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 COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY (Saugus Water Reclamation Plant)

NPDES No. CA0054313
Public Notice No.: 03-060

PLANT ADDRESS
Saugus Water Reclamation Plant
26200 Springbrook Avenue
Santa Clarita, CA 91350

Contact Person: Paul Lemay
Title: Supervisor of
Treatment Plant Operations
Phone No.: 661-259-3804

MAILING ADDRESS
County Sanitation Districts of
Los Angeles County
P.O. Box 4998
Whittier, CA 90607-4998

Contact Person: Victoria O. Conway
Title: Supervising Engineer
Treatment Plant Monitoring Section
Phone No.: 562-699-7411, Ext. 2801

I. PUBLIC PARTICIPATION

1. The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is considering issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the above-referenced plant. 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. Public Comment Period

      Interested persons are invited to submit written comments on the tentative WDRs for the County Sanitation Districts of Los Angeles County (CSDLAC or Discharger), Saugus Water Reclamation Plant. Comments should be submitted either in person or by mail to:

March 18, 2003
Revised: May 8, May 21, June 25, September 24, October 15, October 23, 2003, and October 30, 2003
Adopted: November 6, 2003

EXECUTIVE OFFICER
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
ATTN: Don Tsai

To be fully responded to by staff and considered by the Regional Board, written comments should be received by 5:00 p.m. on October 21, 2003.

B. Public Hearing

The Regional Board will consider the tentative WDRs and NPDES permit during a public hearing on the following date, time and place:

Date: November 6, 2003
Time: 9:00 a.m.
Location: Metropolitan Water District of Southern California
Board Room
700 North Alameda Street
Los Angeles, California

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

Please be aware that dates and venues may change. Our web address is www.swrcb.ca.gov/rqcb4 where you can access the current agenda for changes in dates and locations.

C. Information and Copying

Copies of the tentative WDRs and NPDES permit, report of waste discharge, Fact Sheet, comments received, and other documents relative to this tentative WDRs and permit are available at the Regional Board office. Inspection and/or copying of these documents are by appointment scheduled between 8:00 a.m. and 4:50 p.m., Monday through Friday, excluding holidays. For appointment, please call the Los Angeles Regional Board at (213) 576-6600.

D. Register of Interested Persons

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

E. 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
P.O. Box 100
Sacramento, CA 95812

II. PURPOSE OF ORDER

The CSDLAC discharges tertiary-treated municipal wastewater from the Saugus Water Reclamation Plant (Saugus WRP) under waste discharge requirements contained in Order No. 95-080, adopted by this Regional Board on June 12, 1995. This Order serves as the permit under the National Pollutant Discharge Elimination System program (NPDES No. CA0054097). The Discharger's permit was administratively extended beyond the May 10, 2000 expiration date. The CSDLAC has filed a timely report of waste discharge and has applied for renewal of its WDRs and NPDES permit. The proposed WDRs and NPDES permit will expire on October 10, 2008.

III. DESCRIPTION OF FACILITY

1. The CSDLAC owns and operates the Saugus WRP, a publicly owned treatment work (POTW). The Saugus WRP is a tertiary treatment facility located at 26200 Springbrook Avenue, Santa Clarita, California. The plant has a design capacity of 6.5 million gallons per day (mgd), but only discharges an average of 5.7 mgd (the Year 2001) of tertiary treated municipal wastewater to the Santa Clara River, at Santa Clarita, California. The Saugus WRP is a part of CSDLAC's regional system, known as the Santa Clarita Valley Joint Sewerage System, which also includes the Valencia Water Reclamation Plant (Valencia WRP). The regional system allows biosolids, solids, and excess flows from the Saugus WRP to be diverted to the Valencia WRP for treatment and disposal. Figure B.1 shows the vicinity map for the Saugus WRP.

2. The Saugus WRP serves a population of approximately 93,000 in the City of Santa Clarita. Flow to the plant consists of domestic, commercial and industrial wastewater. For fiscal year 2001, industrial wastewater represented only about 2% of the total flow to the plant. Discharges to the collection system from industrial and medicare center includes discharges from Bocchi Laboratories Inc., Keysor Century Corp., and Russ Kalvin's Personal Care.

