State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-129

WASTE DISCHARGE REQUIREMENTS
for
EXXONMOBIL OIL CORPORATION
(Torrance Refinery, Torrance)
(NPDES NO. CA0055387)

The California Regional Water Quality Board, Los Angeles Region (Regional Board) finds:

1. ExxonMobil Oil Corporation (hereinafter ExxonMobil or discharger) discharges waste from its Torrance Refinery under waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit contained in Order No. 93-003 adopted by this Regional Board on January 25, 1993 (NPDES Permit No. CA0055387). Order No. 93-003 expired on January 25, 1998.

2. Effective June 1, 2001, the company changed its name to ExxonMobil Oil Corporation.

3. ExxonMobil Oil Corporation has filed a report of waste discharge and has applied for renewal of its waste discharge requirements and NPDES permit for discharge of wastes to surface waters.

Description of Facility

4. ExxonMobil Oil Corporation owns and operates the Torrance Refinery, a fully integrated refinery (SIC code 2911), located at 3700 West 190th Street, Torrance, California. The plant has an average daily crude throughput of 160,000 barrels per day. Crude oil is cracked and processed to produce gasoline, diesel fuel, and jet fuel. Sulfur, and petroleum coke are produced as by-products. The refinery processes include crude cracking, flashing, coking, hydrotreating, alkylation, reforming, and sulfur recovery.

   Figure 1 shows the location of the Torrance Refinery.

5. The Torrance Refinery is categorized as a cracking refinery as defined in 40 CFR 419.20.

6. The Regional Board and the United States Environmental Protection Agency (USEPA) have classified the Torrance Refinery as a major discharger.

Description of Waste Discharges

7. Wastes that might be discharged to surface waters include:

A. **Groundwater** generated from a groundwater remediation project as required by Board Cleanup and Abatement Order Nos. 89-136 and 95-116. Groundwater recovered from on-site and off-site extraction wells perforated in the Gardena Aquifer is treated to remove petroleum hydrocarbons prior to discharge to the Torrance Lateral. Treatment consists of a biological treatment system followed by carbon absorption.

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

		Concentration	
		Daily	Monthly
Constituent	Units	Maximum	Average
Flow (million gallons per day)	mgd	1.43	0.59
$BOD_5 20^oC$	mg/L	3	2.3
Suspended solids	mg/L	16	4.1
Oil and grease	mg/L	4.4	1.2
pH	Standard Unit	8.6	5.4
Benzene	µg/L	ND	
Toluene	µg/L	ND	
Ethylbenzene	µg/L	ND	
Xylene	µg/L	ND	

Treated groundwater is discharged to a concrete channel underneath Van Ness Avenue through **Discharge Serial No. 001** (Lat. 33°50'59", Long. 118°19'01"). The wastes then flow to the Los Angeles County Flood Control Channel 587, known locally as the Torrance Lateral, for about 5 miles east thence to Dominguez Channel, a water of the United States, near Avalon Boulevard, within the estuary. Treated groundwater is monitored separately (internal outfall 001a) before being commingled with any other waste streams. Figures 2 and 3 show the schematic process flow diagrams for the treated groundwater and wastewater respectively.

B. **Storm water runoff** from the refinery and tank farm areas (total 734 acres) is collected into a 24-million gallon unlined retention basin and a 12.6-million gallon reclamation basin. The water is then discharged to the County Sanitation Districts of Los Angeles County sanitary sewer. Discharge to Dominguez Channel (via Discharge Serial No. 001) only occurs when both basins are full and flooding of the facility is imminent. The refinery discharges storm water through a 36-inch Parshall flume to the Torrance Lateral and to Dominguez Channel. This flume has a nominal rating of 30,000 gpm. It is calibrated for a maximum flow of 27,776 gpm or 40 mgd. Storm water runoff is monitored separately (internal outfall 001b) before being commingled with any other waste streams. The last discharge to surface water occurred in 1998.

The results of the grab sampling reported in the Discharge Monitoring Report for February 1998 describes the effluent characteristics for the 1998 discharge as follows:

Constituent	Units	Concentration
Flow	mgd	10
Biochemical oxygen demand (BOD)	mg/L	22
Total suspended solids (TSS)	mg/L	139
Hardness	mg/L	82
Total recoverable petroleum hydrocarbons	mg/L	2.0
Xylene	µg/L	1.4
Copper	µg/L	60
Zinc	µg/L	200

Other priority pollutants such as volatile organics, pesticides, PCBs, base/neutral extractibles, and acid extractibles were reported as non-detected.

According to the Discharge Monitoring Report for February 1998, a total of approximately 30 million gallons of storm water were discharged to Dominguez Channel in three days. The maximum capacity of the storm water discharge system is 40 mgd.

