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STAFF REPORT AND RECOMMENDATION ON CONSISTENCY DETERMINATION

Federal Agency: **U.S. Environmental Protection Agency, Region 9**

Consistency Determination No.: **CD-109-03**

Location: Southern California federal waters.

Project Description: Issue general National Pollutant Discharge Elimination System ("NPDES") permit CAG280000 for discharges from 22 offshore oil and gas exploration, development and production facilities located in federal waters off the coast of southern California. Discharges include: drilling muds and cuttings; produced water; well treatment, completion and workover fluids; deck drainage; sanitary wastes and domestic wastes; non-contact cooling water; and fire control test water.

Substantive File Documents: Appendix A

Synopsis

In December 2000, the Environmental Protection Agency ("EPA") submitted to the Coastal Commission a consistency certification for a revised general National Pollutant Discharge Elimination System ("NPDES") permit CAG280000 for discharges from 22 oil and gas platforms located in federal waters off the coast of Southern California. The EPA originally issued the general permit in 1982, which was reissued in 1983. Of the 22 platforms, 14 operate under water quality standards set by the 1982 general permit and eight operate under individual NPDES permits that the EPA issued between 1978 and 1993. All individual permits and the general permit covering the 22 platforms have expired.[1]

At the January 2001, Coastal Commission hearing on the proposed new general permit, the EPA made commitments to revise the permit in response to concerns raised by the Commission. One of the modifications agreed to by the EPA was: For produced water discharges, inclusion in the permit of effluent standards based on the more stringent of EPA water quality criteria or California Ocean Plan standards. With the changes, the Commission concurred that the general permit was consistent with California's Coastal Management Program ("CCMP").

Soon after the Commission hearing, however, the Western States Petroleum Association ("WSPA") objected to the imposition of Ocean Plan criteria applying at the point of compliance (*i.e.*, the edge of the 100-meter mixing zone) on the grounds that: (a) the Ocean Plan is not an enforceable policy of the CCMP, and (b) even if it is an enforceable policy of the CCMP, the Ocean Plan water quality criteria do not apply outside State waters, and should only be considered if a discharge outside State waters (*e.g.*, discharges into federal waters) cause a violation of the Ocean Plan criteria within State waters.

Because of WSPA's opposition to the new Commission-approved general permit, the EPA has refused to issue it. Instead, in December 2003, the EPA resubmitted for consistency review proposed general permit CAG280000 with one key revision: Consistent with the position of WSPA, the resubmitted version of general permit CAG280000 applies Ocean Plan requirements not at each platform's point of compliance, but rather at the seaward boundary of the territorial seas of the State of California. The criteria that would apply to a given discharge would be the more stringent of EPA criteria applied at the edge of the 100-meter mixing zone (100 meters from the discharge pipe) or Ocean Plan objectives applied at the boundary of California's territorial seas. This revised resubmitted general permit is evaluated herein.

For the reasons discussed in detail in Section 10.1 of this staff report, the Commission staff strongly recommends that the Commission **object** to the EPA's consistency determination CD-109-03. The Commission staff believes the resubmitted version of the new general permit is not consistent with the enforceable policies of the CCMP due to the EPA's refusal to require each

[1] The EPA has determined that each of these expired general and individual permits qualify for automatic extension without alteration under the provision of 40 CFR §§122.6.

discharger to meet Ocean Plan requirements at the location of each platform's discharge (*i.e.*, at the edge of the 100-meter mixing zone).

If the EPA required each discharger to satisfy the Ocean Plan's water quality objectives and numeric effluent limitations at each platform's point of compliance, the Commission staff believes the Commission could find the proposed activities consistent with the enforceable policies of the CCMP.

1.0 PROJECT DESCRIPTION

The United States Environmental Protection Agency, Region 9 ("EPA") proposes to issue a general National Pollutant Discharge Elimination System ("NPDES") permit for oil and gas waste discharges from 22 Outer Continental Shelf ("OCS") oil and gas platforms located in federal waters off the coast of Southern California (from an area west of Point Arguello to an area southeast of Santa Barbara).[2] In its regulations[3] the EPA acknowledges that this action is presumptively subject to the consistency reviews requirements of section 307(c) of the Coastal Zone Mangement Act (CZMA) (16 USC § 1456(c)). Most platforms are located within the Santa Barbara Channel.[4] The term of the proposed general permit is five years.

The proposed general permit would apply to the existing 22 development and production platforms, and new exploratory drilling operations located in and discharging to 83 specified lease blocks in federal waters on the Pacific OCS. New source production platforms would not be covered by the proposed permit and would require individual NPDES permits. Also, the EPA may require any discharger authorized by the general permit to apply for and/or obtain an individual NPDES permit if the terms of the general permit are determined to be inappropriate for a particular facility.

Discharges Authorized by Permit. The proposed general permit would authorize the following discharges (subject to the terms and conditions of the permit) in all areas of coverage: drilling fluids and drill cuttings; produced water; well treatment, completion and workover fluids; deck drainage; domestic and sanitary waste; blowout preventer fluid; desalination unit discharge; fire control system test water; non-contact cooling water; ballast and storage displacement water; bilge water; boiler blowdown; test fluids; diatomaceous earth filter media; bulk transfer material overflow; uncontaminated freshwater; water flooding discharges; laboratory wastes; excess cement slurry; hydrotest water; and hydrogen sulfide gas processing waste water.

Effluent Limitations. The proposed general permit includes effluent limitations based on (a) Best Conventional Pollutant Control Technology ("BCT") for the control of conventional pollutants; (b) Best Available Treatment Economically Achievable ("BAT") for the control of toxic and non-conventional pollutants, and; (c) additional effluent limitations based on section 403(c) (ocean discharge requirements) of the Clean Water Act (CWA; 33 USC § 1343(c)). The EPA promulgated BAT and BCT effluent limitation guidelines on March 4, 1993.[5] These

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[2] 40 CFR §122.28(c) "The Regional Administrator shall, except as provided below, issue general permits covering discharges from offshore oil and gas exploration and production facilities within the Region's jurisdiction..."

[3] 40 CFR § 122.49(d).

[4] Existing platforms that are to be covered by the proposed general NPDES permit are: Platforms A, B, C, Edith, Ellen/Elly, Eureka, Gail, Gilda, Gina, Grace, Habitat, Harmony, Harvest, Henry, Heritage, Hermosa, Hillhouse, Hidalgo, Hogan, Hondo, Houchin, and Irene.

[5] 40 CFR Part 435, Subpart A; *Effluent Limitations Guidelines for the Oil and Gas Extraction Point Source Category, Offshore Subcategory* [*58 Federal Register 12454, March 4, 1993*].

BAT/BCT effluent limitations have been included in the proposed permit, along with certain additional effluent limitations based on section 403(c) of the Clean Water Act. In addition, discharge-monitoring requirements have been included to ensure compliance with the effluent limitations.

The EPA currently lacks sufficient information to establish appropriate final effluent limitations for certain pollutants (primarily heavy metals and toxic organics) in produced water discharges. For these pollutants, the proposed permit would require each discharger to monitor these pollutants so that the EPA may evaluate whether the discharges have a reasonable potential to cause or contribute to exceedances of marine water quality criteria.[6] (See Section 10.1 of this report for more detail.) Based on the results of the monitoring (which would be available approximately one year into the term of the permit), the EPA may, at its discretion, and based upon the monitoring results, reopen the permit to include additional effluent limitations.

In view of the variety of pollutants in produced water, the proposed permit also requires chronic whole effluent toxicity ("WET") monitoring to measure the aggregate toxic effects of the pollutants. If toxicity is detected, accelerated testing would be required by the permit, and if the toxicity persists, a Toxicity Reduction Evaluation ("TRE") would be required along with a Toxicity Identification Evaluation ("TIE") to identify the specific chemical(s) causing the toxicity.

The proposed general permit offers substantial and comprehensive improvements over present discharge requirements for the 22 platforms because it incorporates the more stringent 1993 effluent discharge standards. Most notably, these 1993 guidelines[7] reduce allowable discharges of oil and grease[8] to 42 mg/l daily maximum and 29 mg/l monthly average. Furthermore, the technology used to reduce oil and grease to these new levels captures and reduces discharges of other pollutants as well. The proposed NPDES permit would also, for the first time, place a volumetric limit on the discharge of drilling muds and cuttings to the marine environment. Previously, only the toxic components of the muds were subject to discharge requirements.

The EPA's consistency determination and proposed general NPDES permit are attached as Exhibits 1 and 2.

Self-Monitoring and Agency Compliance Monitoring. One of the most challenging issues in developing the new NPDES permit has been the resolution of how to monitor most effectively compliance with discharge standards. Section 308(a)(4)(A) of the Clean Water Act requires a discharger to conduct monitoring to determine compliance with effluent limitations and other

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[6] 40 CFR 122.44 (d)(1)

[7] 40 CFR Part 435, Subpart A; *Effluent Limitations Guidelines for the Oil and Gas Extraction Point Source Category, Offshore Subcategory* [*58 Federal Register 12454, March 4, 1993*].

[8] "Oil and grease" is both a conventional pollutant subject to "best conventional pollution control technology" ("BCT") and an indicator of toxic pollutants, subject to "best available pollution control technology economically achievable" ("BAT").

permit conditions. Accordingly, the general NPDES permit requires dischargers to do the following:

- Quarterly chronic toxicity testing with red abalone;
- Annual toxicity screening adjusted for seasonal variations with the following representative species to collect data for the next permit cycle: Giant kelp (plant), Topsmelt (vertebrate), and red abalone (invertebrate);
- Toxicity testing accelerated to one test every three weeks for eighteen weeks should regular toxicity testing detect triggering levels of toxicity;
- Daily monitoring of effluent;
- Notification of non-compliance within 24 hours; and
- Rectification or submission of rectification plan for non-compliance within five days.

All of these data sets will be reported to the EPA for assessment, and as such will be available to the public for oversight. The reports will also be provided to the Coastal Commission in order to track compliance monitoring.

The EPA asserts that the legal basis for the NPDES compliance program strictly allows for a combination of self-monitoring, spot checks by agency personnel, and the levying of fines in cases of violations. Based upon its review of operators' past performance, the EPA has maintained that operators are adequately sampling and reporting data, and that no additional oversight monitoring is necessary. However, many parties, including the Coastal Commission and the County of Santa Barbara have expressed concern about the EPA's reliance upon the veracity of self-collected, self-tested, and self-reported data. This concern is substantiated by a 1980s whistleblower incident at Platform Grace in which reported data was falsified, and an $8 million dollar fine was levied.

Partly in response to this incident, and to allay concerns about the need for additional compliance monitoring, the EPA and the Minerals Management Service ("MMS") entered into a Memorandum of Agreement ("MOA") in November 1989 (Exhibit 3). This MOA was designed to improve coordination in NPDES permit compliance monitoring. The MOA provides for the EPA and the MMS to develop annual compliance monitoring work-plans containing specific inspection and sampling protocol for the year.

In addition to the annual compliance monitoring work-plans, the Coastal Commission brokered compliance monitoring "side" agreements as part of four individual NPDES permit proceedings. In these side agreements, the MMS and the dischargers agreed to quarterly monitoring of discharges at permitted platforms. The EPA was not a party to these side agreements, and provided neither funding, nor manpower to implement the agreement provisions. These agreements consisted of (a) specification that MMS inspectors would conduct a minimum of four annual random (unannounced) sampling inspections in addition to two joint EPA-MMS annual sampling inspections, (b) letters from the operators stating their willingness to comply with the modified inspection programs, and, in some cases, (c) commitments from the operators to pay for laboratory analysis of the samples.

Although the work-plans developed and executed by the EPA and the MMS under the 1989 MOU were successfully executed, monitoring records indicate that the individual side agreements were less successful. Specifically, the anticipated levels of compliance monitoring did not, in fact, take place in part due to MMS staffing limitations. These side agreements would be superceded upon the issuance of a new general NPDES permit, and both of these shortcomings are addressed under the terms of the currently proposed monitoring program.

The original draft general NPDES permit issued in July 2000 by the EPA for public comment provided for self-monitoring (as described above) and occasional unannounced spot checks by EPA, or MMS personnel.

The Commission staff communicated to the EPA its concern that the draft proposed general NPDES permit did not contain produced water-monitoring requirements adequate to find the permit consistent with California's Coastal Management Program. The Commission staff requested that, to reduce the potential for NPDES violations and adverse coastal zone impacts, the EPA provide additional discharge monitoring commitments either as permit requirements or through modified inter-agency agreements. These include:

- The EPA and MMS will continue to implement the November 1989 Memorandum of Understanding ("MOA") that provides for the EPA and the MMS to develop annual compliance monitoring work plans containing inspections and sampling protocol for each year of the term of the permit. Exhibit 4 is the 2004 work plan.

- Every year, each platform discharging produced water (currently 12 of the 22) will be sampled twice for whole effluent toxicity ("WET") analysis. Sampling inspections will be unannounced and random (*i.e.,* the timing and location of each platform inspection will not be named in the annual work plan). The MMS will take a "grab" sample during a routine MMS inspection. The EPA will conduct the WET testing at its labs using red abalone. WET testing is particularly useful since it measures the combined effect of all the pollutants in a discharge.

- In addition, each year, MMS will take a "grab" sample once at nine of the platforms to chemically analyze the discharge for pollutants for which specific limits are set in the permit (*e.g.*, oil and grease, mercury, cyanide, ammonia, total phenolics). Sampling inspections will be unannounced and random. The EPA and the MMS will conduct the sampling. If funding constraints preclude the EPA from taking samples during the year, the Central Coast Regional Water Quality Control Board will substitute for the EPA to conduct the sampling. (See Exhibit 5, attached letter from the Regional Water Quality Control Board to Terry Oda, EPA).

- In the event the EPA is unable to fund the chemical tests during the year, the dischargers will fund the lab costs. In this event, the MMS will select an independent lab to analyze the sample. The lab will work directly for the EPA, <u>not</u> the discharger. (See Exhibit 6, attached letter from the Western States Petroleum Association -- WSPA – to Terry Oda, EPA).

- The MMS will conduct visual and records inspections at least once per year at each platform.

Monitoring results will be reported to the Coastal Commission on a quarterly basis.

2.0 BACKGROUND

Discharges into navigable waters of the United States are regulated under the federal Clean Water Act. Clean Water Act Section 402 and 301(a) authorize the EPA to administer the NPDES permit program prohibiting discharges of pollutants to surface waters except in compliance with the terms and conditions of an NPDES permit.

There are currently 22 production platforms located on the Southern California OCS that are presently covered by either an individual or general permit. The EPA originally issued the general permit in 1982, which was reissued in 1983. Of the 22 platforms, 14 operate under standards set by the 1982 general permit and eight operate under individual NPDES permits that EPA issued between 1978 and 1993. All individual and general permits covering the 22 production platforms are expired. The EPA has determined that each of these expired general and individual permits qualify for automatic extension without alteration under the provisions of 40 CFR § 122.6[9]:

> Of the 22 platforms, all produce drilling fluids and cuttings, but only 12 discharge produced water.[10] The remaining ten platforms either contribute to the discharge of the 12 via combined discharge, or re-inject produced waters onshore or offshore.

For nearly two decades, the Commission has collaborated with the EPA, the MMS, the County of Santa Barbara, the State Water Resources Control Board ("SWRCB"), and others to establish discharge standards at oil and gas production platforms in State and federal waters. In some instances, these efforts have occurred in the context of general NPDES permits. More recently, in federal waters, these efforts have resulted in individual permits issued to four platforms.

The origin of the current effort dates back to EPA efforts in the mid-1980s to issue a general NPDES permit for platforms in federal waters. In February 1982, the EPA issued a general NPDES permit set to expire in January 1984. In January 1984, the Coastal Commission concurred in a consistency certification to extend the 1982 general permit's expiration date for an additional six months, through June 1984 (CC-26-83).

When the EPA sought to issue new general NPDES permits in February, 1986, the Coastal Commission objected to consistency certifications for NPDES permits Nos. CAG280622 (development/production operations) and CAG280605 (exploratory operations) (CC-38-85/CC-39-85). The Commission based its objection on findings that the permits:

- Provided insufficient protection of site-specific, sensitive marine resources;

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[9] In a September 16, 2003, letter, the Commission raised questions regarding the lawfulness of this automatic extension of the 1982 general NPDES permit. In addition, the automatic extension of the 1982 general NPDES permit is, among other things, the subject of a legal challenge currently pending in the U.S. District Court for the Northern District of California (*Our Children's Earth Foundation, et al. v. USEPA*).

[10] Platforms A, B, Edith, Gilda, Gina, Habitat, Harmony, Harvest, Hermosa, Hidalgo, Hillhouse, Hogan.

- Did not comply with all state water quality standards or fully explain reasons for excluding feasible standards;
- Provided inadequate monitoring procedures to control discharges and ineffective testing methods to detect levels of discharge toxicity;
- Provided inadequate enforcement measures to ensure permit compliance; and
- Did not mitigate potential adverse impacts to coastal zone resources to the maximum extent feasible.

The 1986 general permits were thus never issued. Consequently, the existing individual permits and the 1982 general permit were never superceded,[11] and new sources were handled via new individual permits.

Since 1986, the Commission has concurred with consistency certifications for individual NPDES permits for the following five platforms:

- Exxon Platforms Harmony and Heritage *(CC-68-92, 8/12/92, for "Phase I" discharges; and CC-85-92, 4/14/93, for "Phase II" discharges)*;[12]
- Chevron Platform Gail *(CC-68-93, 2/17/94)*;
- Chevron Platform Grace *(CC-65-94, 11/15/94)*; and
- Torch Platform Irene *(CC-45-94, 11/15/94)*.

These individual NPDES permits include the new, more stringent discharge standards contained in the EPA's 1993 *Effluent Limitations Guidelines*.

The Commission has not concurred in the EPA's 1993 renewal of the individual permit for Platforms Ellen and Elly[13] because neither the operator nor the EPA to date has submitted to the Commission a consistency certification. Hence, the NPDES permit renewal is not effective. The operator has not been discharging since April 1991, however, choosing instead to re-inject produced water.

In December 2000, the EPA submitted to the Coastal Commission a consistency certification for a revised general NPDES permit (CAG280000) that would cover all 22-platform discharges and replace the 1982 general permit and the individual NPDES permits described above. At the January 2001, Coastal Commission hearing, the EPA made commitments to revise the proposed new general NPDES permit CAG280000 in response to concerns raised by the Coastal Commission. The modifications were:

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[11] Although these existing permits have expired, the EPA has determined that each such expired permit qualifies for automatic extension pursuant to *40 CFR § 122.6* and *5 USC § 558(c)*. See footnote 9, *supra* .

[12] Discharges from Platforms Harmony and Heritage are permitted under two individual NPDES permits. The Coastal Commission conducted its consistency review, however, for both platforms together, but considered the discharges from both platforms in two phases.

[13] Discharges from Platforms Ellen (drilling platform) and Elly (processing platform), two separate platforms connected by a bridge, are authorized by one individual NPDES permit.

- For produced water discharges, inclusion in the permit of effluent standards based on the more stringent of EPA water quality criteria or California Ocean Plan objectives;
- Revision of the scope and timing of the study requirements in the permit for alternative disposal for drill fluids and cuttings and produced water discharges; and
- Revision of the EPA's fact sheet to include a description of a commitment by EPA to conduct third party monitoring of platform discharge operations.

With these changes, the Coastal Commission concurred that the general permit was consistent with California's Coastal Management Program. It was the Commission's hope and expectation that the EPA would issue the new permit immediately.

Soon after the Commission hearing, however, the Western States Petroleum Association ("WSPA") objected to the imposition of California Ocean Plan effluent criteria applying at the point of compliance – 100 meters from the platform's discharge pipe – as agreed to by the EPA at the January 2001 hearing. WSPA objected to the imposition of Ocean Plan criteria on the grounds that (a) the Ocean Plan is not an enforceable policy of California's Coastal Management Program, and (b) even if it is an enforceable policy of California's Coastal Management Program, the Ocean Plan water quality criteria do not apply outside State waters, and should only be considered if a discharge outside State waters (e.g., discharges into federal waters) cause a violation of the Ocean Plan criteria within State waters.[14] (Section 10.1 of this report addresses WSPA's legal arguments.)

Because of WSPA's opposition to new general permit CAG280000, the EPA has refused to issue it. Instead, in December 2003, the EPA re-submitted for consistency review proposed general permit CAG280000 with one key revision: Consistent with the position of WSPA, the resubmitted version of general permit CAG280000 applies California Ocean Plan requirements not at each platform's point of compliance (100 meters from each platform's waste discharge pipe), but rather at the seaward boundary of the territorial seas of the State of California. The criteria which would apply to a given discharge would be the more stringent of EPA criteria applied at the edge of the 100 meter mixing zone or Ocean Plan objectives applied at the boundary of California's territorial seas. This proposed general permit is evaluated herein.

The Commission's past federal consistency NPDES actions are summarized in Exhibit 7.

3.0 FEDERAL AGENCY'S CONSISTENCY DETERMINATION

The EPA has determined the project activities to be consistent with California's Coastal Management Program ("CCMP") (Exhibit 1).

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[14] See letter dated September 14, 2001, from Jocelyn Niebur Thompson, Esq., on behalf of WSPA, to Marcela von Vacano, Esq., an attorney in the Office of Regional Counsel for EPA's Region IX, p. 2 ("By the terms of the COP itself, the water quality criteria co not apply outside state waters, and should only be considered to the extent that a discharge outside state waters...may cause a violation of the criteria within state waters.").

4.0 STAFF RECOMMENDATION

Motion:

I move that the Commission concur with consistency determination CD-109-03 that the activities described therein are fully consistent, and thus are consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program ("CCMP").

Staff recommends a **NO** vote on the motion. Failure of this motion will result in an objection to the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution:

The Commission hereby objects to the consistency determination by the Environmental Protection Agency on the ground that the activities described therein are not consistent to the maximum extent practicable with the enforceable policies of the CCMP.

5.0 PRACTICABILITY

The federal consistency regulations implementing the Coastal Zone Management Act ("CZMA") include the following provision:

Section 930.32 Consistent to the maximum extent practicable

(a)(1) The term "consistent to the maximum extent practicable" means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the Federal agency.

Since the EPA has raised no issue of practicability, as so defined, the standard before the Commission is full consistency with the policies of the CCMP.

6.0 APPLICABLE LEGAL AUTHORITIES

Section 307 of the CZMA provides in part:

(c)(1)(A) Each federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.

The Coastal Commission first exercised its federal consistency review authority under the CZMA on August 31, 1978. Chapter 11 of the CCMP lists NPDES permits issued by the EPA as an activity requiring a consistency concurrence from the Commission [see also *14 CCR § 13660.1(a)*].

On December 10, 2003, the EPA submitted to the Coastal Commission a consistency determination for the proposed general permit. The proposed general NPDES permit will become effective if the Coastal Commission concurs with the EPA's consistency determination. The concurrence, if granted, would be a concurrence in a "general permit program" as that term is defined and used in Section 930.31(d) of the CZMA regulations [*15 CFR § 930.31(d)*].

To concur with the EPA's consistency determination, the Commission must find the proposed activities consistent with the enforceable policies of the CCMP. Those policies consist of the following:

- The Chapter 3 policies (sections 30200 – 30265.5) of the California Coastal Act *(California Public Resources Code ("PRC"), Division 20)*, incorporated into and made a part of the CCMP by CCA section 30008;
- The enforceable policies of the State Water Resources Control Board's (SWRCB) "California Ocean Plan" (also known as the "Water Quality Control Plan for Ocean Waters of California" (2001) or "Ocean Plan"), adopted by the SWRCB pursuant to section 13170.2 of the Porter-Cologne Water Quality Control Act (California Water Code) and to section 303(c)(1) of the CWA (33 USC § 1313(c)(1)) incorporated into and made a part of the CCMP by section 307(f) of the CZMA (16 USC § 1456(f)); and
- Section 13142.5 of the California Water Code, which provides additional water quality policies relating to the coastal marine environment,[15] incorporated into the CCMP by Coastal Act Section 30412(a)).

7.0 DESCRIPTION OF ALTERNATIVE MEASURES

If the State agency objects to a Federal agency's consistency determination, it is to provide to the Federal agency its reasons for the objection. The State agency is to describe: (1) How the proposed activity will be consistent with the specific enforceable policies of the management program, and (2) The specific enforceable policies (including citations). In addition, the State agency is to describe alternative measures (if they exist), which, if adopted by the Federal agency, would allow the activity to proceed in a manner consistent to the maximum extent practicable with the enforceable policies of the management program. *(15 CFR 930.43(a))*.

As discussed below in Section 10.0 of this report, the Commission has found that the consistency determination for the proposed general NPDES permit is inconsistent with the CCMP due to the EPA's failure to require each discharger to meet California Ocean Plan requirements at the location of each platform's discharge (i.e., 100-meters from the discharge pipe). If the EPA requires each discharger to satisfy the water quality objectives and numeric effluent limitations of the California Ocean Plan at each platform's point of compliance, the Commission could find the proposed activity consistent with the enforceable policies of the CCMP.

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[15] Specifically, Section 13142.5 addresses, among other things, treatment of wastewater discharges to protect and restore beneficial uses of receiving waters, and conducting baseline studies of the marine system.

8.0 FEDERAL AGENCY RESPONSE TO COMMISSION OBJECTION

Section C(a)(i) of Chapter 11 of the CCMP requires federal agencies to inform the Commission of their response to a Commission objection. This section provides:

> *If the Coastal Commission finds that the Federal activity or development project ... is not consistent with the management program, and the federal agency disagrees and decides to go forward with the action, it will be expected to (a) advise the Coastal Commission in writing that the action is consistent, to the maximum extent practicable, with the coastal management program, and (b) set forth in detail the reasons for its decision. In the event the Coastal Commission seriously disagrees with the Federal agency's consistency determination, it may request that the Secretary of Commerce seek to mediate the serious disagreement as provided by Section 307(h) of the CZMA, or it may seek judicial review of the dispute.*

The CZMA regulations reflect a similar obligation; 15 CFR § 930.43 provides:

> **State agency objection.**
> ...
> *(d) In the event of an objection, ... the Federal agency shall not proceed with the activity over a State agency's objection unless: ... (2) the Federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the management program, though the State agency objects.*
>
> *(e) If a Federal agency decides to proceed with a Federal agency activity that is objected to by a State agency, or to follow an alternative suggested by the State agency, the Federal agency shall notify the State agency of its decision to proceed before the project commences.*

9.0 IMPLICATIONS OF A COMMISSION OBJECTION TO EPA'S CONSISTENCY DETERMINATION

If the EPA elects to issue the proposed general NPDES permit notwithstanding an objection by the Commission, such issuance will be subject to the provisions of Section 930.31(d) of the CZMA regulations. Accordingly, in the EPA's "Fact Sheet" accompanying the proposed general permit, the EPA states that if the Commission objects to the general permit, the EPA will notify potential users of the general permit that the general permit is not authorized, "unless the State agency [Coastal Commission] concurs that the activity is consistent with the enforceable policies of its management program." (*15 CFR 930.31(d)).* Thus, the general permit will not be effective and cannot be used by a discharger until the potential user of the general permit provides an individual consistency certification to the Commission, and the Commission concurs in the consistency certification.

