

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 West 4th Street, Suite 200, Los Angeles

**FACT SHEET
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF NONPROCESS WASTEWATER
TO SURFACE WATERS
IN
COASTAL WATERSHEDS OF LOS ANGELES AND VENTURA COUNTIES**

NPDES NO. CAG994003
Public Notice No.: R4-2004-0058

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 general National Pollutant Discharge Elimination System (NPDES) permit for the discharge of nonprocess wastewaters. As an initial step in the WDR process, 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 upon these tentative WDRs. Comments should be submitted either in person, or by mail to:

Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

To be fully responded to by staff and considered by the Board, written comments should be received at the above address by 5:00 p.m. on March 1, 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, time, and location:

Date: April 1, 2004
Time: 9:00 a.m.
Location: Metropolitan Water District
700 Alameda Street
Los Angeles, California

Interested persons are invited to attend. At the public hearing, the Regional Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

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

C. Waste Discharge Requirement Appeals

Any person may petition the State Board to review the decision of the Regional Board regarding the final general Waste Discharge Requirements. A petition must be submitted within 30 days of the Regional Board's public hearing to the following address:

State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812

D. Information and Copying

The 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, CA 90013, at any time between 8:00 AM and 5:00 PM, 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 these general WDRs and NPDES permit should contact the Regional Board, reference these general WDRs, and provide a name, address, and phone number.

II. PURPOSE OF ORDER

The purpose of this Order is to renew and update waste discharge requirements for the existing General Permit: Order No. 98-055 (General NPDES Permit No. CAG994003) to regulate discharges of nonprocess wastewaters to surface waters in the Region, which expired on May 10, 2003.

III. BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited unless the discharge is in compliance with an NPDES Permit.

On September 22, 1989, the United States Environmental Protection Agency (USEPA) granted the State of California, through the State Water Resources Control Board and the Regional Boards, the authority to issue general NPDES permits pursuant to 40 Code of Federal Regulations (40 CFR) parts 122 and 123.

40 CFR section 122.28 provides for issuance of general permits to regulate a category of point sources if the sources involve the same or substantially similar types of operations; discharge the same type of waste; require the same type of effluent limitations or operating conditions; require similar monitoring; and are more appropriately regulated under a general permit rather than individual permits.

On June 29, 1998, this Regional Board adopted the *General National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for Discharges of Nonprocess Wastewaters not Requiring Treatment Systems to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties* (NPDES No. CAG994003, Order No. 98-055). The existing General Permit covered discharges of non contact cooling water, boiler blowdown, air conditioning condensate, commercial swimming pool drainage and filter backwash, groundwater seepage, and/or storm water inflows. Currently, there are approximately 38 dischargers who are enrolled under the existing General Permit for discharge of nonprocess wastewater.

IV. DISCHARGE DESCRIPTION

1. Wastewater discharge from mostly commercial buildings or some non-commercial facilities of low-volume multiple types of nonprocess wastewaters, but are not limited to the following:
 - a. Non contact cooling water
 - b. Boiler blowdown
 - c. Air conditioning condensate
 - d. Filter backwash and swimming pool drainage not authorized by municipal separate storm sewer system (MS4) permits or where disallowed by a municipal permittee
 - e. Water treatment plant filter backwash
 - f. Groundwater seepage

These waste streams may contain only uncontaminated waters or may be contaminated with volatile organic compounds (VOCs), and metals or other regulated chemical constituents. In the case of nonprocess wastewater which is contaminated, treatment before discharge will be required.

V. DISCHARGE COVERAGE

To perform reasonable potential analysis, existing and new dischargers enrolling under this permit are required to collect representative untreated nonprocess wastewater sample(s) and analyze these samples for all the constituents listed on Attachment A. Existing dischargers shall conduct this analysis and submit the result with a Notice of Intent Form, otherwise the existing authorization will be terminated. A preliminary reasonable potential analysis has been conducted by reviewing accumulated monitoring

data supplied by existing dischargers as part of their self-monitoring programs and as part of the supplemental data required for issuing new NPDES permits. The review included comparing the level of toxics in non-process wastewater quality to the screening levels for toxics based on the California Toxics Rule. Regional Board staff considers the data reviewed as representative of nonprocess wastewater discharges. Effluent limitations have been incorporated in this permit for those toxic compounds that have the potential to be in most nonprocess wastewaters. Although these compounds were detected in the minority of data reviewed, reasonable potential exists that occasionally these compounds may present in the screen for these compounds in the discharge. In the unusual case that a toxic constituent(s) with no effluent limitation(s) in the order is detected above the Screening Level, the discharger will conduct routine monitoring for that constituent(s) and take mitigative action to eliminate or reduce the concentration of that constituent(s) in the effluent discharge.