C. All other wastes, including, but not limited to, process wastewater, reverse osmosis waste, boiler blowdown, cooling tower blowdown, and sanitary wastes are discharged to the sanitary sewer system.

D. Storm water from an approximately 120-acre urban catchment, located west of Prairie Avenue ("Pioneer Basin") drains onto the refinery and mixes with on-site storm water. This storm water contributes nearly 18% to 25% of the total storm water discharged by the refinery. Pioneer Basin is managed by the City of Torrance which directs off-site municipal storm water flow from Crenshaw Boulevard to the East Tank farm of the refinery property. The City of Torrance contends they have a common right to discharge rainwater through the refinery drainage system which they believe is the natural drainage for this area.

Groundwater Toxicity

8. The discharger has conducted a number of studies and investigations and contends that manganese or another common ion is the cause of toxicity observed in toxicity tests using *Ceriodaphnia dubia*. USEPA has reviewed the discharger's data and concluded that it is inconclusive. USEPA has required the discharger to do additional toxicity identification evaluation work to resolve the identity of the toxicant(s) in ExxonMobil's treated groundwater effluent.

USEPA Consent Decree

9. On November 30, 2000, the discharger and USEPA entered into a judicial consent decree, which provides an appropriate mechanism for resolving the discharger's chronic toxicity violations for the discharger's treated groundwater effluent. The judicial consent decree is attached as Attachment B. This consent decree requires additional toxicity identification evaluation (TIE), toxicity reduction evaluation (TRE), effluent dilution analysis, and an environmental risk assessment. Depending on the results of these studies, the discharger may be required to implement treatment measures designed to bring the discharge into compliance with chronic toxicity requirements. Alternatively, the discharger might demonstrate to Regional Board and USEPA's satisfaction that its chronic toxicity requirements should be amended in such a fashion that the discharger would no longer be in non-compliance. In this case, the discharger's waste discharge requirements would be revised accordingly.

10. Under the circumstances described in the Finding No. 8, the Regional Board views USEPA's judicial consent decree with the discharger as a fully adequate response to the discharger's continuing non-compliance with its chronic toxicity limits. The Regional Board concludes that the TIE and TRE work specified by the consent decree sufficiently addresses actions to be taken in the event of non-compliance with this permit's chronic toxicity limits. The Regional Board further notes that the USEPA's consent decree has assessed a civil penalty for the discharger's past violations of its chronic toxicity limits and a procedure to address the issue in the future. Accordingly, the Regional Board will not penalize the discharger further for chronic toxicity violations or take further enforcement action against the discharger for any chronic toxicity violations pending ExxonMobil's implementation of the portions of the consent decree pertaining to chronic toxicity, so long as ExxonMobil remains in full compliance with the relevant consent decree requirements.

Storm Water Management

11. Storm water runoff from the refinery, tank farms, off-site municipal storm water flow from Crenshaw Boulevard, and "Pioneer Basin" drains into the 24-million gallon retention basin and the 12.6-million gallon reclamation basin. The runoff is then discharged into the County Sanitation District of Los Angeles County sewer system. However, the retention facilities reach capacity during heavy rainfall periods (3 inches or more in 24 hours); in that case, the refinery releases the rainwater to the Torrance Lateral.

12. ExxonMobil Oil Corporation has implemented a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the general NPDES permit for storm water discharges associated with industrial activity [State Water Resources Control Board (State Board) Order No. 97-03-DWQ , NPDES Permit No. CAS000001]. The requirements contained in the general storm water permit are incorporated into this Order.

Applicable Plans, Policies, and Regulations

13. On June 13, 1994, The Regional Board adopted a revised *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan). The Basin Plan contains water quality objectives for, and lists the following beneficial uses for the Dominguez Channel Estuary:

    Existing: water contact recreation, non-contact water recreation, commercial and sport fishing, estuarine habitat, marine habitat, wildlife habitat, preservation of rare and endangered species, migration of aquatic organisms, and spawning, reproduction, or early development.

    Potential: navigation.

14. The State Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. The Thermal Plan contains temperature objectives for Dominguez Channel.

15. The State Board adopted a *Water Quality Control Policy for the Enclosed Bays and Estuaries of California* in May 1974 (Policy). The Policy contains narrative and numerical water quality objectives that are designed to prevent water quality degradation and protect beneficial uses in enclosed bays and estuaries.

    The Policy also lists principles of management that include the State Board's goal to phase out all discharges (excluding cooling waters), particularly industrial process water, to enclosed bays and estuaries as soon as practicable. The waste described above is not considered an industrial process wastewater.

