

State of California  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
Los Angeles Region  
320 W. 4<sup>th</sup> Street, Suite 200,  
Los Angeles, California

**FACT SHEET**  
**WASTE DISCHARGE REQUIREMENTS**  
**for**  
**FAIRCHILD HOLDING CORPORATION**  
**(VOI-SHAN REDONDO BEACH FACILITY)**

NPDES Permit No.: CA0060631  
Public Notice No.: 03-044

FACILITY ADDRESS  
4001 Inglewood Avenue  
Redondo Beach, CA 90278

FACILITY MAILING ADDRESS  
4001 Inglewood Avenue  
Redondo Beach, CA 90278  
Contact: Michael Hodge  
Telephone: (703) 478-5858

**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 4<sup>th</sup> 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 August 20, 2003.

## **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: September 11, 2003  
Time: 9:00 a.m.  
Location: Metropolitan Water District of Southern California, , 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/rqcb4](http://www.swrcb.ca.gov/rqcb4) 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, 22<sup>nd</sup> 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 4<sup>th</sup> 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**

Fairchild Holding Corporation (hereinafter Fairchild or Discharger) discharges wastewater under waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit contained in Order No. 97-020 (NPDES Permit No. CA0060631). Order No. 97-020 expired on February 10, 2002.

Fairchild filed a report of waste discharge and has applied for renewal of its WDRs and NPDES permit for discharge of wastes to surface waters. The tentative Order is the reissuance of the WDRs and NPDES permit for discharges from Fairchild. A site visit was conducted on April 16, 2003, to observe operations and collect additional data to develop permit limits and requirements.

## **III. Description of Facility and Waste Discharge**

Fairchild, located in Redondo Beach, California, operates the Voi-Shan Redondo Beach Facility (Voi-Shan), formerly Voi-Shan Aerospace Products, located at 4001 Inglewood Avenue. Voi-Shan manufactured fasteners for the aerospace industry until 1990. The process included the use of petroleum fuel products, organic solvents, and dissolved gasoline fractions. The routine handling of these products contaminated the soil and ground water with chlorinated solvent residuals (PCE, 1,1,1-TCA, TCE). The manufacturing operations have been terminated and currently only soil and ground water remediation is being conducted at the facility. A leaking 1,900-gallon waste oil tank and a 10,000-gallon fiberglass gasoline tank were removed in early 1986. Ground water contamination has necessitated the installation of a ground water cleanup facility at the site. The manufacturing facility was demolished and redeveloped as a shopping center. Fairchild is currently working with this Regional Board to perform the necessary remediation to gain closure.

A soil vapor extraction process is operated to remove solvent residuals from soils. Around 1990, a ground water pump and treat system was installed to treat the extracted ground water with liquid phase activated carbon to remove the chlorinated solvents by activated carbon adsorption. The treatment system is expected to continue until the ground water remediation has been completed. According to a letter from the Discharger dated September 18, 2001, it was not known how much longer the treatment system would be operated to complete ground water remediation, but the estimate at that time was an additional 1 to 3 years, based on past performance. Because activated carbon has been used extensively for ground water cleanup projects, particularly for volatile organic compounds, this method is considered to be one of the best available technologies economically available.

Reuse of the treated ground water is deemed infeasible by the Facility based on economic considerations. There is no demand for process water at this location and minimal demand exists for landscape irrigation water. In addition, in correspondence dated September 18, 2001, the Discharger has requested that Los Angeles County Sanitation Department accept the treated ground water into their sanitary sewer system. The Discharger has stated that the County has refused acceptance of the treated ground water.

The existing permit regulates discharges of up to 38,400 gallons per day (gpd) of treated ground water produced from soil and ground water remediation activities. The Discharger stated in the NPDES permit renewal application that the average flow is 8,450 gpd, and the maximum flow is 38,400 gpd.

Fairchild proposes to discharge up to 38,400 gpd of treated ground water into a storm drain system located adjacent to the facility at Latitude 33°53'36" N, Longitude 118°21'42" W. The ground water flows into the storm drain system then to Dominguez Channel, a water of the United States, above the estuary.

The Regional Board and the United States Environmental Protection Agency (USEPA) have classified the Fairchild discharge as a minor discharge.