If the analytical test results show exceedance of the water quality screening criteria listed on Attachment A for regulated chemical constituents, then the discharger must provide treatment (if appropriate) to comply with the effluent discharge limits specified in the permit as appropriate.

The screening criteria in Attachment A are based on the most restrictive of the California Toxic Rule criteria or the existing permit limitations. Attachment A has two columns of Screening Levels. The first column will be used to screen discharges to receiving waters designated as Municipal and Domestic Supply (MUN), identified in the Basin Plan with an "E" or "I" designation. The second column will be used to screen discharges to all other receiving water bodies. The most restrictive criteria are necessary because this Order is intended as a general NPDES permit and covers discharges to all surface waters in the Los Angeles Region.

Pursuant to section 2, Article X, California Constitution, and section 275, of the California Water Code on preventing waste and unreasonable use of waters of the state, the Regional Board encourages, wherever practicable, water conservation and/or re-use of wastewater. To obtain coverage under this Order, the discharger shall first investigate and report the feasibility of conservation, land disposal and/or reuse of the wastewater.

VI. BASIS FOR THE PROPOSED WASTE DISCHARGE REQUIREMENTS

A. General Rationale

The following documents are the bases for the proposed requirements:

1. On June 13, 1994, this Regional Board adopted a revised basin plan, *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan). The Basin Plan contains water quality objectives for, and lists the beneficial uses of, specific water bodies (receiving waters) in the Los Angeles Region. Typical beneficial uses include the following:

- a. Inland surface waters above an estuary - municipal and domestic supply, industrial service and process supply, agricultural supply, ground water recharge, freshwater replenishment, aquaculture, warm and cold freshwater habitats, inland saline water and wildlife habitats, water contact and noncontact recreation, fish migration, and fish spawning.
 - b. Inland surface waters within and below an estuary - industrial service supply, marine and wetland habitats, estuarine and wildlife habitats, water contact and noncontact recreation, commercial and sport fishing, aquaculture, migration of aquatic organisms, fish migration, fish spawning, preservation of rare and endangered species, preservation of biological habitats, and shellfish harvesting.
 - c. Coastal Zones (both nearshore and offshore) - industrial service supply, navigation, water contact and noncontact recreation, commercial and sport fishing, marine habitat, wildlife habitat, fish migration and spawning, shellfish harvesting, and rare, threatened, or endangered species habitat.
2. *Water Quality Control Policy for the Enclosed Bays and Estuaries of California* (Policy), adopted by State Water Resources Control Board in May 1974. The Policy provides that discharges of industrial process wasters to enclosed bays and estuaries shall be phased out at the earliest practicable date.
 3. Technical Support Document (TSD) for Water Quality-Based Toxics Control, USEPA/502/2-90-001, March 1991.
 4. The California Toxics Rule (CTR) promulgated by the USEPA on May 18, 2000 and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) adopted by the State Board on March 2, 2000. The CTR establishes numerical criteria for priority pollutants for inland surface water as well as water in the enclosed bays and estuaries.
 5. Effluent limitations, and toxic effluent standards established pursuant to Section 301, 302, 304, 306, and 307 of the Clean Water Act, and amendments thereto, are applicable to the dischargers herein.
 6. The Clean Water Act section 402 and 40 CFR Parts 122, 123, and 124 regulations, and State Board Order No. 96-03-DWQ, for storm water discharges.
 7. 40 CFR Part 304 regulations for implementation of USEPA's water quality-based limitations for toxic pollutants.

8. Division 7 of the California Water Code is applicable to discharges to all waters of the State.
9. California Drinking Water Standards (California Domestic Water Quality and Monitoring Regulations, Title 22, California Code of Regulations).
10. State Water Resources Control Board (SWRCB) Resolution No. 68-16, (adopted on October 28, 1968), and USEPA 40 CFR 131.2, which establish the state and federal "Antidegradation Policies", respectively.