16. Under 40 CFR 122.44(d), Water Quality *Standards and State Requirements*, "Limitations must control all pollutants or pollutant parameters (either conventional, non-conventional, or toxic pollutants), which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." Where numeric effluent limitations for a pollutant or pollutant parameter have not been established in the applicable state water quality control plan, 40 CFR Part 122.44(d)(1)(vi) specifies that water quality-based effluent limitations (WQBELs) may be set based on USEPA criteria, and may be supplemented where necessary by other relevant information to attain and maintain narrative water quality criteria, and to fully protect designated beneficial uses.

17. Effluent limitation guidelines requiring the application of best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT), were promulgated by the USEPA for some pollutants in this discharge. Effluent limitations for pollutants not subject to the USEPA effluent limitation guidelines are based on one of the following: best professional judgment (BPJ) of BPT, BCT or BAT; current plant performance; or water quality-based effluent limitations (WQBELs). The WQBELs are

based on the Basin Plan, other State plans and policies, or USEPA water quality criteria which are taken from the California Toxics Rule (CTR). These requirements, as they are met, will protect and maintain existing beneficial uses of the receiving water. The attached fact sheet for this Order includes specific bases for the effluent limitations.

18. 40 CFR §122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR §122.45(f)(2) allows the permit writer, at his discretion, to express limits in additional units (e.g., concentration units). The regulations mandates that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based effluent limits would ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, would discourage the reduction in treatment efficiency during low flow periods and would require proper operation of treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low flow periods and still meet its mass-based effluent limits.

However, the refinery's storm water discharge is of a sporadic nature, it is dependent on the amount of rainfall and the capacity of the facility's storage basins, and therefore, its discharge flow rate is unpredictable. Furthermore, considering the quality of rainwater, its release would less likely have an impact on the Dominguez Channel's beneficial uses or be a major contributor to the channel's bio-accumulative impairment. Therefore, this Order contains no mass-based limits for the storm water waste stream at this time.

19. On May 18, 2000, the USEPA promulgated numeric criteria for priority pollutants for the State of California [known as the *California Toxics Rule* (CTR) and codified as 40 CFR part 131.38]. On March 2, 2000, State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP was effective April 28, 2000 with respect to the priority pollutants criteria that were promulgated for California by the USEPA through the National Toxics Rule (NTR) and also with respect to the priority pollutant objectives established by the Regional Boards in their Basin Plans, with the exception of the provision on "alternate test procedures for individual discharges" that have been approved by the USEPA Regional Administrator. The "alternate test procedures" provision was effective on May 22, 2000. The SIP was effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR.

The CTR and SIP require dischargers to submit sufficient data to conduct the determination of priority pollutants requiring WQBELs and to calculate the effluent limitations. The CTR criteria for saltwater or human health for consumption of organisms, whichever is more stringent, were used to prescribe the effluent limitations in this Order to protect the beneficial uses of the Dominguez Channel estuary.

20. Effluent limitations and toxic effluent standards established pursuant to Sections 301, 304, 306, and 307 of the Federal Clean Water Act, and amendments thereto are applicable to the discharges herein.

21. Under 40 CFR 131.38(e)(6), the CTR authorizes the Regional Board to grant a compliance schedule for WQBELs based on CTR criteria for a period up to five years from the date of permit issuance, reissuance, or modification. The SIP provides a compliance schedule for WQBELs (up to five years) and for WQBELs based upon Total Maximum Daily Loads (TMDL) and Waste Load Allocations development (up to 15 years). However, the USEPA has not yet approved the longer of the two compliance schedules nor depromulgated the five year maximum in the CTR to allow for the 15 years in the SIP. Therefore, the more stringent provision, allowing a compliance schedule of five years, is the maximum duration authorized.

22. The Regional Board has found that there is not currently sufficient data to justify dilution credits, mixing zones, or TMDL-based compliance schedules.

23. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) in accordance with the California Water Code, Section 13389.

Watershed Management Approach and Total Maximum Daily Loads

24. The Regional Board has implemented the Watershed Management Approach to address water quality issues in the region. Watershed management may include diverse issues as defined by stakeholders to identify comprehensive solutions to protect, enhance, and restore water quality and beneficial uses. To achieve this goal, the watershed management approach integrates the Regional Board's many diverse programs, particularly Total Maximum Daily Loads (TMDLs), to better assess cumulative impacts of pollutants from all point and nonpoint sources to more efficiently develop watershed-specific solutions that balance the environmental and economic impacts within a watershed. The TMDLs will establish waste load allocations (WLAs) and load allocations (LAs) for point and nonpoint sources, and will result in achieving water quality standards for the waterbody.