3. The United States Environmental Protection Agency (USEPA) and the Regional Board have classified the Saugus WRP as a major discharger. It has a Threat to Water Quality and Complexity rating of 1-A pursuant to Section 2200, Title 23, CCR.

4. Pursuant to 40 CFR, Part 403, the Saugus WRP developed, and has been implementing, an industrial wastewater Pretreatment Program, which has been approved by USEPA and the Regional Board.

5. The treatment system at the Saugus WRP currently consists of comminution, grit removal, primary sedimentation, flow equalization, nitrification/denitrification (NDN) activated sludge biological treatment, secondary sedimentation with coagulation, inert media filtration, chlorination, and dechlorination. No facilities are provided for solids processing at the plant. A portion of the raw sewage from the tributary area, together with primary sludge and primary skimmings, is bypassed and conveyed via an interceptor sewer to the Valencia WRP for treatment and disposal. All waste activated sludge separated from the wastewater is transported, via a sludge force main, to the Valencia WRP where treatment occurs under Order No. 95-081 (NPDES No. CA0054216). Figure 2 show the schematic of wastewater flow.

   A. ***Comminution -*** Comminution used in the wastewater treatment plant is to remove coarse solids, which are typical wood, plastic materials, and rags.

   B. ***Grit removal -*** Grit removal is used to remove as much sand and silt as possible to prevent wear on pumps, accumulations in aeration tanks, clarifiers, and digesters, and clogging of sludge piping.

   C. ***Primary sedimentation -*** The main objective of primary sedimentation is to remove solids from the wastewater by gravity. The heavier solids (settleable solids) precipitate out and are scraped out of the primary sedimentation basin. The lighter solids float to the top and are skimmed off. However, some solids remain in suspension.

   D. ***Flow equalization -*** Flow equalization basins provide a relatively constant flow rate to the subsequent treatment operations and processes; thus, it enhances the degree of treatment. Not only does equalization dampen the daily variation in the flow rate, but it also dampens the variation in the concentration of effluent BOD_5, suspended solids, and so on, through the day.

   E. ***NDN activated sludge -*** The NDN activated sludge treatment system in which the incoming wastewater is mixed with existing biological floc (microorganisms, bugs, or activated sludge) is processed in an aeration basin. Activated sludge converts non-settleable and dissolved organic contaminants into biological floc, which can then be removed from the wastewater with further treatment.

   F. ***Secondary sedimentation with coagulation -*** The main objective of secondary sedimentation is to remove biological floc from the wastewater. Chemicals, such as aluminum sulfate (alum), may be added as part of the treatment process to enhance solids removal. Alum causes the biological floc to combine into larger clumps (coagulate). This makes it easier to remove the floc.

   G. ***Inert media filtration -*** The filtration process is used to remove or reduce suspended or colloidal matter from a liquid stream, by passing the water through a bed of graded granular material. Filters remove the solids that the secondary

sedimentation process did not remove, thus, improving the disinfection efficiency and reliability.

H. ***Chlorination -*** Sodium hypochlorite is used as a disinfectant in the Saugus WRP. Disinfectant is added to the treated effluent prior to the filters to destroy bacteria, pathogens and viruses, and to minimize algal growth in the filters. Additional disinfectant may be dosed prior to the chlorine contact tank.

I. ***Dechlorination -*** Sulfur dioxide is added to neutralize the chlorine prior to the treated water discharged to the Santa Clara River.

6. In order to achieve compliance with the ammonia Basin Plan objectives, the CSDLAC began construction of NDN treatment at Saugus WRP on September 2002. As of September 11, 2003, the two operating tanks at the Saugus WRP were started up in full NDN mode, thus since that time 100% of the Saugus effluent discharged to the river has undergone full treatment including NDN treatment. A portion of the Saugus influent flow is still being bypassed to the Valencia WRP (which has been operating in full NDN since early June 2003) until the third tank has been completely modified, which is expected near the end of 2003. Therefore, the CSDLAC should complete the NDN treatment facility at the Saugus WRP prior to the end of 2003.