Limited data are available from the Discharger, as the current operator of the remediation system only has records dating back to 2001, and effluent monitoring records prior to this date were not transferred with ownership of site operations. Therefore, data presented in the table below represents available monitoring data for the period from April 2001 through March 2002. Effluent limits contained in the existing permit for Discharge Serial No. 001 and representative monitoring data are presented in the following table:

Constituent (units)	Effluent Limitation Maximum Daily	Range of Reported Values (April 2001 – March 2002)
pH (s.u.)	--	7.2 <sup>1</sup>
BOD <sub>5</sub> 20°C (mg/L)	30	<5 - <10
BOD <sub>5</sub> 20°C (lb/d)	9.6	NR
Oil and grease (mg/L)	15	<0.5 – <5
Oil and grease (lb/d)	4.8	NR
Settleable solids (ml/L)	0.3	<0.1 – 0.1
Suspended solids (mg/L)	75	<10
Suspended solids (lb/d)	24	NR
Turbidity (TU)	75	<1 – 2
Phenols (mg/L)	1	<50 – <100
Phenols (lb/d)	0.32	NR
Tetrachloroethylene (µg/L)	5	<0.5 – <5
Trichloroethylene (µg/L)	5	<0.5 – <5
Trichloroethane (µg/L)	10	<0.5 – 8
Chloroform (µg/L)	25	<0.5 – <5
Benzene (µg/L)	1	<0.5 – <5
Toluene (µg/L)	10	<0.5 – <5
Xylene (µg/L)	10	<1 – <5
Ethylbenzene (µg/L)	10	<0.5 – <5
Ethylene dibromide (µg/L)	0.02	<0.02
Carbon tetrachloride (µg/L)	0.5	<0.5 – <5
Total Petroleum Hydrocarbons (µg/L)	100	<50
1,1-Dichlorobenzene (µg/L)	5	<0.5 – <5
1,2-Dichloroethane (µg/L)	0.5	<0.5 – <5

1,1-Dichloroethylene (µg/L)	6	<0.5 – <5
Vinyl chloride (µg/L)	0.5	<0.5 – <5
Sulfides (mg/L)	1	<0.02 – <0.1
Sulfides (lb/d)	0.32	NR
Lead (mg/L)	0.05	<2 – 12
Lead (lb/d)	0.016	NR
Arsenic (mg/L)	0.05	<5 – <10
Arsenic (lb/d)	0.016	NR
Chromium (mg/L)	0.05	<10 – 13
Chromium (lb/d)	0.016	NR
Silver (mg/L)	0.05	<10
Silver (lb/d)	0.016	NR
Cadmium (mg/L)	0.005	<5 – 6
Cadmium (lb/d)	0.0016	NR
Selenium (mg/L)	0.01	<5 – <10
Selenium (lb/d)	0.0032	NR
Mercury (mg/L)	0.002	<0.5 – <2
Mercury (lb/d)	0.00064	NR
Copper (mg/L)	1	<10 – 10
Copper (lb/d)	0.32	NR
Zinc (mg/L)	5	<10 – 190
Zinc (lb/d)	1.6	NR

<sup>1</sup>One value was available for pH.  
 NR = Not Reported

The effluent monitoring data indicate that some of the detection levels were above existing permit limitations. It is difficult to determine compliance with existing permit limitations, although for some pollutants regulated in the existing permit, all reported monitoring results were below detectable levels. The existing permit required the Discharger to monitor annually for certain volatile priority pollutants; available data indicate all values are below detectable concentrations.

Effluent data reported on the permit renewal application are summarized in the following table:

Constituent (units)	Monitoring Data	
	Maximum Value Reported	Average Value Reported
Biochemical Oxygen Demand (mg/L)	30	<5
Biochemical Oxygen Demand (lb/day)	9.6	1.6
Total Suspended Solids (mg/L)	75	<10
Total Suspended Solids (lb/day)	24	3.2
Oil and Grease (mg/L)	15	<5
Oil and Grease (lb/day)	4.8	1.6
Discharge Flow (gpd)	38,400	8,450
pH	6-9	6-9
Temperature (winter) (°C)	20	10
Temperature (summer) (°C)	40	20

#### **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 CWA requires that any point source discharges of pollutants to a water of the United States must be done in conformance with an NPDES permit. NPDES permits establish effluent limitations that incorporate various requirements of the CWA designed to protect water quality.
2. Title 40, Code of Regulations (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 limits for certain dischargers and establish procedures for NPDES permitting, including how to establish effluent limits for certain pollutants discharged.
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 Dominguez Channel above the estuary:

Existing: non-contact water recreation, and preservation of rare and endangered species.