25. Dominguez Channel begins at the border of El Segundo and Los Angeles Airport and flows through portions of Hawthorne, Torrance, Gardena, Carson, and Wilmington to the East Basin of the Los Angeles Harbor. The channel is concrete-lined above the estuary (Vermont Avenue). Dominguez Channel receives discharges from highly-developed and industrialized areas.

26. The Dominguez Channel estuary is classified as impaired in the California State Board's 1998 303(d) List of Impaired Water Bodies. The pollutants of concern, detected in the channel water, sediment, and in the fish tissue are listed below:

In sediment: chromium, lead, zinc, DDT, and PAHs.

In fish tissue: lead, benthic community effects, ChemA (refers to the sum of aldrin, dieldrin,

chlordane, endrin, heptachlor, heptachlor epoxide, HCH (including lindane), endosulfan, and toxaphene), DDT, and PCBs.

In the water column: copper, lead, ammonia, and coliform.

Known and/or suspected sources of pollution include historical deposits of DDT and PCBs in sediment, discharges and/or spills from industrial facilities, leaching of contaminated groundwater, and urban runoff.

In addition, according to the attached ambient monitoring data for Dominguez Channel (performed at Vermont Avenue) obtained under the Los Angeles County storm water program, elevated levels of heavy metals and bacteria are present in the Dominguez Channel.

The TMDL development for Dominguez Channel is scheduled for Fiscal Year 2003 beginning with coliform. The TMDL development for the remaining of 303(d)-listed pollutants is not scheduled within the life of this permit. The TMDLs will include WLAs for the 303(d)-listed pollutants. Upon completion of TMDL, the Board will adopt a WQBEL consistent with the corresponding WLA. If authorized, a time schedule may be included in a revised permit to require compliance with the final WQBEL. The TMDL development for the toxic pollutants in Dominguez Channel will be scheduled beyond the life of this permit.

27. To prevent further degradation of the water quality of Dominguez Channel and to protect its beneficial uses, mixing zones and dilution credits were not considered in derivation of the effluent limitations in this Order. This determination is based on the following:

- Dilution is not considered in a reasonable potential analysis (RPA) under the SIP.

- The discharge may contain the 303(d)-listed pollutants that are bioaccumulative. These pollutants, when exceeding water criteria within the mixing zone, can potentially result in tissue contamination of organisms directly or indirectly through contamination of bed sediments, with subsequent incorporation into the food chain. The SIP, section 1.4.2.2.B. states that the "Regional Board shall deny or significantly limit a mixing zone and dilution credit as necessary to protect beneficial uses…" It continues that "such situations may exist based upon the quality of the discharge… or the overall discharge environment (including … potential for bioaccumulation)."

  The discharger may provide the information needed by the Regional Board to make a determination on allowing a mixing zone, including the calculations for deriving the appropriate receiving water and effluent flows, and/or the results of a mixing zone study. Upon receiving such data, the Regional Board will re-evaluate its determination for the need to incorporate dilution credits and will revise the effluent limitations as necessary.

Reasonable Potential Analysis

28. 40 CFR 122.44(d)(1)(i) and (ii) require that each pollutant be analyzed with respect to its reasonable potential when determining whether a discharge causes, has the reasonable potential to cause, or contributes to the exceedance of a receiving water quality objective/criterion. This is done by conducting a RPA for each pollutant. In performing the RPA, the permitting authority uses procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, and the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity). Because of effluent variability, there is always some degree of uncertainty in determining an effluent's impact on the receiving water. The SIP addresses this issue by suggesting the use of a statistical approach.

29. Section 1.3 of the SIP requires that a limit be imposed for a toxic pollutant if (1) the maximum effluent concentration (MEC) is greater than the most stringent applicable CTR criteria, (2) the background concentration is greater than the CTR criteria, or (3) other information is available.

30. The ambient monitoring data for Dominguez Channel (performed at Vermont Avenue), obtained under the Los Angeles County storm water program and conducted from 1987 through 1994 for Dominguez Channel in storm events and in dry weather conditions, confirmed the elevated concentrations of heavy metals and bacteria that exceed the CTR water quality criteria for saltwater and Basin Plan criterion, respectively. Staff presented this information in a meeting with the Dominguez Channel Watershed Advisory Council (DCWAC) on August 1, 2001.

31. RPAs were performed for each of 126 priority pollutants for which effluent data were submitted. For pollutants that lacked effluent data, interim requirements, as described below, were assigned. For these pollutants, the discharger must submit to this Regional Board effluent concentration data, so that complete reasonable potential analyses can be performed and the need for effluent limitations can be determined. Pollutants that lacked sufficient data to do RPAs are subject to interim monitoring requirements.