7. CSDLAC prepared a Final Environmental Impact Report (FEIR) and a Final Supplemental Environmental Impact Report (FSEIR) in accordance with the California Environmental Quality Act (Public Resource Code Section 21000 et seq.). The FSEIR addressed potential effects of the discharge on downstream surface waters, groundwaters, and flooding. On January 1998, CSDLAC's Board of Directors certified the EIR.

8. The treated effluent is also regulated under WRRs contained in Order No. 87-49, adopted by this Board on April 27, 1987. Currently, there is no direct reuse of the final treated effluent off site.

9. ***Storm Water Management -*** CSDLAC currently does not treat storm water runoff at the Saugus WRP except for incidental storm water infiltration and inflows in the sewer and storm water that traverses the treatment tanks. It has developed a Storm Water Pollution Prevention Plan (SWPPP) for storm water that does not enter the treatment system.

IV. DISCHARGE OUTFALL AND RECEIVING WATER DESCRIPTION

1. The Saugus WRP discharges tertiary treated municipal and industrial wastewater to the North Fork of the Santa Clara River through Discharge Serial No. 001 (Latitude $34^0$25'23" North, Longitude $118^0$32'24" West). The Discharge Serial No. 001 in Figure 1 is located immediately downstream of Bouquet Canyon Road.

2. The Santa Clara River is one of the largest river systems in southern California. The River originates in the northern slope of the Santa Clara Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean, halfway between the cities of San Buenaventura and Oxnard.

3. Extensive patches of riparian habitat are present along the length of the river and its tributaries. The endangered fish, the unarmored stickleback, is resident in the River. One of the largest of the Santa Clara River' s tributaries, Sespe Creek, is designated as a wild trout stream by the state of California and supports significant spawning and rearing habitat. The Sespe Creek is also designated a wild and scenic river. Piru and Santa Paula Creeks, which are tributaries to the Santa Clara River, support habitat for steelhead. In addition, the River serves as an important wildlife corridor. A lagoon exists at the mouth of the river and supports a large variety of wildlife.

V. QUALITY DESCRIPTION

1. From January 1997 to December 2002, the Discharger's discharge monitoring reports showed the following:

   A. Treated wastewater average annual effluent flow rate of 5.7 mgd.

   B. Average annual removal rate of 97% and >99%, of BOD and total suspended solids, respectively.

   C. 7-day median and daily maximum coliform values as <1 coliform forming units (CFU)/ 100 ml in the treated wastewater.

2. The characteristics of the treated wastewater discharged, based on data submitted in the 2002 Annual summary discharge monitoring report, are as follows in Table 1. The "<" symbol indicates that the pollutant was not detected (ND) at that concentration level. We do not know if the pollutant was present at a lower concentration.

Table 1 - 2002 Annual Summary Effluent Monitoring Summary

CTR#	Constituent	Unit	Average	Maximum	Minimum
	Flow	mgd	5.63	6.04	5.16
	pH	pH units	7.4	7.5	7.3
	Temperature- winter (Nov. – April) summer(May – Oct.)	°F °F	73 winter 79 summer	77 81	71 75
	$BOD_{5@20°C}$	mg/L	<5	8	3
	Suspended solids	mg/L	2	3	2
	Settleable solids	ml/L	<0.1	<0.1	<0.1
	Total dissolved solids	mg/L	720	803	634
	Chloride	mg/L	172	190	153
	Sulfate	mg/L	134	168	103
	Boron	mg/L	0.8	1.04	0.71
	Total Phosphate	mg/L	<0.6	1	<0.5
	Turbidity (24-HR composite)	NTU	1.2	1.5	1.1
	Oil and grease	mg/L	<5	<5	<4
	Fluoride	mg/L	0.3	0.49	0.23
	MBAS	mg/L	0.2	0.47	0.1