In the event that the Commission objects to the consistency determination for the new general permit, and EPA nevertheless elects to issue the permit, the EPA will publish a notice in the

Federal Register announcing the new general permit's issuance. The terms of the new general permit state that a Commission objection to the permit will cause the *existing* general permit or individual permit for the platforms shall expire within three months of the date of the Federal Register notice unless the permittee has submitted an individual consistency certification to the Commission. If the Commission concurs in an individual consistency certification, the new general permit will become effective for that permittee on the first day of the month that begins at least 45 days after the date of the Commission's concurrence with the consistency certification. If the Commission objects to an individual consistency certification, the existing general permit or individual permit for the platforms shall expire within 30 days of the Commission's objection unless the permittee submits a timely appeal to the Secretary of Commerce in accordance with 15 CFR 930.125.[16]

10.0 FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

10.1 Marine Resources and Water Quality

Coastal Act § 30230 states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Coastal Act § 30231 states in part:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges....*

Coastal Act § 30250 requires in part that new industrial development:

> *be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it... where it will*

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[16] If the Secretary of Commerce overrides the Commission's objection, the new general permit shall become effective of the first day of the month that begins at least 45 days after the date of the Secretary's decision. If the Secretary upholds the Commission objection, the EPA would either re-propose a new general permit or require the companies to seek individual NPDES permits, which would require the submittal of a consistency certification to the Commission. While the EPA or individual companies seek federal consistency concurrence by the Commission, it is the EPA's position that the existing general and individual NPDES permits remain in effect.

> *not have significant adverse effects, either individually or cumulatively, on coastal resources.*

Coastal Act § 30412(a) provides in part for "... the provisions set forth in Section 13142.5 of the [California] Water Code..." Section 13142.5 of the California Water Code states in part:

> *In addition to any other polices established pursuant to this division, the policies of the state with respect to water quality as it relates to the coastal marine environment are that:*
>
> *(a) Wastewater discharges shall be treated to protect present and future beneficial uses, and, where, feasible, to restore past beneficial uses of the receiving waters. Highest priority shall be given to improving or eliminating discharges that adversely affect any of the following:*
> *(1) Wetlands, estuaries, and other biologically sensitive areas.*
> *(2) Areas important for water contact sports.*
> *(3) Areas that produce shellfish for human consumption.*
> *(4) Ocean areas subject to massive waste discharge.*
>
> *Ocean chemistry and mixing process, marine life conditions, other present or proposed outfalls in the vicinity, and relevant aspects of areawide waste treatment management plans and programs, but not of convenience to the discharger, shall for the purposes of this section, be considered in determining the effects of such discharges....*

Additionally, Section 307(f) of the CZMA directs that federal, State and local provisions established pursuant to the Clean Water Act shall be incorporated into State coastal management programs and shall be the water pollution control requirements applicable to such program. The general water pollution control policies and objectives of the State are contained in the requirements of the California Ocean Plan.

The water quality objectives of the Ocean Plan (Chapter 2) include:

> *E. Biological Characteristics*
>
> 1. *Marine communities, including veterbrate, inveterbrate, and plant species, shall not be degraded.*
> 2. *The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.*
> 3. *The concentrations of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.*

The Ocean Plan's general requirements for management of waste discharge to the ocean are:

a. *Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.*

b. *Waste discharged to the ocean must be essentially free of:*

1. *Material that is floatable or will become floatable upon discharge.*
2. *Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.*
3. *Substances which will accumulate to toxic levels in marine waters, sediments or biota.*
4. *Substances that significantly decrease the natural light to benthic communities and other marine life.*
5. *Materials that result in aesthetically undesirable discoloration of the ocean surface.*

c. *Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.*

d. *Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that....*

3. Maximum protection is provided to the marine environment.

To protect marine aquatic life, the Ocean Plan also contains numerical effluent limitations for oil and grease, and water quality criteria for other priority pollutants such as arsenic, cadmium, benzene, ethylbenzene, naphthalene, toluene, and zinc. Table 1 below lists the current standards and compares the Clean Water Act's federal criteria with those of California's Ocean Plan.

10.1.1 *Introduction*

The discharge of oil and gas wastes into marine waters has the potential to cause significant adverse impacts to marine resources and water quality. Under the new proposed permit, platform operators would continue to discharge muds and cuttings, produced water and other wastes. Clearly, the effluent discharge standards and terms of the proposed permit are an improvement as compared to the existing standards under which the platform operators currently discharge. The proposed permit's more stringent effluent limitations offer the prospect for improved water quality and greater protection of marine resources.

Section 403 of the Clean Water Act (33 USC § 1343) requires that an NPDES permit for a discharge into marine waters located seaward of the inner boundary of the territorial seas be issued in accordance with guidelines for determining the potential degradation of the marine environment. Section 403, as implemented by these guidelines, referred to as the "Ocean Discharge Criteria" (40 CFR Part 125, Subpart M (§§ 125.120-124)) are intended to "prevent unreasonable degradation of the marine environment and to authorize imposition of effluent

limitations, including a prohibition of discharge, if necessary, to endure this goal." (49 *Federal Register* 659, October 3, 1980) Of the discharges typically accompanying offshore oil and gas operations, drilling fluids ("muds") and cuttings, and produced water, are considered to have the greatest potential to degrade the marine environment. If the EPA determines that the discharge will cause unreasonable degradation, an NPDES permit will not be issued.

Specific effects of platform discharges can be immediate, chronic, direct, or indirect. Substantial disagreement exists among experts regarding the degree to which drill muds and cuttings, produced water, and other oil and gas waste discharges affect the marine environment. In 1983, a National Research Council panel concluded that the effects and environmental risks of individual drilling discharges to most communities in high-energy depositional environments, such as OCS waters, are quite limited in extent and are confined mainly to the benthic environment. Uncertainties still exist, however, concerning the effects on communities in low-energy depositional environments that experience large inputs of drilling discharges over long periods of time. The respective levels of significance of these discharges is the subject of some dispute.

The EPA prepared an Ocean Discharge Criteria Evaluation ("ODCE") entitled *Ocean Discharge Criteria Evaluation South and Central California for NPDES Permit No.CAG280000* (dated September 29, 2000) that evaluates the discharges which would be authorized by the proposed general permit. After review of the ODCE, other available data, and studies in the administrative record for the permit, and comments received on the proposed permit, the EPA concluded that the proposed discharges would not cause unreasonable degradation of the marine environment. The ODCE concludes that the discharges are expected to affect water quality and marine organisms, but the effects will be short-term only, and localized, due to rapid dispersion of the discharges in receiving waters.

A more detailed examination of the effects of produced water and muds and cuttings discharges , and an analysis of those discharges' conformity with the enforceable policies of the CCMP follows.

10.1.2 *Produced Water*

Produced water resulting from the separation of water from the oil and gas mixture extracted from wells often contains measurable amounts of hydrocarbons and other organic compounds, dissolved salts, and metals. During oil and gas production, produced water --when not re-injected-- is the most significant production discharge in terms of volume and potential environmental effects. According to the EPA Industrial Technology Division (EPA-ITD), the "most obvious pollutant of concern for produced waters is oil and grease." (56 *Federal Register* 10682.) In addition to oil and grease, produced water contains other priority pollutants such as arsenic, cadmium, lead, benzene, ethylbenzene, naphthalene, toluene, and zinc. Concerns with produced water discharges include changes in marine species composition resulting from impacts to the water column (e.g., turbidity or toxicity from effluent concentrations that exceed regulatory criteria) and chronic toxicity.

Chronic toxicity may include sublethal effects such as reduced reproductive success, diminished appetite, and changes in mating, sheltering, or predation behavior (*e.g.,* many marine organisms ingest wastes, retain the constituents within body tissues, and eliminate the materials very slowly; thus wastes may accumulate until they reach toxic levels, even if the initial concentrations of the wastes are below acute toxic levels.) Halogenated hydrocarbons and heavy metals such as mercury and lead have the greatest potential to bioaccumulate in marine organisms.

Also, the Commission has previously raised some concern over discharges of deck drainage, which can include detergents, small quantities of oil, surfactants, and emulsifiers used to clean surfaces, tanks, and equipment. Other effluents (*e.g.,* sanitary and domestic wastes from Coast Guard approved Class I treatment units, fire control test water, desalination unit discharge, and noncontact cooling water) have been compared to common discharges emanating from large oceangoing vessels. (CC-38-851CC-39-85, *February* 1986, - CC-56-86, *March* 1987.) The major difference is that platform discharges occur more or less continuously and at a fixed location.

Other research indicates that specific marine organisms are sensitive to minute concentrations of pollution. Cherr et al. (1993) detected abnormal development in embryos of purple sea urchin *(Strongylocentrotus purpuratus)* exposed to varying concentrations of produced water under controlled laboratory conditions; effects ranged from sensitivity at concentrations of 3% produced water, to delay in development at 3-5% produced water, to physical changes at 7% produced water. Preliminary results suggest that the abnormal effects may be related to the presence of sodium arsenite, a constituent of some types of produced water. (Cherr et al., 1993, pp. 28-30.)[17]

Findings from the Southern California Educational Initiative program have shown that produced water discharges from an oil processing facility in Carpinteria impact reproductive development and growth of mussels (Osenberg and Schmitt, 1991; Osenberg et al., 1992; Fan et al., 1992), early embryonic development in sea urchins (Baldwin et al., 1992; Krause et al., 1992), larval settlement and metamorphosis in abalone (Raimondi and Schmitt, 1992), and development in giant kelp (Cherr et al., 1991; Garman et al., 1991). Cherr et al. (1993) also demonstrated perturbations in the reproduction of the California mussel *(Mytilus californianus)* chronically exposed to a sample of produced water under controlled laboratory conditions.

The proposed permit includes effluent limitations more stringent than those in existing NPDES permits for platform dischargers. Immediately upon permit issuance, new BCT- and BAT-based effluent limitations for conventional, non-conventional, and toxic pollutants (*e.g.*, pH, biochemical oxygen demand ("BOD"), oil and grease, total suspended solids ("TSS"), fecal coliform in produced water, and diesel oil barite with low trace metal contaminant levels for

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[17] Produced water composition can be highly variable among formations, but in all cases appears to be very complex, consisting of non-polar and polar organic compounds, as well as inorganic cations and anions, and combinations of these diverse chemical categories (National Research Council, 1985). The authors note later that produced water composition may vary from batch to batch and that, since the results reported were derived from one batch only, a general conclusion of the impact of all produced waters cannot be drawn. (Cherr, et al., 1993, p. 112.)

drilling fluids and cuttings as described in Section II of the proposed permit) will be required of the permittees. In addition, more stringent water quality-based limitations are proposed for the produced water for compliance with the Ocean Discharge Criteria regulations. Table 1 shows a side-by-side comparison of the proposed water quality criteria with those in the existing General NPDES Permit CA0110516. However, prior to establishing these proposed criteria as formal limits for produced water in the permit, the EPA must first determine whether a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above these numeric criteria.

At this time, however, no platform has a sufficient amount of data to permit the analysis to establish reasonable potential for all the parameters of concern listed in Table 1. Much of the existing data is old and was collected with varying detection limits and quality control. To compile a complete data set for all parameters of interest with appropriate detection limits and quality control, the EPA is requiring the dischargers to obtain water quality data (one sample per month) during the first year of the term of the permit. During the reasonable potential data gathering and evaluation phase (the first year) of the proposed permit, the water quality criteria of the previous permits will remain in effect for compliance and enforcement purposes, except for certain parameters for Platforms Hogan and Gail, where alternate limits will be in effect. Most platforms fall under the requirements of existing General Permit CA0110516.

Although the proposed limits for the majority of the parameters are more stringent than the limits in existing NPDES permits for platform dischargers, the Commission, during its January 9, 2001, hearing on this matter, expressed concern that some of these new limits appeared to be less protective of the beneficial uses of the marine environment than those contained in the California Ocean Plan.[18] In response to these concerns, the EPA agreed at the hearing to modify the then-proposed general permit to provide as discharge effluent standards for produced water either the State water quality criteria set forth in the Ocean Plan that is part of the CCMP or the national 304(a) criteria, whichever is more protective of applicable beneficial uses. With this change, among others, the Coastal Commission concurred that the general permit was consistent with the CCMP.

Comparison of Federal Criteria with California Ocean Plan Standards

The Commission's staff has determined that, for most parameters of concern (i.e., the pollutants found in produced water), the Ocean Plan standard appears to be more stringent than the EPA's standard.

For most parameters in Table 1, the Ocean Plan aquatic life water criteria are expressed in terms of a 6-month median whereas EPA's criteria are expressed in terms of a criterion continuous concentration, which is a four-day average. It is therefore not immediately clear which criteria

[18] Since 1986, the Commission has concurred in consistency certifications for individual NPDES permits for Platforms Harmony, Heritage, Gail, Grace, and Irene (CC-68-92, CC-85-92, CC-68-93, CC-65-94 and CC-45-94). In all cases, the Commission found that the proposed discharge limits were consistent with Ocean Plan requirements.

are more stringent. The EPA has developed a statistical procedure for comparing the stringency of the two sets of criteria (See Exhibit 8, *Procedure for Comparing California Ocean Plan 6-Month Median and a 4-Day Average for NPDES Permit No. CAG280000*, August 16, 2001). Nevertheless, comparison of these criteria still cannot be performed at this time with certainty because that determination depends on first establishing coefficients of variation (CV) of the monitoring data. As stated above, at this time, the platforms have insufficient data for most parameters of concern. In addition, much of the existing data is quite old and was collected with varying detection limits and quality control. Consequently, EPA is requiring that the dischargers obtain water quality data for the identified pollutants during the first year. CVs for the data will be derived from a minimum of 12 samples collected during this phase.[19] These CVs will then be used in the conversion procedure to determine the relative stringency of the Ocean Plan and EPA's water quality criteria. EPA will use the water quality data submitted, according to the procedures and guidance contained in its Technical Support Document for Water Quality-Based Toxics Control, to establish whether a discharge has the reasonable potential to cause or contribute to an excursion above the more stringent of the Ocean Plan or EPA criteria.

The permittees are to submit sampling results to the EPA no later than one year and three months after the date of permit issuance. The submittal is to include a determination of the minimum dilution limit required each discharge location to maintain no reasonable potential to exceed the water quality criteria for any constituent listed in Table 1. For parameters with two criteria (i.e., the federal criteria and Ocean Plan standard), the submittal shall be based on the more stringent of either: (a) the federal criterion applied at the edge of the 100 meter mixing zone (at the platform), or (b) the Ocean Plan objective applied at the seaward boundary of the territorial seas of the State of California. The EPA will take approximately one month to review the data, then re-open, and propose modifications to the permit to include the more stringent of EPA or Ocean Plan criteria, where a limit is needed based on the results of the reasonable potential analysis.

The EPA did not develop a conversion procedure for comparing stringency for benzene, ethylbenzene and toluene. The reason is that the criteria for these parameters are human health-based. The exposure duration for EPA's human health criteria is considered a lifetime, while the averaging period for the Ocean Plan human health criteria is 30 days, which would ordinarily result in a larger numerical value for a particular criterion due to its smaller averaging period. However, since the numerical values of the Ocean Plan criteria are smaller than the EPA criteria for these parameters, the Ocean Plan criteria are clearly more stringent, if compared at the same distance from the discharge point, as originally agreed to by the EPA.

The EPA's revised position, according to its December 2003, submittal is to apply the federal and Ocean Plan criteria at different distances from the discharge point (i.e., the edge of the 100-meter mixing zone and the seaward boundary of the territorial seas of the State of California for the federal and Ocean Plan criteria, respectively). Any comparison of the two sets of limitations therefore must take in account the amount of dilution that takes place between the two distinct

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[19] EPA's Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) requires 10 samples as a minimum to perform the Reasonable Potential analysis.

points of measurement. In the end, a conversion procedure will still likely be essential for determining the relative stringency regarding benzene, ethylbenzene and toluene.

As discussed above, before development of the water quality criteria at the end of the data gathering and evaluation phase, the proposed permit does require compliance with the existing water quality-based limitations in the existing permits. Where, upon analysis, no reasonable potential for exceedance is shown for a particular constituent, its water quality objective will be deleted. However, the dischargers must perform one additional sampling of the constituent and its results must be submitted to the EPA at least 180 days before the permit expires.

Notwithstanding the absence of real-life CVs, the Commission staff has arrived at a preliminary determination of the relative stringency of the two sets of produced water standards when applying both at the edge of the 100-meter mixing zone, as first agreed to by the EPA at the Commission's January 2001 hearing. Staff used the conversion procedure developed by the EPA (See Exhibit 4) to convert the Ocean Plan's 6-month medians to 4-day averages. A CV of 0.6 was assumed for this illustration. As shown in Table 1, the converted Ocean Plan objectives are more stringent than the federal criteria in all cases except cyanide.[20] The EPA standard for phenol is a human health-based lifetime average, while that from the Ocean Plan is based on the protection of aquatic life. No direct comparison can therefore be made at this time. The Ocean Plan contains no criteria for several of the contaminants listed in Table 1 (e.g., manganese, benzo (a) anthracene, and chrysene.... etc.). The federal criteria for those contaminants (mostly human health-based lifetime averages) are thus more stringent by default.

The water quality criteria for benzene, toluene, and ethylbenzene are designed for the protection of human health. The federal criteria have an averaging period of a lifetime, while those from the Ocean Plan are based on 30-day averages. As explained above, a 30-day average would typically result in a larger numerical value for a particular criterion due to its smaller averaging period. In other words, if the Ocean Plan's 30-day averages were to be converted into lifetime averages, their numerical values should decrease. However, since those 30-day averages are already smaller than the federal criteria's lifetime-averages for the three parameters, the Ocean Plan criteria are necessarily more stringent, *when applied at the same distance from the discharge point*. Even if the two sets of criteria were directly comparable at this time without any manipulations, in the case of benzene, a carcinogen, the EPA's criterion of 71 μg/L would entail an additional cancer risk level 12 times higher than what would result from the Ocean Plan's 5.9 μg/L. Again, the comparison is done assuming application of both criteria at the edge of the mixing zone.

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[20] Coefficient of variation (CV) is a standard statistical measure of the relative variation of a distribution or set of data, defined as the standard deviation divided by the mean. Assuming a CV of 2 (i.e., a higher variation in the data distribution), for example, would increase the values of the converted Ocean Plan criteria, brining them closer to those of the federal criteria. Nevertheless, these Ocean Plan objectives would remain more stringent than their federal counterparts, except for cyanide and copper. It would be unrealistic to assume an even higher CV for this illustration because that would indicate an exceptionally high variability in effluent quality, which would have the opposite effect and, in turn, require even lower targeted long-term averages in order to meet the relevant waste load allocations and permit limits.

It should be noted that the EPA has recommended in 2002, for human health protection, a criterion of 51 μg/L for benzene, based on a cancer risk level of 10^{-6} (i.e., 1 additional cancer in a population of 1,000,000) (*National Recommended Water Quality Criteria: 2002*, USEPA, November 2002)[21]. Accordingly, the proposed 71 μg/L for the permit would yield a cancer risk level of 1.4×10^{-6}, while the Ocean Plan's 5.9 μg/L would result in a risk of 1.2×10^{-7}. In general, however, both of these figures still fall within the State's acceptable cancer risk range of 10^{-4} to 10^{-6}.

Toluene and ethylbenzene are considered noncarcinogens. Therefore, a numerical comparison of cancer risk levels similar to benzene is not feasible. Nevertheless, a simple examination for the potential cause(s) of the criteria's disparities is still possible. For example, the reliance on different toxicology studies, or the use of distinct parameter values in deriving the water quality criteria could explain the discrepancies between the standards. Different toxicology databases can potentially lead to different conclusions regarding the critical exposure-response relationships in humans.[22] More conservative assumptions made during the criteria derivation process can also result in more stringent (more protective) criteria.[23]

Unless otherwise noted, most of the water quality criteria in Table 1 have been established for aquatic life protection. The derivation of these chronic criteria typically relies on longer-term tests that measure survival, growth, reproduction, or in some instances, bioconcentration. In every case where a comparison can be made, except for cyanide, the Ocean Plan criterion is more stringent. For example, upon conversion using the procedure developed by the EPA, the Ocean Plan's cadmium criterion became 1.023 μg/L, as opposed to EPA's 9.3 μg/L (See Table 1). The EPA's value remains more than nine times as large. Cadmium is a relatively rare element that is a minor nutrient for plants at low concentrations, but is toxic to aquatic life at concentrations only slightly higher. Studies with the opossum shrimp, *Americamysis bahia*, have shown morphological aberrations, reduced reproduction, and death resulting from increased levels of cadmium in saltwater. These observed deleterious effects took place at concentrations as low as 4 μg/L. Similar results were recorded with another mysid, *Mysidopsis bigelowi*. The saltwater red alga, *Champia parvula*, also experienced significant growth reductions in studies, albeit at higher concentrations. (*2001 Update of Ambient Water Quality Criteria for Cadmium*, USEPA, April 2001) In 2002, the EPA revised its chronic aquatic life criterion to 8.8 μg/L, below the 9.3 μg/L being proposed for this permit.

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[21] The EPA has published an updated compilation of its national recommended water quality criteria for 158 pollutants, developed pursuant to section 304(a) of the CWA.

[22] A reference dose (RfD) is an estimate of the daily exposure to human population that is likely to be without an appreciable risk of deleterious effect during a lifetime. RfDs are derived from human epidemiology and/or animal exposure studies. Higher RfDs would result in less stringent criteria.

[23] Examples of the pertinent parameters include dietary exposure and the average consumption of fish and shellfish from marine, estuarine, and fresh waters. Assuming a higher consumption than the national average would lead to a lower water quality criterion. Such an assumption may be more appropriate for California given its proximity to the ocean.

Table 1 also indicates the proposed federal objective for hexavalent chromium to be more than 24 times as large as its Ocean Plan equivalent. Almost all the hexavalent chromium in the environment arises from anthropogenic sources. Hexavalent chromium causes cellular damage via its role as a strong oxidizing agent. It is easily absorbed by gut or body walls (such as shells, gills, and mantle) because of its higher solubility. "At higher concentrations, hexavalent chromium is associated with abnormal enzyme activities, altered blood chemistry, lowered resistance to pathogenic organics, behavioral modifications, disrupted feeding, histopathology, osmoregularatory upset, alterations in population structure and species diversity indices, and inhibition of photosynthesis." (Irwin et al., 1997) Adverse effects of hexavalent chromium to sensitive species have been documented at as low as 5.0 μg/L in saltwater. Measurable accumulations were recorded in oysters and worms at 5.0 μg/L; algal growth was reduced at 10.0 μg/L; and reproduction of polychaete annelid worms was inhibited at 12.5 μg/L. (Eisler, R., 1986) These sublethal effects all occurred at concentrations lower than the 50 μg/L proposed by the EPA.

All of the above evidence and concerns raises a serious question as to whether the proposed discharge of produced water can be found consistent with the water quality and marine resource policies of the Coastal Act. At this time, the Commission does not need to reach a definitive conclusion as to whether the proposed general NPDES permit is consistent with the policies of the Coastal Act. Since the EPA refuses to require the permittees to meet the California Ocean Plan's water quality objectives and numeric effluent limitations at each platform's point of compliance (100-meters from the waste discharge pipe), the Commission cannot find the proposed general NPDES permit consistent with the enforceable policies of the CCMP.

Applying Enforceable Policies of CCMP Outside Coastal Zone Boundary

In the entire history of its exercise of the consistency review authority conferred upon it by section 307(c) of the CZMA, the Commission has compiled a uniformly consistent and unbroken record of applying the enforceable policies of the CCMP directly to the activity that is the subject of its review, i.e., to the activity at the location where it is occurring.

The most obviously pertinent examples of this consistent practice are the Commission's consistency reviews of previous EPA-issued NPDES permits for discharges from oil and gas production platforms in federal waters on the OCS. During the 1990s, the Commission concurred in five consistency certifications for five individual NPDES permits for OCS Platforms Harmony, Heritage, Grace, Irene and Gail (CC-68-92, CC-85-92, CC-65-94, CC-45-94 and CC-68-93, respectively). In all five, the Commission concluded that the proposed discharges would meet the California Ocean Plan's water quality objectives and numeric effluent limitations. The NPDES permit for Platform Harmony, for example, requires Exxon to meet the Ocean Plan's benzene and bis (2-thylexyl) phtlate effluent standards. The NPDES permit for Platform Grace requires the operator (then Chevron, now Venoco) to comply with daily maximum limits for concentrations of toxic materials that equal daily maximum limits contained in the Ocean Plan. With respect to all of the discharges that were the subjects of these reviews, each of the referenced NPDES permits in which the Commission concurred requires California's Ocean Plan standards to be met *at the platform*, or, in other words, at the site where the

discharges are occurring. Further support for this interpretation is the fact that Exxon's EPA-required discharge monitoring reports for Platform Harmony addresses compliance with the federal water quality criteria *and* Ocean Plan numeric effluent limitations at the platform (*i.*e., 100 meters from the platform's discharge pipe.)

Illustrative examples of this characteristic of the Commission's historic practice in exercising its regulatory authority under the CZMA can also be found in non-NPDES related aspects of the operation of OCS oil and gas production platforms. Specifically, the Commission has on numerous occasions applied enforceable policies of the CCMP related to oil spill prevention and response. In doing so, the Commission has required specific provision of equipment and other prevention and response-related measures with the evident purpose of preventing and effectively responding to *all* substantial discharges of oil, not just those that might have the potential to affect the state's territorial waters. In CC-6-79, CC-3-80, CC-6-80, CC-4-81, CC-31-82, CC-7-83/CC-7-83R and CC-12-83, for example, the platform operators committed to keep and maintain *at the platform* 1,500 feet of open ocean boom, oil skimming devices, and oil storage capacity. The Commission found the placement at the project site of oil spill response equipment necessary for the proposed activities to be consistent with Section 30232, the CCMP's oil spill prevention and response policy.