32. Interim requirements were developed according to the following:

- Interim requirements in the form of monitoring were prescribed for constituents with no monitoring data or with "non-detectable" (ND) data, where all of the reported detection limits were greater than or equal to the CTR criterion.

- No interim monitoring requirements or limits were prescribed for constituents whose highest monitoring data points or lowest detection limits (in case of ND) were below their respective CTR criterion.

33. Until the TMDLs and the corresponding WQBELs are adopted by the Regional Board, State and Federal antibacksliding and antidegradation policies require the Regional Board to ensure that the water body will not be further degraded. Antibacksliding provisions are contained in Sections 303(d)(4) and 402(o) of the CWA, and in 40 CFR Part 122.44(l). Those provisions require a reissued permit to be as stringent as the

previous permit with some exceptions. Section 402(o) establishes express statutory language prohibiting the backsliding of effluent limitations. It consists of three parts:

1. Section 402(o)(1) prohibits (subject to exceptions in section 303(d)(4) and/or 402(o)(2)) the relaxation of effluent limitations for two situations:

    a. When a permittee seeks to revise a technology-based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent, and

    b. When a permittee seeks relaxation of an effluent limitation which is based on a State treatment standard or water quality standard.

2. Section 402(o)(2) outlines exceptions to the prohibition against establishment of less stringent effluent limitations. It provided that establishing less stringent limits may be allowed where:

    a. There have been material and substantial alterations or additions to the permitted facility which justify the application of less stringent effluent limitations;

    b. New information (other than revised regulations, guidance, or test methods) is available that was not available when the permit was issued, which would have justified less stringent effluent limits;

    c. Technical mistakes or mistaken interpretations of the law were made in issuing the permit under Section 402(a)(1)(b);

    d. Good cause exists due to events beyond the permittee's control (e.g., acts of God) for which there is no reasonably available remedy;

    e. The permit has been modified under 40 CFR 122.62, or a variance has been granted; or

    f. The permittee has installed and properly operated and maintained required treatment facilities, but still has been unable to meet the permit limitations (relaxation may only be allowed to the treatment levels actually achieved).

    Although the statute identified six exceptions where effluent limitations may be relaxed, the language specifically stated that exceptions "c" and "e" (as listed above) do not apply to water quality-based effluent limitations. Thus, exceptions c & e would only apply to technology-based effluent limitations derived using best professional judgement.

3. Section 402(o)(3) prohibits the application of less stringent effluent limitations in all cases if a revised effluent limitation would result in a violation of applicable effluent limitation guidelines or water quality standards. Thus, even if any of the anti-

backsliding exceptions outlined in either the statute or regulations are applicable and mat, Section 402(o)(3) acts as a floor and restricts the extent to which effluent limitations may be relaxed. This requirement affirms existing provisions of the CWA that require limits, standards, and conditions to ensure compliance with applicable technology-based limits and water quality standards.

As such, water quality objectives/criteria specified in the Basin Plan, the CTR, or the effluent limits from the existing permit were used to set the limits for pollutants that are believed to be present in the effluent and have reasonable potential of exceeding the water quality criteria. Other pollutants may only be monitored to gather data to be used in RPAs for future permit renewals and updates.

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 criterion and/or Basin Plan objective, and (2) mass emission based on the maximum discharge flow rate and concentration limitation.

For 303(d)-listed non-priority pollutants (ammonia and coliform), water quality objectives developed and specified in the Basin Plan were prescribed as effluent limitations.

Notification

34. The Regional Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

35. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

36. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act or amendments thereto, and shall take effect at the end of fifty days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.

37. Pursuant to California Water Code Section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P. O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order.

IT IS HEREBY ORDERED that ExxonMobil Oil Corporation, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

I. Discharge Requirements

A. Discharge Prohibition

1. Waste discharge shall be limited to storm water runoff and/or treated groundwater only, as proposed.

2. Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain system, tributaries to Dominguez Channel, or waters of the State are prohibited.

