

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
CITY OF LOS ANGELES, DEPARTMENT OF WATER AND POWER
LOS ANGELES AQUEDUCT TUNNEL 105

NPDES Permit No.: CA0064149
Public Notice No.: 03-010

FACILITY MAILING ADDRESS

Department of Water and Power
P.O. Box 111
111 North Hope Street, No. 1213
Los Angeles, CA 90051

FACILITY LOCATION

Tunnel No. 105
Intersection of Balboa Boulevard
and Golden State Fwy.
Sylmar, CA
Contact: Katherine Rubin
Telephone: (213) 367-0436

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 June 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: July 10, 2003
Time: 9:00 a.m.
Location: Metropolitan Water District of Southern California
700 North Alameda Street
Los Angeles, 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 Miller Jennings, Senior Staff Counsel
1001 I Street, 22nd Floor
Sacramento, CA 95814

D. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special conditions, comments received, and other information are on file and may be inspected at 320 West 4th Street, Suite 200, Los Angeles, California 90013, at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Los Angeles Regional Board by calling (213) 576-6600.

E. Register of Interested Persons

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

II. Introduction

The City of Los Angeles, Department of Water and Power (hereinafter DWP or Discharger) discharges treated water under waste discharge requirements (WDRs) contained in Order No. 98-007 adopted by the Regional Board on January 26, 1998, CI-7839. The Discharger has filed a report of waste discharge (ROWD) and has applied for renewal of its WDRs.

III. Description of Facility and Waste Discharge

Los Angeles Department of Water and Power (DWP), operates a municipal water supply system for the City of Los Angeles. The DWP transports water from the Owens Valley via the Los Angeles Aqueduct, which is located over the Newhall Oil Field, which is known for its natural occurrence of oil in the soil. The oil and water in soils around the aqueduct seeps into the aqueduct and is collected in the collection system. Groundwater mixed with oil may also seep into Tunnel 105 along the pathway to its terminus in Magazine Canyon. The oil/water collected from the tunnel is treated using an oil-water separator, located approximately $\frac{3}{4}$ mile north of the intersection of Balboa Boulevard and the Golden State Freeway, prior to discharge to Weldon Canyon Creek.

A maximum of 5,900 gallons per day of treated water is discharged via Serial No. 001 located at Latitude 34° 19' 52", Longitude 118° 29' 56" to Weldon Canyon Creek. Discharges to Weldon Canyon Creek flow via Bull Creek to the Los Angeles River, a water of the United States.

During normal operations the facility discharge 5,900 gallons per day of treated water. During shutdown of the aqueduct for maintenance and/or repair, the water that remains in the aqueduct is drained. Shutdowns occur on an as needed basis. The duration of the shutdown can be from a few days to several months depending upon the extent of maintenance or repair required. Since the aqueduct is a non-pressurized system and is concrete, natural seepage of water does occur into the aqueduct during shutdown. This water is typically referred to as "nuisance water" and it drains over to Tunnel 105. The collection system continues to operate and thus collects the nuisance water, which is not treated with the oil/water separator prior to discharge to the Weldon Canyon Creek. The nuisance water can flow up to 2 cubic feet per second (1,292,600 gallons per day) and may be discharged for 2 to 3 months.

Effluent limitations contained in the Order No. 98-006, which currently covers discharges from Tunnel No. 105, and the maximum contaminant concentration reported in the monitoring data, are presented in the following table:

Constituent (units)	Existing Effluent Limitations		Discharge Conc. (March 1998 – Dec 2002)
	Maximum	30-Day Average	Range
Oil and Grease (mg/L)	15	10	0.6 – 49.2
BOD ₅ (mg/L)	60	20	4 – 12
Total suspended solids (mg/L)	150	50	1 – 32
Total dissolved solids (mg/L)	1,000	---	183 – 572
Settleable solids	0.3	0.1	0.2
Sulfate (mg/L)	300	---	15.2 – 45.2
Sulfides (mg/L)	1.0	---	---
Chloride (mg/L)	100	---	21 – 92.1
Boron (mg/L)	1.5	---	0.01 – 0.8
Nitrate + Nitrite (as Nitrogen) (mg/L)	10	---	0.05 – 1.9

NA = Not analyzed.