Finally, there are also numerous examples of the Commission's requirement of compliance with the enforceable policies and standards of the CCMP by non-oil and gas production related activity at the site of its occurrence, rather than at the seaward boundary of the state's territorial waters. In CDP E-01-029/CC-111-01, the Commission reviewed a proposal by Tyco for two 160-mile long (i.e., to the 1,800-meter water depth) offshore fiber optic cables. All but approximately three miles of each cable's length is located beyond the state's territorial waters. Tyco's consistency certification included a commitment to bury the two cables except where precluded by seafloor substrates out to the 1,200-meter water depth. Such burial of cable was for the purpose of eliminating or significantly reducing (1) potential commercial fishing gear entanglements and loss, and (2) whale entanglements. The Commission found that burial of the cable was a necessary in order for the Commission to find the proposed activities consistent with sections 30230, 30231, and 30234.5 of the CCMP. Similarly, for USGS seismic surveys to be conducted in both state and federal waters, the Commission has required (a) trained marine mammal observers and monitors on the survey vessel; (b) a 100-meter "safety zone" for mystecetes and a 50-meter safety zone for pinnipeds and odotocetes; and (c) limiting underwater sound levels to 180 dB or less (CD-47-91, CD-32-99 and CD-16-00). The Commission found these marine mammal protections to be necessary to find the project consistent with the marine resource policies of the CCMP.

The foregoing examples of the Commission's exercise of its regulatory authority under the CZMA clearly establishes the Commission's uniformly consistent practice of requiring compliance with the policies and standards of the CCMP at the site of the activity under review rather than at the seaward boundary of state territorial waters. The question thus becomes whether there is any element of the specific circumstances involved in the Commission's review of EPA's proposed general NPDES permit that would require a departure from this consistent practice. In its analysis on p. 43 of the "Fact Sheet", the EPA, as did WSPA before it, purports

to find such an element in the Ocean Plan's definition of "Ocean Waters" (a discharge to which is regulated by the Ocean Plan), which defines that term to mean "the territorial marine waters *of the state*...." (Emphasis added.) The definition goes on to provide that:

> "If a discharge outside the territorial waters of the state *could affect the quality of waters of the State*, the discharge may be regulated to assure no violation of the Ocean Plan will occur *in ocean waters.*" (Emphasis added.)

In its proposed general permit, the EPA relies on this provision of the Ocean Plan as a justification for requiring compliance with the Ocean Plan's water quality standards only at the seaward limit of the territorial waters of the state rather than at the point of discharge. For the following reasons, the EPA's reliance on this provision of the Ocean Plan as justification for that provision of its proposed permit is seriously misplaced.

The reference in the Ocean Plan's definition of "Ocean Waters" to discharges to waters beyond the territorial boundaries of the state is an acknowledgment of jurisdictional limits on the regulatory authority of the State of California *under state law.* The reference is derived from section 13260(a)(2) of the California Water Code, which provides that the obligation *under state law* to file with the state a report of waste discharge shall apply to:

> "any person...discharging waste or proposing to discharge waste outside the boundaries of the state in a manner that could affect the quality of the waters of the state...."

Under well-settled principles of law, limitations on the regulatory authority of the state *under state law* do not detract from or in any other way impair regulatory authority that a state may have been granted the right to exercise under a *federal* law such as the CZMA. In the specific context of the CZMA, relevant judicial authority has firmly rejected the notion that principles of state law control in determining whether and to what extent a proposed project is subject to the consistency review requirements of the CZMA. In the case of *Acme Fill Corp. v. S. F. Bay Conservation and Development Commission* (1986) 187 Cal.App.3d 1056, the California Court of Appeal held that a proposed project is subject to the consistency review requirements of the CZMA notwithstanding the fact that it is located outside of the coastal zone of the interested state agency and thus not subject to that state agency's state law permit jurisdiction. Similarly, limitations on the State of California's legal authority to enforce its water quality standards *under state law* with respect to discharges of pollutants occurring outside of the territorial waters of the state do not in any way limit the Commission's authority under a federal law, the CZMA, to require compliance with the policies of the CCMP.

For these reasons, the Commission must object to the proposed general NPDES permit to the extent that it requires compliance with the water quality standards contained in the Ocean Plan at the seaward limit of the state's territorial waters rather than at the point of discharge.

10.1.3 *Drill Fluids ("Muds") and Cuttings*

Under the proposed permit platforms will continue to discharge water-based muds and cuttings to ocean waters as a routine part of drilling operations. Drill muds are a complex mixture of clays, barite and specialty additives used to remove cuttings from the drill hole, and to maintain hydrostaic pressure within the hole and equilibrium between the hole and formation. Cuttings are drilled formation solids that are carried by the drilling fluids from the hole to the surface.

The rates at which muds and cuttings are discharged are highly variable, and depend on the stage of drilling operations and well depth. A common practice of drilling operators is to dump large volumes of muds and cuttings when changing drilling formations (*i.e.,* when muds are changed to accommodate varying geologic conditions in the well hole). Mud and cuttings are released several times during drilling operations on a single well with the final mud dump frequently the largest discharge.

Drill muds, including *water-based* drill muds, may contain a number of trace metals (*e.g.*, lead, zinc, mercury, arsenic, cadmium, and chromium may be present) and petroleum hydrocarbons at concentrations that are higher than corresponding levels found in marine sediments at platform sites. Site-specific effects of muds and cuttings discharges include burial of benthos immediately below or adjacent to the platform, bioaccumulation of contaminants found in drilling fluids, and changes in benthic species composition resulting from accumulation of contaminants in sediments. These effects have the potential to impair the food web found in the platform vicinity, thereby detrimentally affecting coastal resources. Burial of hard bottom habitat areas is of particular concern due to the limited number of these areas and their importance to regional productivity. Marine organisms in the water column near drilling operations are also subject to large fluctuations or changes in water column chemistry because muds and cuttings discharges occur sporadically.

The proposed permit includes a number of measures to limit the effects of the discharge of muds and cuttings on the marine environment. They include:

1. The first effort to limit the discharge volume of drilling muds and cuttings. The proposed permit allows for the total annual discharge from existing platforms of 2,189,100 barrels (bbl) of drilling fluids, 666,150 bbl of cuttings, and 62,500 bbl of excess cement. Previously, the general and individual permits only limited certain constituents within the compounds.
2. A prohibition on the discharge of free oil from drill mud and drill cuttings, based on EPA's BCT ("Best Control Technology") effluent guidelines. The discharge of *oil-based* mud is prohibited since oil-based fluids would violate the BCT effluent limitations on no discharge of free oil. If a discharger elects to use an oil-based mud, it must transport the mud to shore for onshore disposal. The permit also does not authorize the use of *synthetic-based* drilling mud. If a discharger wishes to use a synthetic-based drilling fluid, it must either request a modification to the permit or request an individual NPDES permit.

3. Prohibition on the discharge of drill mud and cuttings that have been contaminated by diesel oil[24].
4. Limitations on concentrations of mercury (1 mg/kg mercury) and cadmium (3 mg/kg cadmium), which are found in barite, a major constituent of drilling fluid (including water-based drilling fluids).

In addition, the proposed permit requires each discharger to assess alternatives (e.g., reinjection, barging) to ocean discharging. When the EPA, in 1993, developed new effluent limitation guidelines, it considered barging fluids and cuttings to shore. The EPA concluded that based on non-water quality factors (such as air emissions, energy use and solid waste management), the least environmentally damaging alternative is to continue ocean discharging. In the "Fact Sheet" for the proposed permit (Page 34), the EPA concludes, "that the emissions from barges is still a valid argument supporting the authorization for drilling fluid discharges in the general permit." The EPA acknowledges, however, that with the advent of lower emission vessels, it should consider this alternative further. It has thus included in the proposed permit a requirement that each discharger submit to the EPA within two years of the effective date of the permit a platform-specific report that examines alternatives to ocean discharging (e.g. barging and onshore disposal, increased recycling and re-use, and re-injection). The report would also re-evaluate emission levels from vessels in use at the time of the report. If the EPA finds that an alternative method of disposal is feasible, the EPA will within one year modify the general permit. [25] In the meantime, each permittee may discharge under the terms of the proposed permit.

The Commission, in its findings objecting to the EPA prior proposed general NPDES permit, expressed concern that scientific research on the effects of drilling fluids on marine resources was inconclusive, and that the mass of, and toxic materials concentrations in, muds and cuttings may damage the biological productivity of coastal waters. (CC-38-85/CC-39-85, February 1986). The EPA has since filed an Ocean Discharge Criteria Evaluation ("ODCE") for proposed General NPDES Permit CA 2800000 addressing this and other topics, though the findings on this topic remain inconclusive.[26] The EPA believes that while localized effects at the platform may occur due to the proposed discharge of drill fluids and cuttings, unreasonable degradation to the marine environment will not result.

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[24] Diesel oil, which is sometimes added to a water-based mud system, is a complex mixture of petroleum hydrocarbons known to be highly toxic to marine organisms and to contain numerous toxic and nonconventional pollutants.

[25] The Commission would review any modification to the permit. The "Fact Sheet" acknowledges that a failure on part of the EPA to amend or modify the permit to require an alternative disposal method that is determined to be feasible will constitute grounds for the Commission to re-open its consistency review of the general permit pursuant to 15 CFR § 930.65.

[26] *Ocean Discharge Criteria Evaluation South and Central California for NPDES Permit No. CAG280000.* Prepared by Science Applications International Corporation, September 29, 2000.

In establishing the 1993 *Effluent Guidelines* (upon which the proposed permit's discharge limitations are based), the EPA conducted an extensive, updated review of the available literature and analyzed 23 field impact studies on localized environmental impacts of drill fluids and cuttings discharges near oil and gas drill sites and platforms in waters of the Gulf of Mexico, Southern California, and Alaska. (EPA, *"Regulatory Impact Analysis of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry, " January* 1993; hereinafter "RIA ".) The majority of the case studies originated in the Gulf of Mexico with one study from offshore California: the five-year California OCS Phase H Monitoring Program ("CAMP"), a multidisciplinary study to monitor potential environmental changes resulting from OCS oil and gas development in the Santa Maria Basin. The results of the CAMP are referenced in the EPA's ODCE for the proposed new general permit.

The EPA's analysis suggests the following:

1. Discharges of muds and cuttings are capable of producing localized physical, chemical, and biological impacts:

   - Discharged fluids and cuttings contaminate sediments with heavy metals and hydrocarbons. The studies document increases in sediment barium levels of two- to 100-fold at drill sites, with typical increases of 10- to 40-fold. Increases in other trace metals (*e.g.,* arsenic, cadmium, chromium, copper, silver, lead, and zinc) were also observed within 250-500 meters of the drill site and not more than five- to ten-fold above background levels.
   - Biological impacts from single wells occur on a scale from several hundred to several thousand meters, chemical impacts were noted from several to tens of kilometers (kms). Alterations to benthic community structure are virtually always observed within 300 meters of the discharge site. However, changes have been noted in some cases at 500 to 1,000 meters from the site.
   - Other biological effects include declined abundance in benthic species and bioaccumulation of heavy metals. Changes in abundance, richness (number of species), and diversity of fauna were noted. Taxa affected include annelids, mollusks, echinoderms, and crustaceans.

2. Observations on the long-term, regional-scale fate of drilling fluid solids indicate that a fraction of the materials may be widely dispersed. For example, drilling fluid fine solids can be transported over relatively long distances (35-65 kms) to a regional area of deposition, albeit at low conditions, based on a study of eight exploratory wells. In shallow water (13-34 meters, or 43-112 feet) only about 6% of discharged barite was accounted for within a 3-krn radius of three drill sites (in general, shallower offshore waters are more energetic than deeper water).

3. The studies do not document that larger-scale (several hundred to 1,000 meters) impacts occur. However, the studies may not be sufficient to conclude that regional-scale impacts do not occur.

4. Modeling of drilling fluid plume dispersion and field studies of discharge plumes indicate that, in general, plume dispersion is sufficient to minimize water quality impacts and water column toxicity concerns in energetic, open waters of the OCS.

5. The principal impact of muds and cuttings discharges is benthic effects, due to the very high solids content of drilling fluids (10% to 70% solids by weight). Benthic community changes have been hypothesized to be due largely to physical effects. However, no studies have quantitatively discriminated between impacts from physical effects (altered sediment texture) and chemical effects (sediment-associated toxics).

According to the editors, the CAMP study of the potential environmental changes resulting from oil and gas development in the Santa Maria Basin offshore California is "an outstanding example of the difficulties inherent to marine impact assessment." The editors concluded that the study presented:

> *A realistic and sobering picture of the limitations of field monitoring in the marine environment. This study was well designed, well funded, and well implemented within the control of its managers. It was one of the most rigorously, if not the most rigorously conducted studies of the marine impacts of oil and gas discharges. All of these strengths notwithstanding, however, it does not inspire great confidence in our ability to document adverse environmental impacts.... (Steinhauer et al; from Avanti 1993, pp. 4-38, 4-41.)*

Based on the findings of the above-described reports, the Commission believes that although the magnitude of impacts is not well understood, the scientific data clearly suggests that the discharge of drilling fluids and cuttings cause adverse localized biological impacts. The National Marine Fisheries Service ("NMFS") came to a similar conclusion about the discharges' potential affects on "Essential Fish Habitat" ("EFH"). After reviewing the proposed general permit, NMFS concluded that more information on the direct lethal, sublethal and bio-accumulative effects of platform discharges on federally managed fish species is needed, particularly within a platform's 100-meter mixing zone (Exhibit 9). NMFS provided the EPA with a series of recommendations, which the EPA has adopted, into the body of the proposed NPDES permit. The recommendations are to (a) evaluate the direct lethal, sublethal, and bioaccumulative effects of produced water on federally managed fish species; (b) model dilution and dispersion plumes from the point of production water discharge to determine the extent of the area in which federally managed fish species may be adversely affected, and; (c) propose mitigation measures warranted by the results of recommendations "a" or "b". In addition, EPA has committed to a permit re-opener provision, and possible further effluent limitations based on the findings of "a" or "b" above.

All of the above evidence and concerns raises a serious question as to whether the proposed discharge of drilling fluids and cuttings can be found consistent with the water quality and marine resource policies of the Coastal Act at this time. Nevertheless, the Commission does not need to reach a definitive conclusion as to whether the proposed general NPDES permit is consistent with the policies of the Coastal Act. Since the EPA refuses to require the permittees to meet the California Ocean Plan's water quality objectives and numeric effluent limitations at

the point of discharge (100 meters from each platform's discharge pipe), the Commission cannot at this time find the proposed general NPDES permit consistent with the enforceable policies of the CCMP.

10.2 Fill of Coastal Waters

Coastal Act Section 30108.2 defines "fill" as "earth or any other substance or material, including pilings placed for purposes of erecting structures thereon, placed in a submerged area." Under the proposed permit, platform operators will continue to discharge drill cuttings to ocean waters as a routine part of drilling operations. The cuttings constitute "fill" as that term is defined in Coastal Act Section 30108.2.

Coastal Act § 30233(a) states in part:

> *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
>
> *(2) Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
>
> *(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
>
> *(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
>
> *(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
>
> *(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
>
> *(7) Restoration purposes.*

(8) Nature study, aquaculture, or similar resource dependent activities.

Coastal Act Section 30233(a) restricts the Coastal Commission from authorizing a project that includes open coastal water fill unless it meets three tests. The first test requires the proposed activity to fit into one of eight categories of uses enumerated in Coastal Act Section 30233(a)(1)-(8). The second test requires that there be no feasible less environmentally damaging alternative. The third and last test mandates that feasible mitigation measures be provided to minimize the project's adverse environmental effects.

Allowable Use Test

The proposed NPDES permit extends to the operators of OCS oil and gas platform authority to discharge oil and gas exploration, development and production wastes. As such, the discharge activity will take place from an energy facility and therefore is an allowable use under Coastal Act Section 30233(a)(1).

Feasible Less Environmentally Damaging Alternative

The Commission must further find that there is no feasible less environmentally damaging alternative to the proposed discharge into ocean waters of cuttings. In its consideration of the proposed reissuance of the general NPDES permit, the EPA evaluated two potential alternatives: (a) barging muds and cuttings to shore, and (b) the reinjection of muds and cuttings.

Barging

In promulgating its *1993 Effluent Guidelines,* the EPA considered barging and onshore disposal of all muds and cuttings as a substitute for ocean discharge. However, the EPA did not adopt requirements to barge uncontaminated (non-oiled) muds and cuttings from platforms located more than 3 nautical miles ("nm") from shore due to (1) the adverse impacts associated with the long distances (offshore and onshore) required for transport, and (2) the lack of permitted land disposal facilities suitable for disposal. The EPA currently requires barging-to-shore of all contaminated muds and cuttings.

In past actions, the Commission has found that while barging may be feasible for a project, it entails significant tradeoffs with other adverse environmental effects such as increased nitrogen oxide ("NOx") emissions, increased risk of spills during transit, and a lack of land disposal sites with the capacity to store the volumes of muds and cuttings generated at both state and OCS platforms. *(CC-47-87 February 1987; information from State Lands Commission (SLC), State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCBs), State Waste Management Board, Minerals Management Service (MMS), Santa Barbara County and Texaco.)* For instance, barges required for this alternative would emit vast quantities of NOx and sulfuric oxide ("Sox") in the course of their operation. Land disposal sites are limited, and do not provide an environmentally preferable solution to the disposal question. Based on current knowledge, the Commission believes that the environmental tradeoffs associated with barging

non-oiled muds and cuttings from the 22 platforms located on the OCS is more environmentally damaging than the impacts of onsite discharging.

However, further and more current quantification of the environmental trade-offs associated with alternative disposal locations is wanting. Therefore, the EPA is requiring from applicants an updated evaluation of drilling mud disposal alternatives within two years of the effective date of the permit. The EPA may include in the subsequently issued permit additional effluent limitations or other conditions based on the results of the evaluation. The Commission would then reconsider disposal alternatives in light of the new report, technological improvements, and other factors at any future consistency review of the NPDES permit.

Re-injection

Re-injection of drill muds and cuttings is a potential alternative to on-site discharging, although it is not widely practiced. One past study *(Continental Shelf Associates,* 1985) of alternate disposal methods concluded that re-injection of muds and cuttings is not a practical alternative for southern California offshore operations, as the substances would plug the geologic formations and reduce the amount of hydrocarbons that could be retrieved.

On the other hand, re-injection into non-producing wells is possible when geological formations are conducive. At Platform Heritage, for example, Exxon conducts an operation whereby drilling cuttings are ground to a sufficiently small size, pushed down the annulus of the well, and thereby disposed of. Given the aforementioned preconditions for re-injection, feasibility must be conducted on a case-by-case basis.

In order to conduct site-by-site feasibility studies, the proposed NPDES permit requires operators to conduct a feasibility study of "Drilling Waste Disposal Alternatives", including the recycling and reuse of muds and cuttings, and the reinjection of either as an alternative to direct discharge. Given information available at this time, the Commission finds that reinjecting cuttings is not currently feasible. Partial or complete reinjection at these platforms might very well become a condition for consistency of future proposed NPDES permits.

The Commission thus finds that the proposed direct discharge of cuttings is the least environmentally damaging alternative at this time.

Mitigation Measures

Finally, the Commission may permit placement of fill in open coastal waters if feasible mitigation measures have been provided to minimize any adverse environmental effects. At this time, the Commission cannot find that all feasible measures will be provided to minimize adverse environmental effects because the EPA refuses to require a discharger to meet the more stringent of either California's Ocean Plan numeric effluent limitations or the federal criteria at each platform's point of compliance, whichever is more protective of beneficial uses. The EPA proposes that each discharger meet the federal discharge criteria only, although for the majority of pollutants found in drilling fluids, cuttings, and produced water, the federal discharge

limitations are less stringent than those in the Ocean Plan. Therefore, the proposed project does not satisfy the third test of Coastal Act Section 30233(a).

APPENDIX A
SUBSTANTIVE FILE DOCUMENTS

Biological Assessment For Endangered Species in Outer Continental Shelf Waters of South and Central California for Consultation with the United States Fish and Wildlife Service. Prepared by Science Applications International Corporation for the EPA. February 10, 2000.

Biological Assessment for Endangered Species in Outer Continental Shelf Waters of South and Central California For Consultation With The National Marine Fisheries Service. Prepared by Science Applications International Corporation for the EPA. February 10, 2000.

Consistency Certification Nos. CC-85-92, CC-68-92, CC-68-93, CC-45-94, and CC-65-94, (EPA – CCC concurred in EPA's consistency certification for five individual platforms).

Consistency Certification No. CC-26-83 (Environmental Protection Agency - CCC concurrence in the EPA's consistency certification that re-issuance of the General NPDES Permit through 6/84 was consistent with the CCMP [EPA originally issued the General Permit in 2/82 with an expiration date of 1/84]).

Consistency Certification No. CC-38-85, CC-39-85 (EPA – In 2/86, CCC objected to EPA consistency certifications for two new proposed NPDES General Permits. [The EPA has extended the existing NPDES General Permit administratively since 1984]).

County of Santa Barbara, Planning and Development, Energy Division, Comments on Draft General NPDES Permit for Pacific OCS Oil and Gas Operations. September 5, 2000.

Eisler, R. January 1986. Chromium Hazards to Fish, Wildlife, and Invertebrates: A Synoptic Review. U.S. Fish and Wildlife Service, Patuxent Wildlife Research Center, Laurel, Maryland.

Environmental Contaminants Encyclopedia. National Park Service, Water Resources Division, Fort Collins, Colorado.

Environmental Defense Center Comments on the draft General NPDES Permit. September 5, 2000.

Higashi, R.M. et al. An Approach to Toxicant Isolation From a Produced Water Source in the Santa Barbara Channel. Produced Water, J.P. Ray, ed. pp. 223-233. 1992.

Irwin, R.J., M. VanMouwerik, L. Stevens, M.D. Seese, and W. Basham. July 1997.

Krause, P.R. Effects of Produced Water on Early Life Stages of a Sea Urchin: Stage-Specific Responses and Delayed Expression. Produced Water, J.P. Ray ed. pp. 431-444. 1992.

Long, Edward R. et al. Incidence of Adverse Biological Effects Within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management Vol. 19, No. 1, pp. 81-97. 1995.

Mineral Management Service Comments on the draft General NPDES Permit. September 13, 2000.

National Marine Fisheries Service Recommendations to EPA regarding Essential Fish Habitat protection in the issuance of a new General Permit. October 20, 2000.

Neff, J.M., et al. Composition, Fate, and Effects of Produced Water Discharges to Nearshore Marine Waters. Produced Water, J.P. Ray ed. pp. 371-387. 1992.

NOAA Screening Quick Reference Table for Inorganics in Water (SQRTs) HAZMAT Report 99-1. September, 1999.

Notice of Availability of Proposed National Pollutant Discharge Elimination System ("NPDES") General Permit for Offshore Oil and Gas Exploration, Development and Production Operations off Southern California; Notice, Federal Register, July 20, 2000 (Volume 65, Number 140), pp. 45063-45066.

Ocean Discharge Criteria Evaluation South and Central California for NPDES Permit No. CAG280000. Prepared by Science Applications International Corporation for the EPA. January 3, 2000.

Osenberg, C.W. et al. Spatial Scale of Ecological Effects Associated with an Open Coast Discharge of Produced Water. Produced Water, J.P. Ray ed. pp. 387-402. 1992.

Ray, James P.. 1992. Produced Water: Technological/Environmental Issues and Solutions, Plenum Press, New York.

Raimondi, P.T. and R.J. Schmitt. Effects of Produced Water on Settlement of Larvae: Field Tests Using Red Abalone. Produced Water, J.P. Ray ed. pp. 415-430. 1992.

U.S. EPA. March 1991. Technical Support Document For Water Quality-based Toxics Control. Office of Water, Washington, DC.

U.S. EPA. April 2001. 2001 Update of Ambient Water Quality Criteria for Cadmium. Office of Water, Washington, DC.

U.S. EPA. November 2002. National Recommended Water Quality Criteria: *2002*. Office of Water, Washington, DC.

U.S. EPA. December 8, 2003. Fact Sheet for Proposed National Pollutant Discharge Elimination System ("NPDES") General Permit for Offshore Oil and Gas Exploration, Development and Production Operations off Southern California.

University of California Extension. 1998. Managing Petroleum-Impacted Sites.

Table 1 -- Relative Stringency of Water Quality Criteria
(micrograms/liter)

The standards have been established for aquatic life protection unless noted otherwise

Constituent	1983 Standards	EPA Proposed Standards (4-day averages)[1]	COP Standards (6-month medians)	Converted COP (4-day averages)	EPA/Converted COP	Relative Stringency
Ammonia	na	1,300	600	617.7378085	2.104452702	COP
Arsenic	32	36	8	8.236504113	4.370786381	COP
Cadmium	12	9.3	1	1.023385636	9.08748342	COP
Copper	20	3.1	3	2.563611905	1.209231395	COP
Cyanide	20	1	1	1.029563014	0.971285862	EPA
Lead	32	8.1	2	1.958228853	4.136390896	COP
Manganese	na	100**	na	na	na	EPA****
Mercury	0.56	0.051	0.04	0.035005142	1.456928794	COP
Nickel	80	8.2	5	5.09633692	1.608998802	COP
Selenium	na	71	15	15.41255832	4.606633015	COP
Silver	1.8	1.9	0.7	0.612589993	3.101585107	COP
Zinc	80	81	20	19.47933223	4.158253428	COP
Benzene	na	71**	5.9***	na	na	COP
Benzo (a) Anthracene	na	0.049**	na	na	na	EPA****
Benzo (a) Pyrene	na	0.049**	na	na	na	EPA****
Chrysene	na	0.049**	na	na	na	EPA****
Benzo (k) Flouranthene	na	0.049**	na	na	na	EPA****
Benzo (b) Flouranthene	na	0.049**	na	na	na	EPA****
Dibenzo (a,h) Anthracene	na	0.049**	na	na	na	EPA****
Hexavalent Chromium	8	50	2	2.044712146	24.4533198	COP
Phenolic Compounds	120	4,600,000**	30	30.88689042	na	EPA*
Toluene	na	200,000**	85,000***	na	na	COP
Ethylbenzene	na	29,000**	4,100***	na	na	COP
Naphthalene	na	na	na	na	na	na
2,4-Dimethylphenol	na	2,300**	na	na	na	EPA****
Undissociated Sulfides	na	2	na	na	na	EPA****
Whole Effluent Toxicity	na	1TUc	na	na	na	EPA****

* The EPA standard for phenol is a human health-based lifetime average, while that from the COP is based on the protection of aquatic life, and therefore, no direct comparison can be made.