B. Water Quality in Los Angeles and Ventura County Watershed

On July 25, 2003, USEPA approved the State's most recent 303(d) list of impaired waterbodies. The list (hereinafter referred to as the 303(d) list) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific impaired waterbodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources.

C. Water Quality-Based Effluent Limitations

The SWRCB adopted *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (also known as the *State Implementation Plan* or *SIP*) on March 2, 2000. The SIP was amended by Resolution No. 2000-30, on April 26, 2000, and the Office of Administrative Law approved the SIP on April 28, 2000. The SIP applies to discharges of toxic pollutants in the inland surface waters, enclosed bays and estuaries of California which are subject to regulation under the State's Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) and the Federal Clean Water Act. This policy also establishes the following: implementation provisions for priority pollutant criteria promulgated by USEPA through the CTR and for priority pollutant objectives established by Regional Water Quality Control Boards in their Water Quality Control Plans (Basin Plans) and chronic toxicity control provisions.

On May 18, 2000, the U.S. EPA promulgated the numeric criteria for priority pollutants for the State of California, known as the CTR and as codified as 40 CFR section 131.38. Toxic pollutant limits are prescribed in the accompanying Order to implement the CTR. 40 CFR section 122.44(d)(1)(ii) requires each toxic pollutant be analyzed with respect to its reasonable potential when determining whether a discharge (1) causes; (2) has the reasonable potential to cause; or (3) contributes to the exceedance of a receiving water quality objective. This is done by performing a reasonable potential analysis (RPA) for each pollutant. In performing the RPA, the permitting authority uses procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, and the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity).

The effluent limitations in this permit, for constituents which were also included in the existing permits, are generally consistent with the limitations in the existing permits with the exception of specific changes made for certain constituents to implement more stringent CTR criteria. In addition, new effluent limitations have been incorporated to provide fuller coverage for priority toxic pollutants and emergent chemicals.

D. Technology-Based Effluent Limitations

Best professional judgment (BPJ) 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.

Various biological, chemical, physical, thermal treatment systems could be employed to remove these toxic or conventional pollutants to applicable permit limits. For example, air stripping, carbon absorption, biological reactions, chemical oxidation technologies could be used to remove volatile organic compounds in wastewater. Reverse osmosis, ion exchange, or pH adjustment could be used as technologies to remove conventional pollutants and metals. Biological systems could be used to degrade or remove semi-volatile organic compounds.

This permit does not direct the use of any specific treatment technologies for the universe of toxic compounds that could be found in wastewater. When treatment is required prior to discharge, dischargers will be required to submit schematics of treatment flow diagrams with descriptions of the treatment system including statements on the effectiveness of the system to achieve the applicable permit limits during the permitting process.

E. Anti-degradation Policy

The Basin Plan also implements the State Board's adopted Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Water in California". This policy which is also referred to as the "Anti-degradation Policy", protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses.

This permit complies with State and Federal "Anti-degradation" policies. The conditions and effluent limitations established in this Order for discharges of nonprocess wastewater to surface waters in this Region ensure that the existing beneficial uses and quality of surface waters in this Region will be maintained and protected. Discharges regulated by this Order should not adversely impact water quality if the terms and conditions of this Order are met.

F. Impact to Water Quality

Discharges of nonprocess wastewater could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance. Discharges covered by the accompanying order may involve a treatment system, which may include physical, chemical, and/or biological treatment.

G. Specific Rationales for Each of the Numerical Effluent Limitations

The effluent limitations and the specific rationales for pollutants that are expected to be present in discharges covered by the general permit are listed in the tables at the end of this section. The specific rationales include: the previous General Permits, Order No. 98-055 (General NPDES Permit No. CAG994003); the CTR; the Basin Plan; and Title 22, California Code of Regulations. It is intended that all the General Permits issued by this Regional Board for similar activities have similar effluent limits for the constituents of concern.

Because this Order is intended to serve as a general NPDES permit and covers discharges to all surface waters in the Los Angeles Region, the effluent limitations established pursuant to this general order are established to impose the most protective water quality objectives for surface water beneficial uses in the Los Angeles Region.