Under the previous permit (Order No. 98-007), the discharger reported two violations of the daily maximum and monthly average for oil and grease. The violation occurred during the 3rd quarter of 2001 and the 3rd quarter of 2000 with values of 49.2 and 27 mg/L respectively, which exceeds the 15 mg/L daily maximum and the 10 mg/L monthly average limits. Identified violations are being evaluated for appropriate enforcement actions.

IV. Applicable Plans, Policies, Laws, 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 discharge 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 Federal Regulations (40 CFR) – Protection of Environment, Chapter 1, Environmental Protection Agency, Subchapter D, Water Programs, Parts 122-125 and Subchapter N, Effluent Guidelines. These CWA regulations provide effluent limitations for certain dischargers and establish procedures for NPDES permitting, including how to establish effluent limitations, for certain pollutants discharged.
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 water quality objectives and beneficial uses for inland surface waters and for the Pacific

Ocean. Inland surface waters consist of rivers, streams, lakes, reservoirs, and inland wetlands. Beneficial uses for a surface water can be designated, whether or not they have been attained on a waterbody, in order to implement either federal or state mandates and goals (such as fishable and swimmable for regional waters).

The receiving waters for the permitted discharge covered by this permit is Weldon Canyon Creek which flows to Bull Creek, a tributary of the Los Angeles River Hydro Unit 405.21. The beneficial uses listed in the Basin Plan for Bull Creek and Los Angeles River are:

Bull Creek – Hydrologic Unit 405.21

Existing: wildlife habitat.

Intermittent: groundwater recharge, contact and noncontact recreation, and warm freshwater habitat.

Potential: municipal and domestic supply.

Los Angeles River – Hydrologic Unit 405.21

Existing: groundwater recharge, contact and noncontact water recreation, warm freshwater habitat, wildlife habitat, and wetland habitat.

Potential: municipal and domestic supply, and industrial service supply.

Los Angeles River – Hydrologic Unit 405.15

Existing: groundwater recharge, contact and noncontact water recreation, warm freshwater habitat, wildlife habitat, migration of aquatic organisms, wetland habitat, and rare, threatened, or endangered species.

Potential: municipal and domestic supply, industrial service supply, and wildlife habitat.

Los Angeles River estuary– Hydrologic Unit 405.12

Existing: groundwater recharge, contact and noncontact water recreation, and warm freshwater habitat.

Potential: municipal and domestic supply, industrial service supply, industrial process supply, migration of aquatic organisms, spawning, reproduction, and/or early development, and shellfish harvesting.

Los Angeles River estuary (coastal) – Hydrologic Unit 405.12

Existing: industrial service supply, navigation, contact and noncontact water recreation, commercial and sport fishing, estuarine habitat, marine habitat, rare, threatened, or endangered species, migration of aquatic organisms, spawning, reproduction, and/or early development , and wetland habitat.

Potential: shellfish harvesting.

Ocean Waters

Existing: industrial water supply; water contact and non-contact water recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare, threatened, or endangered species; marine habitat; fish migration, fish spawning, and shellfish harvesting.

The potential beneficial use of MUN for the Los Angeles River is consistent with Regional Board Resolution 89-03; however the Regional Board has only conditionally designated the MUN beneficial uses and at this time cannot establish effluent limitations designed to protect the conditional designation.

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, the 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 the 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 limitations (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 Bull Creek and downstream reaches of the Los Angeles River.

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 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 CWA, and amendments thereto. These requirements, as they are met, will maintain and protect the beneficial uses of the Los Angeles River.
10. Existing waste discharge requirements contained in Board order No. 98-007, were used to regulate discharges to the Weldon Canyon Creek. In some cases, permit conditions (effluent limitations 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 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 uses 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 many of the conventional pollutants and for chloride, sulfate, boron, nitrate + nitrite (as Nitrogen) and sulfides. A preliminary review of the data submitted for discharges from the site indicates that the concentrations of three priority pollutants (lead, copper, and zinc) may exceed the CTR WQBELs.