** Human health-based lifetime average

*** Human healt-based 30-day average

**** No COP equivalent proposed

[1] Applicable at the edge of the 100-meter mixing zone.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

EXHIBIT NO. 1
APPLICATION NO.
CD-109-03

In Reply
Refer to: WTR-5

DEC 10 2003

Peter Douglas
Executive Director
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Douglas:

Enclosed is a revised draft general National Pollutant Discharge Elimination System (NPDES) permit (permit No. CAG280000) which, when issued, would authorize the discharge of pollutants from offshore oil and gas exploration, development and production facilities operating in specified Federal waters off Southern California (Enclosure A). Pursuant to Section 307(c)(1) of the Coastal Zone Management Act (CZMA), EPA hereby certifies that this revised draft general permit is consistent with the approved California Coastal Management Program (CMP). We have also enclosed the revised fact sheet for the permit (Enclosure B). We are requesting the concurrence of the California Coastal Commission (CCC) on EPA's certification.

On October 9, 2003, we notified the CCC that prior to certifying the revised permit, we intended to wait for the National Oceanic and Atmospheric Administration (NOAA) to complete its current process of revising the CZMA regulations. However, we understand the CCC is quite anxious to move forward with final permit issuance (as are we) in order that the updated effluent limits in the new permit (particularly the new more stringent oil and grease limits for produced water) can take effect as soon as possible. We also understand that the CCC will be considering the permit status at its December 12, 2003 meeting in San Francisco. Given the CCC's concerns, we have decided to certify the permit without waiting for the final revised regulations from NOAA.

On December 20, 2000, EPA submitted a consistency certification to the CCC for a previous version of the general permit. The consistency certification was considered by the CCC during a public meeting in Los Angeles on January 9, 2001. At the public meeting, EPA agreed to make three changes in the consistency certification in response to concerns raised by the CCC. With the changes, the CCC concurred that the permit would be consistent with the CMP.

The changes which were made at the January 9, 2001 public meeting are discussed in more detail in Section VIII.C of the enclosed fact sheet. However, as discussed below, EPA is now proposing to revise the change which was made on January 9, 2001 regarding the application of California Ocean Plan (COP) objectives to produced water discharges. Since this change constitutes a modification of the consistency certification which the CCC concurred upon, EPA is now recertifying the revised permit to the CCC for another consistency review.

At the January 9, 2001 meeting, EPA committed to revise the effluent limits for produced water discharges in the general permit to apply the more stringent of EPA water quality criteria or COP objectives at the edge of the 100 meter mixing zone. After reconsidering this matter, EPA has revised the general permit to apply COP objectives at the seaward boundary of the territorial seas of the State of California. The criteria which would apply to a given discharge would be the more stringent of EPA criteria applied at the edge of the 100 meter mixing zone, or COP objectives applied at the boundary of the territorial seas. Permittees would be required to calculate the dilution occurring at both locations to determine which criteria are more stringent. The COP itself specifies that discharges outside the territorial seas should be regulated in this manner, and thus the revised permit in consistent with the COP in this regard. We also believe that the revised permit is consistent with the California CMP. It is also consistent with the approach normally used by EPA and NPDES states to address similar situations where jurisdictional boundaries are involved. We firmly believe this approach is protective of water quality and the resources that depend on it. Enclosure D discusses the consistency in more detail.

EPA is not revising the other changes which were made in the consistency certification at the January 9, 2001 public meeting. These other changes addressed study requirements and independent third party monitoring. However, considering the delay in permit issuance which has occurred, EPA is proposing to accelerate the reasonable potential sampling schedule for produced water discharges. The revised permit would require that 12 samples be taken during the first year of the permit rather than ten samples during the first 2 ½ years of the permit. In addition, EPA is proposing a number of minor technical edits and updates to the permit which are discussed in the revised fact sheet.

We have enclosed a number of supporting documents for the new consistency certification, including a list of the documents. Several of these documents are the same as those which were enclosed with the December 20, 2000 certification since they are still current (Enclosures C, F, G1, G2, H1, H2, and H3). Enclosure E is the latest Outer Continental Shelf Monitoring Workplan between EPA and the Minerals Management Service.

It should also be pointed out that the certification of December 20, 2000 was submitted pursuant to Section 307(c)(3)(A) of the CZMA. As noted above, this recertification is being submitted pursuant to Section 307(c)(1) of the CZMA. Existing CZMA regulations at 15 CFR 930 provide that a general permit may be certified as a Federal agency activity (Subpart C) or a permit (Subpart D). However, the regulations at 15 CFR 930.31(d) suggest that a general permit may be best considered a Federal agency activity subject to Section 307(c)(1) (65 FR 77133, December 8, 2000). Furthermore, NOAA's proposed revisions of June 11, 2003 (68 FR 34851) would require that general permits be certified as Federal agency activities. As such, we believe it is reasonable to proceed with permit recertification under Section 307(c)(1) without waiting for the final NOAA regulations (especially given the CCC's desire for expeditious permit issuance).

In accordance with the existing (and proposed) CZMA regulations (15 CFR Subpart C), if the CCC does not concur with the revised permit, the permit would not become effective for a given facility until an individual consistency certification had been submitted by the facility and concurred upon by the CCC, or until the Secretary of Commerce had overridden a CCC objection. The effective date of the enclosed general permit has been revised to be consistent with these regulations and is discussed in more detail in Section VIII.C.4 of the revised fact sheet. In accordance with 15 CFR 930.31(d) we are also requesting information on any conditions which would permit the CCC to concur with the consistency determination.

As noted above, we have submitted a draft permit for your consideration. After the CCC takes action on the draft permit, it will be necessary to public notice and request public comment on the permit. However, we only plan on requesting comment on the modifications resulting from the CCC public meeting of January 9, 2001, and the other proposed changes noted above. Subsequent to the proposal, EPA will then finalize the permit. If significant changes are made in finalizing the permit, EPA may bring the permit before the CCC again for another review.

The revised draft general permit incorporates significant revisions in effluent limits for the discharges which are more protective of environmental resources than the limits in the existing general permit. In particular (as noted above), the revised draft permit contains limits for oil and grease in produced water that are significantly more stringent than those in the existing permit. We urge the CCC to concur upon the draft permit so that the additional environmental protections included in the permit can become effective as quickly as possible. Also, we would like to place the permit on the CCC's agenda as soon as possible. We are available to meet with CCC staff in the meantime to discuss the revised general permit.

Should you have any questions regarding this matter, please call me at (415) 972-3572 or refer your staff to Eugene Bromley of the Clean Water Act Standards and Permits Office at (415) 972-3510.

Sincerely,

Alexis Strauss

Alexis Strauss 10 December 2003
Director, Water Division

Enclosures

cc: Alison Dettmer, CCC

LIST OF ENCLOSURES

Enclosure A - Revised Draft General NPDES Permit
Enclosure B - Revised Fact Sheet
Enclosure C - Response to Public Comments on the Draft Permit of July, 2000
Enclosure D - Demonstration of Consistency of the Revised Draft General Permit with the California CMP
Enclosure E - FY04 Monitoring Workplan between EPA and MMS
Enclosure F - Ocean Discharge Criteria Evaluation
Enclosure G.1 - ESA Biological Assessment for Species under the Jurisdiction of the National Marine Fisheries Service
Enclosure G.2 - ESA Biological Assessment for Species under the Jurisdiction of the U.S. Fish and Wildlife Service
Enclosure H - Essential Fish Habitat Assessment
Enclosure H.1 - Letter to National Marine Fisheries Service From EPA Requesting EFH Consultation
Enclosure H.2 - Letter to EPA from National Marine Fisheries Service Enclosing Conservation Recommendations
Enclosure H.3 - Letter from EPA to National Marine Fisheries Service Providing Permit Conditions in Response to Conservation Recommendations

ENCLOSURE A

DRAFT

General Permit No. CAG280000

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR OIL AND GAS EXPLORATION, DEVELOPMENT, AND PRODUCTION FACILITIES

In compliance with the provisions of the Clean Water Act, 33 U.S.C. 1251 et seq., "the Act", the following discharges are authorized in accordance with this general National Pollutant Discharge Elimination System ("NPDES") permit: Drilling Fluids and Cuttings (001), Produced Water (002), Well Treatment, Completion and Workover Fluids (003), Deck Drainage (004), Domestic and Sanitary Waste (005), Blowout Preventer Fluid (006), Desalination Unit Discharge (007), Fire Control System Water (008), Non-Contact Cooling Water (009), Ballast and Storage Displacement Water (010), Bilge Water (011), Boiler Blowdown (012), Test Fluids (013), Diatomaceous Earth Filter Media (014), Bulk Transfer Material Overflow (015), Uncontaminated water (016), Water Flooding Discharges (017), Laboratory Waste (018), Excess Cement Slurry (019), Muds, Cuttings and Cement at Sea Floor (020); Hydrotest Water (021); and H_2S Gas Processing Waste Water (022) from oil and gas exploration, development and production facilities to federal waters off Southern California as specified below.

These exploration, development and production facilities are classified in the Offshore Subcategory of the Oil and Gas Extraction Point Source Category, as defined in 40 CFR Part 435, Subpart A. Discharges shall be in accordance with effluent limitations, monitoring and reporting requirements, and other conditions set forth in Parts I through V herein. The discharge of pollutants not specifically set forth in this permit is not authorized.

This permit authorizes discharges from all exploratory facilities operating within the permit area and development and production facilities which are not new sources including the following: Platforms A, B, C, Edith, Ellen/Elly, Eureka, Gail, Gilda, Gina, Grace, Habitat, Harmony, Harvest, Henry, Heritage, Hermosa, Hillhouse, Hidalgo, Hogan, Hondo, Houchin, and Irene. All previously issued NPDES permits (see Appendix B) are terminated once this permit becomes effective.

This permit shall become effective as follows:

1) if, on the date of Federal Register notice of final permit issuance, the California Coastal Commission (CCC) has concurred that the permit is consistent with the California Coastal Management Program (CMP), the permit shall become effective on the first day of the month that begins at least 45 days after the Federal Register notice, or

2) if, on the date of Federal Register notice of final permit issuance, the CCC has not concurred that the permit is consistent with the California CMP, the existing general permit and individual permits (listed in Appendix B) for the platforms described above shall expire within 3 months of

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the date of the Federal Register notice for all platforms for which the permittee has not submitted an individual consistency certification to the CCC. For all platforms for which an individual consistency certification is submitted to the CCC, and the CCC concurs with the certification, this permit shall become effective on the first day of the month that begins at least 45 days after the date of the CCC concurrence, or

3) for all platforms for which an individual consistency certification is submitted to the CCC, and the CCC does not concur with the certification, the existing general permit and individual permits for the platforms described above shall expire within 30 days of the date of the CCC's objection decision for all platforms for which the permittee has not submitted a timely appeal to the Secretary of Commerce in accordance with 15 CFR 930.125.

4) for all platforms for which a timely appeal is filed with the Secretary of Commerce, and the Secretary overrides the CCC's objection, this permit shall become effective on the first day of the month that begins at least 45 days after the date of the Secretary's decision.

5) If the Secretary of Commerce upholds a CCC objection which has been appealed by the permittee for a platform, this general permit shall not become effective for that platform.

For new exploratory operations, and new development and production facilities which are not new sources as defined in the Part V of this permit, the effective date of the permit shall be the date that:

a) the CCC concurs with an individual consistency certification for the facility, or

b) the Secretary of Commerce overrides a CCC objection for the facility.

This permit and the authorization to discharge shall expire at midnight,{*5 years from Federal Register notice of permit issuance*}.

Signed this day of

Alexis Strauss
Director, Water Division
U.S. EPA, Region 9

I. REQUIREMENTS FOR NPDES PERMITS AND COVERAGE CONDITIONS

A. Permit Applicability and Coverage Conditions

1. Operations Covered. This permit establishes effluent limitations, prohibitions, reporting requirements, and other conditions on discharges from oil and gas facilities engaged in production, field exploration, developmental drilling, well completion, well treatment operations, well workover, and abandonment operations.

2. Location of Coverage. The permit coverage area consists of the following lease blocks (by OCS lease parcel number as maintained by the Minerals Management Service (MMS) and described in the MMS Serial Register Summary Lease Report):

in waters west and northwest of Point Arguello,

P-0396	P-0397	P-0402	P-0403a	P-0403b	P-0408	P-0409	P-0414a	P-0414b
P-0415	P-0416	P-0420	P-0421	P-0422	P-0424	P-0425	P-0426	P-0427
P-0429	P-0430	P-0431	P-0432	P-0433	P-0434	P-0435	P-0437	P-0438
P-0440	P-0441	P-0443	P-0444	P-0445	P-0446	P-0449	P-0450	P-0451
P-0452	P-0453	P-0499	P–0500					

in waters south and west of Pt. Conception,

P-0315	P-0316	P-0319	P-0320	P-0322	P-0323A

in the Santa Barbara Channel from Pt. Conception to Goleta Pt.,

P-0180	P-0181	P-0182	P-0183	P-0187	P-0188	P-0189	P-0190	P-0191
P-0192	P-0193	P-0194	P-0195	P-0326	P-0329	P-0460	P-0461	P-0462
P-0464								

in the Santa Barbara Channel from Santa Barbara to Ventura,

P-0166	P-0202	P-0203	P-0204	P-0205	P-0208	P-0209	P-0210	P-0215
P-0216	P-0217	P-0234	P-0240	P-0241	P-0346	P-0527		

in the San Pedro Channel between San Pedro and Laguna,

P-0296	P-0300	P-0301	P-0306

which are located in Federal waters off the Southern California coast, seaward of the outer boundary of the territorial seas. This permit does not authorize discharges from facilities discharging to or in territorial seas of California or from facilities defined as "coastal", "onshore", or "stripper" (see 40 CFR Part 435, Subparts C, D, and F). Land based facilities

operating in support of activities on the covered lease blocks are considered part of the Offshore Subcategory and discharges to Federal waters from these facilities are authorized by this permit.

3. Facilities Covered. This permit covers development and production facilities including Platforms A, B, C, Edith, Ellen/Elly, Eureka, Gail, Gilda, Gina, Grace, Habitat, Harmony, Harvest, Henry, Heritage, Hermosa, Hillhouse, Hidalgo, Hogan, Hondo, Houchin, and Irene. The permit also covers exploration facilities discharging in the permit area. Facility coverage is not effective until Notices of Intent ("NOIs") are received as described below.

4. Modifications and Revocations. This permit may be modified or revoked at any time on the basis of any new data that was not available at the time of permit issuance if the new data would have justified the application of different permit conditions at the time of issuance. This includes any information indicating that cumulative effects on the environment are unacceptable. Such cumulative effects on the environment include unreasonable degradation of the marine environment due to continued discharges, in which case the Director, Water Division, Region 9 may determine that additional conditions are necessary to protect the marine environment or special aquatic sites. Permit modification will be conducted in accordance with 40 CFR Parts 122.62 and 122.63.

5. Prohibitions. During the term of this general permit, operators are authorized to discharge under the general permit the enumerated waste streams subject to the restrictions set forth herein. This permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility, or any pollutants that are not ordinarily present in such waste streams, unless specifically authorized by EPA prior to discharge.

6. Notification Requirements.

a. Coverage Under This Permit. For the development and production, and exploration facilities located on platforms listed above in Part I.A.3, written notification of intent to be covered under this permit shall be submitted by the effective date of this permit. The Notice of Intent to be covered shall include the legal name and address of the operator, the lease block number assigned by the Department of the Interior, and the number and type of facilities located within the lease block. If the lease block was previously covered by another permit, the operator shall also include the previous permit number in the notification. Additionally, if an application for an individual permit for activity was previously submitted to EPA, the Notice of Intent shall include the application/permit number of that application or the permit number of any individual NPDES permit issued by EPA for this activity.

For development and production facilities other than those listed above in Part I.A.3, the NOI shall include the above information and shall also include information to substantiate that the facility is not a new source, as defined in Part V of this permit. Initiation of discharges may not begin until EPA has reviewed the submitted information and notified the permittee in writing that this general permit is appropriate for the proposed operation, and the permittee has obtained

all applicable approvals and certifications by the MMS and CCC of the development and production plan.

For exploratory operations conducted by exploration facilities not located on platforms listed above in Part I.A.3, the Notice of Intent shall be submitted at least 30 days prior to initiation of discharges. Initiation of discharges may not begin until EPA has reviewed the proposed operation and notified the permittee in writing that this general permit is appropriate for the proposed operation, and the permittee has obtained all applicable approvals and certifications by the MMS and CCC of the exploration plan.

b. Termination of Operations. Facility or lease block operators shall notify the Director in writing within 60 days after permanent termination of discharges from their facilities within the lease block.

c. Duty to Provide Notice of Intent for Continued Activity. If the permittee wishes to discharge under the authority of this permit after its expiration date, the permittee must submit a notice of intent to EPA to do so. The Notice of Intent shall be submitted at least 180 days before the expiration date of this permit. Timely receipt of a complete Notice of Intent by EPA shall qualify the Permittee for an administrative extension of its authorization to discharge under this permit pursuant to 5 U.S.C. Section 558(c), until a new permit is issued.

d. Submission of Requests to be Covered and Other Reports. Reports and notifications, including discharge monitoring reports and notifications of non-compliance required herein shall be submitted to the following addresses.

US EPA, Region 9
NPDES/DMR, WTR-7
75 Hawthorne Street
San Francisco, California 94596-3901
Phone: (415) 744-1905

Regional Supervisor, Office of Environmental Evaluation
Minerals Management Service
770 Paseo Camarillo
Camarillo, CA 93010

Alison Dettmer, Manager
Energy & Ocean Resources Unit
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

B. Requiring an Individual Permit

1. The Director may require any Permittee discharging under the authority of this permit to apply for and obtain an individual NPDES permit. The following criteria (40 CFR Part 122.28(b)(3)) would be used in making such determinations:

a. Whether the discharger is in compliance with the conditions of this general permit.

b. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source.

c. Effluent limitations guidelines are promulgated for point sources covered by the general permit.

d. A Water Quality Management plan containing requirements applicable to the point sources is approved.

e. Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary.

f. The discharger(s) is a significant contributor of pollutants. In making this determination, the Director may consider the following factors:

(1) The location of the discharge with respect to waters of the United States;
(2) The size of the discharge;
(3) The quantity and nature of the pollutants discharged to waters of the United States; and
(4) Other relevant factors.

2. The Director may require any Permittee authorized by this permit to apply for an individual NPDES permit only if the Permittee has been notified in writing that an individual permit application is required.

3. Any Permittee authorized by this permit may request to be excluded from the coverage of this general permit by applying for an individual permit. The owner or operator shall submit an application together with the reasons supporting the request to the Director.

4. When an individual NPDES permit is issued to a Permittee otherwise subject to this general permit, the applicability of this general permit to that owner or operator is automatically terminated on the effective date of the individual permit.

II. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Drilling Fluids and Cuttings (Discharge 001)

1. Effluent Limitations. The Permittee shall comply with the following effluent limitations and monitoring requirements.

Table 1 - Drilling Fluids and Cuttings[1] Effluent Limitations and Monitoring Requirements

Effluent Characteristic	Discharge Limitation	Measurement Frequency	Sample Type/Methods	Reported Values[5]
Total Discharge Volume	See note 2.	Daily	Estimate	Per well total
Toxicity of Drilling Fluids and Cuttings	MinimumLC50 of the SPP shall be 3% by volume	End-of-well (at least 80% of permitted well footage)[4]	Grab/Drilling Fluids Toxicity Test	96-hr LC50 Part II.A.2.d
Free Oil	No discharge	Weekly[7] & before bulk discharges	Grab/Static Sheen test Part II.A.2.b.	Number of days sheen observed
Oil-based fluids[3]	No discharge	--N/A--	--N/A--	--N/A--
Diesel oil content	No discharge	--N/A--	Part II.A.2.a.	--N/A--
Barite: Cadmium	3 mg/kg[6]	See II.A.2.c	AAS	mg/kg dry wt.
Barite: Mercury	1 mg/kg	See II.A.2.c	AAS	mg/kg dry wt.
Chemical Inventory	--N/A--	Once per mud system	Part II.A.3.	--N/A--
Non-Aqueous Based Drilling Fluids and Associated Cuttings	No discharge	--N/A--	--N/A--	--N/A--

Notes:

[1] All cuttings limitations except the "no free oil" requirements as determined by the Static Sheen Test are monitored by sampling and analysis of drilling fluid samples. Compliance with the drilling fluids limitation demonstrates compliance with the corresponding cuttings limitation.

[2] The Permittee shall estimate and report the total discharge volume per well for drilling fluids and drill cuttings. The volumes for fluids and cuttings shall be reported separately. The Permittee shall also report the number of days of discharge of each drilling fluid system used.

[3] The discharge of drilling muds which contain waste engine oil, cooling oil, gear oil, or lubricant which has previously been used for purposes other than borehole lubrication is prohibited. The discharge of cuttings generated using drilling fluids which contain mineral oil is prohibited except when the mineral oil is used as a carrier fluid (transporter fluid), lubricity additive, or pill.

[4] Intermediate depth mud systems are also subject to the 30,000 ppm limit by testing or by using generic fluids; see "Use of generic drilling fluids." The "permitted well footage" refers to the well footage permitted by the MMS.

[5] The permittees shall submit the Well DMR on the established DMR schedule (see Part III.C.). The Well DMR shall be submitted at the next scheduled DMR date at least 45 days after the completion of drilling activity. The Well DMR shall report all discharges for each well from a mobile drilling unit or all rig associated discharges listed in this table for platform mounted rigs. Copies of the toxicity test reports, barite certifications, and drilling fluids inventory information shall be included with the Well DMR.

[6] The discharge limitation for cadmium in barite is 2 mg/kg for Platforms Harmony and Heritage.

[7] The sampling frequency for the static sheen test shall be weekly. When drilling into a hydrocarbon bearing zone, sampling frequency shall be daily.

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2. Monitoring Requirements.

a. Diesel Oil. Compliance with the limitation on diesel oil shall be demonstrated through the Drilling Fluids Inventory.

b. Static Sheen Test. The Permittee shall perform the Static Sheen Test on separate samples of drilling fluids and cuttings. The test shall be conducted in accordance with "Approved Methodology; Laboratory Sheen Tests for the Offshore Subcategory, Oil and Gas Extraction Industry, " which is Appendix 1 to Subpart A of 40 CFR Part 435. If the static sheen test indicates the presence of free oil, discharge of the tested material shall cease; if subsequent tests do not indicate free oil, discharge may continue.

c. Mercury and Cadmium Content of Barite. Compliance shall be demonstrated by analysis of the stock barite or by certification based on supplier documentation. Results for total mercury and total cadmium shall be submitted in the DMR for the well. Analyses shall be conducted by atomic absorption spectrophotometry and results expressed as mg/kg (dry weight) of barite.

The Permittee may provide analysis of representative samples of stock barite once prior to drilling each well. If more than one well is drilled using the same stock supply, new analyses are not required for subsequent wells if no new supplies of barite have been received since the previous analyses. In this latter case, the DMR should state that no new barite was received since the last reported analyses.

Alternatively, operators may provide certification, as documented by the supplier(s), that the barite meets the above limits. The concentration of mercury and cadmium in stock barite shall be reported on the well DMR as documented by the supplier.

d. Toxicity Test for Drilling Fluids and Cuttings. The minimum 96 hour LC50 value, using the *Mysidopsis bahia,* for drilling fluids and cuttings discharged in compliance with this permit is 3% of the Suspended Particulate Phase ("SPP") by volume. The Permittee shall demonstrate compliance with this limit for both drilling fluids and cuttings by conducting and reporting the results of a drilling fluids bioassay for each mud system which is used and discharged except as provided in Part II.A.3 below. Drilling fluid samples for the bioassay shall be taken at the time that maximum well footage is reached for each mud system (defined as at least 80% of the actual permitted well footage at the time of discharge within each interval during the drilling of the well for which a separate mud system is used and discharged).

The bioassay procedure to be used is "Drilling Fluids Toxicity Test" (Appendix 2 to Subpart A of 40 CFR Part 435). Bioassay results shall be submitted with the Well DMR (see note 5, Section II.A.1.)

3. Drilling Fluids Systems and Inventories

a. Drilling Fluids Inventory and Reporting Requirements. The Permittee shall maintain a precise inventory of all drilling fluid constituents added downhole for each well. The composition of each mud system used and discharged by the Permittee shall be reported to EPA. Mud composition data shall be submitted to EPA with the Well DMR. The Permittee shall report the following for <u>each</u> mud system: 1) base (generic) drilling fluid type, 2) product name and total amount (volume or weight) of each constituent in discharged drilling fluid; 3) the total volumes of drilling fluids discharged; and 4) the number of days of discharge. The permittee shall also report the estimated maximum concentration of each constituent in the discharged drilling fluid, if no toxicity test is conducted on the drilling fluid system.

b. Use of Generic Drilling Fluids. With the exception of the drilling fluids system discharged when the well reaches its maximum footage, the toxicity requirement shall be met by

a toxicity test as described above in Part II.A.2.d or by the demonstration by the Permittee that a discharged drilling fluid complies with the requirements of (1), (2) or (3) below:

(1) The drilling fluid is generic as defined in Part II.A.3.c below.

(2) The drilling fluid is generic (excluding generic mud #1) and all specialty additives included in the fluid satisfy either of the following conditions:

(a) When each additive is included at its maximum concentration in generic fluid #7 (lightly treated lignosulfonate mud), the 96 hour LC50 value of the resulting fluid exceeds 100,000 ppm for the suspended particulate phase; or

(b) Other toxicity data is available for the additive upon which EPA may reasonably conclude that (a) above would be satisfied.

(3) The drilling fluid is generic and contains additives used in quantities such that the resulting whole fluid may, based on toxicity data for similar whole fluids or toxicity data for the additives, be shown to comply with the overall toxicity limit of 30,000 ppm. The Permittee shall be responsible for providing this demonstration of compliance. The method in "Separate and Joint Toxicity to Rainbow Trout of Substances Used in Drilling Fluids for Oil Exploration" (Sprague and Logan, *Environmental Pollution*, Volume 19, No. 4, August, 1979) may be used to estimate joint toxicity.

c. Generic Drilling Fluids. Hematite or other weighting materials may be substituted for barite at the given maximum allowable concentrations.