Potential: municipal and domestic supply, water contact recreation (access prohibited by Los Angeles County DPW), warm freshwater habitat, and wildlife habitat.

4. 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.
5. On May 18, 2000, the U.S. Environmental Protection Agency (USEPA) 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, USEPA 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 provides 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 the CTR criteria.

6. 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 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 SIP requires the dischargers' submittal of data sufficient to conduct the determination of priority pollutants requiring water quality-based effluent limits (WQBELs) and to calculate the effluent limitations. The CTR criteria for freshwater 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 Dominguez Channel.
7. 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 WQBELs may be set based on USEPA criteria and supplemented, where necessary, by other relevant information to attain and maintain narrative water quality criteria to fully protect designated beneficial uses.
8. State and Federal antibacksliding and antidegradation policies require 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 section 402(o) 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.
9. 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 Dominguez Channel.
10. Existing waste discharge requirements are contained in Board Order No. 97-020, adopted by the Regional Board on March 3, 1997. In some cases, permit conditions (effluent limits and other special conditions) established in the existing waste discharge requirements have been carried over to this permit.

## **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 of 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 controls:

- 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.
- 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.
- 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.
- 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.

If a reasonable potential exists for pollutants in a discharge to exceed water quality standards, 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 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 USEPA through the CTR and NTR, as well as 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 and SIP 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 criteria or objective. The SIP includes provisions for priority pollutant criteria promulgated by USEPA in the CTR and NTR, and for those priority pollutants outlined in the Basin Plan.

Effluent limitations in the current permit were established for biochemical oxygen demand, oil and grease, settleable solids, suspended solids, turbidity, phenols, tetrachloroethylene, trichloroethylene, trichloroethane, chloroform, benzene, toluene, xylene, ethylbenzene, ethylene dibromide, carbon tetrachloride, total petroleum hydrocarbons, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, vinyl chloride, sulfides, lead, arsenic, chromium, silver, cadmium, selenium, mercury, copper, and zinc because they may be present in the ground water and soil contaminated by former manufacturing operations and leaking tanks that stored chlorinated organic solvents and gasoline. Since the discharge is comprised of treated ground water from previously leaking underground storage tanks, there is potential for these pollutants to be in the discharge; therefore, these constituents are considered pollutants of concern.

2. **Technology-Based Effluent Limits**

There are currently no national ELGs for ground water treatment systems. It should be noted that the previous permit stated that the current treatment system is considered to be the BAT economically achievable.

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

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 USEPA water quality criteria contained in the CTR and NTR). The specific procedures for determining reasonable potential, and if necessary for calculating WQBELs, are contained in the SIP.

***(a) Reasonable Potential Analysis (RPA)***

In accordance with Section 1.3 of the SIP, the Regional Board will conduct a reasonable potential analysis for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Board would

analyze 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 must identify 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:

- 1) Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limit is needed.
- 2) Trigger 2 – If  $MEC < C$  and background water quality (B)  $> C$ , a limit 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 will be 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, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants where data were available. Data collected for the monthly and quarterly monitoring reports were used in the RPA.

Based on the RPA, there was reasonable potential to exceed water quality standards for cadmium, copper, lead, and zinc.

**(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 in 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 has approved the State's 303(d) list of impaired water bodies. 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 1998 303(d) list and have been scheduled for TMDL development.

The 1998 State Board's California 303(d) List classifies the Dominguez Channel as impaired. The pollutants of concern detected in the water column, in the sediment, and in the fish tissue, include elevated levels of PAHs, DDT, PCBs, chlordane, Chem A [refers to the sum of aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, HCH (including lindane), endosulfan, and toxaphene], ammonia, chromium, copper, high coliform count, lead, and zinc.

***(d) Whole Effluent Toxicity***

Whole Effluent Toxicity (WET) protects 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 a 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. As stated previously, no acute toxicity test data were available for review.