The effluent limitations from nonprocess wastewater are calculated assuming no dilution. Most discharges of nonprocess wastewater regulated under this general permit are to storm drain systems that discharge to creeks and streams. Many of these creeks and streams are dry during the summer months. Therefore, for many months of the year, these discharges may represent all or nearly all of the flow in some portions of the receiving creeks or streams.

An exception to this policy may be applied based on an approved mixing zone study and based on demonstration of compliance with water quality objectives in the receiving water as prescribed in the Basin Plan. This exception process is more appropriate for an individual permit, and would not be appropriate for a general permit that must be protective of most stringent water quality objectives and beneficial uses. If a discharger requests that a dilution credit be included in the computation of effluent limit or that a mixing zone be allowed, an individual permit will be required. However, if no mixing zone is proposed, this general permit provides coverage for all discharges to receiving water bodies in the Coastal Watersheds of Los Angeles and Ventura Counties.

The discharges regulated under this permit have the potential to recharge ground waters protected as sources of drinking water. The Basin Plan requires these ground waters to be protected to both the primary and secondary Maximum Contaminant Levels (MCLs), and it implements both the Federal and State anti-degradation policies. Primary standards are standards that protect public health

by limiting the levels of contaminants in drinking water. Secondary standards are guidelines regulating contaminants that may cause aesthetic effects (such as taste, odor, or color) in drinking water. Therefore, it is appropriate to limit discharges that may recharge these ground waters to both primary and secondary MCLs. For surface waters with the beneficial use of municipal and domestic supply, it is also appropriate to limit discharges into these sources of drinking water to the primary and secondary MCLs. Where a chemical constituent is found above the Action Level (Screening Level), treatment will also be required.

This permit includes effluent limitations for metals and some organic compounds which are specific based on whether the discharge is to a freshwater or saltwater receiving water. The previous General Permit, Order No. 98-055 (General NPDES Permit No. CAG994003), included many of these limitations but with no differentiation between discharges to freshwater or saltwater. The CTR establishes the criteria for inland surface waters (freshwater) as well as water in the enclosed bays and estuaries (saltwater) and these criteria were used to set the appropriate metal limits. For purposes of this permit, saltwater is defined as waterbodies with saline, estuarine or marine beneficial use designations. All other inland surface waters are considered freshwater.

In freshwater, the toxicity of certain metals including cadmium, chromium III, copper, lead, nickel, silver, and zinc is dependent on water hardness. The CTR expresses the objectives for these metals through equations where the hardness of the receiving water is a variable. To simplify the permitting process, it was necessary that fixed hardness values be used in these equations. For limits in waters with hardness below 200 mg/L, a hardness value of 150 mg/L was used to calculate the limits. For limits in waters with hardness between 200 and 300 mg/L, a hardness value of 250 mg/L was used and for limits in waters with hardness 300 mg/L and above, a hardness value of 350 mg/L was used. The Order requires the discharger to propose appropriate receiving water hardness or effluent hardness based on analytical results of receiving water or effluent samples. Upon approval of the Executive Officer, this hardness value will be used to determine the appropriate metal limitation from the table of limits (E. 1. b. i.) in the Order.

A comparison of the existing permit limits to the new discharge limits and the specific rationale for any change is shown in the tables below:

