

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 W. 4th Street, Suite 200, Los Angeles

FACT SHEET
WASTE DISCHARGE REQUIREMENTS
for
VOPAK TERMINAL LONG BEACH, INCORPORATED

NPDES Permit No.: CA0064165
Public Notice No.: 04-059

FACILITY ADDRESS

Vopak Terminal Long Beach, Inc.
3601 Dock Street
San Pedro, CA 90731

FACILITY MAILING ADDRESS

The Vopak Terminal Long Beach, Inc.
3601 Dock Street
San Pedro, CA 90731
Contact: Quirino Wong
Telephone: (713) 561-7278

I. Public Participation

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the above-referenced facility. As an initial step in the WDR process, the Regional Board staff has developed tentative WDRs. The Regional Board encourages public participation in the WDR adoption process.

A. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning 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 at the Regional Board offices by 5:00 p.m. on December 10, 2005.

B. Public Hearing

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

Date: January 27, 2005
Time: 9:00 A.M.
Location: Metropolitan Water District, Board Room
700 North Alameda Street
Los Angeles, California

Interested 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.

Please be aware that dates and venues may change. Our web address is www.swrcb.ca.gov/rwqcb4 where you can access the current agenda for changes in dates and locations.

C. Waste Discharge Requirements Appeals

Any aggrieved person may petition the State Water Resources Control 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, Office of Chief Counsel
ATTN: Elizabeth Miller Jennings, Senior Staff Counsel
1001 I Street, 22nd Floor
Sacramento, CA 95814

D. 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 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Los Angeles Regional Board by calling (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. Introduction

The Vopak Terminal Long Beach, Incorporated (hereinafter Vopak or Discharger) facility, formerly owned and operated by the Dow Chemical Company (hereinafter Dow) discharges compressor condensate, fire system testing water, and storm water, which is then conveyed to the Cerritos Channel Outfall, Long Beach Inner Harbor, within the Estuary, a water of the United States. Wastes discharged from Vopak are regulated by WDRs and NPDES permit contained in Board Order No. 98-019 (NPDES Permit No. CA0064165).

Dow filed a Report of Waste Discharge (ROWD) and applied for renewal of its WDRs and NPDES permit. The notification of the transfer of the NPDES permit from Dow to Vopak was submitted on June 19, 2003. Representatives of Dow submitted an application for renewal prior to the change in ownership. Vopak submitted an application with additional supplemental information during the renewal process. The tentative Order is the reissuance of the WDRs and a NPDES permit for discharges from Vopak. A NPDES permit compliance evaluation inspection (CEI) was conducted on January 1, 2004, which also served as a site visit to observe operations and collect additional data to develop permit limitations and conditions.

III. Description of Facility and Waste Discharge

Vopak is the owner and operator of a 10-acre, bulk chemical storage and transfer facility located at 3601 Dock Street, San Pedro, California. The facility receives shipments of bulk chemicals by ship and railcar, and stores raw products on site in fifty-six (56) aboveground storage tanks. Dow indicated that the typical products stored and transported from the facility included chlorinated solvents, nonhalogenated solvents, caustics, organic liquids, and hydrochloric acid. Vopak listed chemical, petroleum and petro-chemical products as the primary products stored and transferred from the facility. Tanker trucks are filled with the final products for distribution to businesses.

Prior to utilizing the carbon bed treatment system authorized by Order No. 98-019, the facility's previous owner/operator (Dow Chemical) was required to complete a pilot test to demonstrate the effectiveness of the system (Section B.6). The treatment system was completed in June 1998 and the pilot test was completed in February 1999. Prior to completion of the treatment system pilot test, the facility was required to comply with the requirements of the storm water general permit and was not required to perform sampling of storm water under this permit. All non-process wastewater and contaminated storm water was transported off-site for treatment and disposal, therefore, no monitoring data were submitted during that time.

Storm water is collected from the valved tank farms via a collection system and then flows by gravity to a centralized sump pump. The system has been active since 1998. The treatment system previously consisted of two 10-micron pre-filters, and four, 2,000-pound granular activated carbon (GAC) vessels. The improvements included changing out the vessels and replacing them with four, new 2,000-pound high-pressure GAC beds. The beds have been configured into two parallel systems of two beds in series with pre-filtration. The flow is split between the two parallel GAC beds. Recently, a 100 micron pre-filter has been added to the treatment system. The system can treat a maximum of 200 gallons per minute (288,000 gallons per day).

The facility also has a valve network, which isolates portions of the tank farms. This network includes a series of internal dikes that provide segregation of storm water and isolates spills. Four tanks have been designed to pump directly to a separate tank for off-site disposal of material inappropriate for discharge to surface waters.

The renewal application estimates a combined maximum discharge flow rate of 3.25 million gallons annually. Based on the site visit performed on January 8, 2004, facility representatives stated that Vopak currently discharges a maximum of 288,000 gpd of treated wastewater. Vopak discharges this treated non-process wastewater and storm water to Cerritos Channel Outfall, Long Beach Inner Harbor through Discharge Serial No. 001 (Latitude 33° 45' 00" and Longitude 118° 14' 06"), within the Estuary, a water of the United States.