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. Consistent with Basin Plan requirements and existing permit limitations, this Order includes acute toxicity limitations.

The discharges at the Fairchild facility have the potential to cause, have the reasonable potential to cause, or contribute to acute toxicity in receiving waters. Therefore, Fairchild will be required to continue to conduct acute toxicity testing in accordance with the existing permit 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 Fairchild facility occur continuously and, due to the types of pollutants present in the ground water treated at the site, could contribute to long-term toxic effects. However, no chronic toxicity data is available for the discharge. Therefore, the Discharger will be required to conduct chronic toxicity testing in order to determine reasonable potential and establish WQBELs as necessary. In addition, the Order includes a chronic testing trigger hereby defined as an exceedance of 1.0 toxic units chronic (TU<sub>c</sub>) in a critical life stage test for 100% effluent. (The monthly median for chronic toxicity of 100% effluent shall not exceed 1.0 TU<sub>c</sub> in a critical life stage test.) If the chronic toxicity of the effluent exceeds 1.0 TU<sub>c</sub>, the Discharger will be required to immediately implement accelerated chronic toxicity testing according to Monitoring and Reporting Program, Item IV.D.1. If the results of two of the six accelerated tests exceed 1.0 TU<sub>c</sub>, the Discharger shall initiate a toxicity identification evaluation (TIE).

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

The Regional Board has determined that reasonable potential exists for all 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 biochemical oxygen demand, oil and grease, settleable solids, suspended solids, turbidity, phenols, tetrachloroethylene, trichloroethylene, trichloroethane, chloroform, benzene, toluene, xylene, ethylbenzene, ethylene dibromide, carbon tetrachloride, total petroleum hydrocarbons, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, vinyl chloride, sulfides, arsenic, chromium, mercury, selenium, and silver, shown in the table below, are based on limits specified in Fairchild's existing permit. The effluent limitations for pH and temperature are based on the Basin Plan.

Section 402(o) of the Clean Water Act and 40 CFR 122.44(l) require that effluent limitations standards or conditions in re-issued permits are at least as stringent as in the existing permit. Therefore, existing effluent limitations for all of the regulated pollutants are carried over to this permit. In addition to these limitations, the Regional Board is implementing the CTR and SIP, and additional effluent limitations are required for those regulated pollutants that show reasonable potential to exceed water quality standards. For

those that do show reasonable potential and for which existing effluent limitations exist, a comparison between existing permit limitations and CTR-based WQBELs was made and the most stringent limitation included in the Order. For cadmium, copper, lead, and zinc, the CTR-based WQBELs are more stringent; therefore, they are established in this permit.

In compliance with 40 CFR § 122.45(d), permit limitations shall be expressed, unless impracticable, as both average monthly limitations and maximum daily limitations. Therefore, average monthly effluent limitations are established in the Order for certain pollutants. Due to the absence of AMELs in the existing permit, AMELs will be calculated based on the ratios of MDEL:AMEL for those effluent limitations calculated according to the requirements in the CTR (i.e., cadmium, copper, lead, and zinc). The average of the ratios used to calculate MDELs and AMELs for cadmium, copper, lead, and zinc is 2.01. To calculate the AMEL for all other pollutants, based on this average ratio, the MDEL is divided by 2.01. Further, the average monthly effluent limitations for BOD, oil and grease, settleable solids, total suspended solids, and turbidity are based on BPJ and are consistent with individual permits recently issued by the Regional Board to industrial facilities of a similar nature.

In compliance with 40 CFR § 122.45(f), mass-based limitations have also been established in the proposed Order for conventional, nonconventional, and toxic pollutants. The previous mass-based effluent limitations were based on 38,400 gpd. The mass-based effluent limitations contained in this Order for treated ground water discharges from Discharge Serial No. 001 are also based on a maximum discharge flow rate of 38,400 gpd. 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:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} \times 8.34 \times \text{effluent limitation (mg/L)}$$

where:

- mass = mass limit for a pollutant in lbs/day
- effluent limitation = concentration limit for a pollutant, mg/L
- flow rate = discharge flow rate in MGD

The following table presents the effluent limitations and the specific rationales for pollutants that are expected to be present in the discharge from Discharge Serial No. 001 (Latitude 33°53'36" N, Longitude 118°21'42" W):