1. Freshwater; lower limits for MUN designated waters are shown in parenthesis

Discharges of Nonprocess
Wastewater to Surface Waters
Fact Sheet

Order No. R4-2004-0058
NPDES NO. CAG994003

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Basis for Limit
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	
General Constituents						
Total Suspended solids	mg/L	150	50	150	50	Previous Order ¹
Turbidity	NTU	150	50	150	50	Previous Order
BOD5 20oC	mg/L	30	20	30	20	Previous Order
Oil and Grease	mg/L	15	10	15	10	Previous Order
Settleable Solids	ml/L	0.3	0.1	0.3	0.1	Previous Order
Sulfides	mg/L	1.0	no limit	1.0	no limit	Previous Order
Phenols	mg/L	1.0	no limit	1.0	no limit	Previous Order
Residual Chlorine	mg/L	0.1	no limit	0.1	no limit	Previous Order, Basin Plan ²
Methylene Blue Active Substances (MBAS)	mg/L	0.5	no limit	0.5	no limit	Previous Order
Volatile Organic Compounds						
1,1-dichloroethane	µg/L	no limit	no limit	5	no limit	CTR ³
1,1-dichloroethylene	µg/L	no limit	no limit	6.0 (0.11 MUN)	3.2 (0.057 MUN)	Basin Plan, CTR
1,1,1-trichloroethane	µg/L	no limit	no limit	200	no limit	CTR
1,1,2-trichloroethane	µg/L	no limit	no limit	5 (1.2 MUN)	No limit (0.6 MUN)	Basin Plan, CTR
1,1,2,2-tetrachloroethane	µg/L	no limit	no limit	1.0 (0.34 MUN)	(0.17 MUN)	Basin Plan, CTR
1,2-dichloroethane	µg/L	no limit	no limit	0.5 (0.5 MUN)	no limit (0.38 MUN)	CTR
1,2-trans-dichloroethylene	µg/L	no limit	no limit	10	no limit	CTR
Carbon tetrachloride	µg/L	no limit	no limit	0.5 (0.5 MUN)	0.5 (0.25 MUN)	(CTR MUN)
Tetrachloroethylene	µg/L	no limit	no limit	5.0 (1.6 MUN)	(0.80 MUN)	CTR
Trichloroethylene	µg/L	no limit	no limit	5.0 (5.0) MUN)	(2.7 MUN)	CTR
Vinyl chloride	µg/L	no limit	no limit	0.5	no limit	CTR
Benzene	µg/L	no limit	no limit	1	no limit	CTR

¹ The limit was carried over from the previous order to prevent backsliding.

² Basin Plan Objectives are instantaneous maximum concentrations of pollutants that when not exceeded are protective of the beneficial uses of the particular water body. They are generally set at the level required to protect the most sensitive beneficial use at an even lower level based on antidegradation principles.

³ CTR-based number for the protection of aquatic organisms. The number 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

Discharges of Nonprocess
Wastewater to Surface Waters
Fact Sheet

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NPDES NO. CAG994003

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Basis for Limit
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	
Metals						
Antimony	µg/L	no limit	no limit	6	no limit	Basin Plan
Arsenic	µg/L	no limit	no limit	50	no limit	Basin Plan
Cadmium	µg/L	no limit	no limit	6-5 ⁴	3-5 ⁴	CTR, Basin Plan
Chromium III	µg/L	50	no limit	50	no limit	Previous Order
Chromium VI	µg/L	no limit	no limit	16	8	CTR
Copper	µg/L	no limit	no limit	21-44 ⁴	10-22 ⁴	CTR
Lead	µg/L	no limit	no limit	9-26 ⁴	4-13 ⁴	CTR
Mercury	µg/L	no limit	no limit	0.1	0.05	CTR
Nickel	µg/L	no limit	no limit	100 ⁴	60-100 ⁴	CTR, Basin Plan
Selenium	µg/L	no limit	no limit	8	4	CTR
Zinc	mg/L	5	no limit	170-350 ⁴	90-170 ⁴	CTR

Notes:

1. If the existing permit limit (Order No. 98-055) was lower than CTR limit, then the existing permit limit was applied.
2. In addition, Attachment "B" to the Order lists effluent limitations for TDS, sulfate, chloride, boron, and nitrogen, for various receiving waters as contained in the Basin Plan.

2. Saltwater

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Basis for Limit
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	
General Constituents						
Total Suspended solids	mg/L	150	50	150	50	Previous Order
Turbidity	NTU	150	50	150	50	Previous Order
BOD5 20°C	mg/L	30	20	30	20	Previous Order
Oil and Grease	mg/L	15	10	15	10	Previous Order
Settleable Solids	ml/L	0.3	0.1	0.3	0.1	Previous Order
Sulfides	mg/L	1.0	No limit	1.0	no limit	Previous Order
Residual Chlorine	mg/L	0.5	No limit	0.1	no limit	Previous Order, Basin Plan
Methylene Blue Active Substances (MBAS)	mg/L	0.5	No limit	0.5	no limit	Previous Order
Volatile Organic Compounds						
1,1-dichloroethane	µg/L	no limit	no limit	5	no limit	CTR

