

**AN UPDATE ON THE FEDERAL REQUIREMENTS
FOR PRODUCED WATER DISCHARGES**

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EPA Region 6 has NPDES general permits in place regulating nearly all discharges of produced water from the Oil and Gas Extraction Point Source Category to Waters of the United States. These permits are:

Onshore Subcategory permits for Texas, Louisiana, Oklahoma and New Mexico which expired in February, 1996, and are administratively extended;

Texas and Louisiana permits, which expired in February, 2000 and are administratively extended, covering produced water discharges from Coastal Subcategory wells, as well as from Stripper Subcategory wells and Offshore Subcategory wells that discharge into coastal waters;

General Permit covering the territorial seas of Louisiana issued in November, 1997;

Outer Continental Shelf (OCS) general permit reissued in April, 1999.

In addition, Region 6 has Coastal Subcategory permits for Texas and Louisiana covering waste discharges from drilling operations and production operations except for the discharge of produced water. These permits expired in October, 1998, and have been administratively extended.

A diagram has been included on the last page of this paper illustrating the location of the various Subcategories into which EPA has divided the Oil and Gas Extraction Category in Region 6.

ONSHORE PERMITS

The Onshore Subcategory permits were issued in February, 1991. These permits prohibit the discharge of produced water, as well as other waste waters, from oil and gas operations in this Subcategory. These Onshore permits implemented the 1979 national technology guidelines for the Onshore Subcategory which prohibit the discharge of wastes from oil and gas operations. The Onshore

Subcategory covers operations where the wellhead is located landward of the Chapman Line, and oil production is greater than 10 bbl/day. Land-based wells seaward of the Chapman Line were removed from the Onshore Subcategory and put in the Coastal Subcategory by a 1981 court decision.

The Onshore Subcategory permits do not cover wells in the Stripper Subcategory. The Stripper Subcategory includes oil wells which are in the same geographical area as the Onshore Subcategory but have a field-wide average maximum feasible crude oil production rate of 10 bbl/day or less per well.

The Region 6 Onshore permits do, however, cover and prohibit waste water discharge from new stripper wells; that is, wells which originally were in the Onshore Subcategory and were covered by these permits but whose average production per field fell below the 10 bbl/day that defines the Stripper Subcategory after the effective date of these permits.

The Onshore Subcategory permits do not cover wells in the Agriculture and Wildlife Subcategory. The Agriculture and Wildlife Subcategory includes wells west of the 98th meridian whose produced water is used for agricultural irrigation, and wildlife and livestock watering.

Although these permits expired in February, 1996, they have been administratively extended until the permits are reissued.

COASTAL PERMITS

In September, 1993, Region 6 issued Louisiana and Texas general permits covering discharges from Coastal Subcategory wells, except for produced water and produced sand. The main requirement of these permits is the prohibition on discharge of drilling muds and cuttings. Other discharges, such as deck drainage, formation test fluids, etc. are generally allowed to be discharged but have to meet certain limits. Those permits expired in October, 1998, but are administratively continued for leases and lease blocks covered by the now-expired permits. EPA is planning to shortly propose reissuance of the Texas permit. Since Louisiana now has the authority to issue NPDES permits, the Louisiana Department of Environmental Quality will have the responsibility of reissuing the Louisiana permit. The reissued

permits will include several more stringent requirements which are part of the Coastal Subcategory guidelines, as discussed, below.

In January, 1995, Region 6 issued permits prohibiting the discharge of produced water in Louisiana and Texas. These permits regulate produced water from all wells in the Coastal Subcategory (primarily wells located between the inner boundary of the territorial seas and the Chapman Line) as well as produced water discharges into Coastal Subcategory waters from wells in the Stripper Subcategory and Offshore Subcategory. The Louisiana permit did not, however, cover wells in the Offshore Subcategory that discharge to the main passes in the Mississippi River. The Texas permit had one exception to the no discharge requirement. That permit does allow produced water discharge from a group of south Texas stripper wells having a very low chloride produced water. These permits expired in February, 2000 and are administratively extended. Louisiana will have the responsibility for reissuing the Louisiana produced water general permit. When EPA reissues the Coastal Subcategory regulating drilling, as discussed above, the Texas coastal produced water permit will be reissued and combined with the Texas coastal "drilling" general permit. Discharges from all Texas Coastal Subcategory oil and gas extraction activity will then be regulated by one permit.

COASTAL SUBCATEGORY GUIDELINES

EPA Headquarters issued technology guidelines for Coastal Subcategory wells in December, 1996. Most of the limits in the guidelines are the same as the limits in the Region 6 Coastal Subcategory general permits. Specifically, both the guidelines and the permits require no discharge of produced water and sand, and no discharge of drilling fluids and cuttings. The guidelines requirements which are more stringent than the permits are: the guidelines prohibit the discharge of well treatment, completion and workover fluids, and they prohibit discharge of dewatering effluent from recently active reserve pits. The guidelines, however, allow discharge from pits which have not received drilling fluids and/or drill cuttings since January 15, 1997. These guidelines also prohibit the discharge of produced water from Offshore Subcategory wells to waters landward of the territorial seas, including cases where produced water from

Offshore Subcategory wells is piped to shore and discharged to the main passes of the Mississippi River.

LOUISIANA TERRITORIAL SEAS PERMIT

In November, 1997, Region 6 issued a general permit for oil and gas operations located in the Offshore Subcategory and discharging to the territorial seas of Louisiana. The territorial seas begins at the line of ordinary low water along the part of the coast which is in direct contact with the open sea, and extends out 3 nautical miles.

