

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
HONEYWELL INTERNATIONAL INCORPORATED
(Gardena Site Remediation Project)

NPDES Permit No.: CA0062162
Public Notice No.: 03-071

FACILITY ADDRESS

Honeywell International Incorporated
Groundwater Treatment System
1733 S. Western Avenue
Gardena, CA 90247

FACILITY MAILING ADDRESS

Honeywell International Incorporated
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Minneapolis, MN 55440
Contact: Chih-Hung Hsia
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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 January 10, 2004.

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 29, 2004
Time: 9:00 a.m.
Location: City of Simi Valley, Council Chambers
2929 Tapo Canyon Road
Simi Valley, CA

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 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

Honeywell International Incorporated (hereinafter Honeywell or Discharger) discharges wastewater under waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit contained in Board Order No. 97-022 (NPDES Permit No. CA0062162). Order No. 97-022 expired on February 10, 2002.

Honeywell filed a report of waste discharge and has applied for renewal of its WDRs and NPDES permit on October 12, 2001. As stated in the cover letter to the application, the application was originally intended for application for coverage under the Regional Board's general permit for discharges of treated groundwater from cleanup of volatile organic compounds (VOCs). The Discharger re-submitted the renewal application on September 10, 2003 for renewal of the individual NPDES permit. The tentative Order is the reissuance of the WDRs and NPDES permit for discharges from Honeywell. A site visit was conducted on August 27, 2003, to observe operations and collect additional data to develop permit limits and conditions.

III. Description of Facility and Waste Discharge

Honeywell Inc. owns and operates a Groundwater Remediation System Facility (Facility) located at 1733 W. Artesia Boulevard in Gardena, California. The Facility was formerly located at 17300 S. Western Avenue, Gardena, California. The Facility was relocated in April 2001 to 1733 W. Artesia Boulevard, Gardena due to the construction of a shopping center.

Honeywell Inc. formerly operated a manufacturing facility for furnace gas control valves located at 17300 S. Western Avenue, Gardena, California. Honeywell Inc. stored gasoline, diesel fuel and several solvents in underground storage tanks. In 1989, a leak detection program initiated at the site disclosed soil and groundwater contamination which originated from leaking underground storage tanks and spillage. The leak detection program indicated that the highest contaminant concentrations contained in the groundwater were from trichloroethylene and tetrachloroethylene. All underground storage tanks and associated piping have been removed. In 1990, a groundwater extraction and treatment system was installed at the Facility.

The Facility consists of a groundwater pumping system and an ultraviolet/hydrogen peroxide (UV/H₂O₂) treatment system. Six extraction wells were used to pump contaminated groundwater for treatment. Currently, only two extraction wells are operating. The contaminated groundwater is treated using an ultraviolet/hydrogen peroxide treatment system. The ultraviolet/hydrogen peroxide treatment system consists of a surge tank, peroxide injection, a sand filter, a bag filter, a static mixing tube, and ultraviolet treatment.

Honeywell discharges up to 20,000 gallons per day (gpd) of treated groundwater produced from the cleanup of chlorinated organic solvents and petroleum hydrocarbon contamination through Discharge Serial No. 001 (Latitude 33° 52' 21" and Longitude 118° 18' 26"), into a storm drain located at Artesia Boulevard, thence to Dominguez Channel, a water of the United States, above the estuary.

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

Effluent data submitted to the Regional Board for the dates between May 2000 and March 2003 as Discharge Monitoring Reports are summarized in the following table:

| Constituent (units) | Daily Maximum Effluent Limits | Range of Reported Values | Average Reported Effluent Concentration | Percent ND ¹ |
|-----------------------------------|-------------------------------|---------------------------|---|-------------------------|
| Flow (gpd) | 25,000 | 2,680 – 19,000 | 10,206 | NA |
| PH (S.U.) | 6.0 – 9.0 | 7.2 – 8.07 | 7.66 | NA |
| Temperature (F) | 100 | 76 – 95.3 | 81.36 | NA |
| Turbidity (NTU) | 75 | 0.35 – 1.8 | 1.075 | 0 |
| Settleable Solids (mL/L/hr) | 0.3 | <0.1 | <0.1 | 100 |
| Suspended Solids (mg/L) | 75 | <10 | <10 | 100 |
| BOD (mg/L) | 30 | 0.16 – 1.8 ² | 0.16 ² | 50 |
| Oil and Grease (mg/L) | 15 | <4.7 – <10 ³ | <4.7 – <10 ³ | 100 |
| TPH (as gasoline) (mg/L) | -- | <0.03 – <0.5 ³ | <0.03 – <0.5 ³ | 100 |
| TPH (as diesel) (mg/L) | -- | <0.1 – <1 ³ | <0.1 – <1 ³ | 100 |
| Benzene (µg/L) | 1.0 | <0.3 – <1 ³ | <0.3 – <1 ³ | 100 |
| Toluene (µg/L) | 10.0 | <0.3 – 10 | 10 | 87.5 |
| Total Xylene (µg/L) | 10.0 | <0.5 – <1 ³ | <0.5 – <1 ³ | 100 |
| Ethylbenzene (µg/L) | 10.0 | <0.2 – <1 ³ | <0.2 – <1 ³ | 100 |
| 1,2-Dichloroethane (µg/L) | 0.5 | <0.2 – 0.31 ⁴ | 0.31 | 87.5 |
| 1,1,1-Trichloroethane (µg/L) | 10.0 | <0.2 – <1 ³ | <0.2 – <1 ³ | 100 |
| 1,1-Dichloroethylene (µg/L) | 6.0 | <0.2 – <1 ³ | <0.2 – <1 ³ | 100 |
| Trans-1,2-Dichloroethylene (µg/L) | 10.0 | <0.2 – <1 ³ | <0.2 – <1 ³ | 100 |
| Trichloroethylene (µg/L) | 5.0 | 0.28 – 1.4 ⁵ | 0.28 ⁵ | 66.7 |
| Tetrachloroethylene (µg/L) | 5.0 | <0.7 – 15 | 1.3 | 50 |
| Arsenic (µg/L) | 50 | <5 | <5 | 100 |
| Cadmium (µg/L) | 5 | <5 | <5 | 100 |
| Total Chromium (µg/L) | 50 | 0.75 – <5 | 10.5 | 0 |
| Copper (µg/L) | 1000 | 9.7 – 11 | 8.65 | 50 |
| Lead (mg/L) | 0.05 | <0.002 – 0.01 | 0.00685 | 71.4 |
| Mercury (µg/L) | 2 | <0.2 | <0.2 | 100 |
| Selenium (µg/L) | 50 | <5 | <5 | 100 |
| Silver (µg/L) | 50 | <10 | <10 | 100 |
| Zinc (µg/L) | 5000 | 10 – 11 ⁶ | 11 | 50 |
| Acute Toxicity (%) | 7 | 0 ⁸ – 100 | -- | -- |

¹ Percent of reported values that were none detect. Average values are for detected values only.

² Non-detected value of <2 also reported.

³ The detection limits varied between these two values for the effluent data submitted to the Regional Board.

⁴ Non-detected values up to <1 were also reported.

⁵ Non-detected value of <0.3 also reported.

⁶ Non-detected values up to <20 were also reported.

⁷ 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.

⁸ The December 7, 2000 acute toxicity test resulted in 0% survival. The Discharger retested on Jan. 2, 2001 and achieved 100% survival.

Data submitted for the period from September 2000 through March 2003 indicate the Discharger has exceeded effluent limitations established in Order No. 97-022 for acute toxicity. The December 7, 2000 acute toxicity test resulted in 0 percent survival. The Discharger retested the effluent on January 2, 2001 and achieved 100 percent survival. Further, an effluent sample collected in February 2002 indicated an exceedance of the established effluent limit for tetrachloroethylene of 5.0 µg/L with a reported value of 15 µg/L.

The Regional Board issued a Notice of Violation (NOV) to Honeywell on July 9, 2001. The NOV cited the lack of a perjury declaration in four reports; the acute toxicity effluent limitation violation on December 7, 2000; and lack of monitoring for pH and trichloroethylene in 2000. The Discharger responded to the NOV on July 25, 2001, and provided the information requested by the Regional Board.

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 limits for certain dischargers and establish procedures for NPDES permitting, including how to establish effluent limits for certain pollutants discharged by Honeywell.
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.

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

Potential Uses: municipal and domestic supply, water contact recreation, warm freshwater habitat, wildlife habitat.

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 USEPA 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 USEPA'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 the Dominguez Channel.
6. 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 allows 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 limits 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 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 the Dominguez Channel.
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 limits

(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.