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Table 1 - 2002 Annual Summary Effluent Monitoring Summary					
CTR#	Constituent	Unit	Average	Maximum	Minimum
	Residual Chlorine (Dechlorinated)	mg/L	<0.1	<0.1	<0.1
	Total Coliform	CFU/100mL	<1	<1	<1
	Ammonia-N	mg/L	15	22.1	7.21
	Organic-N	mg/L	2	3.7	0.7
	Nitrate-N	mg/L	2.3	5.5	0.15
	Nitrite-N	mg/L	1.71	3.22	0.21
	Total Nitrogen	mg/L	20.6	27.1	14.2
	Iron	mg/L	0.09	0.1	0.07
1	Antimony	ug/L	<0.6	1.7	<0.5
2	Arsenic	ug/L	<0.1	1.3	<1
3	Beryllium	ug/L	<0.5	<0.5	<0.5
4	Cadmium	ug/L	<0.4	<0.4	<0.4
5	Total Chromium	ug/L	<10	<10	<10
6	Copper	ug/L	<13.2	47	<8
7	Lead	ug/L	<2	2	<2
8	Mercury	ug/L	<0.05	<0.1	<0.04
9	Nickel	ug/L	<20	<20	<20
10	Selenium	ug/L	<1	<1	<1
11	Silver	ug/L	<1.14	<12.56	<0.03
12	Thallium	ug/L	<1	<1	<1
13	Zinc	ug/L	30	60	20
14	Cyanide	ug/L	<9	<10	<5
16	2,3,7,8-TCDD (Dioxin)	ng/L	<0.003	<0.0053	<0.00069
17	Acrolein	ug/L	<4	<10	<2
18	Acrylonitrile	ug/L	<3	10	<2
19	Benzene	ug/L	<0.5	<0.5	<0.5
20	Bromoform	ug/L	<1.4	2.9	<0.5
21	Carbon tetrachloride	ug/L	<0.5	<0.5	<0.5
22	Chlorobenzene	ug/L	<0.5	<0.8	<0.5
23	Dibromochloromethane	ug/L	<0.9	1.6	<0.5
24	Chloroethane	ug/L	<0.5	<0.8	<0.5
25	2-Chloroethylvinyl ether	ug/L	<0.5	<0.8	<0.5
26	Chloroform	ug/L	2.1	3.2	1.4
27	Bromodichloromethane	ug/L	<0.6	0.8	<0.5
28	1,1-Dichloroethane	ug/L	<0.5	<0.8	<0.5
29	1,2-Dichloroethane	ug/L	<0.5	<0.5	<0.5
30	1,1-Dichloroethylene	ug/L	<0.5	<0.8	<0.5
31	1,2-Dichloropropane	ug/L	<0.5	<0.8	<0.5
32	1,3-Dichloropropylene	ug/L	<0.5	<0.5	<0.5
33	Ethylbenzene	ug/L	<0.5	<0.5	<0.5
34	Methyl bromide (Bromomethane)	ug/L	<1	<1	<0.5
35	Methyl chloride (Chloromethane)	ug/L	<0.5	<0.8	<0.5