Table 2 - Generic Drilling Fluids

Generic Mud Number	Maximum Allowable Concentration (pounds/barrel)
1. Seawater/Potassium/Polymer Mud	
KCl	50
Starch	12
Cellulose Polymer	5
XC Polymer	2
Drilled Solids	100
Caustic	3

2. Seawater/Lignosulfonate Mud	
Attapulgite or Bentonite	50
Lignosulfonate	15
Lignite	10
Caustic	4
Barite	450
Drilled Solids	100
Soda Ash/Sodium Bicarbonate	2
Cellulose Polymer	5
Seawater	As Needed
3. Lime Mud	
Lime	20
Bentonite	50
Lignosulfonate	15
Lignite	10
Barite	180
Caustic	5
Drilled Solids	100
Soda Ash/Sodium Bicarbonate	2
Freshwater	As Needed
4. Nondispersed Mud	
Bentonite	15
Acrylic Polymer	2
Barite	180
Drilled Solids	70
Freshwater	As Needed
5. Spud Mud (slugged intermittently with seawater)	
Attapulgite or Bentonite	50
Caustic	3
Cellulose Polymer	2
Drilled Solids	100
Barite	50
Soda Ash/Sodium Bicarbonate	2
Lime	2
Seawater	As Needed

6. Seawater Gel Mud	
Attapulgite or Bentonite	50
Caustic	3
Cellulose Polymer	2
Drilled Solids	100
Barite	50
Soda Ash/Sodium Bicarbonate	2
Lime	2
Seawater	As Needed
7. Lightly Treated Lignosulfonate Freshwater/Seawater Mud	
Bentonite	50
Barite	180
Caustic	3
lignosulfonate	6
Lignite	4
Cellulose Polymer	2
Drilling Solids	100
Soda Ash/Sodium Bicarbonate	2
Lime	2
Seawater to Freshwater Ratio	1:1
8. Lignosulfonate Freshwater Mud	
Bentonite	5
Barite	450
Caustic	5
Lignosulfonate	15
Lignite	10
Drilling Solids	100
Cellulose Polymer	2
Soda Ash/Sodium Bicarbonate	2
Lime	2
Seawater to Freshwater Ratio	As Needed

d. Notice of Final Mud Dump. The Permittee shall provide verbal notice to EPA (or other Federal Agency designated by EPA at a later date) at least 48 hours prior to the final mud dump upon completion of each well. Reports during normal business hours shall be provided to the CWA Compliance Office, Water Division, at telephone number 415-744-1904. Twenty-four hour reporting may be made at 415-744-2000.

e. Restrictions on the Use of Mineral Oils in Drilling Fluids. Mineral oil may be used only as a carrier fluid (transporter fluid), lubricity additive, or pill.

4. Maximum Allowable Annual Discharge Volumes for Drilling Fluids, Cuttings and Excess Cement.

Table 3 - Maximum Discharge Volumes for Drilling Fluids, Cuttings and Excess Cement

Facility	Maximum Annual Allowable Cuttings discharged, bbls	Maximum Annual Allowable Drilling Fluids discharged, bbls	Maximum Annual Allowable Excess Cement Discharged, bbls
A	30,000	105,000	3,000
B	30,000	105,000	3,000
C	30,000	105,000	3,000
Edith	90,000	105,000	6,500
Ellen/Elly	18,150	49,950	1,200
Eureka	13,350	36,650	1,200
Gail	28,700	49,500	2,000
Gilda	30,000	105,000	2,500
Gina	30,000	105,000	2,500
Grace	28,700	49,500	2,000
Habitat	30,000	105,000	2,500
Harmony	40,000	200,000	4,000
Harvest	12,000	53,500	2,000
Henry	30,000	105,000	3,000
Heritage	40,000	200,000	4,000
Hermosa	11,250	41,000	2,000
Hidalgo	6,000	23,000	2,000
Hillhouse	30,000	105,000	3,000
Hogan	34,000	118,000	3,300
Hondo	40,000	200,000	4,000
Houchin	34,000	118,000	3,300

Irene	30,000	105,000	2,500

B. Produced Water (Discharge 002)

1. Reasonable Potential Sampling and Analysis for Chemical Parameters

a. Sampling. Permittee will sample for the following constituents to determine whether the discharge causes or has the reasonable potential to cause, or contribute to an excursion above criteria (40 CFR Part 122.44(d)). For intermittent dischargers, see Part II.B.9 below.

Table 4 - Water Quality Criteria for Produced Water Reasonable Potential Determination

Constituent	Water Quality Criteria (ug/L)[1, 2]
Ammonia	1300[3]/600
Arsenic	36/8
Cadmium	9.3/1
Copper	3.1/3
Cyanide	1/1
Lead	8.1/2
Manganese	100
Mercury	0.051/0.04
Nickel	8.2/5
Selenium	71/15
Silver	1.9/0.7
Zinc	81/20
Benzene	71/5.9
Benzo (a) Anthracene	0.049
Benzo (a) Pyrene	0.049
Chrysene	0.049
Benzo (k) Fluoranthene	0.049
Benzo (b) Fluoranthene	0.049
Dibenzo (a,h) Anthracene	0.049
Hexavalent Chromium[4]	50/2
Phenol	4,600,000
Toluene	200,000/85,000

Ethylbenzene	29,000/4,100
Naphthalene	not available
2,4-Dimethylphenol	2300
Undissociated Sulfides[5]	2
Whole Effluent Toxicity	1 TUc (Part II.B.2)

[1] Where two numbers are given, the first number is the Federal criterion (63 FR 68354, December 10, 1998) and the second is the objective from the California Ocean Plan. For each such parameter, the applicable criterion is the one which proves to be more stringent based on the analysis required by Part II.B.1.c.1 of this permit. Where one number is given, it is the applicable criterion.

[2] Applicable after dilution at the edge of the 100 meter mixing zone or the seaward boundary of the territorial seas of the State of California (See footnote 1 above and Appendix A). A permittee may submit a request for a recalculated criterion based on site-specific studies and analyses that consider ambient factors and the nature of the discharge.

[3] Assumes an ambient ocean temperature of 15 °C, salinity of 30 g/kg and pH of 8.1. Effluent limitations developed for a specific platform may be based on an alternate criterion which considers platform-specific ocean conditions.

[4] Total chromium may be sampled as an alternative to hexavalent chromium in the reasonable potential analysis.

[5] Use EPA Method 376.1 (or equivalent method published in Standard Methods) to analyze for total sulfide. Use procedure in method to calculate undissociated sulfide fraction. Report undissociated sulfide fraction based on the pH, temperature and salinity of both the end-of-pipe sample and ambient ocean conditions at the platform. Ambient ocean pH of 8.1 and salinity of 30 g/kg may be used.

b. Additional Reasonable Potential Sampling Requirements

1) Any Permittee who discharges produced water must sample for the constituents listed above in Part II.B.1.a.

2) The Permittee will sample while discharge is occurring until 12 samples are taken. The sampling is to commence during the first reporting period of the effective permit. The sampling frequency shall be once per month during the first year of the term of the permit.

3) The samples will be taken as grab samples.

4) The reasonable potential analytical laboratory results and the quarterly dilution value shall be submitted with the DMR along with the information required in Part III.A.2 of this permit.

c. Reasonable Potential Analysis Submittal

1) The results of the produced water reasonable potential sampling for chemical constituents shall be analyzed using the procedures in the document entitled "Procedures for Reasonable Potential Evaluation in NPDES Permit No. CAG280000" and submitted to EPA in electronic spreadsheet format. The completed spread sheet for each discharge will be sent to EPA no later than one year and three months after the permit becomes effective. This submittal shall include a determination of the minimum dilution limit required for each discharge location to maintain no reasonable potential to exceed the Water Quality Criteria for any constituent listed in Table 4. For parameters with two criteria specified in Table 4, the submittal shall be based on the more stringent of either: a) the Federal criterion applied at the edge of the 100 meter mixing zone, or b) the California Ocean Plan objective applied at the seaward boundary of the territorial seas of the State of California. Using the procedure in Appendix A, dilution ratios shall be calculated at both the edge of the 100 meter mixing zone and at the distance of the platform from the seaward boundary of the territorial seas of the State of California. The submittal shall identify all parameters for which reasonable potential is found to exceed either a Federal criterion at the edge of the 100 meter mixing zone, or a California Ocean Plan objective at the seaward boundary of the territorial seas. In conducting the analysis for the metals in Table 4 (As, Cd, Cu, Pb, Hg, Ni, Se, Ag, Zn and Cr^6), and for ammonia and cyanide, the California Ocean Plan 6-month medians shall be converted to 4-day averages using the procedure in the document entitled "Procedure for Comparing California Ocean Plan 6-Month Median and a 4-Day Average for NPDES Permit No. CAG280000", dated August 16, 2001.

2) Dilution ratios will be determined using the methods in Appendix A of the permit. The dilution calculation will be based on the produced water average quarterly flow.

d. Previously Collected Data. If results for the above listed constituents were previously collected and meet appropriate methods and detection limits, the previously collected data may be used to satisfy the reasonable potential sampling requirements (including metals sampled as composites).

e. Establishing Reasonable Potential

1) Evaluation. After EPA receives the reasonable potential sampling results (spreadsheets) from an operator, the information will be evaluated for the potential for the exceedance of a water quality criterion. Data for all criteria listed in Part II.B.1.a shall be submitted at one time by each operator.

2) Limitations After the Establishment of Reasonable Potential. Each Permittee will be notified of the results of EPA's review of the reasonable potential spreadsheets submitted by the permittees. Platform specific limitations become effective the first quarter subsequent to permit modification to include such limitations. Any permit modifications will be conducted in accordance with procedures set forth at 40 CFR Part 124. Monitoring will continue on a quarterly basis for the remainder of the permit for those constituents with limits.

3) Monitoring After the Evaluation Phase. The constituents listed at Part II.B.1.a without platform specific limits shall be sampled once after the end of the data gathering phase, and the results submitted on the DMR at least 180 days before the permit expires.

4) Dilution Ratio Changes Subsequent to the Data Gathering Phase. The permittee shall calculate the quarterly dilution value each quarter subsequent to the data gathering phase. If the quarterly dilution value is less than the minimum dilution limit, this permit may be reopened and modified to include additional effluent limitations and monitoring requirements based on the reasonable potential for the exceedance of a water quality criterion.

f. Compliance and Enforcement.

1) During the Reasonable Potential data gathering and evaluation phase of this permit, any numeric water quality limitations from the previous permits, such as the general permit CA0110516, will be in effect for compliance and enforcement purposes (except as provided below for certain parameters for Platforms Hogan and Gail where alternate limits will be in effect). Appendix B provides information on previous permit coverage for different platforms. These results shall be reported on the DMR.

Table 5
Produced Water Enforceable Limits During Reasonable Potential Sampling for CA0010516

Constituent	Limit[1], mg/l
Arsenic	0.032
Cadmium	0.012
Total Chromium	0.008
Copper	0.02
Cyanide	0.02
Lead	0.032
Mercury	0.00056
Nickel	0.08
Silver	0.0018
Zinc	0.08
Phenols	0.12

Note 1:This limit is applicable after dilution within the 100 meter mixing zone defined below. Compliance with these limits shall be determined through the use of the following equation Ce=Co+Dm(Co-Cs) where:

Ce=the maximum allowable concentration

Co=the concentration in Part II.B.1. f.1 above, which is to be met at the completion of initial dilution

Cs=background concentration (See Appendix A, Table 1)

Dm=dilution at the 100 meter mixing zone expressed as parts seawater per part wastewater. (See Appendix A)

For the platforms listed below, the following alternative enforceable limits apply during the data gathering and evaluation phase in lieu of any limits from previous permits:

Table 6 - Platform-Specific Produced Water Effluent Limitations During Reasonable Potential Sampling

Platform	Consti-tuent	Maximum Daily Limit	Average Monthly Limit	Measurement Frequency	Sample Type	Reported Values
Hogan	Lead	11.39 mg/l	1.28 mg/l	Once/quarter	Grab	Daily Max and Monthly Ave Values
Gail	Benzo (a) pyrene	160.7 ug/l	98.0 ug/l	Once/quarter	Grab	Daily Max and Monthly Ave Values

The above limits apply at the discharge point for the produced water discharge rather than after dilution.

2. Reasonable Potential Sampling and Analysis for Chronic Toxicity

a. Species selection.

1) The Permittee shall conduct monthly chronic toxicity tests with the red abalone, *Haliotis rufescens* larval development test. The provisions described below for monitoring triggers, accelerated testing, and Toxicity Reduction Evaluation ("TRE")/Toxicity Identification Evaluation ("TIE") shall apply to abalone test results. The monthly test may be conducted as part of the annual screening described below in Part II.B.2.a.2.

2) In addition the Permittee shall conduct annual screening with the following species to collect data for the next permit cycle:

Plant: Giant kelp, *Macrocystis pyrifera* (germination and germ-tube length test)
Vertebrate: Topsmelt, *Atherinops affinis* (survival and growth)
Invertebrate: Red abalone, *Haliotis rufescens* (larval development test)

To capture seasonal variations, annual screening with these three species will be conducted in the fourth DMR quarter following the effective date of the permit and every fifth DMR quarter thereafter until the data for all four seasons has been collected.

The chronic toxicity of the effluent shall be estimated as specified in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms," EPA/600/R-95/136, August 1995, Office of Research and Development (or latest edition).

b. Sample Type. For toxicity samples, composite sample means no fewer than 8 individual samples taken at 3-hour intervals over 24 hours or for the duration of the discharge, whichever is shorter.

c. Testing schedule. Testing with the red abalone will start during the first month after the permit becomes effective. Test results shall be completed and submitted with the corresponding reporting period DMR.

d. Monitoring Triggers/Definition of Toxicity and Compliance Schedule.

1) Chronic toxicity measures lethal and/or sublethal effects (e.g., reduced larval development) of test organisms exposed to an effluent compared to that of the control organisms. The chronic toxicity monitoring triggers will be expressed as both a monthly average monitoring trigger (MAMT) and a daily maximum monitoring trigger (DMMT). These triggers will be calculated based on the EPA statistical approach as described in the Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) and EPA Regions 9 and 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs, May 31, 1996. The MAMT and DMMT will be calculated using the quarterly dilution value.

2) Results shall be reported in TU_c, where $TU_c = 100/NOEC$. The no observed effect concentration ("NOEC") is the highest concentration of toxicant to which organisms are exposed in a chronic test that causes no observable adverse effect on the test organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are not statistically different from the controls).

3) If the toxicity monitoring triggers described above are exceeded in an abalone test, then provisions for accelerated testing, TRE and TIE described below are effective during the permit cycle.

4) After 12 consecutive monthly tests meeting both the MAMT and DMMT, the Permittee may request a reduction in the frequency of monitoring to once for the remainder of

this permit. If toxicity monitoring triggers are exceeded during the remainder of the permit term, then accelerated testing, TRE/TIE requirements, and quarterly monitoring shall become effective.

e. Quality Assurance.

1) A series of at least five concentrations and a control shall be tested. The series shall include the MAMT and the DMMT, one concentration below the DMMT, one concentration between the MAMT and the DMMT, and one concentration above the MAMT.

2) If organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient.

3) If either the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, then the test is invalid, the results are unacceptable for compliance purposes, and the Permittee must re-sample and re-test within the same testing quarter. For tests with a percent minimum significant difference (%MSD) of less than or equal to 5% for abalone, the Permittee has the option of invalidating the test results and repeating the test for compliance purposes. In addition, these low MSD test results shall be made available to the EPA for research purposes for the examination of the Bioequivalence approach. A complete toxicity test report, including test data, shall be submitted directly to the regional toxicity coordinator (Debra Denton, EPA, Region 9 (WTR-5), 75 Hawthorne Street, San Francisco, CA 94105). A statement that a permit compliance test was attempted but failed to meet test acceptability criteria will be included in the re-test report.

4) Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (i.e., same test duration, etc.).

5) Control and dilution water will be standard laboratory water. If organisms are cultured in-house and the dilution water used is different from culture water, a second control, using culture water shall also be used. A standard t test shall be used to determine if there is a statistical difference between the culture water and the dilution water.

6) An attempt shall be made to perform the whole effluent toxicity ("WET") monitoring on samples collected at the same time as monthly samples for produced water chemical testing.

7) One initial composite sample may be used for all renewals for the chronic seven day topsmelt larval growth and survival test, only if safety or unexpected process shut down does not allow for multiple sample renewals. The Permittee will attempt to collect the three sample renewals.

f. Preparation of an Initial Investigation TRE Workplan. The Permittee shall submit to EPA a copy of the Permittee's initial investigation TRE workplan (1-2 pages) within 90 days

of the effective date of this permit. This plan shall describe the steps the Permittee intends to follow in the event that the monitoring trigger is exceeded, and shall include at a minimum:

1) A description of the investigation and evaluation techniques that would be used to identify potential causes/sources of toxicity.

2) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices.

3) If a TIE is necessary, who may conduct it (i.e., in-house or consulting laboratory).

g. Reporting

1) The Permittee shall submit the results of the toxicity tests, including any accelerated testing with the quarterly DMRs. Test results shall be reported in TUs for the month in which the tests are conducted. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Part II.B.2.h.2, then those results shall also be submitted with the DMR for the quarter in which the investigation occurred.

2) The full laboratory report shall be submitted with the quarterly DMR submitted.

3) The full report shall include: (1) the toxicity test results; (2) the dates of sample collection and initiation of each toxicity test; and (3) the MAMT and DMMT as defined in Part II.B.2.d.1.

4) Test results for chronic tests shall be reported according to the chronic manual chapter on Report Preparation (EPA/600/R-95/136) and shall be attached to the DMR.

5) The Permittee shall notify EPA in writing within fifteen (15) days of receipt of the results of an exceedance of a toxicity monitoring trigger. The notification will describe actions the Permittee has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. Where no actions have been taken, the reasons for not taking action will be given.

h. Accelerated Testing

1) If chronic toxicity as defined is detected above the triggers specified in Part II.B.2.d., then the Permittee shall conduct six more tests, one test approximately every three weeks, over an 18-week period. Testing shall commence within three weeks of receipt of the sample results of the exceedance of the WET monitoring trigger.

2) If initial investigation indicates the source of toxicity (for instance, a temporary plant upset), then only one additional test is necessary. If toxicity is detected in this test as specified in Part II.B.2.d., then Part II.B.2.h.1 above shall apply.

3) If none of the six tests indicates toxicity as specified in Part II.B.2.d., then the Permittee may return to the normal testing frequency.

4) TRE and TIE. If chronic toxicity above the monitoring triggers specified in Part II.B.2.d is detected in any of the six additional tests, then, in accordance with the Permittee's TRE workplan and, at a minimum, using as guidance EPA manuals, EPA/600/2-88/070, *Generalized Methodology for Conducting Industrial TREs*, the Permittee shall initiate actions described in the initial investigation TRE workplan within fifteen days of receipt of the accelerated testing results indicating toxicity. The Permittee will expeditiously develop a more detailed TRE workplan, which includes:

(a) Further actions to investigate and identify the cause of toxicity;
(b) Actions the Permittee will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity;
(c) A schedule for these actions.

5) The Permittee may initiate a TIE as part of the TRE process using as guidance EPA manuals, EPA/600/6-91/005F (Chronic Phase I), EPA/600/R-96/054 (Marine Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Acute and Chronic Phase III).

3. Additional Calculation Information Related to Reasonable Potential

a. Use the same statistical calculation approach for whole effluent toxicity as chemical parameters.
b. Use the default acute-to-chronic ratio (ACR)=10.
c. Use the default CV=0.6 for the first 10 samples, then CV maybe calculated.
d. For calculation of the long term averages (LTAs) from the waste load allocations (WLAs) for both acute and chronic WLA-use 99th percentile level.
e. For calculation from the most limiting LTA for maximum daily limits-use the 99th percentile level..
f. For calculation from the most limiting LTA for average monthly limits-use the 95th percentile level.

4. Commingled Waste Streams. If workover, completion, well treatment or test fluids are mixed with produced water, then all of the effluent limitations and monitoring requirements applied to produced water shall apply and supersede limits for the separate waste streams. Likewise, if deck drainage is commingled with produced water, then all of the effluent limitations and requirements applied to produced water shall apply (Part II.B) and supersede limits for the separate discharge of deck drainage. If other authorized discharges are mixed with produced water, then all of the effluent limitations and monitoring requirements applied to

produced water shall apply and supersede limits for the separate waste streams. If deck drainage, work over, completion, well treatment or test fluids or other authorized discharges are commingled with produced water, "commingled" shall be reported on the DMRs for both produced water and the waste stream mixed with it.

5. Table 7 - Maximum Annual Allowable Produced Water Discharges

Facility	Maximum Annual Allowable Produced Water Discharged, bbls
A	13,140,000
B	16,425,000
C	13,140,000
Edith	3,285,000
Ellen/Elly	10,950,000
Eureka	Included with Ellen/Elly
Gail	4,380,000
Gilda/Gina	25,500,000
Grace	2,190,000
Habitat	1,642,500
Harmony, Heritage, Hondo	33,762,500[note 1]
Harvest	32,850,000
Henry	6,570,000
Hermosa	40,250,000
Hidalgo	18,250,000
Hillhouse	7,300,000
Hogan	13,900,000
Houchin	13,900,000
Irene	55,845,000

Notes:

1. Any produced water volumes discharged from Hondo and Heritage platforms would reduce the volume discharge at Harmony platform by an equal amount. Currently all produced water from Hondo and Heritage platforms is discharged at Platform Harmony as part of the Santa Ynez Unit operations.

6. Effluent Limitations.

a. Effluent Limitations and Monitoring Requirements. The discharge of produced water shall comply with the following effluent limitations and monitoring requirements.

Table 8 -Produced Water Effluent Limitations and Monitoring Requirements

Effluent Characteristic	Discharge Limitation	Measurement Frequency	Sample Type/Method	Reported Values
Flow rate (BWD)	--N/A-	Daily	Estimate	Monthly average
Oil and Grease	29 mg/l monthly avg. 42 mg/l daily max.	Weekly Weekly	Grab/Composite Grab/Composite	The average of daily values for 30 consecutive days; the maximum for any one day.

b. Additional Requirements for Oil and Grease. EPA has promulgated final regulations to change from EPA Method 413.1 (using Freon -113) to Method 1664 (using n-hexane for Oil and Grease). EPA encourages Permittees to substitute use of method 1664 beginning on the effective date of this permit.

The term *maximum for any one day* as applied to BPT, BCT and BAT effluent limitations for oil and grease in produced water shall mean the maximum concentration allowed as measured by the average of four grab samples collected over a 24-hour period that are analysed separately. Alternatively, one grab sample may be taken instead of four samples. If only one grab sample is taken for any one week, it must meet the maximum for any one day limit. If four samples are taken for oil and grease over a 24-hour period, the maximum value for reporting purposes under Part III.A.2.a.i. of the permit is the average of the four samples rather than the maximum of the four samples. EPA may reopen and modify this permit to require four samples of oil and grease in produced water taken at equally spaced intervals over a 24-hour period.

7. Monitoring Requirements. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures are specified here or elsewhere in this permit. Samples for monitoring produced water toxicity and specific chemicals other than

oil and grease shall be collected after addition of any added substances, including seawater, that are added prior to discharge, and before the flow is split for multiple ports.

8. Flow Rate with Flow Augmentation. When seawater or other flow augmentation is added to the produced water prior to discharge, the total produced water flow, including the added materials, shall be used in determining the dilution.

9. Intermittent Dischargers. Any Permittee who discharges infrequently has the option of not participating in the reasonable potential sampling. Should a Permittee not do the sampling, all constituents in the table in Part II.B.1, II.B.2 (red abalone only) and II.B.6 apply for each discharging event. The Permittee must sample at least once during each discharge.

C. Well Treatment, Completion and Workover Fluids (Discharges 003)

1. Effluent Limitations. The discharge of well treatment, completion and workover fluids shall comply with the following effluent limitations and monitoring requirements.

Table 9 - Effluent Limitations and Monitoring Requirements

Waste Type	Effluent Characteristic	Discharge Limitation	Measurement Frequency	Sample Type/Methods	Reported Values
All	Number of Jobs	--N/A--	Once/job[1]	Count	Type & total number of jobs
	Discharge volume (Bbls)	--N/A--	Once/job	Estimate	Discharge Volume per Job
	Free Oil	No discharge	Once/discharge	Grab/Static Sheen test	Number of times sheen observed
	Oil and grease	42 mg/l max daily 29 mg/l monthly avg.	Once/job	Grab	Max for any one day and the average of daily values for 30 consecutive days

[1] The type of job where discharge occurs (i.e., completion, workover, treatment, or any combination) shall be reported.

2. Commingled Waste streams. If work over, completion, or well treatment fluids are commingled with produced water, then effluent limitations and monitoring requirements for work over, completion, and well treatment fluids do not apply. Effluent limitations and monitoring requirements for produced water apply.

D. Deck Drainage (Discharges 004)

1. Effluent Limitations. The Permittee shall comply with the following effluent limitations and monitoring requirements.

Table 10 - Effluent Limitations and Monitoring Requirements

Effluent Characteristic	Discharge Limitation	Measurement Frequency	Sample Type/Method	Reported Values
Flow rate (bbl/d)	--N/A--	Monthly	Estimate	Monthly Avg.
Free Oil	No Discharge	Daily, during discharge	Visual/Sheen on receiving water	Number of days sheen observed

2. Commingled Waste streams. If deck drainage is commingled with produced water, then effluent limitations and monitoring requirements for deck drainage do not apply. Effluent limitations and monitoring requirements for produced water apply.

E. Domestic and Sanitary Wastes (Discharges 005)

1. Effluent Limitations. The Permittee shall comply with the following effluent limitations and monitoring requirements.

Table 11 - Effluent Limitations and Monitoring Requirements

Waste Type	Effluent Characteristic	Discharge Limitation	Measurement Frequency	Sample Type/Method	Reported Values
Sanitary	Flow Rate (bbl/d)	--N/A--	Monthly	Estimate	Monthly Average
Domestic	Flow Rate (bbl/d)	--N/A--	Monthly	Estimate	Monthly Average

Sanitary[1,2] (Facilities continuously manned by nine (9) or fewer persons or only inter-mittently manned by any number of persons)	Floating Solids[1]	No discharge	Daily	Observation[3]	Number of days solids observed
Sanitary[1,2] (Facilities continuously manned by ten (10) or more persons)	Total Residual Chlorine (TRC)	Minimum of 1 mg/l and main-tained as close to this concentra-tion as possible; maximum concentra-tion is 10 mg/l.	Monthly	Grab	Concentration in mg/l
Domestic[4]	Foam or Floating Solids	No Discharge	Daily	Observation[3]	Number of days foam or floating solids observed

1 In cases where sanitary and domestic wastes are mixed prior to discharge, and sampling of the sanitary waste component stream is infeasible, the discharge may be sampled after mixing. In such cases, the discharge limitations for sanitary wastes shall apply to the mixed waste stream.

2 Any facility which properly operates and maintains a marine sanitation device ("MSD") that was certified by the United States Coast Guard ("USCG") under Section 312 of the Act shall be deemed to be in compliance with permit limitations for sanitary wastes and the requirements for total residual chlorine do not apply. The MSD shall be inspected yearly for proper operations, and inspection results maintained with the permit records.

[3] Monitoring by visual observation of the surface of the receiving water in the vicinity of the outfall(s) shall be conducted during daylight hours.