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 Dominguez Channel.
11. Existing waste discharge requirements contained in Board Order No. 97-022, 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 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.

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 USEPA 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.

The existing permit established effluent limitations for a number of pollutants believed to be present in the discharge of treated groundwater. The storage tanks that previously existed at the site and used as part of the industrial manufacturing processes contained VOCs and metals. Thus, the existing regulated pollutants are still considered pollutants of concern because of the nature of operation at the Facility. Effluent limitations for Discharge Serial No. 001 in the previous permit were established for suspended solids, biochemical oxygen demand (BOD₅20°C), oil and grease, turbidity, settleable solids, benzene, toluene, total xylene, ethylbenzene, trichloroethylene, 1,2-dichloroethane, 1,1-dichloroethylene, trans-1,2-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethylene, lead, arsenic, total chromium, silver, cadmium, selenium, mercury, copper, cyanide, and zinc, because the groundwater was contaminated by historical release of fuel and solvents from

underground storage tanks. These constituents may still be present in the untreated groundwater and are therefore considered pollutants of concern.

Treated groundwater has the potential to affect the pH and temperature of the receiving water body; therefore, effluent limitations for pH and temperature are established in this permit.

2. Technology-Based Effluent Limits

There are currently no national ELGs for groundwater treatment systems. It should be noted that the previous permit stated that the current treatment system is considered to be the best available technology (BAT) economically achievable for the extracted groundwater.

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.

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 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 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.

Certain CTR water quality criteria for metals (i.e., arsenic, cadmium, chromium VI, copper, lead, mercury, nickel, selenium, silver, and zinc) are hardness dependent. The Discharger provided hardness data for the receiving water (Dominguez Channel) as part of their required CTR monitoring. The maximum hardness value reported was 180 mg/L as CaCO₃ and was used to calculate the effluent limitations for metals.

(a) Reasonable Potential Analysis (RPA)

The Regional Board conducts 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 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 limit is needed.
- 2) Trigger 2 – If $MEC < C$ and backgroundwater 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 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, 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 letter August 3, 2001 from the Regional Board addressed to Honeywell, requiring quarterly monitoring for priority pollutants regulated in the CTR. Data collected on September 19, 2001, November 28, 2001, February 26, 2002, and March 20, 2003, were used in the RPA. In addition, data collected for certain priority pollutants from 2000 to 2003, as required in the current permit were also used to perform the RPA.

Based on the RPA, there is reasonable potential to exceed water quality criteria at Discharge Serial No. 001 for lead, hexavalent chromium, copper, mercury, cyanide, tetrachloroethylene, and 1,1,2-trichloroethane. Thus, effluent limitations for lead, cyanide, hexavalent chromium, copper, mercury, tetrachloroethylene, and 1,1,2-trichloroethane have been established. Refer to Attachment C for a summary of the RPA and associated effluent limitation calculations.

(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 Dominguez Channel receives discharges from highly industrial areas. The 2002 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 aldrin, ammonia, Chem A [refers to the sum of aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, HCH (including lindane), endosulfan, and toxaphene], chlordane, chromium, copper, DDT, dieldrin, high coliform count, lead, PAHs, PCBs, and zinc. The RPA indicates that copper, and chromium VI show reasonable potential to exceed water quality criteria; therefore, effluent limits and monitoring requirements have been established.

(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.

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, this Order includes acute toxicity limitations.

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 Honeywell facility occur continuously and, due to the types of pollutants present in the groundwater treated at the site, could contribute to long-term toxic effects. However, no chronic-toxicity data are available for the discharge. Therefore, the Discharger will be required to conduct chronic toxicity testing.

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 (suspended solids, BOD₅20°C, oil and grease, turbidity, settleable solids, and total xylene) are based on limits specified in Honeywell'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 many 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 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 lead, mercury, and copper the existing permit limitations are less stringent; therefore, the CTR-based WQBELs will be included in this Order. For tetrachloroethylene the existing permit limitation is more stringent, therefore, it is carried over to this permit. In addition, CTR-based WQBELs are established for hexavalent chromium, cyanide, and 1,1,2-trichloroethane because these constituents show reasonable potential to exceed state water quality standards.