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Table 1 - 2002 Annual Summary Effluent Monitoring Summary					
CTR#	Constituent	Unit	Average	Maximum	Minimum
36	Methylene chloride	ug/L	<0.5	<0.8	<0.5
37	1,1,2,2-Tetrachloroethane	ug/L	<0.5	<0.5	<0.5
38	Tetrachloroethylene	ug/L	<0.5	<0.8	<0.5
39	Toluene	ug/L	<0.5	<0.5	<0.5
40	1,2-Trans-dichloroethylene	ug/L	<0.5	<0.8	<0.5
41	1,1,1-Trichloroethane	ug/L	<0.5	<0.8	<0.5
42	1,1,2-Trichloroethane	ug/L	<0.5	<0.8	<0.5
43	Trichloroethylene	ug/L	<0.5	<0.8	<0.5
44	Vinyl chloride	ug/L	<0.5	<0.5	<0.5
45	2-Chlorophenol	ug/L	<2	<5	<1
46	2,4-Dichlorophenol	ug/L	<2	<5	<1
47	2,4-Dimethylphenol	ug/L	<2	<4	<2
48	2-Methyl-4,6-dinitrophenol	ug/L	<5	<5	<5
49	2,4-Dinitrophenol	ug/L	<5	<8	<5
50	2-Nitrophenol	ug/L	<3	<10	<1
51	4-Nitrophenol	ug/L	<4	<10	<1
52	3-Methyl-4-chlorophenol	ug/L	<1	<3	<1
53	Pentachlorophenol	ug/L	<2	<6	<1
54	Phenol	ug/L	<1	<5.3	<1
55	2,4,6-Trichlorophenol	ug/L	<3	<10	<1
56	Acenaphthene	ug/L	<1	<3	<1
57	Acenaphthylene	ug/L	<3	<10	<1
58	Anthracene	ug/L	<3	<10	<1
59	Benzidine	ug/L	<6	<13	<5
60	Benzo[a]anthracene	ug/L	<2	<5	<1
61	Benzo[a]pyrene	ug/L	<0.2	<2.5	<0.003
62	Benzo[b]fluoranthene	ug/L	<0.2	<2.5	<0.003
63	Benzo[g,h,I]perylene	ug/L	<2	<5	<1
64	Benzo[k]fluoranthene	ug/L	<0.2	<2.5	<0.003
65	Bis(2-chloroethoxy)methane	ug/L	<2	<5	<1
66	Bis(2-chloroethyl)ether	ug/L	<1	<3	<1
67	Bis(2-chloroisopropyl)ether	ug/L	<1	<3	<1
68	Bis(2-ethylhexyl)phthalate	ug/L	NA	NA	NA
69	4-Bromophenyl phenyl ether	ug/L	<2	<5	<1
70	Butylbenzyl phthalate	ug/L	<3	<10	<1
71	2-Chloronaphthalene	ug/L	<3	<10	<1
72	4-Chlorophenyl phenyl ether	ug/L	<2	<5	<1
73	Chrysene	ug/L	<0.2	<2.5	<0.003
74	Dibenzo[a,h]anthracene	ug/L	<0.2	<2.5	<0.006
75	1,2-Dichlorobenzene	ug/L	<1	<3	<1
76	1,3-Dichlorobenzene	ug/L	<1	<3	<1
77	1,4-Dichlorobenzene	ug/L	<1	<3	<1

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Table 1 - 2002 Annual Summary Effluent Monitoring Summary					
CTR#	Constituent	Unit	Average	Maximum	Minimum
78	3,3'-Dichlorobenzidine	ug/L	<5	<5	<5
79	Diethyl phthalate	ug/L	<1.5	<3	<1
80	Dimethyl phthalate	ug/L	<1	<3	<1
81	Di-n-butyl phthalate	ug/L	<3	<10	<1
82	2,4-Dinitrotoluene	ug/L	<2	<5	<1
83	2,6-Dinitrotoluene	ug/L	<3	<9	<1
84	Di-n-octyl phthalate	ug/L	<3	<10	<1
85	1,2-Diphenylhydrazine	ug/L	<1	<3	<1
86	Fluoranthene	ug/L	<1	<3	<1
87	Fluorene	ug/L	<3	<10	<1
88	Hexachlorobenzene	ug/L	<1	<3	<1
89	Hexachlorobutadiene	ug/L	<1	<3	<1
90	Hexachlorocyclopentadiene	ug/L	<5	<8	<5
91	Hexachloroethane	ug/L	<1	<3	<1
92	Indeno[1,2,3-cd]pyrene	ug/L	<0.2	<2.5	<0.006
93	Isophorone	ug/L	<1	<3	<1
94	Naphthalene	ug/L	<1	<3	<1
95	Nitrobenzene	ug/L	<1	<3	<1
96	N-Nitrosodimethylamine (NDMA)	ug/L	<3	<7	<1
97	N-Nitrosodi-n-propylamine	ug/L	<3	<10	<1
98	N-Nitrosodiphenylamine	ug/L	<1	<3	<1
99	Phenanthrene	ug/L	<2	<5	<1
100	Pyrene	ug/L	<3	<10	<1
101	1,2,4-Trichlorobenzene	ug/L	<2	<5	<1
102	Aldrin	ug/L	<0.01	<0.01	<0.01
103	alpha-BHC	ug/L	<0.01	<0.01	<0.01
104	beta-BHC	ug/L	<0.01	<0.01	<0.01
105	gamma-BHC (Lindane)	ug/L	<0.013	0.04	<0.01
106	delta-BHC	ug/L	<0.01	<0.01	<0.01
107	Chlordane	ug/L	<0.05	<0.05	<0.05
108	4,4-DDT	ug/L	<0.01	<0.01	<0.01
109	4,4-DDE	ug/L	<0.01	<0.01	<0.01
110	4,4-DDD	ug/L	<0.01	<0.01	<0.01
111	Dieldrin	ug/L	<0.01	<0.01	<0.01
112	alpha-Endosulfan	ug/L	<0.01	<0.01	<0.01
113	beta-Endosulfan	ug/L	<0.01	<0.01	<0.01
114	Endosulfan sulfate	ug/L	<0.1	<0.1	<0.1
115	Endrin	ug/L	<0.01	<0.01	<0.01
116	Endrin aldehyde	ug/L	<0.04	<0.04	<0.04
117	Heptachlor	ug/L	<0.01	<0.01	<0.01
118	Heptachlor epoxide	ug/L	<0.01	<0.01	<0.01