B. Effluent Limitations

1. The discharge of effluent from the following outfalls containing constituents in excess of the following limits is prohibited:

   a. Outfall 001a -Treated GroundWater:

Constituent	Discharge Limitations[1] Monthly Average[2]		Daily Maximum	
	C (mg/L)	**m (lbs/day)**	**C (mg/L)**	**m (lbs/day)**
Oil and grease	10	250.2	15	375.3
Settleable solids	0.1(ml/L)	---	0.2(ml/L)	---
Suspended solids	50	1251.1	75	1,876.5
$BOD_5 20^oC$	20	500.4	30	750.6
Turbidity	50(NTU)	---	75(NTU)	---
Residual chlorine	---	---	0.1	2.5

Constituent	Discharge Limitations[1] Monthly Average[2]		Daily Maximum	
	C (µg/L)	**m (lbs/day)**	**C (µg/L)**	**m (lbs/day)**
Chromium (VI)	41.1	1.03	82.5	2.06
Arsenic	29.4	0.736	59.0	1.48
Copper[3]	2.88	0.0721	5.77	0.144
Benzene[4]	---	---	1.0	0.025

Constituent	Discharge Limitations[1] Monthly Average[2]		Daily Maximum	
Toluene[4]	---	---	10	0.25
Ethylbenzene[4]	---	---	10	0.25
Xylene[4]	---	---	10	0.25
Naphthalene[4]	0.031	7.75E-4	0.031	7.75E-4
Lead[3]	6.96	0.174	13.96	0.349
Zinc[3]	47.3	1.18	94.9	2.37
Chronic Toxicity[5]	1.0 (TU_c)			

b. Outfall 001b - Storm Water Runoff:

Constituent	Discharge Limitations Daily Maximum
	C (mg/L)
Oil and grease	15
TOC	110
Total Chromium	0.60
Fecal Coliform[6]	see footnote
	C (µg/L)
Xylene[4]	10
Chromium (VI)[4]	82.5
Copper[3]	5.77
Lead[3]	13.96
Zinc[3]	94.9

1 The mass emission for a pollutant was calculated based on a discharge flow rate of 3 mgd for treated groundwater. "C" stands for concentration, and "m" stands for mass emission.

2 The monthly average concentration shall be the arithmetic average of all the values of daily concentrations calculated using the results of analyses of all samples collected during the month. If only one sample is taken within that month, compliance shall be based on this sample result.

3 The limits prescribed in section C under "Interim Limitations" apply to these constituents until August 10, 2006. Metal limits pertain to total recoverable concentrations.

4 Based on Order No. 93-003.

5 The discharger shall comply with, and the chronic toxicity of treated groundwater effluent from Outfall 001a shall be governed by the terms of Section VI.E. of the consent decree (Attachment B, paragraphs 36 through 56). The numeric limit for chronic toxicity described in Section I.B.1.a shall apply only after completion of these obligations under the consent decree. Copies of all reports submitted to the USEPA pursuant to Section VI.E. of the consent decree shall be forwarded to the Executive Officer. For purposes of this permit, the Executive Officer shall have the opportunity to comment and require modifications or amendments in proposals, to the same degree as the USEPA, on all reports submitted after the effective date of this permit.

6 Fecal coliform concentration shall not exceed a log mean of 200 MPN/100 ml (based on a minimum of not less than four samples for consecutive discharge days), nor shall more than 10 percent of the total samples during the consecutive discharge days exceed 400 MPN/100ml.

c. Outfall 001 – combined waste streams:

The discharge of an effluent from Discharge Serial No. 001 containing constituents violating the following limits is prohibited:

1. A pH value between 6.5 and 8.5 standard units.

2. A temperature value of up to 100^{o}F.

3. Toxicity limitations:

a. The acute toxicity of the effluent shall be such that (i) the average survival in undiluted effluent for any 3 consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and (ii) no single test shall result in less than 70% survival.

b. If either of the above requirements specified in Section 3.a. is not met, and the discharge sampled at Outfall 001 consisted only of groundwater, the discharger shall conduct six additional tests of groundwater over a six-week period. The discharger shall ensure that they receive the results of a failing acute toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 3 business days of the receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than 90% survival, then the discharger shall begin a Toxicity Identification Evaluation (TIE) on the groundwater.

   If any two out of the initial test and the additional six acute toxicity bioassay tests result in less than 70% survival, the discharger shall immediately begin a TIE.

c. If either of the above requirements specified in Section 3.a. is not met, and the discharge at Outfall 001 consists of only storm water, or a mixture of storm water and groundwater, the discharger shall begin a TIE using discharged water kept in reserve for this purpose. If the toxicity is complex, all phases including confirmatory phases of TIE may not be possible with reserved waters. However, the TIE shall include all reasonable steps to identify the sources of toxicity. The TIE will be continued with discharged waters from the next discharge event consisting of storm water or a combination of storm water and ground water. Once the sources are identified, the discharger shall take all reasonable steps to reduce toxicity to meet the objective.

d. The discharger shall conduct acute toxicity monitoring as specified in Monitoring and Reporting Program No. 5742.