Average monthly effluent limitations are established in the Order for certain pollutants. These average monthly effluent limitations are based on BPJ and are consistent with current

individual permits adopted by the Regional Board to industrial facilities of a similar nature. In addition, Section 402(o) of the Clean Water Act and 40 CFR 122.44(l) require that effluent limitations standards or conditions in reissued permits be at least as stringent as those in the existing permit.

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 limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. 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 specific rationales for pollutants that are expected to be present in the discharge:

| Constituents | Units | Monthly Average Discharge Limitations | | Daily Maximum Discharge Limitations | | Ratio nale |
|-----------------------------------|-------|---------------------------------------|--------------------------------|-------------------------------------|--------------------------------|---------------|
| | | Concentration | Mass ¹ (lbs/day) | Concentration | Mass ¹ (lbs/day) | |
| Turbidity | NTU | 50 | -- | 75 | -- | E,BPJ |
| Settleable solids | ml/L | 0.1 | -- | 0.3 | -- | E,BPJ |
| Total suspended solids | mg/L | 50 | 8.3 | 75 | 12.5 | E,BPJ |
| Oil and Grease | mg/L | 10 | 1.7 | 15 | 2.5 | E,BPJ |
| BOD ₅ | mg/L | 20 | 3.3 | 30 | 5.0 | E,BPJ |
| Benzene | µg/L | --- | --- | 1 | --- | E |
| Toluene | µg/L | --- | --- | 10 | --- | E |
| Xylene | µg/L | --- | --- | 10 | --- | E |
| Ethylbenzene | µg/L | --- | --- | 10 | --- | E |
| 1,2-Dichloroethane | µg/L | --- | --- | 0.5 | --- | E |
| 1,1,1-Trichloroethane | µg/L | --- | --- | 10 | --- | E |
| 1,1-Dichloroethylene | µg/L | --- | --- | 6 | --- | E |
| Trans 1,2-Dichloroethylene | µg/L | --- | --- | 10 | --- | E |
| Trichloroethylene | µg/L | --- | --- | 5 | --- | E |
| Tetrachloroethylene | µg/L | --- | --- | 5 | --- | E |
| Arsenic (µg/L) ² | µg/L | --- | --- | 50 | --- | E |
| Cadmium (µg/L) ² | µg/L | --- | --- | 5 | --- | E |
| Chromium VI (µg/L) ^{2,3} | µg/L | 7.97 | --- | 16 | --- | CTR |
| Copper (µg/L) ^{2,3} | µg/L | 2.88 | --- | 5.78 | --- | CTR |

| Constituents | Units | Monthly Average Discharge Limitations | | Daily Maximum Discharge Limitations | | Ratio nale |
|-------------------------------|-----------------|---------------------------------------|--------------------------------|-------------------------------------|--------------------------------|---------------|
| | | Concentration | Mass ¹ (lbs/day) | Concentration | Mass ¹ (lbs/day) | |
| Lead (µg/L) ^{2,3} | µg/L | 5.50 | --- | 11.04 | --- | CTR |
| Mercury (µg/L) ^{2,3} | µg/L | 0.051 | --- | 0.102 | --- | CTR |
| Selenium (µg/L) ² | µg/L | | --- | 50 | --- | E |
| Silver (µg/L) ² | µg/L | | --- | 50 | --- | E |
| Cyanide ³ | µg/L | 0.50 | --- | 1 | --- | CTR |
| Acute toxicity | % survival | --- | --- | 4 | --- | BP |
| Chronic toxicity | TU _c | | | 5 | --- | BP |

¹ The mass-based effluent limitations for pollutants are based on a maximum discharge flow rate of 20,000 gpd.

The equation used to calculate the mass is:

$m = 8.34 * C * Q$ where:

m = mass limit for a pollutant in lbs/day

C = concentration limit for a pollutant, mg/L

Q = maximum discharge flow rate, mgd

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

³ The interim limits in Section 5 below are applicable from the date of adoption of the Order through January 29, 2007.

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 The monthly median for chronic toxicity of 100% effluent shall not exceed 1 TU_c in a critical life stage test (more information can be found in Section I.B.3.b. of the tentative permit.)

E = Existing permit

BP = Basin Plan

BPJ = Best Professional Judgment is the method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data. BPJ limits are established in cases where effluent limitation guidelines are not available for a particular pollutant of concern. Authorization for BPJ limits is found under section 401(a)(1) of the Clean Water Act and under 40 CFR 125.3.