⁴ Depending on hardness

Discharges of Nonprocess
Wastewater to Surface Waters
Fact Sheet

Order No. R4-2004-0058
NPDES NO. CAG994003

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Basis for Limit
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	
1,1-dichloroethylene	µg/L	no limit	no limit	6	3.2	Basin Plan, CTR
1,1,1-trichloroethane	µg/L	no limit	no limit	200	no limit	CTR
1,1,2-trichloroethane	µg/L	no limit	no limit	5	no limit	Basin Plan, CTR
1,1,2,2-tetrachloroethane	µg/L	no limit	no limit	1.0	no limit	Basin Plan, CTR
1,2-dichloroethane	µg/L	no limit	no limit	0.5	no limit	CTR
1,2-trans-dichloroethylene	µg/L	no limit	no limit	10	no limit	CTR
Carbon tetrachloride	µg/L	no limit	no limit	0.5	0.5	CTR
Tetrachloroethylene	µg/L	no limit	no limit	5	5	CTR
Trichloroethylene	µg/L	no limit	no limit	5	2.7	CTR
Vinyl chloride	µg/L	no limit	no limit	0.5	no limit	CTR
Benzene	µg/L	no limit	no limit	1	no limit	CTR
Metals						
Antimony	µg/L	no limit	no limit	6	no limit	Basin Plan
Arsenic	µg/L	no limit	no limit	50	29	No change for daily, CTR monthly
Cadmium	µg/L	no limit	no limit	5	no limit	CTR, Basin Plan
Chromium III	µg/L	50	no limit	50	no limit	Previous Order
Chromium VI	µg/L	no limit	no limit	82	41	CTR
Copper	µg/L	no limit	no limit	5.8	7	CTR
Lead	µg/L	no limit	no limit	14	4-13 ⁴	CTR

In addition, Attachment "B" to the Order lists effluent limitations for TDS, sulfate, chloride, boron, and nitrogen, for various receiving waters as contained in the Basin Plan.

Notes:

- If the existing permit limit (Order No. 98-055) was lower than CTR limit, then the existing permit limit was applied.
- In addition, Attachment "B" to the Order lists effluent limitations for TDS, sulfate, chloride, boron, and nitrogen, for various receiving waters as contained in the Basin Plan.

Saltwater

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Basis for Limit
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	
General Constituents						
Total Suspended solids	mg/L	150	50	150	50	Previous Order
Turbidity	NTU	150	50	150	50	Previous Order
BOD5 20°C	mg/L	30	20	30	20	Previous Order
Oil and Grease	mg/L	15	10	15	10	Previous Order
Settleable Solids	ml/L	0.3	0.1	0.3	0.1	Previous Order
Sulfides	mg/L	1.0	No limit	1.0	no limit	Previous Order
Residual Chlorine	mg/L	0.5	No limit	0.1	no limit	Previous Order, Basin Plan
Methylene Blue Active Substances (MBAS)	mg/L	0.5	No limit	0.5	no limit	Previous Order
Volatile Organic Compounds						
1,1-dichloroethane	µg/L	no limit	no limit	5	no limit	CTR
1,1-dichloroethylene	µg/L	no limit	no limit	6	3.2	Basin Plan, CTR
1,1,1-trichloroethane	µg/L	no limit	no limit	200	no limit	CTR
1,1,2-trichloroethane	µg/L	no limit	no limit	5	no limit	Basin Plan, CTR
1,1,2,2-tetrachloroethane	µg/L	no limit	no limit	1.0	no limit	Basin Plan, CTR
1,2-dichloroethane	µg/L	no limit	no limit	0.5	no limit	CTR
1,2-trans-dichloroethylene	µg/L	no limit	no limit	10	no limit	CTR
Carbon tetrachloride	µg/L	no limit	no limit	0.5	0.5	CTR
Tetrachloroethylene	µg/L	no limit	no limit	5	5	CTR
Trichloroethylene	µg/L	no limit	no limit	5	2.7	CTR
Vinyl chloride	µg/L	no limit	no limit	0.5	no limit	CTR
Benzene	µg/L	no limit	no limit	1	no limit	CTR
Metals						
Antimony	µg/L	no limit	no limit	6	no limit	Basin Plan
Arsenic	µg/L	no limit	no limit	50	29	No change for daily, CTR monthly
Cadmium	µg/L	no limit	no limit	5	no limit	CTR, Basin Plan
Chromium III	µg/L	50	no limit	50	no limit	Previous Order
Chromium VI	µg/L	no limit	no limit	82	41	CTR
Copper	µg/L	no limit	no limit	5.8	7	CTR
Lead	µg/L	no limit	no limit	14	4-13 ⁴	CTR
Mercury	µg/L	no limit	no limit	0.05	no limit	CTR
Nickel	µg/L	no limit	no limit	14	6.7	CTR
Selenium	µg/L	no limit	no limit	120	58	CTR
Zinc	mg/L	5	no limit	170-350 ⁴	90-170 ⁴	CTR

