

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 West 4th Street, Los Angeles

FACT SHEET
WASTE DISCHARGE REQUIREMENTS
for
EXXONMOBIL OIL CORPORATION
(FORMER MOBIL SERVICE STATION # 18-FX5)

NPDES Permit No.: CA0064301
Public Notice No.: 01-059

FACILITY ADDRESS

Former Mobil Service
Station #18-FX5
3800 Sepulveda Boulevard
Culver City, California

FACILITY MAILING ADDRESS

ExxonMobil Oil Corporation
2300 Clayton, Suite 1250
Concord, CA 94520
Contact: Jennifer C. Sedlachek
Telephone: (925) 246-8749

I. PUBLIC PARTICIPATION

A. Public Comment Period

By September 24, 2001, the local newspaper will have published the public notice of the intent of the California Regional Water Quality Control Board, Los Angeles Region, (Regional Board) to consider, during its October 25, 2001 meeting, the reissuance of waste discharge requirements (WDRs) and National Pollutant Elimination System (NPDES) permit to ExxonMobil Oil Corporation (ExxonMobil or Discharger). The WDRs and NPDES permit regulate discharges from ExxonMobil's above-referenced former Mobil Service Station. The staff determinations are tentative. Interested persons are invited to submit written comments upon these revised tentative WDRs. Comments should be submitted either in person or by mail to:

Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

To be fully responded to by staff and considered by the Board, written comments should be received by the Regional Board by 5:00 p.m. on October 5, 2001.

B. Comments Received

ExxonMobil submitted comments to the Regional Board based on a previous tentative permit. Regional Board staff have incorporated some of the Discharger's comments into the accompanying revised tentative WDRs. Staff will address all comments (received on or before 5:00 p.m., October 5, 2001) prior to the Board Meeting on October 25, 2001.

C. Public Hearing

The Regional Board will hold a public hearing on the tentative WDRs and NPDES permit during its regular meeting on the following date and time, and at the following location.

Date: October 25, 2001

Time: 9:00 a.m.

Location: Richard H. Chambers U.S. Court of Appeals Bldg., Courtroom 3
125 South Grand Avenue
Pasadena, CA 91105

Interested parties and persons are invited to attend. At the public hearing, the Regional Board will hear testimony, if any, pertinent to the discharge, WDRs and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

D. Waste Discharge Requirement Appeals

Any person may petition the State Water Resources Control Board to review the decision of the Regional Board regarding the final WDRs. A petition must be submitted within 30 days of the Regional Board's action to the following address:

State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812

E. Information And Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special conditions, comments received, and other information are on file and may be inspected at 320 West 4th Street, Suite 200, Los Angeles, California 90013, at any time between 8:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays. Copying of documents and appointments to inspect documents may be arranged through the Regional Board by calling (213) 576-6600.

F. Register Of Interested Persons

Any person interested in being placed on the mailing list for information regarding this particular WDRs and NPDES permit should contact the Regional Board, reference this facility, and provide a name, address, and phone number.

II. BACKGROUND AND FACILITY DESCRIPTION

Former Mobil Service Station #18-FX5 is located at 3800 Sepulveda Boulevard, Culver City, California (Site). The Site is near the City of Santa Monica's Charnock wellfield and the Southern California Water Company (SCWC) Wellfield located approximately 0.5 miles to the north-northwest and northwest, respectively. The Site is an inactive service station. The service station operations reportedly began in 1973 as a Mobil Service Station. Historically, station operations consisted of retail gasoline sales with automobile repair and maintenance. The station was closed in November 1999. Four 10,000-gallon double wall fiberglass underground storage tanks (USTs) used to store gasoline USTs were removed on August 29, 2000. Currently there are no USTs at the Site.

An unauthorized gasoline release was first discovered at the Site on August 9, 1990. Investigations performed at the Site and in the vicinity of the Site have indicated that the soil and groundwater are contaminated with total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethyl benzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE), tertiary butyl alcohol (TBA), and other petroleum constituents.