CTR = California Toxic Rule for the protection of aquatic organisms. The average monthly limit is derived as a continuous criteria concentration (CCC) and equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The maximum daily limit is derived as a criteria maximum concentration (CMC) and equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects.

5. Compliance Schedule

Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC and calculated AMEL values shows that the Discharger will be unable to consistently comply with effluent limitations established in the proposed Order for hexavalent chromium, copper, lead, mercury, and cyanide. Hence, interim limits have been prescribed for these constituents. As a result, the proposed Order contains a compliance schedule that allows the Discharger up to 3 years 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 §131.88(e) provides conditions under which interim effluent limits and compliance schedules may be issued. The SIP allows 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. Because the CTR-based effluent limits for hexavalent chromium, lead, copper, mercury, and cyanide appear infeasible for the Discharger to achieve at this time, interim limits for hexavalent chromium, copper, lead, mercury, and cyanide 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 achieve the final effluent limitations. These interim limitations shall be effective until January 27, 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. Order No. 97-022 contains effluent limitations for total chromium, mercury, lead, and copper. For mercury, lead and copper the MEC is more stringent than the existing effluent limitation, therefore the MEC will serve as the interim effluent limit concentration for these constituents. For hexavalent chromium the MEC for total chromium will be used because MEC is more stringent than the existing effluent limitation for total chromium. Order No. 97-022 does not contain effluent limitations for cyanide; therefore the corresponding MEC will serve as the basis for the interim effluent limitations for this constituent. 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 January 29, 2007 the discharge of effluent from Discharge Serial No. 001 in excess of the following is prohibited:

| Constituents | Units | 30-day Average Discharge Limitations ¹ | Daily Maximum Discharge Limitations ¹ | Rationale |
|--------------------------|-------|---|--|--------------|
| Chromium VI ² | µg/L | 16 | 18.9 | ³ |
| Copper ² | µg/L | 31.7 | 39.6 | ³ |
| Lead ² | µg/L | 7.94 | --- | ³ |
| Mercury ² | µg/L | 0.143 | 0.167 | ³ |
| Cyanide | µg/L | --- | 73 | ³ |

¹ The mass-based effluent limitations are based on a flow rate of 20,000 gpd.

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

³ The interim limits for chromium VI, copper, lead, and mercury were calculated according to the 95th percentile occurrence probability method for monthly average limits and 99th percentile occurrence probability method for daily maximum limits. For non-detect (ND) data points, half of their respective MDL were used in the calculations. There is no interim limit for the daily maximum for lead because the 99th percentile was less than the CTR limit. The interim limit for cyanide was based on the Facility's current performance because there were only two data points. Therefore, no interim limit was prescribed for the monthly average for cyanide.

According to the SIP, pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. Mercury has strong bioaccumulative properties and can cause adverse human health impacts. Because the RPA determined that mercury could exceed the applicable criteria, this permit requires that the Discharger develop and implement a pollution minimization plan for mercury. Described in detail in section 2.4.5.1 of the SIP, pollutant minimization includes: monitoring for potential sources of the pollutants, quarterly monitoring of the pollutant, control strategy, control measure implementation, and an annual status report sent to the Regional Board.

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 hexavalent chromium, copper, cyanide, lead, and tetrachloroethylene 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. Monitoring Requirements

The previous permit for Honeywell required quarterly monitoring for total flow, temperature, pH, oil and grease, total petroleum hydrocarbons, benzene, toluene, total xylene, ethylbenzene, lead, 1,1-dichloroethylene, 1,2-dichloroethane, trans-1,2-dichloroethylene, 1,1,1-trichloroethane, trichloroethylene, and tetrachloroethylene. Further, the previous permit required annual monitoring for acute toxicity. The Discharger monitored TSS, BOD, turbidity, settleable solids, arsenic, chromium, silver, cadmium, selenium, mercury, copper, and zinc, although the Order No. 97-022 did not include monitoring requirements for these parameters.

On August 3, 2001 the Regional Board sent a letter to Honeywell requiring the monitoring of priority pollutants regulated in the CTR. Quarterly monitoring of the effluent and receiving water was required for the period from August 2001 through March 2003.

Monitoring requirements are discussed in greater detail in Section III of the Monitoring and Reporting Program No. 7015. As described in the Monitoring and Reporting Program, monitoring reports must be submitted quarterly.