The Regional Board and the U.S. Environmental Protection Agency (U.S. EPA) have classified the Vopak facility as a minor discharge.

The Discharger submitted quarterly reports for 1998 – 2003 (with the exception of the 2nd Quarter 2002). These data were characterized and are summarized in the table below.

Constituent (units)	Monthly Average Effluent Limitations	Daily Maximum Effluent Limitations	Range of Reported Values	Average Reported Effluent Concentration (Detected)
Flow (gpd)	--	--	3,136 – 1,144,260	64,563
pH (s.u.)	--	6.0 – 9.0	--	6.3 – 9.3
Temperature (°F)	--	100	64 – 67	65.5 ¹
Total suspended solids (mg/L)	--	60	2 – 52	17.18
Oil and grease (mg/L)	25	75	<0.89 - <5	--
Turbidity (NTU)	75	225	1.3 – 190	18.59
Phenols - nonchlorinated (mg/L)	--	120	<0.05 – <0.1 ²	--
Phenols – chlorinated (mg/L)	--	4	--	--
Benzene (µg/L)	5.9	--	<0.1 – <5.0	--
Carbon tetrachloride (µg/L)	0.9	--	<0.12 – <18	--
Chloroform (µg/L)	130	--	--	--
1,2-Dichloroethane (µg/L)	130	--	<0.095 – <20	--
1,1-Dichloroethylene (µg/L)	7,100	--	<0.11 – <20	--
Dichloromethane (µg/L)	450	--	<0.24 – 426	71.22
1,3-Dichloropropylene (µg/L)	8.9	--	<0.29 – <40	--
1,1,2,2-Tetrachloroethane (µg/L)	1,200	--	<0.27 – <40	--
Tetrachloroethylene (µg/L)	99	--	--	--
Ethylbenzene (µg/L)	4,100	--	<0.099 – 0.63	0.63 ³
Toluene (µg/L)	85,000	--	<0.093 – 0.17	0.17 ³
1,1,1-Trichloroethane (µg/L)	540,000	--	<0.088 – <5	--
1,1,2-Trichloroethane (µg/L)	43,000	--	<0.21 – <20	--
Trichloroethylene (µg/L)	27	--	<0.13 – <20	--
Vinyl Chloride (µg/L)	36	--	<0.05 – 120	15.28
Acute Toxicity (TUa)	1.5	2.5	0 – 0.41	0.25

¹ Only two data points reported during permit term.

² Type of phenols not specified in sampling data.

³ Only one detected value reported during the permit term.

In addition to data required to assess compliance with effluent limitations, Vopak was required to monitor certain priority pollutants semi-annually. These data reported for the period from April 1999 through December 2003 are summarized below.

Constituent (units)	Range of Values	Average Reported Effluent Concentration (Detected)
Antimony (µg/L)	<1 – 7	5.8
Arsenic (µg/L)	<5 – 28	11
Beryllium (µg/L)	<2 – 4.6	4.6 ¹
Cadmium (µg/L)	<5 – 1	1 ¹
Chromium (III) (µg/L)	<2.7 – 5.1	3.4
Copper (µg/L)	<10 – 12	11.5
Lead (µg/L)	<3.9 – 78	6.7
Mercury (µg/L)	<0.05 – <1	--
Nickel (µg/L)	<10 – 54	0.0158
Selenium (µg/L)	<2.1 – 6	6 ¹
Silver (µg/L)	<10 – <50	--
Thallium (µg/L)	<2.1 – 21	10.6
Zinc (µg/L)	14 – 480	205.7
Cyanide (µg/l)	18.5	18.5
Asbestos (µg/l)	13.3	13.3
2,3,7,8-TCDD (µg/l)	<0.01 – <3.3	--
Acrolein (µg/l)	<3.3 – <50	--
Acrylonitrile (µg/l)	<2.7 – <50	--
Bromoform (µg/l)	<0.2 – <0.34	--
Chlorobenzene (µg/l)	<0.36 – <0.85	--
Chlorodibromomethane (µg/l)	<0.2 – <0.34	--
Chloroethane (µg/l)	<0.33 – <0.86	--
2-Chloroethylvinyl ether (µg/l)	<0.85 – <1.3	--
Dichlorobromomethane (µg/l)	<0.18 – <0.43	--
1,1-Dichloroethane (µg/l)	<0.18 – 3.1	3.1 ¹
1,2-Dichloropropane (µg/l)	<0.14 – <0.35	--
Methyl Bromide (µg/l)	<0.3 – <0.33	--
Methyl Chloride (µg/l)	<0.27 – 0.18	0.21
Methylene Chloride (µg/l)	<0.33 – 286	286 ¹
1,2-Trans-Dichloroethylene (µg/l)	<0.11 – <0.27	--
2-Chlorophenol (µg/l)	<5 – <20	--
2,4-Dichlorophenol (µg/l)	<5 – <10	--
2,4-Dimethylphenol (µg/l)	<5 – <20	--
2-Nitrophenol (µg/l)	<5 – <10	--
4-Nitrophenol (µg/l)	<100	--
Pentachlorophenol (µg/l)	<40	--
Phenol (µg/l)	<5 – <10	--
2,4,6-Trichlorophenol (µg/l)	<20	--
Acenaphthene (µg/l)	<3.1 – <10	--