[4] The discharge of food waste is prohibited within 12 nautical miles from the nearest land. Comminuted food waste able to pass through a 25 mm mesh screen may be discharged more than 12 miles from the nearest land.

F. Miscellaneous Discharges (Discharges 006-022)

1. Effluent Limitations. The discharge of blowout preventer fluid (006); desalination unit discharges (007); fire control system water (008): noncontact cooling water (009); ballast and storage displacement water (010); bilge water (011); boiler blowdown (012); test fluids (013); diatomaceous earth filter media (014); bulk transfer material overflow (015); uncontaminated water (016); water flooding discharges (017); laboratory wastes (018); excess cement slurry (019); muds, cuttings & cement at sea floor (020); hydrotest water (021); and H_2S gas processing waste water (022) shall comply with the following effluent limitations and monitoring requirements.

Table 12 - Effluent Limitations and Monitoring Requirements

Waste Type	Effluent Characteristic	Discharge Limitation	Measurement Frequency	Sample Type/Method	Reported Values
Noncontact Cooling Water, Ballast and Storage Displacement Water, Bilge Water, Test Fluids, Excess Cement Slurry, Hydrotest Water, H_2S Gas Processing Waste Water	Flow Rate (bbl/d)	--N/A--	Monthly	Estimate	Monthly Average

Blowout Preventer, Excess Cement Slurry, Water flooding, Muds, Cuttings & Cement at Sea floor, Ballast and Storage Displacement Water, Bilge Water, Test Fluids, Diatomaceous Earth Filter media, Laboratory Wastes, Hydrotest Water, H_2S Gas Processing Waste Water	Free Oil	No discharge	Once/discharge for discharges lasting < 24 hours Once/24 hours for discharges lasting >24 hours	Visual sheen on receiving water	Number of days sheen observed
Hydrotest Water, Fire Control System Test Water, Non-contact Cooling Waters, Test Fluids, Water Flooding Discharges	Chemical Inventory	--N/A--	Monthly	See Part II.F.3	--N/A--
Fire Control System Test Water, Noncontact Cooling Water, Hydrotest Water	Chlorine	Monitor only. See II.F.4 below.	Same as Part II.B.1.b.2) for Produced Water	Grab	ug/l

Discharges 006-022	Floating Solids and Foam	No Discharge	Once/Day	Visual Observation During Daylight Hours	Number of Days Floating Solids or Foam Observed

2. Ballast and Storage Displacement Water (010) and Bilge Water (011). Ballast and storage displacement water and bilge water shall be processed through an oil-water separator prior to discharge.

3. Chemical Inventory. The Permittee shall maintain an inventory of the quantities and application rates (concentration) of chemicals (other than fresh or seawater) added to listed discharges. The inventory shall be submitted with the DMR.

4. Chlorine Reasonable Potential Monitoring. The Permittee shall monitor for chlorine at end-of-pipe when it is being added to the waste stream and report values as described in Part II.B.1. Modeling for these waste streams shall be in accord with Appendix A. For reasonable potential determinations, water quality criteria for chlorine in seawater is 7.5 ug/l (criteria continuous concentration) and 13 ug/l (criteria maximum concentration) (63 FR 68354, December 10, 1998). EPA will evaluate the necessity of limitations when it evaluates reasonable potential for produced water.

G. Other Discharge Conditions and Limitations

1. Surfactants, Dispersants, and Detergents. The discharge of surfactants, dispersants, and detergents shall be minimized except as necessary to comply with the safety requirements of the Occupational Health and Safety Administration and the Minerals Management Service. The discharge of dispersants to marine waters in response to oil or other hazardous spills is not authorized by this permit.

2. Other Toxic and Non-conventional Compounds. There shall be no discharge of diesel oil, halogenated phenol compounds, or chrome lignosulfonate.

3. Produced Sands. There shall be no discharge of produced sands.

4. Tracer Materials. Radioactive tracer concentration above the background in the parent, discharged waste stream shall be limited as given in 10 CFR 20 Appendix B, Table II, Column 2, Effluent Concentrations, Water.

5. Reopener Clause.

a. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act, as amended, if the effluent standard, limitation or requirement so issued or approved:

1) Contains different conditions or is otherwise more stringent than any condition in the permit; or

2) Controls any pollutant or disposal method not addressed in the permit.

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

6. Study Requirements

a. On Line Oil and Grease Monitors.

One year prior to the expiration date of this permit, each permittee operating under this permit shall submit to EPA a report which assesses the availability and practicality of using on line oil and grease monitoring devices for produced water discharges permitted under this permit. (Alternatively, permittees may jointly submit the reports; joint submittals shall constitute compliance for those permittees who participate in the preparation of the reports.)

b. Discharge Alternatives Study.

Within two years of the effective date of this permit, each permittee operating under this permit shall submit to EPA a study or studies to determine the feasibility, as defined in the California CMP, of disposal of drill muds and cuttings and produced water by means other than discharge into ocean waters (e.g., reinjection and barging). A platform-by-platform analysis will be included. The study shall include an analysis of the continued feasibility of reinjection of produced water for those platforms which currently reinject produced water, and those platforms which currently do not discharge produced water. This permit may be reopened and modified to require additional effluent limitations if alternative means of disposal are determined to be feasible. (Alternatively, permittees may jointly submit the reports; joint submittals shall constitute compliance for those permittees who participate in the preparation of the reports.)

7. Garbage

The discharge of garbage (see Part V) is prohibited. Exception: comminuted food waste (able to pass through a 25 mm mesh screen) may be discharged when 12 nautical miles or more from the nearest land.

H. Requirements Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act

1. Within six months of the effective date of this permit, each permittee operating under this permit shall submit to EPA the information described below. (Alternatively, permittees may jointly submit the information; joint submittals shall constitute compliance for those permittees who participate in submitting the information jointly.)

a. An evaluation of the direct lethal, sublethal and bioaccumulative effects of produced water on Federally-managed fish species on the Pacific OCS (e.g., blue rockfish, bocaccio rockfish, brown rockfish, olive rockfish, and lingcod) at key life stages (e.g. juvenile and adult) occupying the mixing zone of produced water discharges.

b. Model results describing the dilution and dispersion plumes from each point of discharge of produced water for all platforms covered by the permit which may discharge produced water to determine the extent of the area in which Federally-managed fish species may be adversely affected.

c. Proposed mitigation measures if the information required by Part II.H.1.a or b above indicates that substantial adverse effects to Federally-managed fish species or Essential Fish Habitat do occur.

2. This permit may be reopened to require additional effluent limitations, monitoring requirements or other mitigation (e.g., altered discharge location or discharge rate) if EPA determines that the information submitted pursuant to Part II.H.1.a or b above indicates that substantial adverse effects do occur to Federally-managed fish species or Essential Fish Habitat. The permit may also be reopened to require additional studies if EPA determines that the information required by Part II.A.1.a and b is insufficient in adequately evaluating the effects of the discharges on Federally-managed fish species.

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Monitoring Procedures (40 CFR Part 122.41(j)(4)). Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.

1. Additional Monitoring Requirements. For effluent monitoring, the Permittee shall utilize an EPA-approved test procedure with a minimum level ("ML") which is lower than the effluent limitations. The Permittee must utilize a standard calibration where the lowest standard point is equal to or less than the concentration of the minimum level, ("ML"). In accordance with 40 CFR 122.45(c), effluent analyses for metals shall measure "total recoverable metal."

2. Additional Reporting Requirements. The permittee shall report the analytical results on Discharge Monitoring Report (DMR) forms (EPA Form 3320-1).

a. Report for maximum daily effluent limitation (or if no limitation applies but samples are collected during the monthly reporting period):

i. The maximum value of all analytical results, if the maximum value is greater than the ML; or

ii. No discharge/no data (not quantifiable) (NODI (Q)) , if the maximum value of all analytical results is greater than or equal to the laboratory's MDL, but less than the ML; or

iii. NODI (B) (below detection level)) , if the maximum value of all analytical results is less than the laboratory's MDL.

b. Report for average monthly effluent limitation (or if no limitation applies but samples are collected during the monthly reporting period):

i. As directed for maximum daily effluent limitation, if only one sample is collected during the monthly reporting period; or

ii. The average value of all analytical results where 0 (zero) is substituted for NODI (B) and the laboratory's MDL is substituted for NODI (Q), if more than one sample is collected during the monthly reporting period.

c. Report as an attachment to the DMR form for each value reported under paragraphs 2.a and 2.b:

1. The number or title of the approved analytical method, preparation procedure utilized by the laboratory, and MDL or ML of the analytical method for the pollutant available under 40 CFR 136;

2. The laboratory's MDL for the analytical method computed in accordance with Appendix B of 40 CFR 136, the standard deviation (S) from the laboratory's MDL study, and the number of replicate analyses (*n*) used to compute the laboratory's MDL; and

3. The lowest calibration standard (i.e., the ML, or lower value).

B. Representative Sampling (40 CFR Part 122.41(j)(1)). Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

C. Reporting Monitoring Results (40 CFR 122.41). The Permittee shall summarize monitoring results each month on the DMR form (EPA No. 3320-1)(40 CFR Part 122.41(l)(4)). The Permittee shall submit reports quarterly, postmarked by the 28th day of the month following each quarter, as scheduled below. The Permittee shall sign and certify all DMRs and all other reports, in accordance with the requirements of Part IV.(k) of this permit ("Signatory Requirements").

Start of Quarterly DMR Cycle	Facilities
1st month after permit effective date	A, B, C, Harvest, Ellen/Elly, Eureka, Harmony
2nd month after permit effective date	Henry, Hillhouse, Habitat, Irene, Hermosa, Grace, Heritage
3rd month after permit effective date	Edith, Gilda, Gina, Hidalgo, Gail, Hogan, Hondo, Houchin

D. Additional Monitoring by Permittee (40 CFR Part 122.41(l)(4)(ii)). 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 permittee shall include the results of this monitoring in the calculation and reporting of the data submitted in the DMR.

E. Records Contents (40 CFR 122.41(j)(3)). All records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of such analyzes.

F. Retention of Records (40 CFR 122.41(j)(2)) 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, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. Records retained by the permittee in accordance with this requirement shall be maintained at the offshore facility.

IV. STANDARD CONDITIONS

(a) *Duty to comply (40 CFR Part 122.41(a)).* The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge

use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(2) The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Clean Water Act provides that any person who *negligently* violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violations, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction be subject to a fine of not more that $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine or not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318, or 405 of this Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $27,500. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $137,500.

(b) *Duty to reapply (40 CFR Part 122.41(b)).* If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) *Need to halt or reduce activity not a defense (40 CFR Part 122.41(c)).* It shall not be a defense for the 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.

(d) *Duty to mitigate (40 CFR Part 122.41(d)).* The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) *Proper operation and maintenance (40 CFR Part 122.41(e)).* The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which 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 back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

(f) *Permit actions (40 CFR Part 122.41(f)).* This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a modification of planned change or anticipated noncompliance does not stay any permit condition.

(g) *Property rights (40 CFR Part 122.41(g)).* This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) *Duty to provide information (40 CFR Part 122.41(h)).* The permittee shall furnish to the Director, within a reasonable time, any information which the Director 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 director upon request, copies of records required to be kept by this permit.

(i) *Inspection and entry(40 CFR Part 122.41(i)).* The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

(1) 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;

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

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

(4) 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.

(j) *Monitoring and records (40 CFR Part 122.41(j)).* (See above Section III)

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. (40 CFR Part 122.41(j)(5))

(k) *Signatory requirement (40 CFR Part 122.41(k)).*

(1) All applications, reports, or information submitted to the Director shall be signed and certified. (See 40 CFR § 122.22)

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other documents submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(l) Reporting requirements (40 CFR Part 122.41(l)).

(1) *Planned changes.* The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) 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 Part 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR Part 122.42(a)(1).

(iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(2) *Anticipated noncompliance.* The permittee shall give advance notice to the Director 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 Director. The Director 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 Clean Water Act. (See 40 CFR part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) *Monitoring reports.* (See Section III above) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit. (40 CFR Part 122.41(l)(4)(iii))

(5) *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. (40 CFR Part 122.41(l)(5))

(6) *Twenty-four hour reporting.* (40 CFR Part 122.41(l)(6))

(i) The Permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. Twenty-four hour reporting may be made at 415-744-2000. A written submission shall 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 causes; 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.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit (See §122.41(g)).

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

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24-hours. (See §122.44(g)).

(iii) The Director may waive the written report on a case-by-case basis for reports under paragraphs (l)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) *Other noncompliance.* The permittee shall report all instances of noncompliance, not reported under paragraphs (l)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The report shall contain the information in paragraph (l)(6) of this section.

(8) *Other information.* Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

(m) *Bypass (40 CFR Part 122.41(m)).*

(1) Definitions.

(i) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which 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.

(2) *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 paragraphs (m)(3) and (m)(4) of this section.

(3) *Notice.*

(i) *Anticipated bypass.* If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.

(ii) *Unanticipated bypass.* The permittee shall submit notice of an unanticipated bypass as required in paragraph (l)(6) of this section (24-hour notice).

(4) *Prohibition of bypass.*

(i) Bypass is prohibited, and the Director may take enforcement action against the permittee for a 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 which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The Permittee submitted notices as required under paragraph (m)(3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

(n) *Upset (40 CFR Part 122.41(n)).*

(1) *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.

(2) *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 paragraph (n)(3) of this section 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.

(3) *Conditions necessary for demonstration of an 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:

(i) An upset occurred and that the Permittee can identify the cause(s) of the upset;

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

(iii) The permittee submitted notice of the upset as required in paragraph (l)(6)(ii)(B) of this section (24-hour notice).

(iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

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

V. DEFINITIONS

"Acute-to-chronic ratio" (ACR) is the ratio of the acute toxicity of an effluent or a toxicant to its chronic toxicity. It is used as a factor for estimating chronic toxicity on the basis of acute toxicity data, or for estimating acute toxicity on the basis of chronic toxicity data.

"Acute toxic unit (TU_a)" is a measure of acute toxicity. The number of acute toxic units in the effluent is calculated as 100/LC50, where the LC50 is measured in percent effluent.

"Average of daily values for 30 consecutive days" shall be the average of the daily values obtained during any 30 consecutive day period. (40 CFR Part 435.11)

"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 "daily discharges" measured during that month.

"Average quarterly flow" means the average of the "monthly average" wastewater flows as reported on the previous quarter's DMR, based only on those months in which discharges occurred.

"Bbl/d" means barrels per day. One barrel equals 42 United States gallons at 60 degrees Fahrenheit.

"Chronic toxic unit" (TU_c) is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (e.g., 100/NOEC).

"Chronic toxicity" is defined as a long-term test in which sublethal effects (e.g., reduced growth or reproduction) are usually measured in addition to lethality. Chronic toxicity is defined as TUc = 100/NOEC or TUc = 100/EC or IC. The IC and EC value should be the approximate equivalent of the NOEC calculated by hypothesis testing for each test method.

"Coefficient of variation" (CV) is a standard statistical measure of the relative variation of a distribution of set of data, defined as the standard deviation divided by the mean.

"Composite sample" means a collection of individual samples obtained at regular intervals, usually based upon time or flow volume. (Permit Writers Guide) The compositing period should be appropriate to ensure representative sampling of the discharge.

"Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

"Daily values" as applied to produced water effluent limitations shall refer to the daily measurements used to assess compliance with the maximum for any one day. (40 CFR Part 435.11)

"Deck drainage" shall refer to any waste resulting from deck washings, spillage, rainwater, and runoff from gutters and drains including drip pans and work areas within facilities subject to this subpart. Within the definition of deck drainage for the purpose of this subpart, the term rainwater for those facilities located on land is limited to that precipitation runoff that reasonably has the potential to come into contact with process wastewater. Runoff not included in the deck drainage definition would be subject to control as storm water under 40 CFR Part 122.26. For structures located over water, all runoff is included in the deck drainage definition. (40 CFR Part 435.11)

"Development facility" shall mean any fixed or mobile structure subject to this subpart that is engaged in the drilling of productive wells. (40 CFR Part 435.11)

"Diesel oil" shall refer to the grade of distillate fuel, as specified in the American Society for Testing and Materials Standard Specifications D975-81, that is typically used as the continuous phase in conventional oil-based drilling fluids. (40 CFR Part 435.11)

"Dilution ratio, D_m" is the value calculated in accordance with Appendix A - dilution expressed in parts seawater per part wastewater.

"Director" means the Director, Water Division of EPA, Region 9.

"Domestic wastes" shall refer to materials discharged from, sinks, showers, laundries, safety showers, eye-wash stations, hand-wash stations, fish-cleaning stations, and galleys located within facilities subject to this subpart. (40 CFR Part 435.11)

"Drill cuttings" shall refer to the particles generated by drilling into subsurface geologic formations and carried to the surface with the drilling fluid. (40 CFR 435.11)

"Drilling fluid" means the circulating fluid (mud) used in the rotary drilling of wells to clean and condition the hole and to counterbalance formation pressure. A water-based drilling fluid is the conventional drilling mud in which water is the continuous phase and the suspended medium for solids, whether or not oil is present. An oil based drilling fluid has diesel oil, mineral oil, or some other oil as its continuous phase with water as the dispersed phase.

"Effect concentration" (EC) is a point estimate of the toxicant concentration that would cause an observable adverse effect (such as death, immobilization, or serious incapacitation) in a given percentage of the test organisms.

"Exploratory facility" shall mean any fixed or mobile structure subject to this subpart that is engaged in the drilling of wells to determine the nature of potential hydrocarbon reservoirs. (40 CFR Part 435.11)

"Garbage" means all kinds of food wastes, wastes generated in living areas on the facility, and operational waste, excluding fresh fish and parts thereof, generated during the normal operation of the facility and liable to be disposed of continuously or periodically, except dishwater, graywater, and those substances that are defined or listed in other Annexes to MARPOL 73/78.

"Grab" sample is a single sample collected at a particular time and place that represents the composition of the wastestream only at that time and place.

"Graywater" means drainage from dishwater, shower, laundry, bath, and washbasin drains and does not include drainage from toilets, urinals, hospitals, and cargo spaces.

"Inhibition concentration" (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., USEPA Interpolation Method).

"LC_{50}" means the concentration of effluent that is acutely toxic to 50 percent of the test organisms exposed.

"Lowest observed effect concentration" (LOEC) is the lowest concentration of toxicant to which organisms are exposed in a test, which causes adverse effects on the test organisms (i.e., where the values for the observed endpoints are statistically significant different from the control).

"Maintenance waste" means materials collected while maintaining and operating the facility, including, but not limited to, soot, machinery deposits, scraped painted, deck sweepings, wiping wastes, and rags.

"Maximum" as applied to BAT effluent limitations for drilling fluids and drill cuttings means the maximum concentration allowed as measured in any single sample of the barite for determination of cadmium and mercury content (40 CFR 435.11).

"Maximum daily discharge limitation" means the highest allowable "daily discharge."

"Method detection limit (MDL)" means the minimum concentration of an analyte that can be detected with 99% confidence that the analyte concentration is greater than zero as determined by a specific laboratory method listed in 40 CFR Part 136. The procedure for determination of a laboratory MDL is in 40 CFR Part 136, Appendix B.

"Minimum" as applied to BAT effluent limitations for drilling fluids and drill cuttings shall mean the minimum 96-hour LC50 value allowed as measured in any single sample of the discharged waste stream. The term minimum as applied to BPT and BCT effluent limitations and NSPS for sanitary wastes shall mean the minimum concentration value allowed as measured in any single sample of the discharged waste stream. (40 CFR 435.11)

"Minimum dilution limit" means the lowest dilution ratio for the wastestream to avoid reasonable potential to exceed water quality criteria set forth in Part II.B.1.a of this permit.

"Minimum level" (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all of the method-specified sample weights, volumes, and processing steps have been followed (as defined in EPA's draft National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels, March 22, 1994). Promulgated method-specified MLs are contained in 40 CFR Part 136, Appendix A and must be utilized if available. If a promulgated method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the promulgated method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 50 etc.

"Minimum significant difference" (MSD) is the magnitude of difference from control where the null hypothesis is rejected in a statistical test comparing a treatment with a control. MSD is based on the number of replicates, control performance and power of the test.

"Mixing zone" means the zone extending from the sea's surface to seabed and extending laterally to a distance of 100 meters in all directions from the discharge point or to the boundary of the zone of initial dilution as calculated by a plume model or other method approved by the Regional Administrator, whichever is larger (40 CFR 125.121(c)).

"mg/kg" means milligrams per kilogram.

"mg/l" means milligrams per liter.

"Monthly average" means the average of "daily discharges" over a monitoring month calculated as the sum of all "daily discharges" measured divided by the number of "daily discharges" measured during that month.

"M9IM" shall mean those offshore facilities continuously manned by nine (9) or fewer persons or only intermittently manned by any number of persons. (40 CFR 435.11)

"M10" shall mean those offshore facilities continuously manned by ten (10) or more persons. (40 CFR 435.11)

"New source" means any facility or activity of this subcategory that meets the definition of "new source" under 40 CFR Part 122.2 and meets the criteria for determination of new sources under 40 CFR 122.29(b) applied consistently with all of the following definitions:

(1) The term *water area* as used in the term "site" in 40 CFR 122.29 and 122.2 shall mean the water area and ocean floor beneath any exploratory, development, or production facility where such facility is conducting its exploratory, development or production activities.
(2) The term *significant site preparation work* as used in 40 CFR 122.29 shall mean the process of surveying, clearing or preparing an area of the ocean floor for the purpose of constructing or placing a development or production facility on or over the site. "New Source" does *not* include facilities covered by an existing NPDES permit immediately prior to the effective date of these guidelines pending EPA issuance of a new source NPDES permit. (40 CFR Part 435.11)

"No discharge of free oil" shall mean that waste streams may not be discharged when they would cause a film or sheen upon or a discoloration of the surface of the receiving water or fail the static sheen test defined in Appendix 1 to 40 CFR 435, Subpart A. (40 CFR 435.11)

"Non-aqueous based drilling fluid" is one in which the continuous phase is a water immiscible fluid such as an oleaginous material (e.g., mineral oil, enhanced mineral oil, paraffinic oil, or synthetic material such as olefins and vegetable esters).

"No observed effect concentration" (NOEC) is the highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) tests, that causes no observable adverse effect on the test organisms (i.e., the highest concentration of toxicant at which the values for the observed responses are <u>not</u> statistically significant different from the controls). NOECs calculated by hypothesis testing are dependent upon the concentrations selected.

"Operational waste" means all cargo associated waste, maintenance waste, cargo residues, and ashes and clinkers from incinerators and coal burning boilers.

"Produced sands" shall refer to slurried particles used in hydraulic fracturing, the accumulated formation sands and scales particles generated during production. Produced sand also includes desander discharge from the produced water waste stream, and blowdown of the water phase from the production water treating system. (40 CFR Part 435.11)

"Produced water" shall refer to the water (brine) brought up from the hydrocarbon-bearing strata during the extraction of oil and gas, and can include formation water, injection water, and any chemicals added downhole or during the oil/water separation process. (40 CFR 435.11)

"Production facility" shall means any fixed or mobile structure subject to this subpart that is either engaged in well completion or used for active recovery of hydrocarbons from producing formations. (40 CFR 435.11)

"Quarterly dilution value" means the dilution ratio using the "average quarterly flow."

"Reference toxicant test" indicates the sensitivity of the organisms being used and the suitability of the test methodology. Reference toxicant data are part of routine QA/QC program to evaluate the performance of laboratory personnel and test organisms.

"Sanitary wastes" shall refer to human body waste discharged from toilets and urinals located within the facilities subject to this subpart. (40 CFR 435.11)

"Significant difference" is defined as statistically significant difference (e.g., 95% confidence level) in the means of two distributions of sampling results.

"Static sheen test" shall refer to the standard test procedures that has been developed for this industrial subcategory for the purpose of demonstrating compliance with the requirement of no discharge of free oil The methodology for performing the static sheen test is presented in Appendix 1 to 40 CFR 435, subpart A. (40 CFR 435.11)

"Test acceptability criteria" (TAC) For toxicity tests results to be acceptable for compliance, the effluent and the concurrent reference toxicant must meet specific criteria as defined in the test method (e.g., *Ceriodaphnia dubia* survival and reproduction test, the criteria are: the test must achieve at least 80% survival and average 15 young/female in the controls, and achieve a MSD of 20%).

"Toxicity" as applied to BAT effluent limitations for drilling fluids and drill cuttings shall refer to the bioassay test procedure presented in Appendix 2 of 40 CFR Part 435, subpart A. (40 CFR Part 435.11)

"Toxicity identification evaluation" (TIE) is a set of procedures to identify the specific chemical(s) responsible for effluent toxicity. TIEs are a subset of the TRE.

"Toxicity reduction evaluation" (TRE) is a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

"Toxicity tests" are laboratory experiments which employ the use of standardized test organisms to measure the adverse effect (e.g., growth, survival or reproduction) of effluent or ambient waters.

"Well completion fluids" shall refer to 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. (40 CFR Part 435.11)

"Well treatment fluids" shall refer to any fluid used to restore or improve productivity by chemically or physically altering hydrocarbon-bearing strata after a well has been drilled. (40 CFR Part 435.11)

"Whole effluent toxicity" (WET) is the total toxic effect of an effluent or receiving water measured directly with a toxicity test.

"Workover fluids" shall refer to salt solutions, weighted brines, polymers, or other specialty additives used in a producing well to allow for maintenance, repair or abandonment procedures. (40 CFR Part 435.11)

"96-hour LC50" shall refer to the concentration (parts per million) or percent of the suspended particulate phase (SPP) from a sample that is lethal to 50 percent of the test organism exposed to that concentration of the SPP after 96 hours of constant exposure. (40 CFR Part 435.11)

"μg/l" means micrograms per liter.

Appendix A-Dilution

A. Calculation of Effluent Concentration at the Point of Compliance

The point of compliance shall be either the edge of the 100 meter mixing zone, or the distance from the platform to the seaward boundary of the territorial seas of the State of California. The determination of the compliance point shall be based on the analysis required by Part II.B.1.c.1 of this permit.

Effluent limitations for parameters identified in Section II.B and II.F shall be determined through the use of the following equation: $C_o = (C_e + D_m C_s)/(D_m + 1)$

where C_o = Concentration at the edge of the mixing zone,
C_e = the end-of-pipe effluent concentration,
C_s = the background seawater concentration (see Table 1), and
D_m = the dilution ratio expressed in parts seawater per part wastewater.

On the DMR required in Part III.C, the Permittee shall report post-dilution results (C_o) so as to be directly comparable to the limits given in Section II.B and II.F. The end-of-pipe sampling results (C_e) and dilution ratio (D_m) shall be submitted as a supplement to the DMR.