(a) Effluent Monitoring

To demonstrate compliance with effluent limitations established in the permit, and to assess the impact of the discharge on the beneficial uses of the receiving waters, this Order carries over the existing monitoring requirements for many parameters and adds monitoring requirements for some parameters. Monitoring quarterly for pH, temperature, BOD₅20°C, oil and grease, turbidity, settleable solids, benzene, toluene, xylene, ethylbenzene, 1,1-dichloroethylene, 1,2-dichloroethane, trans-1,2-dichloroethylene, 1,1,1-trichloroethane, trichloroethylene, arsenic, silver, cadmium, selenium, and zinc are required to ensure compliance with effluent limitations. Monitoring for copper, mercury, tetrachloroethylene, and lead has been increased from quarterly to monthly because these parameters show reasonable potential to exceed CTR-based effluent limitations. In addition, this Order also requires monthly monitoring for cyanide and hexavalent chromium because these parameters show reasonable potential to exceed CTR-based effluent limitations. In addition, monitoring for total flow is increased from quarterly to weekly by the use of flow totalizers that the facility already has on-site. The flow is to be recorded weekly and reported as described in monitoring and reporting No. 7015.

In addition, this Order carries over the annual monitoring requirement for acute toxicity, and establishes an annual monitoring requirement for chronic toxicity.

Because the characteristics of the wastewater being treated by the Discharger are not expected to vary significantly over time, grab samples are required for all limited pollutants.

(b) Receiving Water and TCDD Monitoring for Reasonable Potential Determination

As discussed earlier, the Regional Board issued a letter on August 3, 2001 that required the Discharger to monitor for priority pollutants regulated in the CTR, and submit the data by April 15, 2003. As discussed previously, the Discharger has submitted data for the dates of September 19, 2001, November 28, 2001, February 26, 2002, and March 20, 2003, and these data were used to conduct the RPA. The SIP states that the Regional Board will require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

This permit will combine the periodic reporting requirements of the SIP with the existing permit monitoring requirements. The Regional Board is requiring, as part of the Monitoring and Reporting Program, that the Discharger conduct receiving water monitoring for the priority pollutants, twice during the permit term (once during the 2nd year of the permit and once during the 4th year of the permit). Further, the Discharger must analyze pH and hardness of the receiving water concurrent with the analysis for the priority pollutants.

The Regional Board is requiring, as part of the Monitoring and Reporting Program, that the Discharger conduct effluent monitoring for 2,3,7,8 TCDD, twice during the permit term (once during the 2nd year of the permit and once during the 4th year of the permit). The SIP requires monitoring for 2,3,7,8-TCDD and the 16 congeners listed in the table below. The Discharger is required to calculate Toxic Equivalence (TEQ) for each congener by multiplying its analytical concentration by the appropriate Toxicity Equivalence Factors (TEF) provided below.

| Congeners | TEF |
|-------------------------|--------|
| 2,3,7,8-Tetra CDD | 1.0 |
| 1,2,3,7,8-penta CDD | 1.0 |
| 1,2,3,4,7,8-hexa CDD | 0.1 |
| 1,2,3,6,7,8-hexa CDD | 0.1 |
| 1,2,3,7,8,9-hexa CDD | 0.1 |
| 1,2,3,4,6,7,8-hepta CDD | 0.01 |
| Octa CDD | 0.0001 |
| 2,3,7,8-tetra CDF | 0.1 |
| 1,2,3,7,8 penta CDF | 0.05 |
| 2,3,4,7,8-penta CDF | 0.5 |
| 1,2,3,4,7,8-hexa CDF | 0.1 |
| 1,2,3,6,7,8-hexa CDF | 0.1 |
| 1,2,3,7,8,9-hexa CDF | 0.1 |
| 2,3,4,6,7,8-hexa CDF | 0.1 |
| 1,2,3,4,6,7,8-hepta CDF | 0.01 |
| 1,2,3,4,7,8,9-hepta CDF | 0.01 |
| Octa CDF | 0.0001 |

Because the characteristics of the wastewater being treated by the Discharger are not expected to vary significantly over time, grab samples are required for all pollutants to be monitored.

This monitoring shall occur at the following locations:

- Receiving water. The monitoring station shall be at 50 feet upstream from the discharge point of the storm drain to the Dominguez Channel.