Constituent (units)	Range of Values	Average Reported Effluent Concentration (Detected)
Acenaphthylene (µg/l)	<3.0 – <10	--
Anthracene(µg/l)	<3.3 – <10	--
Benzidine (µg/l)	<14 – <100	--
Benzo(a)Anthracene (µg/l)	<2.5 – <10	--
Benzo(a)Pyrene (µg/l)	<2 – <10	--
Benzo(b)Fluoranthene (µg/l)	<2.7 – <10	--
Benzo(k)Fluoranthene (µg/l)	<3.1 – <10	--
Bis(2-Chloroethoxy)Methane (µg/l)	<4.8 – <10	--
Bis(2-Chloroethyl)Ether (µg/l)	<2.6 – <10	--
Bis(2-Chloroisopropyl)Ether (µg/l)	<4.3 – <10	--
Bis(2-Ethylhexyl)Phthalate (µg/l)	<5 – 18.5	18.5 ¹
4-Bromophenyl Phenyl Ether (µg/l)	<4.5 – <10	--
Butylbenzyl Phthalate (µg/l)	<3.7 – <20	--
2-Chloronaphthalene (µg/l)	<2.5 – <10	--
4-Chlorophenyl Phenyl Ether (µg/l)	<3.8 – <10	--
Chrysene (µg/l)	<2.4 – <10	--
1,2-Dichlorobenzene (µg/l)	<2.7 – <10	--
1,3-Dichlorobenzene (µg/l)	<2.5 – <10	--
1,4-Dichlorobenzene (µg/l)	<2.2 – <10	--
3,3'-Dichlorobenzidine (µg/l)	<5.6 – <40	--
Diethyl Phthalate (µg/l)	<3.7 – <10	--
Dimethyl Phthalate (µg/l)	<3.5 – 13.3	13.3 ¹
Di-n-Butyl Phthalate (µg/l)	<3.1 – <20	--
2,4-Dinitrotoluene (µg/l)	<3.2 – <10	--
2,6-Dinitrotoluene (µg/l)	<3.7 – <10	--
Di-n-Octyl Phthalate (µg/l)	<3.9 – <40	--
1,2-Diphenylhydrazine (µg/l)	<500	--
Fluoranthene (µg/l)	<6.9 – <10	--
Fluorene (µg/l)	<3.3 – <10	--
Hexachlorobenzene (µg/l)	<4.2 – <10	--
Hexachlorobutadiene (µg/l)	<0.42 – <10	--
Hexachlorocyclopentadiene (µg/l)	<4.9 – <40	--
Hexachloroethane (µg/l)	<2.3 – <10	--
Indeno(1,2,3-cd)Pyrene (µg/l)	<4.8 – <20	--
Isophorone (µg/l)	<3.7 – <10	--
Naphthalene (µg/l)	<0.33 – <10	--
Nitrobenzene (µg/l)	<3.2 – <40	--
N-Nitrosodimethylamine (µg/l)	<3.5 – <20	--
N-Nitrosodi-n-Propylamine (µg/l)	<4.4 – <10	--
N-Nitrosodiphenylamine (µg/l)	<3.5 – <10	--
Phenanthrene (µg/l)	<3.5 – <10	--
Pyrene (µg/l)	<5.3 – <10	--
1,2,4-Trichlorobenzene (µg/l)	<0.51 – <10	--

¹ Only one detected value reported during the permit term.

It should be noted that several pollutants had sample results with reported method detection limits (MDLs) that were greater than the associated water quality criteria.

The Regional Board issued two Notices of Violation (NOV) to the facility's previous owner, Dow Chemical. The first NOV was issued in March 2001 and cited noncompliance with the turbidity effluent limitation. The exceedance of 99.8 NTU occurred in the 4th Quarter of 2000 and violated the permitted monthly average of 75 NTU. According to a letter received on April 20, 2001, Dow contends their records and data indicate the turbidity was due to biological growth in the piping between the carbon beds treatment system and the discharge point, which occurs during the dry season. A system is in place to re-circulate any water stored in the carbon beds to the collection sump and through the carbon beds for treatment prior to discharge. This system, however, does not circulate the water that is stored in the piping leading to the discharge point. Dow indicated they would be draining the water from the piping between the carbon beds and the discharge point after each discharge to prevent the discharge of turbid water. Dow also indicated that they would implement a procedure for preventing the build up of turbidity in the carbon beds when they are inactive during the dry months.

