

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

FACT SHEET
WASTE DISCHARGE REQUIREMENTS
for
TRW Inc. (Hawthorne Site)
(NPDES NO. CA0063916)

NPDES Permit No.: CA0063916
Public Notice No.: 01-049

FACILITY ADDRESS

TRW Inc. (Hawthorn Site)
14520 Aviation Boulevard,
Hawthorne, California

FACILITY MAILING ADDRESS

TRW Inc.
1900 Richmond Road,
Cleveland, Ohio 44124

Contact: Mr. Joseph Kwan
Telephone: (216) 291-7752

I. PUBLIC PARTICIPATION

A. Public Comment Period

By September 25, 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 the waste discharge requirements (WDRs) and National Pollutant Elimination System (NPDES) permit to TRW Inc. (TRW). The WDRs and NPDES permit regulate discharges from TRW. The staff determinations are tentative. Interested persons are invited to submit written comments upon these 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 Regional Board, written comments should be received by 5:00 p.m. on October 29, 2001.

B. 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, time and place:

Date: November 29, 2001
Time: 9:00 a.m.
Location: Metropolitan Water District of Southern California,
Board Room,
700 North Alameda Street,
Los Angeles, California 90012

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.

C. Waste Discharge Requirement Appeals

Any aggrieved person may petition the State Water Resources Control Board (State Board) to review the decision of the Regional Board regarding the final WDRs. The 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

D. Information and Copying

Copies of the tentative WDRs and NPDES permit, report of waste discharge, fact sheet, comments received, and other documents relative to the tentative WDRs are available at the Regional Board office. Inspection and/or copying of these documents are by appointment scheduled between 8:00 am and 4:50 p.m., Monday through Friday, excluding holidays. For appointment please call the Regional Board at (213) 576-6600.

E. Register of Interested Persons

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

II. PURPOSE OF ORDER

TRW discharges wastewater to Dominguez Channel, a water of the United States. Wastes discharged from TRW are regulated by WDRs and NPDES permit contained in Board Order No. 96-060 (NPDES Permit No. CA0063916). Order No. 96-060 expired on June 10, 2001. On June 27, 2001, TRW filed a report of waste discharge and has applied for renewal of its WDRs and NPDES permit. The tentative order is the reissuance of the WDRs and NPDES permit for discharges from TRW.

III. FACILITY AND WASTE DISCAHRGE DESCRIPTION

TRW is located at 14520 Aviation Boulevard, Hawthorne, California. The TRW site was used primarily for manufacturing semiconductors from 1956 to 1988 and for designing, testing, and manufacturing electronics components until 1991. The manufacturing process included doping, etching, plating, and the use of solvents for cleaning electronic components. During the routine handling of these chemicals, accidental leaks and spills including mineral oil, fuel oil, and spent solvents occurred. In addition, spent solvents were stored in underground storage tanks at the site. The manufacturing facilities were removed from the site in 1994, and the site is currently occupied by several hotels, credit union facilities, and a self-storage complex. Groundwater contamination has necessitated the installation of a groundwater cleanup facility at the site. TRW has been working with this Regional Board since 1997 to perform the necessary remediation at the site.

TRW discharges up to 432,000 gallons per day (0.432 million gallons per day, MGD) of treated groundwater produced from the cleanup of solvents contamination. TRW proposes to add to the present waste stream a non-process wastewater generated from the operation of an off-gas treatment system installed as part of the groundwater treatment system. This permit covers both waste streams (treated groundwater and non-process wastewater) allowing a maximum flow rate of 0.432 MGD. The combined waste flows into a storm drain located at Latitude 33° 54' 00" and Longitude 118° 22' 30" (Discharge Serial No. 001). The wastewater flows through the storm drain system to Dominguez Channel, a water of the United States, above the Dominguez Channel estuary.

Data submitted by TRW indicate that the groundwater is contaminated with trichloroethylene, 1,1,1-trichloroethane, and other organic compounds.

The groundwater treatment system includes filtration, air stripping, and carbon adsorption.

A sanitary sewer line is not located in the vicinity of the treatment system. This requires that all wastewater included in the permit be discharged to the storm drain.

The annual monitoring report for 2000 describes the effluent characteristics as follows

<u>Constituent</u>	<u>Units</u>	<u>Daily Maximum Value</u>
pH	Standard Unit	8.4
Temperature	°F	73
BOD ₅ 20 °C	mg/L	10
Total suspended solids	mg/L	ND
Oil & grease	mg/L	ND
Turbidity	NTU	3.9

IV. APPLICABLE PLANS, POLICIES, AND REGULATIONS

- A. The Federal Clean Water Act (CWA).
- B. *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) adopted by the Regional Board on June 13, 1994. The Basin Plan contains water quality objectives and lists the following beneficial uses for Dominguez Channel:
- 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.
- C. *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) adopted by the State Board on May 18, 1972 and amended in September 18, 1975.
- D. *The California Toxics Rule* (CTR) promulgated by the United States Environmental Protection Agency (USEPA) on May 18, 2000, and *The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP) adopted by the State Board on March 2, 2000. 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.
- E. Valid existing WDRs contained in Board Order No. 94-014, adopted by the Regional Board on February 28, 1994. Section 402(o) of the Clean Water Act and Title 40 Code of Federal Regulations (40 CFR) Section 122.44(l) require that water-quality based effluent limits in re-issued permits must be at least as stringent as in the existing permit (anti-backsliding).