In 1999, the Regional Board directed ExxonMobil to conduct an investigation and to prepare a corrective action plan to remedy the effects of the unauthorized release at the Site. ExxonMobil has been remediating the contaminated soil and local groundwater using soil vapor extraction and groundwater extraction and treatment system since November 1999. Since that time, a total of 13,985 pounds of TPHg and 305 pounds of MTBE have been removed. The purpose of these remediation methods is to remove residual contaminants contained in soil underlying the Site, to control the migration of polluted groundwater, and to clean up the Shallow Unnamed Aquifer underneath the Site.

The groundwater extraction system consists of three extraction wells drawing water from the Shallow Unnamed Aquifer. Pursuant to the workplan approved by the Regional Board, the maximum combined groundwater pump rate does not exceed 50 gallons per minute (72,000 gallons per day).

III. PURPOSE OF ORDER

ExxonMobil owns and operated former Mobil Service Station #18-FX5 at the Site. Waste discharge from the Site is regulated by Order No. 99-062 (NPDES Permit No. CA0064301) issued by the Regional Board on July 8, 1999. Order No. 99-062 expired on June 10, 2001. ExxonMobil has filed a ROWD and has applied for renewal of its WDRs and NPDES permit.

IV. FACILITY AND WASTE DISCHARGE DESCRIPTION

ExxonMobil has been using a liquid-phase granular activated carbon adsorption system to remove primarily MTBE, TBA and other gasoline constituents. ExxonMobil discharges treated wastewater to the municipal separate storm sewer system pursuant to requirements established by the Regional Board. The discharge point is to a stormdrain located in Venice Boulevard north of the intersection of Venice Boulevard and Sepulveda Boulevard (Latitude 34° 00' 49", Longitude 118° 24' 56"). From there, the treated wastes flow to Ballona Creek Estuary, a water body of the United States.

The Report of Waste Discharge, Form 2E, describes the effluent characteristics as follows:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>	
		<u>Daily Maximum</u>	<u>Monthly Average</u>
Flow (million gallons per day)	mgd	0.072	0.052
BOD ₅ 20°C	mg/L	6	1
Suspended solids	mg/L	12	3.3
pH	Standard Unit	6 – 9	
Lead	µg/L	2.5	2.5
Copper	µg/L	37.8	8.04
Zinc	µg/L	154	27.05
Benzene	µg/L	1.0	0.5
Toluene	µg/L	1.0	0.6
Ethylbenzene	µg/L	1.0	0.65
Xylene	µg/L	2.0	0.8
Methyl Tertiary Butyl Ether (MTBE)	µg/L	2.5	1.16
Tertiary Butyl Alcohol (TBA)	µg/L	25	21.2

V. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The following documents are the bases for proposed requirements:

1. The federal Clean Water Act (CWA).
2. Code of Federal Regulations, Title 40 (40 CFR) – Protection of Environment, Chapter 1, Environmental protection Agency, Subchapter D, Water programs, Parts 122-125 and Subchapter N, Effluent Guidelines and Standards, Part 419, Petroleum Refining Point Source Category, Subpart B, Cracking Subcategory. These regulations provide effluent limits for conventional pollutants discharged from petroleum refineries based on best practicable control technology currently available (BPT), best available technology economically available (BAT), and best conventional pollutant control technology (BCT).
3. *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) adopted June 13, 1994; The Plan provides water quality objectives and lists the following beneficial uses for Bolona Creek Estuary.

 Existing: navigation, water contact recreation, non-water contact recreation, commercial and sport fishing, estuarine habitat, marine habitat, wildlife habitat, preservation of rare and endangered species, migration of aquatic organisms, spawning, reproduction, or early development, and shell harvesting.
4. *Water Quality Control Policy for the Enclosed Bays and Estuaries of California*, adopted by State Water Resources Control Board in May 1974. The Policy provides

that discharges of industrial process wasters to enclosed bays and estuaries shall be phased out at the earliest practicable date.