Table 1. Seawater Background Concentrations (Cs)

Constituent	Cs (ug/l)
Arsenic	3
Copper	2
Mercury	0.0005

Silver	0.16
Zinc	8

For waste constituents not listed in Table 1, the seawater background concentration (C_s) is assumed to be 0 mg/l.

B. Calculation of Dilution

The dilution ratio at the point of compliance shall be determined by permittees using the model PLUMES (3rd Edition or later editions when available) with specific input conditions. Specific instructions follow below.

Permittees wishing to increase mixing may do so by using a diffuser or diffusers, adding sea water to the effluent, or installing multiple discharge ports.

Hydraulic considerations may indicate that flow rates from equal sized ports connected to a common vertical down-pipe will vary with depth. Permittees may adjust flows from individual ports by varying the port diameters. In this case, a "discharge volume" weighted average port diameter may be used in Parts 4 through 6, below, when determining the dilution ratio as long as the maximum and minimum port diameters are within 50 percent of each other. On the other hand, if ports of equal size are used, the average flow rate through a port may be used when determining the dilution ratio as long as the maximum and minimum port flow rates are within 20 percent of each other. Port sizes or port flow rates outside the range of these conditions shall have the dilution ratio calculated separately for each port and the lowest dilution ratio that is obtained shall be used to demonstrate compliance with the effluent limitations identified in Part II.B and II.F.

1. Determination of the Dilution Ratio Using PLUMES. The permittee shall use site specific values for the following discharge and ambient conditions:

a. Discharge Conditions. Effluent temperature at the port and salinity (which determine effluent density), discharge rate, decay coefficient, port diameter (for single port discharges or multiple port discharges that do not merge), diffuser configuration (port diameter and spacing, number of ports), and port orientation (dip angle and azimuth).

b. Ambient Conditions. Current speed (median value is acceptable), ambient density at the port, ambient density gradient

c. Typical Conditions. In lieu of using site specific ambient conditions, a permittee may utilize the following typical Southern California OCS ambient conditions in the model: current speed = 0.115 m/s, ambient density at discharge port = 1025.6 kg/m3, ambient density gradient = 0.01 kg/m3/m.

d. When sea water is added to produced water prior to discharge, the total produced water flow, including the added sea water, shall be used in determining the dilution ratio.

e. The permittee shall retain calculation sheets showing how the dilution ratio was determined.

2. Use of the PLUMES Model. The permittee shall use the "UM" module of the PLUMES model. Printed output listings (direct output to "prn") from PLUMES which are used to determine the critical dilution ratio shall be retained as part of the permittee's NPDES records. The dilution ratio is the value in the second column at the end of the output listing when the "far dis" field (see below) is set to the point of compliance. This is the dilution ratio determined according to the 4/3 power law. Settings of individual fields of the PLUMES input screen are discussed in the following paragraphs.

a. Configuration String. The permittee shall ensure that the configuration string shown near the bottom of the PLUMES input screen is set appropriately for the conditions being modeled. For example, if conditions are such that the plume direction will reverse near the discharge port, it is appropriate to set the configuration screen to read "ATNM2". If there is no such reversal, it is appropriate to retain the default configuration string "ATNO0".

b. "Linear" vs. "non-linear" mode. PLUMES may be run in linear mode (i.e., specifying ambient densities and effluent densities only) according to the results of the following test using Figure 1 of this Appendix. In Figure 1, compute (A) the absolute value of the difference (in practical salinity units) between the effluent salinity and the salinity at the effluent temperature for which the density is the same as the ambient density; compute (B) the absolute value of the effluent temperature minus the ambient temperature in degrees C. Linear mode can only be used when the ratio of A over B is greater than 0.5.

c. Far-field distance ("far dis" field). This should be set to 100 meters (i.e., the outer edge of the mixing zone).

d. Far-field increment ("far inc" field). This should be set so that an integer multiple equals 100. The value 20 is suggested.

e. Print frequency ("print frq" field). Normally the default value should be used here. In certain instances, the initial dilution ratio calculation may extend beyond 100 meters (this will be necessary to calculate dilution at the seaward boundary of the territorial seas of the State of California). In such cases the initial dilution ratio calculation will have to be interpolated to determine the critical dilution ratio at 100 meters. Setting "print frq" to a smaller value (say 10) will provide the necessary resolution.

f. Vertical angle ("ver angle" field). A port pointing straight down will have a vertical angle of -90. A port pointing straight up will have a vertical angle of 90. A horizontal port will have a vertical angle of zero.

g. Contraction Coefficient ("cont coef" field). For discharges from a straight pipe, the contraction coefficient shall be set to 1.0. For discharges from a port that is a sharp edged orifice for which the exit velocity based on the area of the orifice is greater than 0.5 m/s, the contraction coefficient shall be set to 0.61.

h. Far-field dissipation parameter ("far dif" field). This input variable should be set to 0.000462 [m^(2/3)]/s, a value appropriate for the California OCS.

i. Far-field velocity ("far vel" field). This variable shall be set to the same value as used in the current profile ("current" fields in the lower left quadrant of the input screen).

j. Ambient density ("density" in the lower left quadrant of the input screen). In linear mode, these values should be set to provide the required linear density gradient and the required ambient density at the discharge port. In non-linear mode, these values will be calculated by PLUMES.

k. Ambient salinity and temperature ("salinity" and "temp" fields). In non-linear mode, these values are specified such that the required linear density gradient and the required ambient density at the discharge point are obtained.

For the analysis of horizontal diffusers with multiple ports or multiple discharge points spaced horizontally, the "#_ports" and "spacing" fields must be set appropriately. In case of parallel currents, where the velocity vector lies less than 20 degrees off the diffuser axis, a minimum value of 20 degrees should be specified. For example, a cross-current is specified by a horizontal angle of 90 degrees. A current flowing obliquely across the diffuser at 45 degrees would have a horizontal angle value of 45 degrees. This angle should be between 45 and 135 degrees.

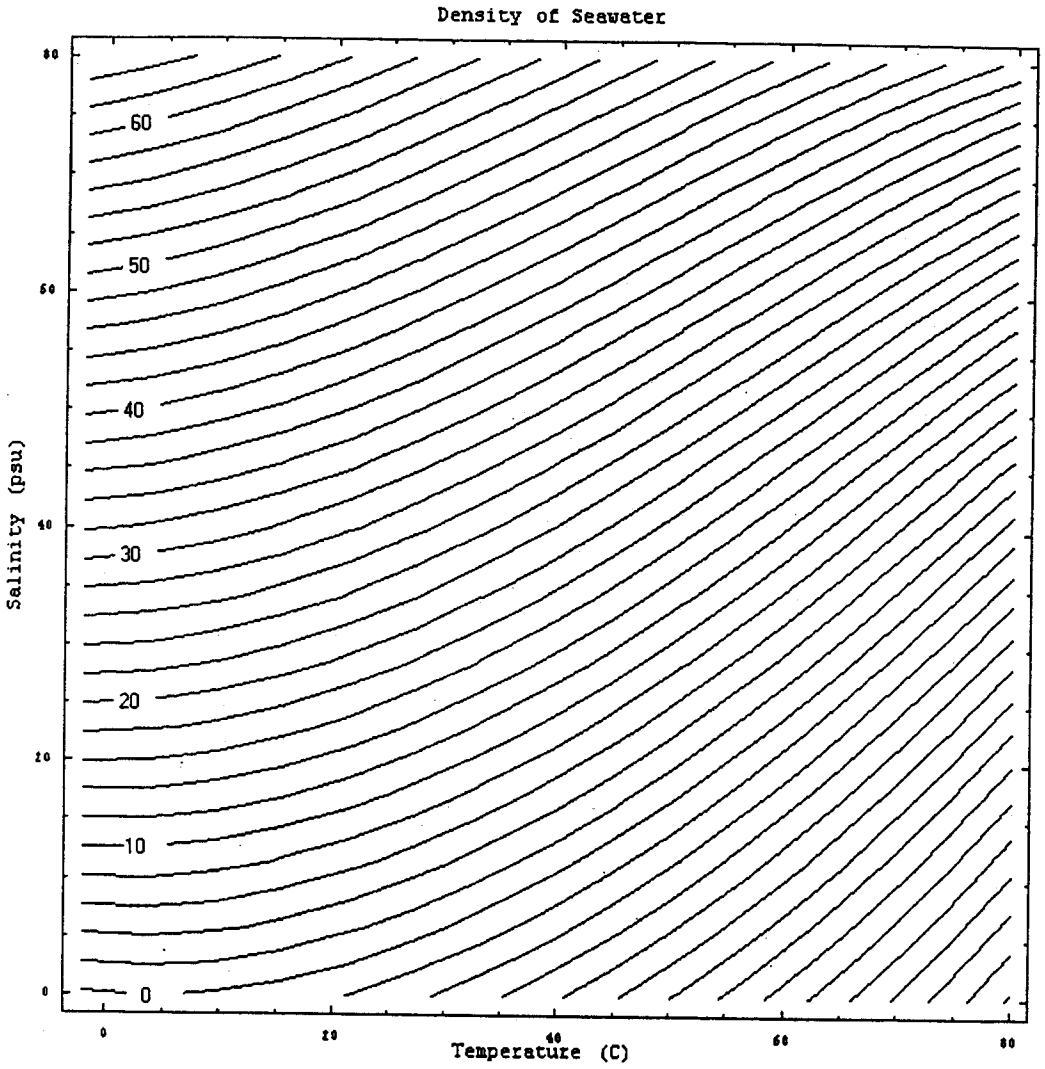

Figure 1. Density (sigma-t) Contours

Appendix B - Existing NPDES Permits which Would Be Terminated Once the General Permit Becomes Effective

NPDES Permit Number	Platform(s)
CA0110516	Platforms A, B, C, Edith, Eureka, Gilda, Gina, Habitat, Harvest, Henry, Hermosa, Hillhouse, Hidalgo and Hondo
CA0110419	Beta Unit (Elly and Ellen)
CA0110737	Platform Gail
CA0110020	Platform Hogan
CA0110028	Platform Houchin
CA0110397	Platform Grace
CA0110842	Platform Harmony
CA0110851	Platform Heritage
CA0110648	Platform Irene

MEMORANDUM OF AGREEMENT

BETWEEN THE

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA), REGION 9

AND THE

PACIFIC OCS REGION, MINERALS MANAGEMENT SERVICE (MMS),

COORDINATING THE EPA NPDES PERMIT COMPLIANCE PROGRAM WITH THE

MMS OFFSHORE INSPECTION PROGRAM

SECTION I: INTRODUCTION

On May 31, 1984, a Memorandum of Understanding (MOU) between the U.S. Environmental Protection Agency (EPA) and the Department of Interior (DOI) was approved. The purpose of the 1984 MOU was to improve cooperation and coordination between EPA and DOI in oil and gas lease activities on the Outer Continental Shelf (OCS) in determining the terms and conditions of National Pollutant Discharge Elimination System (NPDES) permits and to ensure NPDES permit compliance. The MOU establishes that each agency will coordinate studies and related regulatory responsibilities and cooperate to ensure that EPA can issue NPDES permits at the Final Time of Offering by DOI.

The major points of coordination of the 1984 MOU include the following:

a. Part IV.A and B: Issuance of NPDES permits under Sections 402 and 403(c) of the Clean Water Act;

b. Part IV.C. Section 1-3: Development and exchange of information;

c. Part IV.C. Section 4: Development of vulnerability criteria;

d. Part V: Coordination of responsibilities under the National Environmental Policy Act (NEPA);

e. Part VI: Post-Lease Monitoring and Inspection of OCS oil and gas operation and enforcement of discharge requirements.

This document represents a Memorandum of Agreement (MOA) between EPA Region 9 and the MMS Pacific OCS Region to implement Part VI of the MOU between EPA and DOI. This MOA addresses post-lease monitoring and inspection of OCS oil and gas operations and enforcement of discharge requirements. Provisions of this MOA that are jointly accepted by the Regional Administrator (EPA) and by the Regional Director (MMS) shall be implemented by the MMS District Supervisors and EPA Region 9, Water Management Division.

SECTION II. DEFINITIONS

For the purposes of this MOA the following definitions apply:

a. Annual EPA/MMS Compliance Monitoring Workplan: This document will contain the specifics (e.g. number of inspections and samples, internal procedures, etc.) that describe how the Articles of Agreement of Section III of this MOA will be implemented. It will be updated and agreed upon by September 30 of each year by both EPA and MMS.

b. General NPDES Permit: A permit which regulates a category of point sources located within the same geographic area whose discharges warrant similar pollution control measures. A general permit does not require an application from a named party, merely a notification to the EPA Regional Administrator of the party's intent to be covered by the general permit.

c. Individual NPDES Permit: A permit which regulates the discharge of pollutants from point sources under Section 402(a) of the Clean Water Act (CWA). This permit identifies a named party through an application requirement.

d. Inspection Report: The inspection report will consist of a completed inspection checklist and any comments. (The checklist, entitled "EPA Inspection Form for California Offshore Oil and Gas Facilities", is attached to this MOA as Appendix A.)

e. OCS Facility: Any artificial island, installation, or other device permanently or temporarily attached to the seabed or subsoil of the OCS and used for oil and gas activity. This term includes either fixed or floating structures and mobile offshore drilling units attached to the seabed, including

self-positioning drill ships, but does not include a deep-water port or vessel engaged in transportation.

f. OCS Oil and Gas Activity: Any offshore activity on the OCS pursuant to a Federal lease or permit resulting in effluent discharges associated with the exploration, development, or production of oil and gas mineral resources.

g. Outer Continental Shelf (OCS): All submerged lands that comprise the continental shelf lying seaward and outside of the area of lands beneath navigable waters as defined in the Submerged Lands Act of 2953, 43 U.S.C. 1301, and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

SECTION III. ARTICLES OF AGREEMENT

ARTICLE I: INSPECTION AND SAMPLING

a. According to procedures for inspection developed under the implementation section of this MOA, the MMS Regional Director will, upon written request from the EPA Water Management Division Director, inspect and sample OCS facilities for compliance with NPDES permits.

b. EPA will provide MMS with (1) the NPDES OCS inspection checklist, (2) ready-to-use sample collection kits and (3) training for MMS inspectors conducting NPDES inspections.

c. The number of inspections to be conducted and samples to be collected by MMS will be negotiated annually and included in the Annual EPA/MMS Compliance Monitoring Workplan.

d. The number of sampling inspections to be conducted jointly by EPA and MMS will be negotiated annually and included in the Annual EPA/MMS Compliance Monitoring Workplan.

e. Any special EPA or MMS sampling requests (e.g. emergencies, responses to citizen's complaints, etc.) which are in addition to the negotiated number of inspections, may be met by mutual agreement between the MMS Regional Director and EPA Water Management Division Director.

f. MMS will follow the reporting requirements as detailed in Article III of this document.

ARTICLE II: TRANSPORTATION

a. EPA Region 9 does not anticipate routine situations where EPA personnel will require transportation to an offshore facility with the exception of annually negotiated joint EPA/MMS inspections.

b. Special transportation requests (e.g. emergencies, responses to citizens complaints, personnel training, inspection requests above the negotiated number, enforcement case development, etc.), which are not included in routine MMS inspection schedules, may be met at the discretion of the MMS Regional Director.

c. When EPA requires transportation to a facility, requests will be made sufficiently in advance such that transportation can be coordinated with routine MMS inspection schedules.

d. EPA Region 9 estimates that not more that 2 EPA inspectors per trip will require transportation.

ARTICLE III: REPORTS

a. MMS will complete the inspection checklist for each NPDES inspection conducted and the chain-of-custody form for each sample collected. (The inspection checklist is included as Appendix A. The chain-of-custody form is included as Appendix B.)

b. MMS will provide to EPA copies of all NPDES inspection reports in accordance with the terms of the Annual Compliance Monitoring Workplan. NPDES inspection reports and other pertinent information may be reported more frequently at the discretion of MMS personnel.

c. EPA Region 9 will provide MMS with the laboratory analysis results of samples collected by MMS as soon as they are available.

d. EPA Region 9 will provide MMS with a ten (10) work day comment period on any administrative action taken as a result of MMS inspection reports.

e. EPA Region 9 may ask MMS, from time to time, to provide EPA with other pertinent available data (e.g., active rigs and platforms, their present locations, block number, lease tract, etc.) or information of special interest (e.g., specifically identified inspection data gathered on a "next trip out" basis). Such data will be consistent, to the

maximum extent possible, with existing internal MMS reports. Telephone reports will be acceptable in many cases.

ARTICLE IV: DISPOSITION

a. MMS will send NPDES inspection reports, chain-of-custody forms and collected samples to the following address:

U.S. EPA, Region 9 (W-4)
215 Fremont Street
San Francisco, California 94105
Attn: Chief, California Section

b. EPA will send laboratory analysis results and sample collection kits to the following address:

MMS -- Ventura District Office
400 East Esplanade Drive, No. 202
Oxnard, California 93030
Attn: District Supervisor

MMS -- Santa Maria District Office
222 West Carman Lane, No.201
Santa Maria, California 93454
Attn: District Supervisor

c. Questions regarding implementation of this MOA will be directed to:

MMS Pacific OCS Region FTS 798-2846
1340 West Sixth Street
Los Angeles, California 90017
Attn: Regional Supervisor, Office of Field Operations

U.S. EPA Region 9, (W-4) FTS 454-8089
Water Management Division
215 Fremont Street
San Francisco, California 94105
Attn: Chief, Compliance Branch

ARTICLE V: TESTIMONY

MMS personnel may be required to appear as witnesses to testify on matters relating to NPDES compliance monitoring activities in any subsequent administrative or judicial action.

ARTICLE VI: ENFORCEMENT

EPA will be responsible for the enforcement of all NPDES permit conditions. MMS is responsible for reporting evidence of

NPDES permit noncompliance to EPA. In the case of overlapping statutory authorities, MMS inspectors may choose to exercise any enforcement action authorized under the Outer Continental Shelf Lands Act and Amendments, or its implementing regulations, but will also notify EPA of the NPDES noncompliance incident.

ARTICLE VII: FUNDING TRANSFER

EPA and MMS will establish a funding transfer system (effective FY 1991) to reimburse MMS for additional costs related to the monitoring and inspection responsibilities pursuant to the May 1984 MOU. Details of the fund transfer system will be outlined in the Annual EPA/MMS Compliance Monitoring Workplan.

ARTICLE VIII: AUTHORITY

a. Nothing in this MOA shall be deemed to alter, amend, or affect in any way the statutory authorities of the U.S. Environmental Protection Agency or the Department of the Interior.

b. This MOA is effective upon the signature of the EPA Regional Administrator and the MMS Regional Director. The provisions of this MOA shall be re-evaluated as necessary.

c. Representatives from EPA and MMS shall meet on an annual basis at a mutually agreed upon location to conduct business related to this MOA (e.g. negotiating inspection schedules, updating or revising the MOA, training seminars, etc.).

SECTION IV. IMPLEMENTATION

Not later than six months from the effective date of this MOA, the regional agencies will jointly develop the first Annual Compliance Monitoring Workplan to carry out the provisions of this MOA. This plan will take into account internal procedures and regulations, and will identify whether or not revisions are necessary to accommodate the provisions of the MOA. EPA will provide training workshops as necessary for MMS inspectors.

SECTION V. AGENCY CONTACTS

Inquiries regarding the provisions of this MOA, its implementation, or disagreements over any of the provisions should be directed to:

Regional Director
Minerals Management Service
Pacific OCS Region
1340 West Sixth Street
Los Angeles, California 90017

Water Management Division Director
U.S. EPA, Region 9 (W-1)
215 Fremont Street
San Francisco, California 94105

SIGNATURE FOR EPA, REGION 9

David W. McKeen

U.S. EPA, Region 9
Regional Administrator

11-14-89
Date

SIGNATURE FOR MMS, PACIFIC OCS REGION

J. Leib Reed — 11/30/89

Minerals Management Service, Pacific OCS Region/ Regional Director — Date

ENCLOSURE E

ANNUAL MONITORING WORKPLAN FOR FEDERAL FISCAL YEAR 2004 BETWEEN ENVIRONMENTAL PROTECTION AGENCY, REGION 9 AND DEPARTMENT OF THE INTERIOR, MINERALS MANAGEMENT SERVICE, PACIFIC OCS REGION

This annual workplan is developed pursuant to the 1989 Memorandum of Agreement (MOA) between the U. S. Environmental Protection Agency (EPA) Region 9 and Department of the Interior, Minerals Management Service (MMS) Pacific Region. The MOA establishes a cooperative effort by EPA and the MMS to monitor the activities related to oil and gas exploration, development, and production on the outer continental shelf (OCS) offshore, Southern California. This annual workplan establishes the roles and responsibilities and the inspection and sampling activities to assess compliance with the National Pollutant Discharge Elimination System (NPDES) permits in place during federal Fiscal Year 2004 (FY 2004, October 1, 2003 through September 30th, 2004).

A. SCOPE OF WORK

Currently there are twenty-two (22) platforms covered by NPDES permits and subject to this agreement. Of these platforms only twelve (12) currently discharge produced water.

The objective of both MMS and EPA is to provide as near as possible the full completion of the inspections and sampling listed below as circumstances and helicopter availability permit.

1. RECORDS INSPECTIONS

a. MMS will conduct NPDES-related records review for all platforms at least once during FY 2004. Such inspections will be conducted on a random basis.

b. MMS will note any piping modifications indicated on the logs and note any identified changes on the EPA inspection forms.

c. MMS inspectors will also conduct visual checks of the platforms to look for any piping modifications and inspect all seals that have been placed on any lines leading to the discharge points.

d. MMS will check for compliance with requirements of the facilities' current NPDES permit. Any potential permit violations will be noted on the EPA inspection forms.

e. MMS will issue notices of Incidence of Noncompliance (INCs), under MMS regulations, if violations are detected during an NPDES inspection (for example, for equipment that is not working correctly such as wastewater treatment equipment, drains that are clogged, etc.).

f. MMS will note the produced water flow-rate from the previous month in

EXHIBIT NO. 4
APPLICATION NO.
CD-109-03

barrels per day on the inspection form.

g. EPA and MMS will modify the existing inspection forms, as necessary, to reflect the new permit or regulatory requirements.

2. SAMPLING

a. Each of the twelve (12) platforms, discharging produced water, will be sampled twice during the year by MMS for whole effluent toxicity analysis (for a total of 24 samples). Samples will be taken as "grab" on a single day during a routine MMS inspection. The samples will be analyzed by EPA.

b. Nine (9) OCS facilities, discharging produced water, will be sampled once during the year by MMS and/or EPA for chemical analysis identified in Section E. below. The sampling of the nine platforms will be scheduled as determined during the year by MMS and EPA. Samples will be taken as "grab" and will be analyzed by EPA or by an EPA-designated contract laboratory. Toxicity samples will be taken during these events and will be included in the 24 toxicity samples noted above in Section 2a.

c. If requested by EPA in advance, MMS will collect a sample of drilling mud from wells drilled from an OCS facility or exploratory vessel, if the mud is to be disposed of offshore. The mud will be tested for toxicity by EPA. Samples will be collected as close to the maximum well depth (at least 80% of depth) as possible. Prior to the first toxicity test sampling, EPA will notify MMS of any additional special procedures required by the lab for handling and shipping of the samples.

d. Permittees are required to notify EPA's CWA Compliance Office of impending mud dumps. The CWA Compliance Office will determine if testing is required. If testing is required, the CWA Compliance Office will promptly notify the EPA Region 9 Lab, who will promptly contact the MMS District Office in Camarillo or Santa Maria to make arrangements for the collection and shipment of samples. EPA anticipates sampling and toxicity analysis of 4 drilling muds this fiscal year.

e. The inspection and sampling schedules will be kept confidential from the operators and the inspections will be unannounced.

B. RESPONSIBILITIES

1. MMS will conduct the NPDES records inspections and collect one set of 9 produced water samples for chemistry and 24 produced water samples for toxicity.
2. EPA will prepare the Sampling Plan and provide a copy to MMS.
3. EPA will coordinate all sampling inspections with MMS at least four weeks in advance of the inspections.
4. EPA will provide all sampling equipment, bills-of-lading, chains-of-custody,

sampling bottles, paperwork, shipping forms and coolers for all sample collections.

5. Each agency will send the other agency copies of final reports (inspections, lab results, INCs, etc.) as described in the 1989 MOA. Inspection reports completed by MMS will be transmitted to EPA within 30 days after being deemed "final".
6. EPA will be the lead agency for public inquiries on the lab analysis and MMS will be the lead agency for facility inspections and general facility information.
7. If EPA and/or MMS are unable to conduct the activities outlined in A.1 or 2 above (due to budgetary constraints, for example), EPA will request the Central Coast Regional Water Quality Control Board (CCRWQCB) to conduct these activities (as the CCRWQCB's resources allow) in place of EPA and/or MMS. (See letter from Roger Briggs, Executive Officer, CCRWQCB to Alexis Strauss, Director, Water Division dated October 4, 1999.) The CCRWQCB and the MMS will coordinate these inspections.
8. MMS may invite interested permitting government agencies (for example, EPA, California Coastal Commission, CCRWQCB) to observe the sampling and/or records inspection activities.

C. FUNDING TRANSFER

1. EPA will reimburse the MMS for additional costs related to the monitoring and inspection duties pursuant to the 1984 MOU and 1989 MOA for MMS service during FY 2004. The MMS and EPA will agree on the amount of reimbursement prior to conducting the monitoring and inspections.

2. The actual funding transfer will be accomplished by using the On Line Payment and Collections (OPAC) system. The Pacific Region will forward the charges to their financial division in headquarters who will initiate the funding transfer on the OPAC system.

3. If EPA is unable to provide full funding for the chemical analysis of the samples taken by MMS as provided by this workplan, the cost of the laboratory analysis will be covered by industry in accordance with the agreement between Western States Petroleum Association (WSPA) and the California Coastal Commission dated December 7, 2000 pursuant to the Commission's consistency certification. Any analyses not performed by EPA or its contractors shall be conducted at a certified independent laboratory selected by MMS on the basis of convenience.

D. RESPONSIBLE STAFF

1. Inspection reports and INCs, completed by MMS, will be transmitted to EPA at the following address:

US EPA, Region 9
CWA Compliance Office (WTR-7)
75 Hawthorne Street
San Francisco, CA 94105
Attention: Gerald Klug

2. Collected samples will be sent to and laboratory analyses will be conducted at the following address:

   EPA Laboratory
   1337 S. 46th St., Bldg. 201
   Richmond, CA 94804-4698
   Attention: Fred Cordini

3. Laboratory results completed by EPA will be transmitted to MMS at the following address.

   David Panzer
   Minerals Management Service
   770 Paseo Camarillo
   Camarillo, CA 93010

4. Sampling supplies for the drilling mud assays and produced water sampling will be transmitted by EPA to MMS at the following address.