The second NOV was issued to the Dow Chemical Company on October 31, 2001, and included effluent violations as well as reporting violations. In March 2000, the facility's discharge exceeded the permit effluent limitation for vinyl chloride. The reported value of 58.25 µg/L violated the monthly average effluent limitation of 36 µg/L. In addition, this NOV cited the discharge monitoring report from the 2nd Quarter of 1999 for utilizing four detection limits which were higher than the facility's associated permit limitations (benzene, carbon tetrachloride, 1,3-dichloropropylene, and vinyl chloride). The Discharger responded to the NOV on March 25, 2002, and paid the required fee to the Regional Board.

A review of the data submitted as the permit renewal revealed several other effluent limitation violations during the permit term. A turbidity result of 81.2 NTU was reported during the 2nd Quarter of 1999 for the month of April which violated the average monthly effluent limitation (75 NTU). In addition, during the 4th Quarter of 2003, a pH of 9.3 was reported which violates the maximum value of 9.0 standard units. Identified violations are being evaluated for appropriate enforcement actions.

IV. Applicable Plans, Policies, and Regulations

The requirements contained in the proposed Order are based on the requirements and authorities contained in the following:

1. The federal Clean Water Act (CWA). The federal Clean Water Act requires that any point source discharges of pollutants to a water of the United States must be in conformance with an NPDES permit. NPDES permits establish effluent limitations that incorporate various requirements of the CWA designed to protect water quality.
2. Code of Regulations, Title 40 (40 CFR) – Protection of Environment, Chapter I, Environmental Protection Agency, Subchapter D, Water Programs, Parts 122-125 and

Subchapter N, Effluent Guidelines. These CWA regulations provide effluent limitations for certain dischargers and establish procedures for NPDES permitting, including how to establish effluent limitations for certain pollutants discharged by Vopak.

3. 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 and beneficial uses for inland surface waters and for the Pacific Ocean. The Basin Plan contains beneficial uses and water quality objectives for Cerritos Channel, Long Beach Inner Harbor:

Existing Uses: industrial service supply, navigation, non-contact water recreation, commercial/sport fishing, marine habitat, and rare, threatened and endangered species.

Potential Uses: water contact recreation and shellfish harvesting.

4. Ammonia Basin Plan Amendment. The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised on April 25, 2002, by the Regional Board with the adoption of Resolution No. 2002-011, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life. The ammonia Basin Plan amendment was approved by the State Board, the Office of Administrative Law, and U.S. EPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with U.S. EPA's 1999 ammonia criteria update.
5. The State Water Resources Control Board (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. This plan contains temperature objectives for inland surface waters.
6. On May 18, 2000, the U.S. Environmental Protection Agency (U.S. EPA) promulgated numeric criteria for priority pollutants for the State of California [known as the *California Toxics Rule* (CTR) and codified as 40 CFR § 131.38]. In the CTR, U.S. EPA promulgated criteria that protect the general population at an incremental cancer risk level of one in a million (10^{-6}), for all priority toxic pollutants regulated as carcinogens. The CTR also allows for a schedule of compliance not to exceed 5 years from the date of permit renewal for an existing discharger if the Discharger demonstrates that it is infeasible to promptly comply with effluent limitations derived from the CTR criteria.
7. 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 on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through National Toxics Rule (NTR) and 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 U.S. EPA 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 U.S. EPA through the CTR. The SIP requires the dischargers' submittal of data sufficient to conduct the determination of priority pollutants requiring water quality-based effluent limitations (WQBELs) and to calculate the effluent limitations. The CTR criteria for saltwater, or human health for consumption of organisms, whichever is more stringent, are used to develop the effluent limitations in this Order to protect the beneficial uses of the Cerritos Channel of Long Beach Inner Harbor.

8. 40 CFR section 122.44(d)(vi)(A) requires the establishment of numeric effluent limitations to attain and maintain applicable narrative water quality criteria to protect the designated beneficial uses. Where numeric water quality objectives have not been established in the Basin Plan, 40 CFR section 122.44(d) specifies that water quality-based effluent limitations (WQBELs) may be set based on U.S. EPA criteria and supplemented, where necessary, by other relevant information to attain and maintain narrative water quality criteria to fully protect designated beneficial uses.
9. State and Federal antibacksliding and antidegradation policies require that Regional Board actions to protect the water quality of a water body and to ensure that the waterbody will not be further degraded. The antibacksliding provisions are specified in sections 402(o) and 303(d)(4) of the CWA and in the Title 40 of the Code of Federal Regulations (40 CFR), section 122.44(l). Those provisions require a reissued permit to be as stringent as the previous permit with some exceptions where effluent limitations may be relaxed.
10. Effluent limitations are established in accordance with sections 301, 304, 306, and 307 of the federal CWA, and amendments thereto. These requirements, as they are met, will maintain and protect the beneficial uses of the Long Beach Inner Harbor.

V. Regulatory Basis for Effluent Limitations

The CWA requires point source discharges to control the amount of conventional, nonconventional, and toxic pollutants that are discharged into the waters of the United States. The control requirements for the discharge of pollutants is established through NPDES permits that contain effluent limitations and standards. The CWA establishes two principal bases for effluent limitations. First, dischargers are required to meet technology-based effluent limitations that reflect the best controls available considering costs and economic impact. Second, they are required to meet water quality-based effluent limitations (WQBELs) that are developed to protect applicable designated uses of the receiving water.