Constituent (units)	Maximum Daily Discharge Limitations		Average Monthly Discharge Limitations		Rationale <sup>1</sup>
	Concentration	Mass <sup>2</sup> (lbs/day)	Concentration	Mass <sup>2</sup> (lbs/day)	
pH (s.u)	6.5-8.5	--	--	--	BP
Temperature (°F)	100	--	--	--	BP
BOD <sub>5</sub> at 20°C (mg/L)	30	9.60	20	6.4	E, BPJ
Oil and grease (mg/L)	15	4.80	10	3.2	E, BPJ
Settleable solids	0.3	--	0.1	--	E, BPJ
Suspended solids (mg/L)	75	24	50	16	E, BPJ
Turbidity (mg/L)	75	--	50	--	E, BPJ
Phenols (mg/L)	1	0.32	0.5	0.16	E, BPJ
Tetrachloroethylene (µg/L)	5	0.002	2.49	0.0008	E, BPJ
Trichloroethylene (µg/L)	5	0.002	2.49	0.0008	E, BPJ
Trichlorethane (µg/L)	10	0.003	4.97	0.002	E, BPJ
Chloroform (µg/L)	25	0.0080	12.44	0.004	E, BPJ
Benzene (µg/L)	1	0.0003	0.5	0.0002	E, BPJ
Toluene (µg/L)	10	0.003	4.97	0.002	E, BPJ
Xylene (µg/L)	10	0.003	4.97	0.002	E, BPJ
Ethylbenzene (µg/L)	10	0.003	4.97	0.002	E, BPJ
Ethylene dibromide (µg/L)	0.02	0.000006	0.0099	0.000003	E, BPJ
Carbon tetrachloride (µg/L)	0.5	0.0002	0.25	0.00008	E, BPJ
Total Petroleum Hydrocarbons (µg/L)	100	0.03	49.8	0.02	E, BPJ
1,1-Dichlorobenzene (µg/L)	5	0.0016	2.5	0.0008	E, BPJ
1,2-Dichloroethane (µg/L)	0.5	0.00016	0.25	0.00008	E, BPJ
1,1-Dichloroethylene (µg/L)	6	0.0019	2.98	0.0009	E, BPJ
Vinyl chloride (µg/L)	0.5	0.0002	0.25	0.00008	E, BPJ
Sulfides (mg/L)	1	0.32	0.5	0.0002	E, BPJ
Arsenic (µg/L)	50	0.016	24.9	0.008	E, BPJ

Constituent (units)	Maximum Daily Discharge Limitations		Average Monthly Discharge Limitations		Rationale <sup>1</sup>
	Concentration	Mass <sup>2</sup> (lbs/day)	Concentration	Mass <sup>2</sup> (lbs/day)	
Cadmium (µg/L)	4.04	0.0013	2.01	0.0006	CTR
Chromium (µg/L)	50	0.016	24.9	0.008	E, BPJ
Copper (µg/L)	14	0.0045	6.98	0.002	CTR
Lead (µg/L)	5.2	0.0017	2.6	0.0008	CTR
Mercury (µg/L)	2	0.0006	0.99	0.0003	E, BPJ
Silver (µg/L)	50	0.016	24.9	0.008	E, BPJ
Selenium (µg/L)	10	0.003	5	0.002	E, BPJ
Zinc (µg/L)	119.8	0.04	59.7	0.02	CTR

<sup>1</sup> BP = Basin Plan, BPJ = Best Professional Judgment, E = Existing permit limit; CTR = California Toxics Rule

<sup>2</sup> The mass-based effluent limitations are based on a maximum discharge flow rate of 38,400 gpd.

**5. Compliance Schedule**

Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC and calculated AMEL value shows that the Discharger will be unable to consistently comply with effluent limitations established in the proposed Order for cadmium, copper, lead, and zinc. As a result, the proposed Order contains a compliance schedule that allows the Discharger up to 27 months to comply with the revised effluent limitations. Within 1 year 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 limits and compliance schedules may be issued. The SIP does allow inclusion of an interim limit with a specific compliance schedule included in a NPDES permit for priority pollutants if the limit for the priority pollutant is CTR-based. Since the CTR-based effluent limits for cadmium, copper, lead, and zinc appear infeasible for the Discharger at this time, interim limits for cadmium, copper, lead, and zinc are contained in this Order.