The permit has produced water limits designed to protect state water quality standards as well as technology-based oil and grease limits of 29 mg/l average and 42 mg/l maximum. The water quality-based limits include limits on thallium, lead, benzene, total phenols and chronic toxicity. These water quality-based limits are a function of the produced water discharge rate, pipe diameter and the water depth into which the discharge is being made. The permits also prohibit discharge of muds and cuttings, as required by the Offshore Subcategory guidelines.

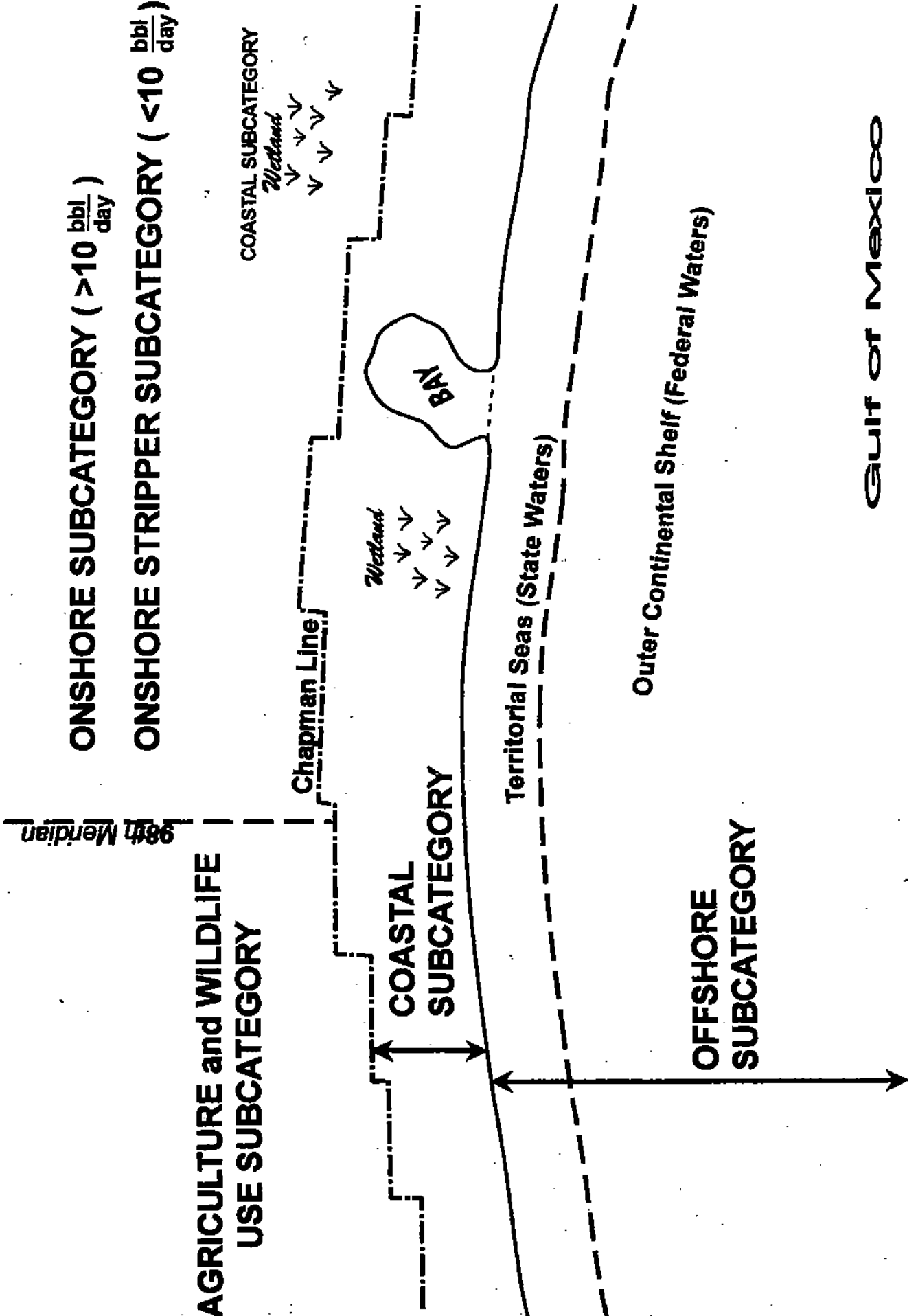
OCS PERMIT

The latest reissuance of the OCS permit covering oil and gas operations in federal waters in the Gulf of Mexico (seaward of the Louisiana and Texas territorial seas) occurred in April, 1999. The produced water limits in the proposed permit consist of oil and grease limits of 29 mg/l monthly average and 42 mg/l daily maximum, and a chronic toxicity limit which is dependent on the discharge rate, the pipe diameter, and the distance from the discharge pipe to the sea floor. The reissued permit has somewhat more stringent toxicity limits for produced water than the previous permit and has the requirement to monitor for oil and grease when the produced water discharge causes a visual sheen. In addition, the discharge rate limit in the previous permit was removed from the reissued permit.

SUMMARY

As shown by the permits Region 6 has now issued, most discharges of produced water landward of the Gulf of Mexico are prohibited; whereas, most produced water discharges in the Gulf are allowed.

OIL & GAS EXPLORATION and PRODUCTION CATEGORY



ONSHORE SUBCATEGORY ($>10 \frac{\text{bbl}}{\text{day}}$)

ONSHORE STRIPPER SUBCATEGORY ($<10 \frac{\text{bbl}}{\text{day}}$)

AGRICULTURE and WILDLIFE
USE SUBCATEGORY

COASTAL SUBCATEGORY

Chapman Line

COASTAL
SUBCATEGORY

Wetland



BAY

Territorial Seas (State Waters)

Outer Continental Shelf (Federal Waters)

OFFSHORE
SUBCATEGORY

Gulf of Mexico