While it is expected that there may be total petroleum hydrocarbons (TPH) in the wastewater as a result of that wastewater traversing the Newhall Oil Field, there is no data available to perform a Reasonable Potential Analysis (RPA). Thus, no limit has been included in this permit. However, the Discharger is required to perform monitoring for TPH at a frequency of quarterly for eight sampling events, and annually thereafter. If RPA exists, the permit will be reopened, and a limit for TPH established.

The majority of the Los Angeles River watershed is considered impaired due to a variety of point and nonpoint sources. The 1998 303(d) list implicates pH, ammonia, nutrients (algae), odors, lead, coliform, trash, scum, oil, ChemA, dichloroethylene, tetrachloroethylene, trichloroethylene and chlorpyrifos in tissue. ChemA refers to the sum of aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, HCH (including lindane), endosulfan, and toxaphene. The beneficial uses threatened or impaired by degraded water quality are aquatic life, recreation, groundwater recharge, and municipal water supply.

2. Technology-Based Effluent Limitations

Due to the lack of national effluent limitations guidelines (ELGs), and pursuant to 40 CFR 122.44(k), the Regional Board will require the Discharger to develop and implement a Best Management Practices Plan (BMPP). The purpose of the BMPP is to establish site-specific procedures that will prevent the discharge of pollutants in the treated water. The combination of the BMPP and existing permit limitations based on past performance and reflecting BPJ will serve as the equivalent of technology-based effluent limitations, in the absence of established ELGs, in order to carry out the purposes and intent of the CWA.

3. Water Quality-Based Effluent Limitations

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

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 prescribe the effluent limitations in this Order to protect the beneficial uses of the Los Angeles River.

(a) Reasonable Potential Analysis (RPA)

In accordance with Section 1.3 of the SIP, the Regional Board will conduct a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Board 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 water applicable water quality criteria and objectives. The preliminary steps involve the following:

- Identifying the lowest or most stringent criterion or water quality objective for the pollutant "(C)";
- Adjusting the selected criterion/objective, when appropriate, for hardness, pH, and translators of the receiving water (C_a). There is no hardness data available for the receiving water, Weldon Canyon Creek which flows to Bull Creek. For the Los Angeles Aqueduct Tunnel 105 permit, the hardness used was 100 mg/L as CaCO_3 , which is the default value. Consequently, the default value was used to complete the calculation of the final effluent limits. The acute and chronic dilution factors utilized to complete the calculation is zero since Weldon Canyon Creek which is a tributary to Bull Creek has intermittent flows and many of the beneficial uses specified for Bull Creek are intermittent. A site-specific study would need to be completed to determine if seasonal dilution factors would be appropriate.
- Collating the appropriate effluent data for the pollutant;
- Determining the observed maximum concentration in the effluent (MEC) from the effluent data; and

- Determining the observed maximum ambient background concentration of the pollutant (B). There was no ambient background data submitted for Weldon Canyon Creek, the calculation was completed without ambient data from the receiving water.

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 limitation is needed. For certain constituents present in this discharge that were nondetect, the MEC was set at the method detection limit consistent with section 1.3 of the SIP.
2. Trigger 2 – If $MEC < C$ and background water quality (B) $> C$, a limitation is needed.
3. Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

The first two triggers were evaluated using the California Permit Writers Training Tool (CAPWITT). While on contract with the State Board, Scientific Applications International Corporation (SAIC) developed this software to determine RPAs and, when reasonable potential exists, calculate the WQBELs, following procedures in SIP.

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.

(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 Los Angeles River flows for 55 miles from the Santa Monica Mountains at the western end of the San Fernando Valley to the Pacific Ocean. The Los Angeles River drains an area of about 825 square miles. Approximately 324 square miles of the watershed are covered by forest or open space land. The rest of the watershed is highly developed. The river flows through industrial, residential, and commercial areas, including major refineries and petroleum products storage facilities, major freeways, rail lines, and rail yards serving the Ports of Los Angeles and Long Beach.