The CWA requires that technology-based effluent limitations be established based on several levels of control:

1. Best practicable treatment control technology (BPT) is based on the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional pollutants.

2. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.
3. Best conventional pollutant control technology (BCT) is a standard for the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.
4. New source performance standards (NSPS) that represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BCT, BAT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR 125.3 of the NPDES regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern or do not consider certain pollutants.

If a reasonable potential to exceed water quality standards exists for pollutants in a discharge, WQBELs are also required under 40 CFR 122.44(d)(1)(i). WQBELs are established after determining that technology-based limitations are not stringent enough to ensure that state water quality standards are met for the receiving water. WQBELs are based on the designated use of the receiving water, water quality criteria necessary to support the designated uses, and the state’s antidegradation policy. For discharges from this facility to inland surface waters, enclosed bays, and estuaries, the SIP establishes specific implementation procedures for determining reasonable potential and establishing WQBELs for priority pollutant criteria promulgated by U.S. EPA through the CTR and NTR, as well as priority pollutant objectives in the Basin Plan.

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

1. **Pollutants of Concern**

The CWA requires that any pollutant that may be discharged by a point source in quantities of concern must be regulated through an NPDES permit. Further, the NPDES regulations require regulation of any pollutant that (1) causes; (2) has the reasonable potential to cause; or (3) contributes to the exceedance of a receiving water quality criterion or objective.

Vopak operates a bulk chemical storage and transfer facility. The facility receives shipments of bulk chemicals by ship and railcar, and stores raw products on site in aboveground storage tanks. Typical products handled on-site include chlorinated solvents, nonhalogenated solvents, caustics, organic liquids, hydrochloric acid, petroleum and petro-chemical products. As a result, typical pollutants expected in the discharge include solids (i.e., total suspended solids,

settleable solids, substances contributing to turbidity), oil and grease, pH, total petroleum hydrocarbons, and chlorinated organic compounds.

2. **Technology-Based Effluent Limitations**

There are currently no national Effluent Limitations Guidelines (ELGs) for aboveground storage tank facilities and associated discharges of storm water, fire system test water, or compressor condensate. The previous permit stated that the current treatment system (granulated activated carbon) is considered to be the best available technology (BAT) economically achievable for the discharge of fire system test water, compressor condensate, and storm water, from this facility.

This permit will require the Discharger to update and continue to implement, consistent with the existing permit requirements, a *Storm Water Pollution Prevention Plan* (SWPPP). The SWPPP will outline site-specific management processes for minimizing storm water runoff contamination and for preventing contaminated storm water runoff from being discharged into surface waters. The previous SWPPP was developed in 1998; this plan should be updated and revised to reflect current operations and practices regarding preventing storm water runoff contamination. Further, pursuant to 40 CFR Section 122.44(k), the Regional Board will require the Discharger to develop and implement best management practices (BMPs) to address non-storm water component of the discharge (i.e., fire protection system test water and compressor condensate), and update the SWPPP to include these BMPs. In the absence of established ELGs, and with the combination of the SWPPP and BMPs, the existing permit limitations based on past performance and BPJ will serve as the equivalent of technology-based effluent limitations to carry out the purposes and intent of the CWA.

3. **Water Quality-Based Effluent Limitations**

As specified in 40 CFR § 122.44(d)(1)(i), permits are required to include WQBELs for toxic pollutants (including toxicity) that are or may be discharged at levels which cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses for the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria (that are contained in other state plans and policies, or U.S. EPA water quality criteria contained in the CTR and NTR). The specific procedures for determining reasonable potential and, if necessary, for calculating WQBELs for this commingled discharge are contained in the SIP.

The CTR contains both saltwater and freshwater criteria. According to 40 CFR § 131.38(c)(3), freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this condition occurs 95 percent or more of the time; saltwater criteria apply at salinities of 10 ppt and above at locations where this occurs 95 percent or more of the time; and at salinities between 1 and 10 ppt the more stringent of the two apply. The immediate receiving water is located within the Estuary. The CTR criteria for saltwater, or human health for consumption of organisms, whichever is most stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of the Cerritos Channel of Long Beach Inner Harbor, within the Estuary.

(a) Reasonable Potential Analysis (RPA)

The Regional Board conducts a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have a reasonable potential, numeric WQBELs are required. The RPA considers water quality objectives outlined in the CTR, NTR, as well as the Basin Plan. To conduct the RPA, the Regional Board has identified the maximum observed effluent concentration (MEC) for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA and determine that a WQBEL is needed:

- 1) Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.
- 2) Trigger 2 – If $MEC < C$ and background water quality (B) $> C$, a limitation is needed.
- 3) Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger is required to gather the appropriate data for the Regional Board to conduct the RPA. Upon review of the data, and if the Regional Board determines that WQBELs are needed to protect the beneficial uses of the receiving water, the permit is reopened for appropriate modification.