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Table 1 - 2002 Annual Summary Effluent Monitoring Summary					
CTR#	Constituent	Unit	Average	Maximum	Minimum
	Polychlorinated biphenyls (PCBs)				
119	Aroclor 1016	ug/L	<0.1	<0.1	<0.1
120	Aroclor 1221	ug/L	<0.1	<0.1	<0.1
121	Aroclor 1232	ug/L	<0.1	<0.1	<0.1
122	Aroclor 1242	ug/L	<0.1	<0.1	<0.1
123	Aroclor 1248	ug/L	<0.1	<0.1	<0.1
124	Aroclor 1254	ug/L	<0.05	<0.05	<0.05
125	Aroclor 1260	ug/L	<0.1	<0.1	<0.1
126	Toxaphene	ug/L	<0.5	<0.5	<0.5
	Methoxychlor	ug/L	<0.01	<0.01	<0.01
	2,4-D	ug/L	<2	<2.2	<2
	2,4,5-TP	ug/L	<0.5	<0.54	<0.5

3. Table 2 shows the number of occurrences and nature of violations in the Saugus WRP from 1997 to 2002.

Table 2 - The Number of Occurrences and Nature of Violations in Effluent						
Nature of Violation	Year					
	1997	1998	1999	2000	2001	2002
Oil/Foam near Outfall	8	0	0	0	0	0
Residual chlorine	0	0	1	0	0	0
Turbidity	0	1	0	0	1	0

4. The Discharger's effluent demonstrated chronic toxicity during the last permit cycle. Based on this information, the Regional Board has determined that there is a reasonable potential that the discharge will cause toxicity in the receiving water. However, the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential were under review by the State Water Resources Control Board (State Board) in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Board adopted Order No. WQO 2003-0012, deferring the issue of numeric chronic toxicity effluent limitations until Phase II of the SIP is adopted. In the mean time, the State Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This permit contains a similar chronic toxicity effluent limitation. This Order also contains a reopener to allow the Regional Board to modify the permit, if necessary, consistent with any new policy, law, or regulation.

5. The Discharger conducted an investigation of the treatment options for meeting the proposed effluent limits for chloride, nitrite plus nitrate, mercury, cyanide, and copper, at the Saugus WRP. Based on a memo dated April 29, 2003 from the Discharger, the following conclusions and suggestions were made:

A. Chloride: The Discharger finds that it is impossible to meet the final effluent limit of 100 mg/L for chloride with the current wastewater treatment process. The installation of microfiltration and a reverse osmosis system is an option for reducing the chloride effluent concentration.