5. *Water Quality Control Plan for Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan), adopted by the State Board on September 18, 1975. This Plan provides temperature objectives for the Los Angeles Harbor.
6. Technical Support Document (TSD) for Water Quality-Based Toxics Control, USEPA/502/2-90-001, March 1991.
7. *The California Toxics Rule* (CTR) promulgated by the USEPA on May 18, 2000 and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) adopted by the State Board on March 2, 2000. The CTR establishes numerical criteria for priority pollutants for inland surface water as well as water in the enclosed bays and estuaries.
8. Valid existing Waste Discharge Requirements contained in Board Order No. 99-062, adopted by the Regional Board on July 8, 1999. Section 402(o) of the Clean Water Act and 40 CFR 122.44(l) requires that water-quality based effluent limits in re-issued permits are at least as stringent as in the existing permit (anti-backsliding). Therefore, some of the requirements in the proposed Order are based on limits specified in the ExxonMobil's existing permit.

VI. SPECIFIC RATIONALE

There are several other factors affecting the development of limitations and requirements in the proposed Order. These are discussed as follows:

1. Technology-Based Limitations

40 CFR 125.3 (a) states that technology-based treatment requirements under section 301 (d) of the Clean Water Act represent the minimum level of control that must be imposed in a permit issued under section 402. In summary, permits shall contain the following technology-based treatment requirements for dischargers other than publicly-owned treatment works: BPT and

- i. for conventional pollutants, effluent limitations are based on the BCT;
- ii. for toxic pollutants, effluent limitations are based on the BAT; and
- iii. for all pollutants that are neither toxic nor conventional, effluent limitations are based on BAT.

40 CFR 122.44 states that each permit shall include conditions meeting requirements under sections 301, 304, 306, 307, 318 of CWA. In summary, if after technology-based limits are applied the receiving water concentrations still exceed the water quality standards, or the discharge may cause such exceedances, the permit must include Water Quality Based Effluent Limitations (WQBELs) to achieve water quality standards.

The limitations in the proposed Order are based on the USEPA's effluent limitation guidelines, which reflect BPT, BCT, and BAT for some pollutants. For pollutants not subject to the effluent limitation guidelines, their reasonable potential is evaluated to determine whether or not WQBELs are required.

2. Water Quality-Based Limitations

The WQBELs are based on the Basin Plan, other State plans and policies, or USEPA water quality criteria. These requirements, as they are met, will protect and maintain existing beneficial uses of the receiving water.

The CTR and SIP require dischargers to submit sufficient data to determine the priority pollutants requiring WQBELs and to calculate effluent limitations. To protect the beneficial uses of the Dominguez Channel estuary, the CTR criteria for saltwater or human health for consumption of organisms, whichever produce more stringent limitations, were used to prescribe the effluent limitations in this Order. Staff particularly finds that historical water quality data obtained from the Ballona Creek during both dry and wet years indicate that ambient background concentrations of copper and zinc are higher than water quality objectives. In addition, detectable levels of copper and zinc are present in the discharger's effluent. Therefore, copper and zinc shall be added to the discharge limits in the Order and monitoring reporting requirements.

3. Reasonable Potential Analysis (RPA)

As specified in 40 CFR 122.44(d)(1)(i), permits are required to include limits for pollutants that are or may be discharged at a level which cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard.

According to the SIP, when sufficient data are available for toxic pollutants a WQBEL is required when:

- a. the maximum effluent concentration (MEC) is greater than or equal to the most stringent applicable water quality criteria in the CTR (C), or
- b. the background water quality (B) is greater than C.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger shall be required to gather the appropriate data for the Regional Board's RPA. Upon review of the data, and if the Regional Board determines that effluent limits are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

4. Impaired Water Bodies in 303(d) List

The USEPA approved the State's 303(d) List of impaired water bodies (See Table 1). The list was prepared in accordance with Section 303(d) of the federal CWA to identify specific water bodies where water quality standards are not

expected to be met after implementation of technology-based effluent limitations on point sources. USEPA requires final effluent limits for all 303(d)-listed pollutants to be based on total maximum daily loads (TMDL) and waste loads allocation (WLA) results.

