				
Free oil	No free oil	Once/discharge	Visual sheen on receiving water [2]	Number of days sheen observed.

TABLE 1—PERMIT CONDITIONS AND DISCHARGE MONITORING FREQUENCY—Continued

Effluent characteristic	Discharge limitation	Monitoring requirements		
		Measurement frequency	Sample type/method	Recorded value(s)
LDEQ field wide permits—no discharge to lakes, rivers, streams, and freshwater to intermediate wetlands. (J). Miscellaneous Discharges: Desalinization Unit Discharge, Blowout Preventer Fluid, Uncontaminated Ballast Water, Uncontaminated Bilge Water, Mud, Cuttings, and Cement at the Seafloor, Uncontaminated Seawater, Uncontaminated Freshwater, Boiler Blowdown, Diatomaceous Earth Filter Media.				
Free oil	No free oil	Once/day [1]	Visual sheen on receiving water [2]	Number of days sheen observed.

[1] If effluent is batch treated and discharged, the monitoring requirement is once per discharge event.
[2] Discharge is possible during times other than when a visual sheen observation is possible, if the static sheen test method is used.
[3] pH at the point of discharge shall not be less than 6.0 or greater than 9.0.
[4] Information shall be recorded, but not reported unless specifically requested by EPA.
[5] No discharge except in trace amounts. Certification that the discharge does not contain priority pollutants (except in trace amounts) is required by letter to the Region. Information on the specific chemical composition shall be recorded but not reported unless requested by EPA.
[6] Monitoring by visual observation of the surface of the receiving water in the vicinity of outfall(s) shall be done during daylight at the time of maximum estimated discharge.
[7] Annex V of MARPOL 73/78 prohibits the discharge of "garbage" including food wastes, incineration ash and clinkers. Graywater, drainage from dishwater, shower, laundry, bath, and washbasins may be discharged.

Appendix A—Priority Pollutant List

Acenaphtene
Acrolein
Acrylonitrile
Benzene
Benzidine
Carbon tetrachloride (tetrachloromethane)
Chlorobenzene
1,2,4-trichlorobenzene
Hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
Hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2—tetrachloroethane
Chloroethane
Bis(2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
Parachlorometacresol
Chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzene
1,1-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
1,2-dichloropropylene (1,3-dichloropropene)
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Ethylbenzene
Fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
Bis(2-chloroisopropyl) ether
Bis(2-chloroethyoxy) methane
Methylene chloride (dichloromethane)
Methyl chloride (dichloromethane)
Methyl bromide (bromomethane)
Bromoform (tribromomethane)
Dichlorobromomethane
Chlorodibromomethane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
Pentachlorophenol
Phenol
Bis(2-ethylhexyl)phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl Phthalate
Dimethyl phthalate 1,2-benzanthracene (benzo(a)anthracene)
Benzo(a)pyrene (3,4-benzo-pyrene)
3,4-Benzofluoranthene (benzo(b)fluoranthene)
11,12-benzofluoranthene (benzo(b)fluoranthene)
Chrysene
Acenaphtylene
Anthracene
1,12-benzoperylene(benzo(ghi)perylene)
Fluorene
Phenanthrene
1,2,5,6-dibenzanthracene (dibenzo(h)anthracene)
Indeno(1,2,3-cd)pyrene(2,3-o-phenylene pyrene)
Pyrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride (chloroethylene)
Aldrin
Dieldrin
Chlordane(tech. mixture and metabolites)
4,4-DDT
4,4-DDE (p,p-DDX)
4,4-DDD (p,p-TDE)
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide (BHC-hexachlorocyclohexane)
Alpha-BHC
Beta-BHC
Gamma-BHC (lindane)
Delta-BHC (PCB-polychlorinated biphenyls)
PCB–1242 (Arochlor 1242)
PCB–1254 (Arochlor 1254)
PCB–1221 (Arochlor 1221)
PCB–1232 (Arochlor 1232)
PCB–1248 (Arochlor 1248)
PCB–1260 (Arochlor 1260)
PCB–1016 (Arochlor 1016)
Toxaphene
Antimony
Arsenic
Asbestos
Beryllium
Cadmium
Chromium
Copper
Cyanide, Total
Lead
Mercury
Nickel
Selenium
N-nitrosodiphenylamine
2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)
Silver Thallium Zinc

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ENVIRONMENTAL PROTECTION AGENCY

[FRL–3784–2]

Proposed NPDES General Permit for Coastal Waters of Texas

AGENCY: Environmental Protection Agency.

ACTION: Notice of draft NPDES general permit.

SUMMARY: The Regional Administrator of Region 6 (the "Region") is today issuing a draft National Pollutant Discharge Elimination System (NPDES) general permit for discharges in the Coastal Subcategory of the Oil and Gas Extraction Point Source Category (40 CFR part 435, subpart D). This draft NPDES general permit establishes proposed effluent limitations, prohibitions, reporting requirements, and other conditions on discharges from oil and gas facilities engaged in production, field exploration, drilling, well completion, and well treatment