C. Interim Limitations

ExxonMobil may not be able to achieve immediate compliance with the CTR-based limitations for priority toxic pollutants. Data submitted in previous self monitoring reports indicate that these constituents either have been detected in the effluent at a concentration greater than the new limit proposed in this Order, or have been reported “ND” with a method detection level of higher than the new limits proposed in this Order. On June 12, 2001, ExxonMobil submitted a workplan for attainment of limits for copper, lead, and zinc based on the CTR. This workplan specifies various tasks and duration for each task necessary for ExxonMobil to achieve compliance with the final CTR limits for lead, copper, and zinc. ExxonMobil requested seven years to achieve compliance. The SIP allows compliance schedules and inclusion of interim limits within an NPDES permit for priority pollutants if the limit for the priority pollutant is CTR-based. ExxonMobil is

required to comply with the final WQBELs by August 10, 2006. In the mean time, ExxonMobil shall comply with the following interim limitations. These 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. For ND data points, half of their respective MDL were used in calculations.

Interim Effluent Limitations for Treated Groundwater:

	Discharge Limitations			
	Monthly Average		Daily Maximum	
Constituent	C(μg/L)	m(lbs/day)	C(μg/L)	m(lbs/day)
Copper	103	2.58	256	6.41
Lead	56.2	1.42	99.4	2.50
Zinc	94	2.35	136	3.40

Interim Effluent Limitations for Storm water:

	Discharge Limitations
	Daily Maximum
Constituent	C(μg/L)
Copper	74
Lead	279
Zinc	495

D. Receiving Water Limitations

1. The discharge shall not cause any of the following conditions to exist in concentrations that cause nuisance or adversely effect beneficial uses of the receiving waters at any time:

   a. Floating, suspended particulate matter or foam;

   b. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   c. Visible, floating, suspended or deposited oil or other products of petroleum origin;

   d. Bottom deposits or aquatic growths; or,

   e. Toxic or other deleterious substances to be present in concentrations or quantities which cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. No discharge shall cause a surface water temperature rise greater than $5^{o}F$ above the natural temperature of the receiving waters at any time or place.

3. The discharge shall not cause the following limits to be exceeded in the receiving waters at any place within one foot of the water surface:

   a. The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units;
   b. Dissolved oxygen shall not be less than 5.0 mg/L anytime, and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation;

   c. Dissolved sulfide shall not be greater than 0.1 mg/L;

   d. Total ammonia (as N) shall not exceed concentrations specified in the Basin Plan (June 13, 1994, Attachment H), subject to the following conditions:

      The discharger will have until June 13, 2002, to (1) make the necessary adjustments and/or improvements to meet these objectives, or (2) conduct studies leading to an approved less-restrictive site-specific objective for ammonia. If it is determined that there is an immediate threat or impairment of beneficial uses due to ammonia, the objectives in Attachment H shall apply, and the timing of compliance will be determined on a case-by-case basis by the Executive Officer.

4. The discharge shall not cause chronic toxicity in the receiving water.

5. If the chronic toxicity in the receiving water downstream of the discharge, at a monitoring station specified in MRP No. 5742, exceeds 1.0 TU_c in a critical life stage test, and the toxicity cannot be attributed to upstream toxicity assessed by the discharger, the discharger shall conduct six additional tests, approximately every 7 days, over a six-week period. The samples shall be collected and the tests initiated no less than 7 days apart. If the toxicity in the downstream samples in any three out of the initial tests and the six accelerated tests exceeds 1.0 TU_c, the Discharger shall implement the initial Investigation TRE Work plan as specified in MRP No. 5742. The first step in the initial Investigation will be a study that includes receiving water and effluent discharge and is conducted in accordance with EPA's Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, August 1995,(EPA/600/R-95/136). If the effluent does not cause or contribute to the downstream chronic toxicity, then a report on this testing shall be submitted to the Board and the TRE will be considered to be completed. Routine testing in accordance with MRP No. 5742 shall be continued thereafter.

6. If the result of chronic toxicity testing upstream is greater than the results of the testing downstream, and the result of the effluent chronic toxicity test does not exceed 1.0 TU_c, then the initial Investigation TRE Workplan does not need to be implemented.

7. The discharge shall not cause a violation of any applicable water quality standards for

receiving waters adopted by the Regional Board or State Board. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Board will revise and modify this Order in accordance with such standards.

II. Requirements

1. The goal of the PMP is to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the WQBEL(s). The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Board:

    a. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio- uptake sampling;

    b. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the treatment units for Outfall 001a and 001b, as appropriate.

    c. Submittal of a control strategy designed to maintain concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

    d. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy;

    e. An annual status report that shall be sent to the Regional Board including:

    - All PMP monitoring results for the previous year;
    - A list of potential sources of the reportable priority pollutant(s);
    - A summary of all actions undertaken pursuant to the control strategy; and
    - A description of corrective and preventive actions to be taken in the following year to maintain/achieve compliance.