- For 303(d)-listed pollutants, the Regional Board plans to develop and adopt TMDLs which will specify WLAs for point sources and LAs for non-point sources, as appropriate. Following the adoption of TMDLs by the Regional Board, NPDES permits will be issued with effluent limits for water quality based on applicable WLAs. In the absence of a TMDL, effluent limits for 303(d)-listed pollutants, for which RPA indicates a “reasonable potential”, were established for (1) concentration based on the most stringent applicable CTR criteria, and (2) mass emission based on the maximum discharge flow rate and concentration limitation. A compliance schedule of up to five years was granted to ExxonMobil to achieve compliance with the final WQBELs for these pollutants. In the mean time, ExxonMobil is required to comply with the specified interim limitations. According to the SIP, section 2.2.1, “if the compliance schedule is within the term of the permit, the final effluent limitations shall be included in the permit provisions.”
- For 303(d)-listed non-priority pollutants (ammonia and coliform), water quality objectives developed and specified in the Basin Plan, and applicable to the receiving water were prescribed.

5. Integrated Risk Information System (IRIS)

Updated reference doses or potency values are available in IRIS for some pollutants. USEPA uses these values to revise the water quality criteria for these compounds. This results in changes of limitations for some pollutants including benzene, halomethanes, heptachlor, heptachlor epoxide, hexachlorobenzene, and PAHs.

VII. REGULATORY BASIS FOR EFFLUENT LIMITATIONS

A. Technology-Based Pollutants

1. 40 CFR 419 specifies effluent limits for the discharge of process wastewater and storm water runoff from a petroleum refining facility. Since the storm water runoff is not commingled or treated with the refinery’s process wastewater, the more stringent of the following requirements were used to prescribe limits for oil & grease and total organic carbon in the storm water runoff stream:

CFR 419.22(e)(1) - BPT requirements
CFR 419.23(f)(1) - BAT requirements
CFR 419.24(e)(1) - BCT requirements

2. Chlorine or chlorine compounds are now used for algae control, and the limitation (0.1 mg/l daily maximum) required by the Basin Plan is prescribed for residual oxidants.

B. Water Quality-Based Pollutants

1. Reasonable potential of a toxic pollutant:

Reasonable Potential Analysis (RPA) was developed for the conventional/non-conventional and toxic pollutants that had effluent data. For pollutants for which no background data were available, interim requirements, as described below, were assigned. For these pollutants, the Discharger shall submit to this Regional Board background concentration data, so that complete reasonable potential analyses can be performed and the need for effluent limitations can be determined.

2. WQBEL for a toxic pollutant:

- a. For pollutants with non-detected monitoring data, when the lowest MDLs were lower than the adjusted applicable criteria, no limitations or monitoring requirements were assigned.
- b. For pollutants with non-detected monitoring data, when the lowest MDLs were higher than the adjusted applicable criteria, monitoring requirements were prescribed. No limitations were assigned.
- c. For pollutants with detected monitoring data, when the highest data points were lower than the adjusted applicable criteria, no monitoring requirements and no limitations were prescribed.
- d. For pollutants with detected monitoring data, when the highest data points were higher than the adjusted applicable criteria, monitoring requirements and CTR-based discharge limitations were prescribed.

3. Interim requirements for a toxic pollutant:

Interim Monitoring:

Interim requirements in the form of monitoring were prescribed for constituents for which monitoring data reported "non-detectable" (ND) and all of the reported detection limits were greater than or equal to the CTR criterion.

Interim Limitations:

Interim limitations were developed according to the 95th percentile occurrence probability method for monthly average limits and 99th percentile occurrence probability method for daily maximum limits. This method is based on the guidelines established in the *EPA/505/2-90-001; Technical Support Document For Water Quality-based Toxics Control – Appendix E; March 1991*. For ND data points, half of their respective MDL were used in calculations.

C. Sample Limitation Calculation for a CTR Pollutant

Waste stream: Treated Groundwater

Constituent: Lead

- **SIP (1.3) RPA** – Lead is on the 303(d) List for Bonona Creek. Therefore, a WQBEL is required.

- **SIP (1.4)**

- **Step 1.** Applicable Water Quality Criteria – Freshwater

- Criterion (acute) = 65 µg/L

- Criterion (chronic) = 2.5 µg/L

- **Step 2.** Effluent Concentration Allowance (ECA)
No dilution credit allowed, therefore ECA = C

- **Step 3.** ECA Multipliers – Since the number of effluent data points is less than ten, set coefficient of variation (CV) to 0.6.