The RPA was performed for the priority pollutants for which effluent data were available. Effluent and receiving water data were provided pursuant to a February 22, 2002 letter from the Regional Board requiring quarterly monitoring for priority pollutants regulated in the CTR. Data collected during the four quarters of 2002 were used to conduct the RPA. Receiving water data was submitted for the 2nd and 3rd quarters of 2002 were also used in the RPA. Samples for certain priority pollutants were collected as required by their existing permit. Data for the period from 1999 through 2003 were available for review. All these data also were used to perform the RPA and were summarized previously in Section III. The results of the RPA are in Attachment A of the Fact Sheet.

Based on the RPA, there is reasonable potential (RP) to exceed water quality criteria at Discharge Serial No. 001 for copper, nickel, thallium, zinc, cyanide, and bis(2-ethylhexyl)phthalate. Thus, new effluent limitations and effluent monitoring requirements for these contaminants have been established. Effluent monitoring data for tetrachloroethylene and vinyl chloride also triggered reasonable potential.

This Order establishes CTR WQBELs for tetrachloroethylene and the effluent limit from the existing Order is carried over for vinyl chloride.

(b) Calculating WQBELs

If a reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one of three procedures contained in Section 1.4 of the SIP. These procedures include:

- 1) If applicable and available, use of the wasteload allocation (WLA) established as part of a total maximum daily load (TMDL).
- 2) Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).
- 3) Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the Regional Board.

(c) Impaired Water Bodies on 303 (d) List

Section 303(d) of the CWA requires states 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. For all 303(d)-listed water bodies and pollutants, the Regional Board plans to develop and adopt TMDLs that will specify WLAs for point sources and load allocations (LAs) for non-point sources, as appropriate.

The USEPA approved the State's 2002 303(d) list of impaired water bodies on July 25, 2003. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2002 303(d) list and have been scheduled for TMDL development.

The Los Angeles/Long Beach Harbors are located in the southern portion of the Los Angeles Basin in the greater San Pedro Bay. These harbors receive discharges from highly industrialized areas. The 2002 State Board's California 303(d) List classifies the Long Beach Inner Harbor and several water bodies within the Harbor as impaired. These water bodies include: a portion of Main Channel, Southeast Basin, West Basin, Pier J, and breakwater. Cerritos Channel is tributary to Long Beach Inner Harbor. The pollutants of concern, detected in the water column, in the sediment, and in the fish tissue, include: DDT, PAHs, sediment toxicity, benthic community effects, and PCBs. No TMDLs have been approved for the Long Beach Inner Harbor and therefore no conditions in the Order are based on TMDLs.

(d) Whole Effluent Toxicity

Whole Effluent Toxicity (WET) requirements protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and measures mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters 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. The existing permit contains acute toxicity limitations and monitoring requirements. Acute toxicity test results from five sampling events were submitted by the facility to the Regional Board during the permit term. The average result was 0.25 TU_a with a maximum result of 0.41 TU_a, all within permit limitations.

In accordance with the Basin Plan, acute toxicity limitations dictate that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival. The previous Order contained a monthly average limitation for acute toxicity, where acute toxicity levels greater than 1.5 toxic units acute (TU_a) were prohibited, and a daily maximum acute toxicity limitation of 2.5 TU_a. The previous Monitoring and Reporting Program (*MRP*) also referred to the limitations in terms of percent survival of Threespine Stickleback (*Gasterosteus Aculeatus*). This Order establishes effluent limitations for acute toxicity (measured in units of percent survival) to be consistent with current Basin Plan requirements.

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters.

The discharges at the Vopak facility occur intermittently. The discharge at the Vopak facility is not expected to contribute to long-term toxic effects, therefore the Discharger will not be required to monitor for chronic toxicity. Intermittent discharges are likely to have short-term effects. Therefore at this facility, Vopak will be required to comply with acute toxicity limitations.

4. **Specific Rationale for Each Numerical Effluent Limitation**

The Regional Board has determined that reasonable potential exists for all priority pollutants that are regulated under the current permit; therefore effluent limitations have been established for these pollutants. Furthermore, the requirements in the proposed Order for conventional and non-conventional pollutants of concern (i.e., suspended solids, oil and grease, turbidity, settleable solids) and phenols are based on limitations specified in Vopak's existing permit and BPJ. The existing permit utilized the Ocean Plan as the basis for the limits for chlorinated phenols and non-chlorinated phenols. The phenols effluent limit of 1 mg/L was used in proposed Order based on BPJ for discharges to bays, estuaries and inland surface waters. The 1 mg/L effluent limit to phenols is more stringent than the limits in existing Order for the chlorinated (4 mg/L) and non-chlorinated phenols (120 mg/L). The effluent limitations for pH and temperature are based on the Regional Board's interpretation of the Basin Plan. Total petroleum hydrocarbons is a new chemical of concern based on information in the permit application. The effluent limit for total petroleum hydrocarbons is based on BPJ.