B. Nitrite plus Nitrate: The Discharger finds that the Modified Ludzack-Ettinger process will meet effluent limits for ammonia and nitrite plus nitrate, based on the Basin Plan Objectives.

C. Mercury: The Discharger finds that no additional treatment processes will be required to meet the proposed mercury limits.

D. Cyanide: The Discharger finds that faced with some uncertainties, it is difficult to make a specific recommendation of treatment methods for meeting the proposed cyanide permit limit (4.3 µg/L). More studies need to be conducted.

E. Copper: The Discharger finds that the Saugus WRP should be able to meet the current daily maximum and average monthly effluent limits for copper. If any exceedance of the effluent limit occurs, a detailed source identification and source control program in the sewershed serving the Saugus WRP should be conducted.

VI. APPLICABLE LAWS, PLANS, POLICIES, AND REGULATIONS

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

1. ***Federal Clean Water Act*** **-** Section 301(a) of the federal Clean Water Act (CWA) requires that point source discharges of pollutants to a water of the United States must be done in conformance with a NPDES permit. NPDES permits establish effluent limitations that incorporate various requirements of the CWA designed to protect water quality. CWA section 402 authorizes the USEPA or States with an approved NPDES program to issue NPDES permits. The State of California has an approved NPDES program.

2. ***Basin Plan*** **-** The Regional Board adopted a revised *Water Quality Control Plan for the Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) on June 13, 1994, and amended by various Regional Board resolutions. This updated and consolidated plan represents the Board's master quality control planning document and regulations. The State Water Resources Control Board (State Board) and the State of California Office of Administrative Law (OAL) approved the revised Basin Plan on November 17, 1994, and February 23, 1995, respectively. On May 26, 2000, the USEPA approved the revised Basin Plan except for the implementation plan for potential municipal and domestic supply (MUN) designated water bodies, which is not applicable to this discharge.

   The 1994 Basin Plan contained 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. Resolution No. 2002-011 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, and are now in effect. The final effluent limitations for ammonia prescribed in this Order are based on the revised ammonia criteria (see Attachment H) and apply at the end of pipe.

The Basin Plan (i) designates beneficial uses for surface and groundwater, (ii) sets narrative and numerical objectives that must be attained or maintained to protect the designated (existing and potential) beneficial uses and conform to the State's antidegradation policy, and (iii) includes implementation provisions, programs, and policies to protect all waters in the Region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. The 1994 Basin Plan was prepared to be consistent with all State and Regional Board plans and policies adopted in 1994 and earlier. This Order implements the plans, policies, and provisions of the Board's Basin Plan.

3. ***Sources of Drinking Water Policy -*** On May 19, 1988, the State Water Resources Control Board (State Board) adopted Resolution No. 88-63, *Sources of Drinking Water (SODW) Policy*, which established a policy that all surface and ground waters, with limited exemptions, are suitable or potentially suitable for municipal and domestic supply. To be consistent with State Board's SODW policy, on March 27, 1989, the Regional Board adopted Resolution No. 89-03, *Incorporation of Sources of Drinking Water Policy into the Water Quality Control Plans (Basin Plans) – Santa Clara River Basin (4A)/ Los Angeles River Basin (4B)*.

4. ***Potential Municipal and Domestic Supply (P* MUN) -*** Consistent with Regional Board Resolution No. 89-03 and State Board Resolution No. 88-63, in 1994 the Regional Board conditionally designated all inland surface waters in Table 2-1 of the 1994 Basin Plan as existing, intermittent, or potential for Municipal and Domestic Supply (MUN). However, the conditional designation in the 1994 Basin Plan included the following implementation provision: "no new effluent limitations will be placed in Waste Discharge Requirements as a result of these [potential MUN designations made pursuant to the SODW policy and the Regional Board's enabling resolution] until the Regional Board adopts [a special Basin Plan Amendment that incorporates a detailed review of the waters in the Region that should be exempted from the potential MUN designations arising from SODW policy and the Regional Board's enabling resolution]." On February 15, 2002, the USEPA clarified its partial approval (May 26, 2000) of the 1994 Basin Plan amendments and acknowledged that the conditional designations do not currently have a legal effect, do not reflect new water quality standards subject to USEPA review, and do not support new effluent limitations based on the conditional designations stemming from the SODW Policy until a subsequent review by the Regional Board finalizes the designations for these waters. This permit is designed to be consistent with the existing Basin Plan.