V. REGULATORY BASIS FOR EFFLUENT LIMITATIONS

- A. Water Quality-Based Effluent Limitations (WQBELs)

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.

B. 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, 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.

The Dominguez Channel is classified as impaired in the California State Board's 1998 303(d) List of Impaired Water Bodies (Table 1). 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 polynuclear aromatic hydrocarbons (PAHs).

In fish tissue: lead, benthic community effects, Chema (refers to the sum of aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, Hydrochlorocyclohexane (HCH), endosulfan, and toxaphene), DDT, and polychlorinated byphenyls (PCBs).

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

Reasonable Potential Analysis (RPA) was performed for the conventional/non-conventional and toxic pollutants. For pollutants for which no monitoring data were submitted, interim monitoring has been prescribed. The interim monitoring program will assist in performing RPA and to determine whether CTR-based effluent limitations are necessary for these constituents. For most of the toxic pollutants for which RPA was triggered, discharge limitations prescribed in this Order were selected from the Order No. 96-060, as they were more stringent than the CTR-based effluent limitations. However, for the following pollutants, CTR-based effluent limitations calculations resulted in more stringent limitations than those prescribed in the Order No. 96-060:

1,1-dichloroethylene, lead, silver, mercury, copper, zinc, chromium (VI), cadmium, and selenium.

The limitations for the above pollutants were calculated according to the procedures outlined in the SIP.

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 deriving the effluent limitations in this Order. This determination is based on the following:

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).”

VI. SAMPLE LIMITATION CALCULATION FOR A CTR POLLUTANT

Constituent: Zinc

- SIP (1.3) RPA – Zinc is on the effluent limitations list in Order No. 96-060. It is also on the 303(d) List for Dominguez Channel. 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

- Adjust Criterion – Convert from dissolved fraction to total recoverable
ECA chronic = 120 µg/L ÷ 0.986 (conversion factor) = 122.7 µg/L
ECA acute = 120 µg/L ÷ 0.978 (conversion factor) = 121.7 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) =
= (122.7)*(0.321) = 39.4 µg/L

LTA chronic = ECA chronic * ECA multiplier_{chronic 99} (from SIP, Table 1) =
= (121.7)*(0.527) = 64.1 µg/L

- Step 4. Select the lowest of the LTAs:
LTA = 39.4 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) = (39.4)*(1.55) = 61.1 µg/L
MDEL_{aquatic life} = LTA * MDEL multiplier₉₉ (from Table 2) = (39.4)*(3.11) = 122.5 µg/L

- Step 6. Human Health Criteria
No criteria set for human health => not applicable
- Step 7.
AMEL = 61.1 µg/L
MDEL = 122.5 µg/L

Acute and chronic toxicity limitations and monitoring were prescribed to ensure that the facility's continuous discharge does not contribute to toxicity in the Dominguez Channel.

Table 1. Dominguez Channel and LA Harbor Consolidated Slip* 1998 303(d) Listings

Pollutant/Stressor	Type of Impairment			Basis of Listing	TMDL Consent Decree Deadline	Discharger is likely a significant contributor
	Water	Sediment	Biota/Tissue			
Aldrin			X	Toxic Substances Monitoring Program (TSMP) ('92): Maximum Tissue Residual Level (MTRL).	Not scheduled under Consent Decree (N/A)	
Ammonia	X			Basin Plan ammonia objectives.	N/A	
Benthic Community Effects			X	Benthic community considered "degraded" based on Bay Protection and Toxic Cleanup Program (BPTCP) data for LA Harbor Consolidated Slip.	N/A	
ChemA			X	TSMP ('92): MTRLS for aldrin, chlordane and dieldrin (components of ChemA); Elevated Data Level (95 th percentile) (EDL95).	N/A	
Chlordane			X	TSMP ('92): MTRL, EDL95; BPTCP; State Mussel Watch Program (SMWP).	N/A	
Chromium		X		Elevated sediment chemistry concentrations (above background) that corresponded to benthic community effects in LA Harbor Consolidated Slip based on BPTCP.	N/A	
Copper	X			Aquatic life criteria (EPA, 1986 with updates); BPTCP.	N/A	
DDT		X	X	Elevated levels in sediment and tissue based on BPTCP and SMWP. Fish consumption advisory.	N/A	
Dieldrin			X	TSMP ('92): MTRL.	N/A	
Coliform	X			Basin Plan REC-1 fecal coliform objectives.	N/A	
Lead	X	X	X	Aquatic life criteria (EPA, 1986 with updates); Elevated sediment chemistry concentrations (above background) that corresponded to benthic community effects in LA Harbor Consolidated Slip based on BPTCP; TSMP ('92): EDL95.	N/A	
PAHs		X		Elevated sediment chemistry concentrations (above background) that corresponded to benthic community effects in LA Harbor Consolidated Slip based on BPTCP.	N/A	
PCBs			X	Elevated levels in sediment and tissue (BPTCP; SMWP; and TSMP ('92): MTRL, EDL95). Fish consumption advisory.	N/A	
Sediment Toxicity**		X		Poor survival rates in sediment toxicity tests, based on BPTCP.	N/A	
Tributyltin**			X	Elevated levels in tissue based on SMWP.	N/A	
Zinc		X		Elevated sediment chemistry concentrations (above background) that corresponded to benthic community effects in LA Harbor Consolidated Slip based on BPTCP. Elevated tissue levels based on SMWP.	N/A	