The Regional Board is implementing the CTR and SIP and for those priority pollutants that show reasonable potential, a comparison between existing permit limitations, Basin Plan limits, and CTR WQBELs was made and the most stringent limitation is included in the Order. The other priority pollutants that had effluent limits in the current Order, effluent data do not indicate reasonable potential to exceed water quality standards. Since the data does not indicate reasonable potential the effluent limits for these priority pollutants have been deleted.

Effluent limitations are required for those regulated pollutants that show statistical reasonable potential to exceed water quality standards and were not limited in the existing permit. New CTR WQBELs are established for copper, nickel, thallium, zinc, cyanide, and bis(2-ethylhexyl)phthalate because based on the statistical RPA, these constituents show reasonable potential to exceed state water quality standards. Tetrachloroethylene and vinyl chloride were included in the current Order and demonstrated reasonable potential. Therefore these constituents were included in this Order. The effluent limits for tetrachloroethylene are CTR WQBELs since they are more stringent than the limits in the existing Order (99 µg/L). The existing effluent limit for vinyl chloride of 36 µg/L AMEL is more stringent than the CTR WQBELs for the constituent (525 µg/L for the AMEL and 1,635 µg/L for the MDEL). Hence, to avoid backsliding, the 36 µg/L AMEL (which was based on the Ocean Plan) from the existing Order has been included in the proposed Order.

In compliance with 40 CFR §122.45(f), mass-based limitations have also been established in the proposed Order for conventional, non-conventional, and toxic pollutants. Generally, mass-based limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. When calculating the mass-based limitations for discharges, the appropriate flow, daily maximum limitations for daily maximum mass calculations, and the monthly average limitations when calculating the monthly average mass, should be substituted in the following equation:

Mass (lbs/day) = flow rate (MGD) X 8.34 X effluent limitation (mg/L)
 where: mass = mass limitation for a pollutant in lbs/day
 effluent limitation = concentration limitation for a pollutant, mg/L
 flow rate = discharge flow rate in MGD

The mass-based effluent limitations contained in the existing Order are based on a maximum discharge flow rate of 288,000 gpd. If the Discharger wishes to discharge at higher volumes they must notify the Regional Board and request a permit modification.

The following table presents the effluent limitations and specific rationales for pollutants that are expected to be present in the discharge of nonprocess wastewater (compressor condensate, and fire system testing water) commingled with storm water:

Constituent	Units ¹	Average Monthly Effluent Limitations (AMEL)	Maximum Daily Effluent Limitations (MDEL)	Rationale
pH	s.u.	--	6.5 – 8.5 ³	BP
Temperature	deg. F	--	86	BP, BPJ
Total suspended solids	mg/L	50	60	BPJ, E
	lbs/day	120	360	
Oil and grease	mg/L	10	15	BPJ
	lbs/day	24	36	
BOD ₅ 20°C	mg/L	20	30	BPJ
	lbs/day	48	72	
Settleable solids	ml/L	0.1	0.3	BPJ
Turbidity	NTU	50	150	BPJ
Phenols	mg/L	--	1.0	BPJ
	lbs/day	--	2.4	
Tetrachloroethylene	µg/L	8.9	17.8	CTR
	lbs/day	0.02	0.04	
Vinyl chloride	µg/L	36	--	E, BPJ
	lbs/day	0.09	--	
Copper ²	µg/L	2.9	5.8	CTR, SIP
	lbs/day	0.007	0.014	
Nickel ²	µg/L	6.8	13.6	CTR, SIP
	lbs/day	0.02	0.04	
Thallium ²	µg/L	6.3	12.6	CTR, SIP
	lbs/day	0.02	0.03	
Zinc ²	µg/L	47.4	95.1	CTR, SIP
	lbs/day	0.11	0.23	
Cyanide ²	µg/L	0.5	1	CTR, SIP
	lbs/day	0.001	0.002	
Bis(2-ethylhexyl)phthalate	µg/L	5.9	11.8	CTR, SIP
	lbs/day	0.014	0.028	
Total petroleum hydrocarbons	µg/L	--	100	BPJ
	lbs/day	--	0.24	
Acute Toxicity	% survival	⁴	--	BP

¹ Mass-based effluent limitations for pollutants are based on a maximum discharge flow rate of 288,000 gpd.

² Effluent limitations for these metals are expressed as total recoverable.

BP – Limitations are established in the Basin Plan; CTR, SIP - Water quality-based effluent limitations established based on the procedures in the SIP; E - Existing permit limitation; BPJ – Best Professional Judgment.

³ The pH must remain within this range at all times.

⁴ For any three consecutive 96-hour static or continuous flow bioassay tests must be at least 90%, with no single test producing less than 70% survival (more information can be found in Section I.B.3.a. of the tentative permit.)

5. **Compliance Schedule**

Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC and calculated MDEL/AMEL values shows that the Discharger will be unable to consistently comply with effluent limitations established in the proposed Order for copper, nickel, thallium, zinc, cyanide, and bis(2-ethylhexyl)phthalate. Hence, the proposed Order contains a compliance schedule that allows the Discharger 2 years to comply with the final effluent limitations for these constituents. Within ninety (90) days after the effective date of the Order, the Discharger must prepare and submit a compliance plan that describes the steps that will be taken to ensure compliance with applicable limitations.