   David Panzer
   Minerals Management Service
   770 Paseo Camarillo
   Camarillo, CA 93010

5. To the extent that the Central Coast RWQCB substitutes for the activities of EPA and/or MMS, the following address shall be used:

   Michael Higgins
   Central Coast RWQCB
   81 Higuera Street, Suite 200
   San Luis Obispo, CA 93401

6. FY 2004 staff and phone numbers

EPA

Amy Wagner	EPA Region 9 Laboratory-toxicity testing	510-412-2329

	and sampling	
Rich Bauer	EPA Region 9 Laboratory-chem testing	510-412-2312
Gerald Klug	CWA Compliance Office	415-972-3507
Eugene Bromley	CWA Standards & Permits Office	415-972-3510
MMS		
David Panzer	Minerals Management Service	805-389-7823
Rishi Tyagi	Camarillo District	805-389-7775
Phil Schroeder	Santa Maria District	805-922-7950
CA RWQCB		
Michael Higgins	Central Coast RWQCB	805-542-4649

E. SAMPLING PARAMETERS

Platform	**Frequency**	**Parameters**
Nine Platforms Discharging Produced Water	Once each per year	oil and grease, ICP metals, GFAA metals, mercury, cyanide, ammonia, total phenolics, sulfides, volatile organics, semi-volatile organics.
Twelve Platforms Discharging Produced Water	Twice each per year	red abalone (larval development) toxicity testing

F. SIGNATURES

Brenda Bettencourt, Laboratory Director, Region 9
U. S. Environmental Protection Agency

Nov. 14 2003
Date

Alexis Strauss, Director, Water Division, Region 9
U.S. Environmental Protection Agency

23 Sept. 2003
Date

Peter Tweedt, Regional Manager
Minerals Management Service, Pacific OCS Region

Oct 14, 2003
Date

California Regional Water Quality Control Board

Central Coast Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/~rwqcb3
81 Higuera Street, Suite 200, San Luis Obispo, California 93401-5427
Phone (805) 549-3147 • FAX (805) 543-0397

Gray Davis
Governor

EXHIBIT NO. 5
APPLICATION NO.
CD-109-03

October 4, 1999

Mr. Terry Oda
Permits Section
United States Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94015-3901

Dear Mr. Oda:

Thank you for the opportunity to review the "pre-draft" version of the General Permit you are developing to regulate waste discharges from crude oil and gas production platforms in Federal waters (beyond the three-mile limit). The California Code of Regulations §30412(a) recognizes the Regional Boards as the primary State agency responsible for water quality in California. To protect the quality of the State's surface waters, U.S. EPA has authorized the Regional Boards to administer the National Pollutant Discharge Elimination System (NPDES) permit program established by the Clean Water Act. Regional Board staff continue to advise Coastal Commission staff regarding their concerns with the General Permit, based on our experience with the NPDES program,

NPDES Permits and "Third-party" Inspections. It has been our experience that the need for "third-party" monitoring is unnecessary with normal implementation of the NPDES program. An NPDES permit includes a monitoring program that typically requires the discharger to routinely monitor the discharge's quality. To determine compliance with the permit's limitations, the regulatory agency compares the results of self-monitoring with limitations specified in the permit.

To validate self-monitoring results, Board staff conduct random, unannounced sampling. Staff compares the results with the discharger's self-monitoring reports. Since the regulated discharger knows that Board staff may conduct an unannounced sampling inspection at any time, the discharger endeavors to treat its wastewater to achieve continual compliance with the permit's limitations. If a violation is noted a follow-up sample will be taken to confirm a permit violation. If violations are confirmed, the appropriate corrective or enforcement actions are taken.

We believe the NPDES program discharger self-monitoring and certification is effective. Discharger self-monitoring data almost invariably compare favorably to data resulting from the sampling inspections conducted by the Board. Consistent with the Board's procedures, EPA's General permit provides for USEPA to conduct annual unannounced sampling inspections of the "major dischargers" and sampling once during the five-year life of the permit for the "minors". Consequently, based on our understanding of the program and our experience with its implementation, we believe that sampling inspections conducted by a "third party" would provide no better control of effluent quality than the inspections conducted by USEPA. "Third-party" monitoring would increase the cost of the program with no benefit.

At the August 9, 1999 staff meeting, Coastal Commission staff raised concerns about the USEPA's ability to conduct the annual unannounced inspections every year. We believe the concern is unfounded since

USEPA has firmly committed to conducting the inspections, and will likely receive adequate funding for this activity. However, if USEPA requests it, we can assist in conducting and funding random unannounced sampling inspections of platforms classified as "major" dischargers. If USEPA should request the Regional Board to conduct such inspections every year, we will work with USEPA to provide federal funding in accordance with the NPDES annual Workplan.

In conclusion, our review determined that the proposed General Permit is an effective NPDES permit, nearly identical to the permits adopted by the Regional Board. And, in the same manner as this Board's permits, we believe that the General Permit will effectively protect the Pacific Ocean's water quality effectively. If you have any questions, please call **Michael Higgins at (805) 542-4649 or e-mail him at mhiggins@rb3.swrcb.ca.gov.**

Sincerely,

Bradley E. Hogaman

for Roger W. Briggs
Executive Officer

cc:

Ms. Alison Dettner, Coastal Program Manager
Energy and Ocean Resources Unit
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

WSPA
Western States Petroleum Association

EXHIBIT NO. 6
APPLICATION NO.
CD-109-03

December 7, 2000

Mr. Terry Oda, Manager
CWA Standards and Permits Office, WTR-5
U.S. EPA Region 9 Water Division
75 Hawthorne Street
San Francisco CA 94105-3901

Dear Terry,

Re: Funding Guarantee for RP Chemical Analysis, Permit CAG 280000

WSPA understands there is a concern that produced water samples collected as part of third party monitoring efforts may not be analyzed because of lack of Federal funding. This situation could mean that results for some of the samples specified in the Agencies' monitoring work plan would not be available.

If this situation should arise for the reasonable potential (RP) samples required by the permit, the operator would provide for the necessary analytical work at a cost estimated to be about $1,000 per sample set. This applies only to analysis for the produced water chemical parameters (not including whole effluent toxicity) listed in Part II B. 1. of the draft permit. If this offer is accepted, WSPA members subject to the permit will individually furnish letters committing to this back up funding.

We hope that this offer will resolve any concerns about third party monitoring.

Yours truly,

Frank E Holmes

Frank E. Holmes
Coastal Coordinator

cc: Michael Bowen, California Coastal Commission

121 Gray Avenue, Suite 205 • Santa Barbara, California 93101 • (805) 966-7113

Table 1. NPDES Permits: OCS Oil & Gas Platforms Offshore California

23 total in OCS[1]	NPDES Permit No.	OCS Platform (& Install Date/County)	Platform Operator [& previous permittee(s)]	Date of Permit Issue/Renewal	Date of Permit Expiration	CC Submittal by Operator or EPA? (If yes, CC#/date)
(1)	CA0110516	A (1968) (S.B.)	Nuevo [Torch/Unocal]	12/8/83	6/30/84[2]	CC-26-83 In 1/84, the CCC concurred in EPA's consistency certification that reissuance of the General NPDES Permit through 6/84 was consistent with the CCMP. (EPA originally issued the General Permit in 2/82 with an expiration date of 1/84.) CC-38-85/CC-39-85 In 2/86, CCC objected to EPA consistency certifications for two new proposed NPDES General Permits. [The existing NPDES General Permit has been extended adminstratively by the EPA since 1984.]
(2)	*(General*	B (1968) (S.B.)	Nuevo [Torch/Unocal]	↓	↓	
(3)	*Permit)*	Hillhouse (1969) (S.B.)	Nuevo [Torch/Unocal]			
(4)	↓	Hondo (1976) (S.B.)	Exxon			
(5)		C (1977) (S.B.)	Nuevo [Torch/Unocal]			
(6)		Henry (1979) (S.B.)	Nuevo [Torch/Unocal]			
(7)		Gina (1980) (Ventura)	Nuevo [Torch/Unocal]			
(8)		Gilda (1981) (Ventura)	Nuevo [Torch/Unocal]			
(9)		Habitat (1981) (S.B.)	Nuevo [Texaco]			
(10)		Edith (1983) (Orange)	Nuevo [Torch/Unocal/Chevron]			
(11)		Eureka (1984) (Orange)	AERA [CalRes. LLC/SWEPI]			
(12)		Harvest (1985) (S.B.)	Arguello, Inc. [Veneco/Chevron/Texaco]			
(13)		Hermosa (1985) (S.B.)	Arguello, Inc. [Veneco/Chevron]			
(14)		Hidalgo (1986) (S.B.)	Arguello, Inc. [Veneco/Chevron]			
(15)	CA0110020	Hogan (1967) (S.B.)	Pacific Operators / [Phillips]	3/18/77	12/31/81[2]	NO
(16)	CA0110028	Houchin (1968) (S.B.)	Pacific Operators / [Phillips]	3/18/77	12/31/81[2]	NO
(17)	CA0110397	Grace (1979) (Ventura)	Veneco [Chevron]	9/30/93	7/31/98	CC-65-94 (11/15/94)
(18) (19)	CA0110419 CA0110419	Ellen Elly[3] (1980) (Orange)	AERA [CalResources LLC/SWEPI]	9/9/93	7/31/98[3]	NO[4]
(20)	CA0110648	Irene (1985) (S.B.)	Torch / [Unocal]	10/13/93	6/30/98	CC-45-94 (11/15/94)
(21)	CA0110737	Gail (1987) (Ventura)	Veneco [Chevron]	9/30/93	5/31/98	CC-68-93 (2/17/94)
(22) (23)	CA0110842 CA0110851	Harmony (1992) (S.B.) Heritage (1992) (S.B.)	Exxon	6/5/92	5/29/97	CC-68-92 (8/12/92) & CC-85-92 (4/14/93)

[1] Twenty-three platforms are located in Outer Continental Shelf (OCS) waters offshore California. [Four producing platforms remain in State waters: **Holly** (Santa Barbara County) & **Eva/Esther/Emmy** (Orange County). These platforms are covered by NPDES permits issued by the Regional Water Quality Control Boards].

[2] NPDES Permit has been administratively extended by the U.S. EPA Region 9.

[3] Discharges from Platforms Ellen and Elly, two separate platforms connected by a bridge, are authorized under one individual NPDES permit.

[4] NPDES Permit renewal is not effective because not concurred with by the CCC (operator has not submitted CC).

EXHIBIT NO. 7

APPLICATION NO.

CD-109-03

EXHIBIT NO. 8
APPLICATION NO.
CD-109-03

August 16, 2001

Procedure for Comparing California Ocean Plan 6-Month Median and a 4-Day Average for NPDES Permit No. CAG280000

A. Introduction

In its certification of general NPDES permit No. CAG280000 to the California Coastal Commission on January 9, 2001, EPA made the following commitment with respect to produced water discharges:

> "the discharge effluent standards that EPA applies shall be either the State water quality criteria set forth in the Ocean Plan that is part of the State's Federally approved CCMP or the national 304(a) criteria whichever is more protective of applicable beneficial uses."

For aquatic life criteria, the California Ocean Plan (COP) criteria are set forth as 6-month medians and EPA's criteria are 4-day averages (often referred to as the continuous chronic criterion or CCC). The following procedure shall be used to determine which criteria are "more protective of applicable beneficial uses", i.e., more stringent.

B. Assumptions, Data Requirements, and Other Explanations for Comparing a 6-Month Median Criterion with a 4-Day Average Criterion.

1. Symbols and methodology used in the procedure are similar to those used in the TSD (USEPA, 1991), Appendix E. X is a sample measurement, E(X) and V(X) are the parametric mean and variance of X, and μ and σ^2 are the parametric mean and variance of ln(X), using natural logs. $X_{n\text{-day}}$ is an n-day average of 1-day measurements of variable X; $E(X)_{n\text{-day}}$ is the mean of $X_{n\text{-day}}$, and $\sigma^2_{n\text{-day}}$ is the variance of $\ln(X_{n\text{-day}})$. In the TSD methodology, 1-day measurements and 4-day averages are assumed to follow lognormal distributions. The coefficient of variation (CV) of X is defined as the ratio of standard deviation to mean. The CV is the only data requirement for the procedure.

2. The procedure assumes that daily values are independently and identically distributed (iid) as lognormal variates. The same assumption underlies TSD statistical procedures for reasonable potential determination and permit limits (USEPA 1991).

3. To compare the stringency of the two criteria, a factor is first developed for comparing the mean of the lognormal distribution of 4-day averages ($E(X)_{4\text{-day}}$) with the median of another lognormal distribution based on taking six samples

($Median(X)_{6\text{-day}}$) of variable X. A sample size of "six" for the 6-month median criteria of the COP was selected based on a recommendation from Steven Saiz of the State Water Resources Control Board. Typically, monthly monitoring is required to ensure compliance with the 6-month medians of the COP; this results in six samples being taken in any 6-month period.

4. The mean and the median of a lognormally distributed variable X are related by the following expression:

$$E(X) = Median(X) * (CV^2 + 1)^{1/2}$$

For the lognormally distributed variable $X_{6\text{-day}}$, this becomes:

$$E(X)_{6\text{-day}} = Median(X)_{6\text{-day}} * (CV^2_{6\text{-day}} + 1)^{1/2}$$

5. From the TSD, page E-9, the variance (of $\ln(X_{n\text{-day}})$) and coefficient of variation of an n-day sample taken from a lognormal distribution are given by:

$$\sigma^2_{n\text{-day}} = \ln(V(X)/[nE(X)^2] + 1)$$

$$CV_{n\text{-day}} = (\exp(\sigma^2_{n\text{-day}}) - 1)^{1/2}$$

6. The coefficient of variation of a 6-day average ($X_{6\text{-day}}$) would be:

$$CV_{6\text{-day}} = (\exp(\ln(V(X)/[6E(X)^2] + 1)) - 1)^{1/2}$$

7. Substituting $E(X)^2 = V(X)/CV^2$ into step 6 above yields the following:

$$CV_{6\text{-day}} = (CV^2/6)^{1/2}$$

8. The mean of any lognormally distributed n-day average ($X_{n\text{-day}}$) drawn from another lognormal distribution will be same as the mean of the original distribution itself as shown below (equations from TSD, pages E-8 and 9):

   1. $E(X) = \exp(\mu + \sigma^2/2)$

   2. $E(X)_{n\text{-day}} = \exp(\mu_{n\text{-day}} + \sigma^2_{n\text{-day}}/2)$

   3. $\mu_{n\text{-day}} = \ln(E(X)) - \sigma^2_{n\text{-day}}/2$

   Substituting the expression for $\mu_{n\text{-day}}$ from (c) above into (b) yields the following

$$E(X)_{n\text{-day}} = \exp(\ln(E(X)) - \sigma^2_{n\text{-day}}/2 + \sigma^2_{n\text{-day}}/2)$$

$E(X)_{n\text{-}day} = E(X)$

9. Given the results from step 4 and step 8 we can derive the following relation between the mean of a 4-day average and the median of a distribution based on six samples.

$E(X)_{4\text{-}day} = E(X)_{6\text{-}day} = Median(X)_{6\text{-}day} * (CV^2_{6\text{-}day} + 1)^{1/2}$

10. Substituting the expression for $CV_{6\text{-}day}$ from step 7 into step 9 yields the following ratio for comparing the stringency of the EPA 4-day average criteria and the COP criteria as a function of the CV of the original lognormal variable X:

$E(X)_{4\text{-}day}/Median(X)_{6\text{-}day} = (CV^2/6 + 1)^{1/2}$

For convenience, Table 1 in Section D below provides values for the quantity $(CV^2/6 + 1)^{1/2}$ as a function of CV.

11. Since EPA's metals criteria are dissolved criteria and the COP criteria are total recoverable criteria, another conversion factor must be used to complete the comparison of the stringency of the two criteria. The additional conversion factors to be used are found in Table 2 in Section D below. These factors were obtained from Appendix A (Conversion Factors for Dissolved Metals) (63 Fed. Reg. 68363, December 10, 1998) for salt water CCC (for silver, the salt water CMC factor is used per EPA guidance at 60 Fed. Reg. 22231, May 4, 1995).

3. Comparing the Two Criteria

1. For each metal for which the COP provides an aquatic life criterion (As, Cd, Cu, Pb, Hg, Ni, Se, Ag, Zn and Cr^6), calculate the following quantity Q:

> Q = COP objective multiplied by the conversion factor in Table 2 for converting total recoverable criteria to dissolved criteria.

There are also two non-metallic aquatic life parameters in the COP which are also limited in the permit (ammonia and cyanide), for which no conversion factor is needed. For these parameters, Q is equal to the COP objective.

2. For each metal, and for ammonia and cyanide, calculate the quantity Z by multiplying the quantity Q by the appropriate value of $(CV^2/6 + 1)^{1/2}$ from Table 1. The quantity Z is a 4-day average of equal stringency to the COP's 6-month median, as a function of CV.

$Z = Q * (\text{value of } (CV^2/6 + 1)^{1/2} \text{ from Table 1})$

3. Compare Z with each corresponding EPA aquatic life 4-day average criterion. Where Z

is larger than the EPA criterion, the EPA CCC is more protective and shall be used for the reasonable potential analysis. Where is reverse is true, the COP criterion is more stringent
and reasonable potential shall be based on the quantity Z which is the COP criterion converted into a 4-day average.

4. Values for $(CV^2/6 + 1)^{½}$ for Different CVs; Conversion Factors for Dissolved/Total Recoverable Criteria for Metals

Table 1 below provides values for $(CV^2/6 + 1)^{½}$ for various CV values.

Table 1 - Value of $(CV^2/6 + 1)^{½}$ for Various CV Values

CV	$(CV^2/6 + 1)^{½}$
0.05	1.000
0.10	1.001
0.15	1.002
0.20	1.003
0.25	1.005
0.30	1.007
0.35	1.010
0.40	1.013
0.45	1.017
0.50	1.021
0.55	1.025
0.60	1.030
0.65	1.035
0.70	1.040
0.75	1.046
0.80	1.052
0.85	1.058
0.90	1.065
0.95	1.073
1.00	1.080
1.05	1.089
1.10	1.096
1.15	1.105

1.20	1.114

Table 2 - Factors for Converting Total Recoverable Metals Criteria to Dissolved Criteria	
Arsenic	1.0
Cadmium	0.994
Chromium VI	0.993
Copper	0.83
Lead	0.951
Mercury	0.85
Nickel	0.990
Selenium	0.998
Silver	0.85
Zinc	0.946

Source: Appendix A (Conversion Factors for Dissolved Metals) (63 Fed. Reg. 68363, December 10, 1998) for salt water CCC (for silver, the salt water CMC factor is used per EPA guidance at 60 Fed. Reg. 22231, May 4, 1995).

5. Example Calculations

The following is an example of the above procedure for copper.

Step 1: EPA CCC = 3.1 μg/l (dissolved)
COP objective = 3.0 μg/l (total recoverable)
CV = 0.6 (assumed for purposes of illustration)

Step 2: Calculate the quantity Q

From Table 2, the conversion factor for copper for converting from total recoverable to dissolved is 0.83.

Q = 3.0 * 0.83

$= 2.49$ µg/l

Step 3: Determine the value of $(CV^2/6 + 1)^{½}$ for CV = 0.6

From Table 1 or by direct calculation

$(CV^2/6 + 1)^{½} = 1.030$

Step 4: Calculate the quantity Z

$Z = 2.49 * 1.030$
$= 2.56$

Step 5: Compare Z and Q

Since Z is smaller than the EPA CCC, the COP 6-month median is more stringent than EPA's 4-day average, and Z would be used for the reasonable potential calculation.

Z = 2.56 µg/l
EPA CCC = 3.1 µg/l

6. Reference

USEPA. 1991. *Technical Support Document for Water Quality-Based Toxics Control.* Publication No. EPA/505/2-90-001. Publication date March, 1991.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

EXHIBIT NO. 9
APPLICATION NO.
CD-109-03

OCT 20 2000

F/SWR4:MH

Mr. Terry Oda
Chief, Standards and Permits Office
Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105-3901

Dear Mr. Oda:

The National Marine Fisheries Service (NMFS) has reviewed the Essential Fish Habitat (EFH) Assessment for re-issuance of the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) general permit (No. CA 280000) for oil and gas platforms off the California coast. The general permit would cover 22 existing production platforms. New production platforms would not be covered although discharges from future exploratory operations would be included. EPA Region 9 has identified 22 types of discharges that will result from platform activities.

The two most significant wastewaters or discharges to EFH generated from the platforms are the drilling fluids/drill cuttings and produced water effluents. The other 20 discharges are considered minor by EPA in its EFH Assessment and NMFS concurs. Outside of the 100-meter radius, proposed mixing zone, the two primary discharges pose little threat to EFH. NMFS also concurs with this conclusion in the EFH Assessment. However, inside the mixing zone, within the confines of the platform superstructure, some temporary and localized effects on EFH may occur but the assessment concluded that the effects of the proposed discharges will not have significant adverse effects on EFH species, their prey or EFH in general. NMFS does not concur that this position has been documented conclusively and offers its comments below.

General Comments

Of the 82 fish species federally managed in the Pacific Groundfish Fishery Management Plan (FMP), 39 have been recorded in various water depths over a 35-year period at southern California platforms. Some of the more common groundfish species consistently observed include all life stages of bocaccio, brown, widow, olive, blue, and flag rockfishes as well as the subadult and adult life stages of California scorpionfish, cabezon and lingcod. It should be noted that the bocaccio rockfish is also designated as a candidate species for listing under the

Endangered Species Act. Additionally, adult life stages of northern anchovy, jack mackerel and Pacific sardine, all Federally managed under the Coastal Pelagic FMP, have been recorded at southern California platforms.

Within the mixing zone of the platforms, the direct impacts of drilling discharges are both physical and chemical. Physical effects result from the smothering of benthic organisms by drill cuttings and sediment and chemical effects involve exposure to the toxic components of drilling discharge. Given that the platforms have been in place for many years and that drilling activities during the term of the permit are expected to be small relative to previous rates, impacts to EFH will be localized on the seafloor. It is also known that large clumps of mussels are periodically dislodged from the platform superstructures forming shell mounds at the base of the platforms. The formation of these 6-8 meter high mounds most likely provides a buffer between Federally managed species and the drilling muds. Therefore, given the rapid dilution and short-term nature of the discharges, and the formation of shell mounds, NMFS concurs with EPA that the discharges would not cause a significant degradation of the marine environment.

With regard to production water effects, discharge pipes appear to be located at the edge of each platform, approximately 50 to 100 feet below the surface. This results in a mixing zone encompassing a large portion of the man-made habitat created by the platforms. Since National Water Quality Criteria and effluent toxicity limitations are not required to be met within the mixing zone, groundfish and coastal pelagic species are likely to be subjected to levels of toxicants (e.g., arsenic, barium, mercury, cadmium, benzene, ethylbenzene, toluene, xylene, and polycyclic aromatic hydrocarbons) exceeding those established by EPA for the protection of marine organisms. Because acute or chronic toxic effects on Federally managed fishes inside the mixing zone have not been specifically identified and quantified, NMFS is concerned about potential toxic threats to its trust resources. While it may be hypothesized that highly mobile fish could swim out of this mixing zone, there is no information to suggest that this behavior occurs. Further, while the potential for marine organisms to bioaccumulate toxicants from produced water plumes has been evaluated, the analyses are neither definitive nor have they thoroughly assessed the affects of produced water inside the mixing zones, particularly, within a few tens of meters of the outfall.

The EFH Assessment for this Federal action argues that the habitat provided by the 22 platforms represents a fraction of the total area designated as EFH in the Southern California Bight. Therefore, any impacts of platform discharges should be considered insignificant. Admittedly, the proportion of hard bottom habitat contributed by oil platforms within the Bight is insignificant. However, the significance of platform habitat should be viewed in terms of ecological function such as reproductive potential rather than total surface area. For example, scientists have documented that while larger rockfishes are generally absent from nearby natural reefs, they are common at some platforms. Underlying the significance of this finding is that female egg production increases with increasing body size, a universal property of fishes. Therefore, enhanced reproductive potential may exist at some platforms. The total reproductive output of small areas inhabited by larger sized females could conceivably be as productive as much larger areas inhabited by smaller sized females. This observation becomes even more meaningful considering that many rockfish species produce multiple broods per season.

However, enhanced reproductive potential may be compromised by toxic conditions created within the mixing zone at oil platforms. Hence, NMFS believes the issue is not a matter of habitat proportion, but rather, habitat quality and the potential for contributing to a sustainable fishery.

Essential Fish Habitat Conservation Recommendations

The proposed re-issuance of the NPDES general permits could adversely affect the EFH designated under the Magnuson-Steven Fishery Conservation and Management Act for 39 species of groundfish (for all life stages), and the adult and subadult life stages of northern anchovy, Pacific sardine, and jack mackerel. In consideration of the potential for adverse effects, NMFS believes the easiest remedy is to modify the rate of discharge and the depth and/or location of the discharge pipe. Such an action would ensure that the edge of the mixing zone does not overlap with the platform, therefore affording greater habitat protection to the groundfish and coastal pelagic species inhabiting the platform jacket. However, NMFS does not believe such a recommendation is necessary at this time until additional information is forthcoming on the significance of these potential adverse effects. Consequently, pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS recommends that EPA adopt the following measures for its permit:

1. Require oil and gas platform operators to evaluate the direct lethal, sublethal, and bioaccumulative effects of produced water on Federally managed fish species (e.g., blue rockfish, bocaccio rockfish, brown rockfish, olive rockfish and lingcod) at key life stages (e.g., juvenile and adult) occupying the mixing zone of produced water effluent discharges.

2. Model dilution and dispersion plumes from the point of production water discharge to determine the extent of the area in which Federally managed fish species may be adversely affected.

3. Develop appropriate mitigation measures (i.e., alter discharge rates or relocate discharge pipes) should information from the two previous recommendations indicate that substantial adverse effects to Federally managed species or EFH do occur.

4. Continue to implement provisions in the general permit that provide for the issuance of individual permits including limitations on rate of drilling discharges, duration of discharges, depth of discharges or whether drilling muds and cutting discharges are allowed at all should overall mud toxicity limits as stated in the general permit be exceeded.

Conclusion

Section 305(b)(4)(B) of the Magnuson-Steven Act requires EPA to provide NMFS with a detailed written response to its EFH Conservation Recommendations, including a description of measures adopted by EPA for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with NMFS' recommendations, EPA must explain its reasons for not following the recommendations, including the scientific justification

for any disagreements with NMFS over the anticipated effect of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(j)).

Sincerely,

Rodney R McInnis

for Rebecca Lent, Ph. D.
Regional Administrator

cc: Peter Douglas - CCC