- LTA acute = ECA acute * ECA multiplier_{acute 99} (from SIP, Table 1) =
= (65)*(0.321) = 20.865 µg/L

- LTA chronic = ECA chronic * ECA multiplier_{chronic 99} (from SIP, Table 1) =
= (2.5)*(0.527) = 1.3175 µg/L

- **Step 4.** Select the lowest of the LTAs:
LTA = 1.3175 µg/L

- **Step 5.** Average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL)
Sampling frequency less than four times a year => n = 4

- AMEL_{aquatic life} = LTA * AMEL_{multiplier95} (from Table 2) = = (1.3175)*(1.55) = 2.04 µg/L

- MDEL_{aquatic life} = LTA * MDEL_{multiplier99} (from Table 2) = = (1.3175)*(3.11) = 4.10 µg/L

- **Step 6.** Human Health Criteria
No criteria set for human health => not applicable

- **Step 7.**

- AMEL = 2.04 µg/L

- MDEL = 4.10 µg/L

Constituent: Zinc

- **SIP (1.3) RPA** – Zinc is on the 303(d) List for Ballona Creek. Monitoring data indicate levels higher than the applicable criterion. Therefore, a WQBEL is required.

- **SIP (1.4)**
Step 1. Applicable Water Quality Criteria – Freshwater

Criterion (acute) = 120 µg/L
Criterion (chronic) = 120 µg/L
- **Step 2.** Effluent Concentration Allowance (ECA)
No dilution credit allowed, therefore ECA = C
- **Step 3.** ECA Multipliers – Since the number of effluent data points is less than ten, set coefficient of variation (CV) to 0.6.
LTA acute = ECA acute * ECA multiplier_{acute 99} (from SIP, Table 1) =
= (120)*(0.321) = 38.52 µg/L

LTA chronic = ECA chronic * ECA multiplier_{chronic 99} (from SIP, Table 1) =
= (120)*(0.527) = 63.24 µg/L
- **Step 4.** Select the lowest of the LTAs:
LTA = 38.52 µg/L
- **Step 5.** Average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL)
Sampling frequency less than four times a year => n = 4

AMEL_{aquatic life} = LTA * AMEL_{multiplier95} (from Table 2) = = (38.52)*(1.55) = 59.71 µg/L

MDEL_{aquatic life} = LTA * MDEL_{multiplier99} (from Table 2) = = (38.52)*(3.11) = 119.8 µg/L
- **Step 6.** Human Health Criteria
No criteria set for human health => not applicable
- **Step 7.**
AMEL = 59.71 µg/L
MDEL = 119.8 µg/L

Constituent: Copper

- **SIP (1.3)** RPA – Copper is on the 303(d) List for Ballona Creek. Monitoring data indicate levels higher than the applicable criterion. Therefore, a WQBEL is required.
- **SIP (1.4)**
Step 1. Applicable Water Quality Criteria – Freshwater

Criterion (acute) = 13 µg/L
Criterion (chronic) = 9 µg/L

- **Step 2.** Effluent Concentration Allowance (ECA)
No dilution credit allowed, therefore ECA = C
- **Step 3.** ECA Multipliers – Since the number of effluent data points is less than ten, set coefficient of variation (CV) to 0.6.
LTA acute = ECA acute * ECA multiplier_{acute 99} (from SIP, Table 1) =
= (13)*(0.321) = 4.17 µg/L

LTA chronic = ECA chronic * ECA multiplier_{chronic 99} (from SIP, Table 1) =
= (9)*(0.527) = 4.743 µg/L
- **Step 4.** Select the lowest of the LTAs:
LTA = 4.17 µg/L
- **Step 5.** Average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL)
Sampling frequency less than four times a year => n = 4

AMEL_{aquatic life} = LTA * AMEL_{multiplier95} (from Table 2) = = (4.17)*(1.55) = 6.47 µg/L

MDEL_{aquatic life} = LTA * MDEL_{multiplier99} (from Table 2) = = (4.17)*(3.11) = 12.98 µg/L
- **Step 6.** Human Health Criteria
No criteria set for human health => not applicable
- **Step 7.**
AMEL = 6.47 µg/L
MDEL = 12.98 µg/L

D. Whole Effluent Toxicity

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters shall be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. These acute and chronic toxicity limits in the Basin Plan and the existing permit are necessary to ensure that this objective is protected.