    The discharger shall conduct the PMP actions as identified in subparagraphs a through d, above, commencing as soon practical after a priority pollutant is detected above its effluent limitation. However, the PMP is not required if the discharger takes additional samples or had conducted an accelerated monitoring program during the period of discharge and the analytical results disputed the initial excursion and showed full compliance with the effluent limitation.

2. <u>Preparation of an Initial Investigation TRE Workplan</u>

    The discharger shall submit a copy of the initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Board for approval within 90 days of the effective date of this permit. If the Regional Board Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The discharger shall use EPA manuals EPA/600/2-88/070 (industrial) or

EPA/833B-99/002 (municipal) as guidance. This workplan shall describe the steps the discharger intends to follow if toxicity is detected, and should include, at a minimum:

i A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;

ii A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and,

iii If a toxicity identification evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or an outside contractor)

3. The discharger shall submit within 90 days of the effective date of this Order for the Executive Officer's approval an updated Storm Water Pollution Prevention Plan (SWPPP) that describes site-specific management practices for minimizing storm water runoff from being contaminated, and for preventing contaminated storm water runoff from being discharged directly to waters of the State. The SWPPP is not required to address or cover management practices for offsite areas, such as the City of Torrance's Pioneer Basin.

   The SWPPP shall include Best Management Practices (BMP's) which are implemented to prevent contaminants and hazardous materials from being discharged to waters of the State. The BMP's shall be consistent with the requirements of 40 CFR 125, Subpart K, and the general guidance contained in the *NPDES Best Management Guidance Document*, USEPA Report No. 600/9-79-045, December 1979 (revised June 1981). In particular, a risk assessment of each area identified by the discharger shall be performed to determine the potential of hazardous waste/material discharge to surface waters.
   The SWPPP shall cover all areas of the refinery and shall include an updated drainage map of the facility. The discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge points; describe the activities in each area and the potential for contamination of storm water runoff and the discharge of hazardous waste/material; and address the feasibility for containment, segregation, or treatment of the storm water. The discharger shall begin implementing SWPPP within 10 days of approval by the Executive Officer. The SWPPP shall be reviewed annually and updated information shall be submitted within 30 days of revision.

   The SWPPP shall incorporate, by reference, the appropriate elements of other relevant and related program requirements (i.e., Spill Prevention Control and Countermeasures SPCC) plans under Section 311 of the Clean Water Act (CWA) addressing storm water management.

4. Pursuant to the requirements of 40 CFR 122.42(a), the discharger must notify the Board as soon as it knows or has reason to believe (1) that it has begun or expected to begin, use or manufacture a toxic pollutant not reported in the permit application, or (2) a discharge of toxic pollutant not limited by this Order has occurred, or will occur, in concentrations that exceed the specified limits in 40 CFR 122.42(a).

III. Provisions

1. This Order Includes the attached "Standard Provisions and General Monitoring and Reporting Requirements" (Attachment N). If there is any conflict between provisions stated hereinbefore and attached "Standard Provisions", those stated hereinbefore prevail.

2. This Order includes the attached Monitoring and Reporting Program. If there is any conflict between provisions stated in the Monitoring and Reporting Program and the "Standard Provisions", those provisions stated in the former prevail.

3. This Order includes the attached "Storm Water Pollution Prevention Plan Requirements" (Attachment A).

4. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

5. The discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to their storm drain systems.

6. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.

7. The discharger shall comply with all applicable effluent limitations, national standards of performance, toxic, and all federal regulations established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 316, 403, and 405 of the Federal Clean Water Act and amendments thereto.

IV. Reopeners

1. This Order may be reopened and modified, in accordance with SIP Section 2.2.2.A, to incorporate new limits based on future reasonable potential analysis to be conducted, upon completion of the collection of additional data by the discharger.

2. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.

3. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new MLs.

4. This Order may be reopened and modified, to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of the Ammonia, nickel, and mercury objective, or the adoption of a TMDL for Dominguez Channel Watershed.

5. This Order may be reopened upon the submission by the discharger, of adequate information, as determined by the Regional Board, to provide for dilution credits or a mixing zone, as may be appropriate.

6. This Order may be reopened and modified, to revise the toxicity language once that language becomes standardized.

7. This Order may also be reopened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this order and permit, endangerment to human health or the environment resulting from the permitted activity.

V. Expiration Date

This Order expires on August 10, 2006

The discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

VI. Rescission

Order No. 93-003, adopted by this Regional Board on January 25, 1993, is hereby rescinded except for enforcement purposes.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on September 19, 2001.

Dennis A. Dickerson
Executive Officer