Notes:

If the existing permit limit (Order 98-055) was lower than CTR limit, then the existing permit limit was applied.

H. Sample Calculation of Effluent Limitations

Constituent: Lead, freshwater, under 200 mg/L hardness (a hardness value of 150 mg/L was used), where

C = Criterion, CF = Conversion Factor, and WER = Water Effect Ratio,
 LTA = Long Term Average, ECA = Effluent Concentration Allowance,
 $AMEL$ = Average Monthly Effluent Limit, $MDEL$ = Maximum Daily Effluent Limit,
 CV = Coefficient of Variation

SIP Section 1.3 – Lead requires Water Quality-Based Effluent Limitation

SIP Section 1.4

Step 1. Applicable Water Quality Criteria – (Freshwater)

$$C_{acute} = 65 \mu\text{g} / L$$

$$C_{chronic} = 2.5 \mu\text{g} / L$$

Calculate criteria (dissolved fraction limit) for acute and chronic

Calculate conversion factors for chronic and acute for Lead:
CTR note to Table 2 of paragraph (b) (2)

$$CF_{acute} = 1.46203 - \{\ln(\text{hardness}) \times (0.145712)\} = 0.73192031$$

$$CF_{chronic} = 1.46203 - \{\ln(\text{hardness}) \times (0.145712)\} = 0.73192031$$

Calculate C_{acute} and $C_{chronic}$

CTR note to Table 1 of paragraph (b)(2), make $WER = 1$

$$C_{acute} = WER \times (CF_{acute}) \times (\exp\{1.273[\ln(\text{hardness})] - 1.460\}) \cong 100 \mu\text{g} / L$$

$$C_{chronic} = WER \times (CF_{chronic}) \times (\exp\{1.273[\ln(\text{hardness})] - 4.705\}) \cong 3.9 \mu\text{g} / L$$

Adjust criterion: Convert dissolved fraction to total recoverable

$$C_{acute} = \frac{100 \mu\text{g} / L}{0.73192031} \cong 136.6 \mu\text{g} / L$$

$$C_{chronic} = \frac{3.9 \mu\text{g} / L}{0.73192031} \cong 5.3 \mu\text{g} / L$$

Step 2. Effluent Concentration Allowance (ECA)

No dilution credit allowed; therefore $EAC = C$

Step 3. ECA Multipliers –Select default CV = 0.6

$$LTA_{acute} = ECA_{acute} \times ECA_{multiplier\ acute99} \text{ (from SIP, Table 1)}$$
$$= (136.6) \times (0.321) = 43.85723 \mu g / L$$

$$LTA_{chronic} = ECA_{chronic} \times ECA_{multiplier\ chronic99} \text{ (from SIP, Table 1)}$$
$$= (5.3) \times (0.527) = 2.808093 \mu g / L$$

Step 4. Select the lowest of the LTAs:

$$LTA = 2.808093 \mu g / L$$

Step 5. Compute AMEL and MDEL, Select default, n = 4

$$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier95} \text{ (from SIP, Table 2)}$$
$$= (2.808093) \times (1.55) \cong 4.4 \mu g / L$$

$$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier99} \text{ (from SIP, Table 2)}$$
$$= (2.808093) \times (3.1) \cong 8.7 \mu g / L$$

Step 6. Human Health Criteria

No criteria set for human health.

Step 7.

Since there is no human health criteria, the calculated AMEL and MDEL for aquatic life will be applied, therefore

$$AMEL = 4.4 \mu g / L$$

$$MDEL = 8.7 \mu g / L$$