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 develop final effluent limitations. When interim requirements have been completed, the Regional Board shall calculate final WQBELs for that pollutant based on the collected data, reopen the permit, and include the final effluent limitations in the permit provisions. Once final limitations become effective, the interim limitations will no longer apply. These interim limitations

shall be effective until April 30, 2005, after which, the Discharger shall demonstrate compliance with the final effluent limitations. The Discharger will specifically be required to develop and implement a plan to reduce the concentrations of cadmium, copper, lead, and zinc 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.

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. Order No. 97-020 contains effluent limitations for cadmium, copper, lead, and zinc. The RPA for copper indicated a potential to exceed the calculated monthly average concentration but not the daily maximum concentration. Therefore, the interim daily maximum effluent concentration is the same as the final effluent concentration, but the interim monthly average concentration is the MEC reported in the data set. For cadmium, the existing permit limitation is more stringent than the MEC; therefore, the existing effluent limitation will serve as the basis for the interim effluent limitation. For lead and zinc, the MEC is more stringent than the existing effluent limitation; therefore the MEC will serve as the basis for the interim effluent limitation. It should be noted that the Board may take appropriate enforcement actions if interim limitations and requirements are not met.

From the effective date of this Order until August 31, 2005 the discharge of effluent from Discharge Serial No. 001 in excess of the following limitations is prohibited:

Constituent (units)	Daily Maximum Discharge Limitation	Monthly Average Discharge Limitation	Rationale <sup>1</sup>
Cadmium (µg/L) <sup>2</sup>	5	--	EP, MEC
Copper (µg/L) <sup>2</sup>	14	10	CTR/MEC
Lead (µg/L) <sup>2</sup>	12	--	MEC
Zinc (µg/L) <sup>2</sup>	190	--	MEC

<sup>1</sup> MEC= Maximum Effluent Concentration, EP= Existing Permit (Order No. 97-020) Effluent Limitation, CTR = California Toxics Rule

<sup>2</sup> Discharge limitations for these metals are expressed as total recoverable. The effluent limits in this table are effective from the date of adoption of this Order through August 31, 2005.

## 6. **Monitoring Requirements**

For regulated parameters, the previous permit for Fairchild required monthly monitoring for flow, and tetrachloroethylene, trichloroethylene, trichloroethane, chloroform, benzene, toluene, xylene, ethylbenzene, ethylene dibromide, carbon tetrachloride, total petroleum hydrocarbons, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, vinyl chloride, and phenols. The previous permit required quarterly monitoring for pH,

temperature, biochemical oxygen demand, oil and grease, settleable solids, suspended solids, turbidity, sulfides, arsenic, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc. Annual monitoring for certain volatile organic priority pollutants and toxicity was required under the previous permit.

Consistent with recommendations in the SIP, if data are unavailable or insufficient to conduct the RPA, the Regional Board should establish interim requirements that require additional monitoring for the pollutants in place of a WQBEL. Upon completion of the required monitoring, the Regional Board will use the gathered data to conduct the RPA and determine if a WQBEL is required. As prescribed in the Monitoring and Reporting Program, the Regional Board shall require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

**(a) Effluent Monitoring**

To demonstrate compliance with effluent limitations established in the permit, monitoring monthly for flow, tetrachloroethylene, trichloroethylene, trichloroethane, chloroform, benzene, toluene, xylene, ethylbenzene, ethylene dibromide, carbon tetrachloride, total petroleum hydrocarbons, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, vinyl chloride, and phenols is required. Further, quarterly monitoring for pH, temperature, biochemical oxygen demand, oil and grease, settleable solids, suspended solids, turbidity, sulfides, arsenic, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc, and annual monitoring for toxicity and USEPA priority pollutants, are required by this Order.

**(b) Receiving Water Monitoring**

To conduct RPA receiving water monitoring data is required. The receiving water monitoring of priority pollutants shall be conducted for the first two years on an annual basis. The two time annual monitoring of the receiving water shall be conducted at the same time as annual effluent monitoring of priority pollutants. Receiving monitoring station shall be within 50 feet upstream from or near the discharge point (of storm drain) into Receiving Water.