40 CFR §131.38(e) provides conditions under which interim effluent limitations and compliance schedules may be issued. The SIP allows inclusion of an interim limitation with a specific compliance schedule included in a NPDES permit for priority pollutants if the limitation for the priority pollutant is CTR WQBELs. Since the CTR WQBELs appear infeasible for the Discharger to achieve at this time, interim limitations for copper, nickel, thallium, zinc, cyanide, and bis(2-ethylhexyl)phthalate are contained in this Order.

Tetrachloroethylene was detected during one sampling event at 26.1 µg/L on April 15, 1999. This concentration exceeds the CTR Monthly Average and Daily Maximum WQBELs. However, during the five years of monitoring the results for the last three years indicate that the Discharger will be able to meet the prescribed effluent limits. Consequently, no interim requirements have prescribed for this constituent. Vinyl chloride also demonstrated reasonable potential when the MEC (120 µg/L) was compared to the limit in the current Order (36 µg/L AMEL). The Discharger only reported exceedances of the AMEL for vinyl chloride in two out of twenty-two samples. All other samples had concentrations below the AMEL. Therefore, interim requirements were not included for vinyl chloride.

The SIP requires that the Regional Board establish other interim requirements such as requiring the discharger to develop a pollutant minimization plan and/or source control measures and participate in the activities necessary to achieve the final effluent limitations. These interim limitations shall be effective until January 30, 2007, after which, the Discharger shall demonstrate compliance with the final effluent limitations.

Pursuant to the SIP (Section 2.2.1, Interim Requirements under a Compliance Schedule), when compliance schedules are established in an Order, interim limitations must be included based on current treatment facility performance or existing permit limitations, whichever is more stringent, to maintain existing water quality. The constituents requiring interim limits had insufficient data to perform a meaningful statistical analysis for interim effluent limitations. Therefore, the MEC serves as the basis of interim effluent limitations.

From the effective date of this Order until January 30, 2007 the discharge of effluent from Discharge Serial No. 001 in excess of the following is prohibited:

Constituent (units)	Daily Maximum Concentration	Mass ¹ (lbs/day)	Rationale ²
Copper ³ (µg/L)	12	0.03	MEC
Nickel ³ (µg/L)	54	0.13	MEC
Thallium (µg/L)	21	0.05	MEC
Zinc ³ (µg/L)	480	1.15	MEC
Cyanide (µg/L)	18.5	0.04	MEC
Bis(2-ethylhexyl)phthalate (µg/L)	18.5	0.04	MEC

¹ The mass-based effluent limitations are based on a flow rate of 288,000 gpd.

² MEC – Based on the maximum effluent concentration reported by the facility

³ Discharge limitation for this metal is expressed as total recoverable.

The Discharger also will be required to develop and implement a compliance plan that will identify the measures that will be taken to reduce the concentrations of copper, nickel, thallium, zinc, cyanide, and bis(2-ethylhexyl)phthalate in their discharge. This plan should evaluate options to achieve compliance with the revised permit limitations. These options can include, for example, evaluating and updating available treatment unit processes, upgrading the system if necessary, and maintaining proper operation and maintenance of the treatment system.

6. Effluent Monitoring

To assess the impact of the discharge to the beneficial uses of the receiving waters, the Discharger is required to monitor the conventional and priority pollutants and other identified parameters. Monitoring of these pollutants during treatment operations will characterize the wastes discharged.

Monitoring requirements are discussed in greater detail in Section III of the *MRP* No. CI-7873. As described in the Monitoring and Reporting Program, monitoring reports must be submitted quarterly.

7. Receiving Water Monitoring

The Discharger is required to perform general observations of the receiving water when discharges occur and report the observations in the quarterly monitoring report. The Regional Board in assessing potential impacts of future discharges will use data from these observations. If no discharge occurred during the observation period, this shall be reported. Observations shall be descriptive where applicable, such that colors, approximate amounts, or types of materials are apparent. The following observations are required:

- Tidal stage, time, and date of monitoring;
- Weather conditions;
- Color of water;
- Appearance of oil films or grease, or floatable materials;

- Extent of visible turbidity or color patches;
- Direction of tidal flow;
- Description of odor, if any, of the receiving water; and
- Presence and activity of California Least Tern and California Brown Pelican.

Monitoring requirements for receiving water are discussed in greater detail in Section V and VI of the *MRP*.

8. **Storm Water Monitoring**

Storm water runoff discharges from Vopak are subject to requirements stipulated in this NPDES permit and the Discharger is required to comply with all applicable provisions of the Storm Water Pollution Prevention Plan (Attachment A of the Order). This plan includes requirements to develop, implement, and when appropriate update a Storm Water Pollution Prevention Plan (SWPPP) along with Best Management Practices (BMPs) with the intent of preventing all pollutants from contacting storm water and with the intent of keeping all contaminants of concern from moving into receiving waters. The Discharger is also required to measure and record the rainfall each day of the month.