CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 72-82

WASTE DISCHARGE REQUIREMENTS
FOR
STANDARD OIL COMPANY OF CALIFORNIA

The California Regional Water Quality Control Board, San Francisco Bay Region finds:

1. Standard Oil Company of California discharges 120 mgd of wastewater from the Company's 230,000 barrel per day petroleum refinery into San Pablo Canal near Herman Slough and then into San Pablo Bay. The discharge consists of approximately 20 mgd of process water comingled with 100 mgd of once through cooling water prior to discharge.

2. The Board adopted an Interim Water Quality Control Plan for the San Francisco Bay Basin in June 1971.

3. The beneficial uses of San Pablo Bay as set forth in the Interim Basin Plan include:

   a. industrial water supply
   b. recreation
   c. esthetic enjoyment
   d. preservation and enhancement of fish and wildlife
   e. navigation

4. The requirements hereinafter prescribed are necessary to implement the Basin Plan for San Francisco Bay, protect the beneficial uses of San Pablo Bay and prevent nuisance.

5. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for Standard Oil Company.

6. The Board in a public meeting heard and considered comments pertaining to the discharge and the requirements prescribed herein.

IT IS HEREBY ORDERED, Standard Oil Company shall comply with the following:

A. Discharge Specifications

1. Neither the treatment nor the discharge shall create a nuisance as defined in Section 13050(m) of the California Water Code.

2. Representative samples of the discharge shall not contain constituents in excess of the following limits:

Constituent	Units	Mean	Maximum
Settleable matter	ml/l/hr	0.1	0.5
5-day 20°C BOD	lbs/day	5,000	7,500
Ammonia (N)	lbs/day	3,300	6,600
Phenol	lbs/day	20	40
Total Sulfide	lbs/day	10	20
Total Chromium	lbs/day	28	42
Oil and Grease	lbs/day	4,000	8,000
Zinc	lbs/day	75	110

3. The discharge shall not have a pH of less than 7.0 nor greater than 8.5; or 6.5 to 8.5 when the natural ambient value is as low as 6.5.

B. Discharge Specifications - Process wastewaters (excluding once through Cooling Water)

1. Representative samples of the process wastewater shall not contain constituents in excess of the following limits:

Constituent	Units	Mean	Maximum
Toxicity Emission Rate 1/	(Toxicity Units) (mgd)	9.4	23.5

2. The process wastewater shall receive an initial dilution such that the concentration of waste in the receiving waters is less than 1/20 of the 96-hour median tolerance limit (TLm) of the waste. If the TLm exceeds 100 percent this requirement does not apply.

1/ The limits on toxicity emission rates will not apply if the mean toxicity concentration is less than 0.59 toxicity units and the maximum toxicity concentration is less than 0.87 toxicity units.

C. Discharge Specifications - Receiving Waters

1. The discharge of waste shall not cause:

a. Floating, suspended, or deposited macroscopic particulate matter or foam in waters of the State at any place;

b. Bottom deposits or aquatic growths at any place;

c. Alteration of turbidity or apparent color beyond present natural background levels in waters of the State at any place;

d. Visible, floating, suspended or deposited oil or products of petroleum origin in waters of the State at any place;

e. Tidal waters of the State to exceed the following limits of quality at any place more than 100 feet from the point of discharge:

Dissolved oxygen	Minimum - 5.0 mg/l Annual median - 80% saturation When natural factors cause lesser concentrations, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
Toxic or Other Deleterious Substances	None shall be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife or waterfowl or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
Undissociated ammonium hydroxide	Maximum - 0.2 mg/l

C. Provisions

1. Mean values shall be based on the running average of samples representative of the discharge over any 30 day period.

2. Standard Oil Company shall immediately take all possible measures to achieve compliance with the discharge specifications in this order and shall submit to the California Regional Water Quality Control Board, San Francisco Bay Region, by December 15, 1972, a report delineating the immediate measures that have been or will be taken.

3. Standard Oil Company shall comply with the following time schedule to assure compliance with the requirements of this order:

Task	Completion Date	Report of Compliance Due
Develop a work plan to meet discharge requirements and to study the reduction of heavy metals used for cooling water treatment	December 1, 1972	December 15, 1972
Develop a conceptual plan and detailed time schedule for completion of final plans, award of construction contracts, completion of construction, and compliance with requirements	December 1, 1973	December 15, 1973

4. The requirements prescribed by this order amend the requirements prescribed by Resolution No. 70-99 adopted by the Board on December 22, 1970, which shall remain in full force and effect until the date Standard Oil Company is to be in full compliance with these requirements pursuant to a complete time schedule to be adopted by this Board.

5. This order includes items 1, 6, 7, and 8 of the attached "Reporting Requirements" dated September 11, 1972.

6. This order includes items numbered 1 through 6 of the attached "Notifications" dated January 6, 1970.

CERTIFICATION

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the Regional Board, on September 26, 1972.

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Executive Officer

DEFINITION OF TOXICITY TERMINOLOGY

a. Toxicity Concentration (Tc)

Expressed in Tocicity Units (tu)

$$Tc\ (tu) = \frac{100}{96\text{-hr. } TLm\%}$$

b. Median Tolerance Limit (TLm%)

The TLm shall be determined by static or continuous flow bioassay techniques using standard test species.

When it is not possible to measure the 96-hr. TLm due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$Tc\ (tu) = \frac{\log (100 - S)}{1.7}$$

S = percentage survival in 100% waste

c. Toxicity Emission Rate (TER)

Is the product of the effluent Toxicity Concentration (Tc) and the waste flow rate expressed as mgd.

TER (tu x mgd) = Tc (tu) x Waste Flow Rate (mgd)