The majority of the Los Angeles River watershed is considered impaired due to a variety of point and nonpoint sources. The 1998 303(d) list implicates pH, ammonia, nutrients (algae), odors, lead, coliform, trash, scum, oil, Chema, dichloroethylene, tetrachloroethylene, trichloroethylene and chloropyrifos in tissue. Chema refers to the sum of aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, HCH (including lindane), endosulfan, and toxaphene. The beneficial uses threatened or impaired by degraded water quality are aquatic life, recreation, groundwater recharge, and municipal water supply.

(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 does not contain toxicity limitations or 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 Discharger will be required to conduct chronic toxicity testing. The Order includes a chronic testing trigger hereby defined as an exceedance of 1.0 toxic units chronic (TUC) in a critical life stage test for 100% effluent. (The monthly median for chronic toxicity of 100% effluent shall not exceed 1.0 TUC in a critical life stage test.) If the chronic toxicity of the effluent exceeds 1.0 TUC, 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 TUC, the Discharger shall initiate a toxicity identification evaluation (TIE).

4. Specific Rationale for Each Numerical Effluent Limitation

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. 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. The limits established in the previous Order for total dissolved solids, chloride, and nitrate + nitrite as Nitrogen were different from those stipulated in the Basin Plan for the Los Angeles River above Figueroa Street. The limits from the Basin Plan for these constituents have been included in this Order. Furthermore, effluent limitations for several metals including copper, lead, and selenium, have been included based on the revised water quality criteria contained in the CTR and the requirements contained in Section 1.4 of the SIP. This includes establishing both MDELs and AMELs.

In compliance with 40 CFR 122.45(f), mass-based limitations have also been established in the proposed Order for conventional and priority pollutants. The mass for both the maximum and the monthly average limits were calculated using the maximum flow of 5,900 gallons per day which is treated with the oil-water separator. Since only monitoring is required for the nuisance water, the flow associated with that discharge is not included in the calculations.

When calculating the mass for discharges, the maximum permitted flow rate was used to calculate the daily maximum and the monthly average mass. When calculating the appropriate mass for the discharge event or events evaluated the actual flow rate should be substituted in the following equation. The daily maximum flow will be used to calculate the daily maximum mass limit and the monthly average flow will be used to calculate the monthly average mass limit.

Mass (lbs/day) = flow rate (MGD) X 8.34 X 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 provides the final effluent limitations.

Constituents	Discharge Limitations				Rationale ⁴
	Concentration Maximum	Mass ¹ (lbs/day)	Concentration Monthly Avg	Mass ¹ (lbs/day)	
pH (pH units)	8.5	---	---	---	BP
Temperature (° F)	100	---	---	---	TP
Oil and Grease (mg/L)	15	0.7	10	0.5	EP
BOD ₅ (mg/L)	30	1.5	20	0.9	BPJ
Total suspended solids (mg/L)	150	7.4	50	2.5	BP
Total dissolved solids (mg/L)	950	47	No limit	---	BP
Settleable solids (mg/L)	0.3	---	0.1	---	EP
Sulfides (mg/L)	1.0	0.05	No limit	---	EP
Sulfate (mg/L)	300	14.8	No limit	---	EP
Chloride (mg/L)	150	7.4	No limit	---	BP
Boron (mg/L)	1.5	0.07	No limit	---	BP
Nitrate + Nitrite (as Nitrogen) (mg/L)	8	0.4	No limit	---	BP
Copper ^{2,3} (µg/L)	14	0.0007	7	0.0003	CTR
Lead ^{2,3} (µg/L)	5.2	0.0003	2.6	0.0001	CTR
Zinc ^{2,3} (µg/L)	120	0.006	60	0.003	CTR

¹ The mass-based effluent limitations are based on a maximum discharge flow rate of 5,900 gpd, carried over from the existing permit.

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

³ These limits are effective on July 10, 2006. Prior to July 10, 2006 the interim effluent limits are used to determine compliance for discharges from the site.

⁴ BP = Basin Plan, EP = Existing Permit, BPJ = Best Professional Judgement, CTR = California Toxics Rule.

There are insufficient data to perform a reasonable potential analysis for most of the toxic parameters (organics). In such circumstance, the SIP recommends that additional data is gathered prior to permit issuance, or that additional data is gathered during the term of the permit.

The data available was used to perform an RPA for discharges from the site. The RPA indicates that three constituents (copper, lead, and zinc) have the potential to exceed the CTR based WQBELs prescribed in the table above (Attachment F). Data submitted from Tunnel 105 included five sample results for copper, lead and zinc. In each case, the maximum detected concentration of the contaminant exceeded the water quality based criteria stipulated in CTR. Therefore reasonable potential exists and limits for these constituents are included in the previous table.

Since there is reasonable potential and the concentrations of copper, lead, and zinc previously detected exceeds the effluent limits, it is likely that the Discharger will have problems immediately complying with the limits. Hence, interim limits have been prescribed for these constituents based on the MEC reported in data previously collected at the site.

Interim Effluent Limitations. From the effective date of this Order until July 9, 2006 the discharge of an effluent in excess of the following limitations is prohibited:

Constituents	Discharge Limitations				Rationale
	Concentration Maximum	Mass ¹ (lbs/day)	Concentration Monthly Avg	Mass ¹ (lbs/day)	
Copper ² (µg/L)	80	0.004	---	---	MEC ³
Lead ² (µg/L)	100	0.005	---	---	MEC ³
Zinc ² (µg/L)	320	0.016	---	---	MEC ³

¹ Mass is calculated utilizing the maximum flow of 5,900 gallons per day.

² 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 July 9, 2006.

³ MEC = Maximum effluent concentration

This permit, includes limits for all of the constituents included in the previous order, limits for three metals with a positive RPA (copper, lead, and zinc), along with a requirement to monitor the 126 priority pollutants quarterly for one year and annually thereafter. Monitoring requirements are discussed in greater detail in Section III, of the Monitoring and Reporting Program CI-7839.

5. Monitoring Requirements

For regulated parameters, the previous permit for City of Los Angeles, Department of Water and Power Tunnel No. 105 required quarterly monitoring for conventional pollutants and the salts, and annual monitoring for metals. According to Section 1.3 of the SIP, if data are unavailable or insufficient to conduct the RPA, the Regional Board must establish interim requirements that require additional monitoring for the pollutants. Upon completion of the required monitoring, the Regional Board must 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, more frequent monitoring requirements from the existing permit will be applied to the renewed permit. Monitoring data during the previous permit term suggest that the Discharger has the potential to exceed the established effluent limitations for copper, lead, and zinc. Therefore, the Board is requiring monthly monitoring for these constituents for two years and quarterly monitoring thereafter to ensure compliance with established effluent limitations. This permit includes requirements for quarterly monitoring of priority

pollutants for one year and annually thereafter, quarterly monitoring for acute and chronic toxicity for six monitoring events with subsequent annual monitoring and two monitoring events to evaluate the presence of TCDD in the discharge. This monitoring schedule is effective upon adoption of the Order by the Regional.

(b) Nuisance Water Monitoring

Monitoring of the nuisance water discharge, which is not treated using the oil-water separator, is required to complete a reasonable potential analysis. The monitoring program requires continuous monitoring of the flow during aqueduct shutdowns. It also requires monitoring for all of the constituents included in the effluent monitoring program quarterly during shutdowns for a minimum of four quarters. This data will be used to evaluate reasonable potential and subsequently effluent limits for the discharge.

(c) Receiving Water Monitoring

The Discharger will also be required to conduct monitoring for all CTR priority pollutants in the receiving water in a location 50 feet upstream of the discharge into Bull Creek. In addition, the Discharger will be required to perform general observations of the receiving water when discharges occur during the receiving water monitoring event and report the observations in the quarterly monitoring report. The Regional Board in assessing potential impacts of future discharges will use data from these observations. If no discharge occurred during the observation period, this shall be reported. Observations shall be descriptive where applicable, such that colors, approximate amounts, or types of materials are apparent.