5. ***State Implementation Plan (SIP) and California Toxics Rule (CTR) -*** The State Board adopted the *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 Water Code) and the Federal Clean Water Act (CWA). This policy also establishes the following: implementation provisions for priority pollutant criteria promulgated by USEPA through the California Toxics Rule (CTR) and for priority pollutant objectives established by Regional Water Quality Control Boards in their water quality control plans (Basin Plans); monitoring requirements for priority pollutants with insufficient data to determine reasonable potential; monitoring requirements for 2, 3, 7, 8 – TCDD equivalents; and chronic toxicity control provisions. The CTR became effective on May 18, 2000 (codified as 40 CFR, Part 131.38). Toxic pollutant limits are prescribed in this Order to implement the CTR and Basin Plan.

In the CTR, USEPA promulgated criteria that protects the general population at an incremental cancer risk level of one in a million (10^{-6}), for all priority toxic pollutants regulated as carcinogens. USEPA recognizes that adoption of a different risk factor is outside of the scope of the CTR. However, states have the discretion to adopt water quality criteria that result in a higher risk level, if it can demonstrate that the chosen risk level is adequately protective of the most highly exposed subpopulation, and has completed all necessary public participation. This demonstration has not happened in California. Further, the information that is available on highly exposed subpopulations in California supports the need to protect the general population at the 10^{-6} level. The Discharger may undertake a study, in accordance with the procedures set forth in Chapter 3 of USEPA's *Water Quality Standards Handbook*: Second Edition (EPA-823-B-005a, August 1994) to demonstrate that a different risk factor is more appropriate. Upon completion of the study, the State Board will review the results and determine if the risk factor needs to be changed. In the mean time, the State will continue using a 10^{-6} risk level, as it has done historically, to protect the population against carcinogenic pollutants.

6. ***Alaska Rule***. On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for Clean Water Act (CWA) purposes (40 CFR 131.21, 65 FR 24641, April 27, 2000). Under USEPA's new regulation (also known as the *Alaska rule*), new and revised standards submitted to USEPA after May 30, 2000, must be approved before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by EPA.

7. ***Beneficial Uses -*** The Basin Plan contains water quality objectives and beneficial uses for the Santa Clara River and its contiguous waters.

A. The beneficial uses of the receiving surface water are:

Santa Clara River - Hydrologic Unit 403.51	
Existing:	industrial service, industrial process, and agriculture supply; groundwater recharge; freshwater replenishment; water contact and non-contact water recreation; rare, threatened, or endangered species; warm freshwater, wildlife, and wetland[1] habitat.
Potential:	municipal and domestic supply[2]
Santa Clara River - Hydrologic Unit 403.41	
Existing:	industrial service, industrial process, and agriculture supply; groundwater recharge; freshwater replenishment; water contact and non-contact water recreation; rare, threatened, or endangered species; migration of aquatic organisms; warm freshwater, wildlife, and wetland[1] habitat.
Potential:	municipal and domestic supply[2]
Santa Clara River - Hydrologic Unit 403.31	
Existing:	industrial service, industrial process, and agriculture supply; groundwater recharge; freshwater replenishment; water contact[3] and non-contact water recreation; rare, threatened, or endangered species; migration of aquatic organisms; warm freshwater, wildlife, and wetland[1] habitat.
Potential:	municipal and domestic supply[2]
Santa Clara River - Hydrologic Unit 403.21	
Existing:	industrial service, industrial process, and agriculture supply; groundwater recharge; freshwater replenishment; water contact[3] and non-contact water recreation; rare, threatened, or endangered species; migration of aquatic organisms; warm freshwater, wildlife, and wetland[1] habitat.
Potential:	municipal and domestic supply[2]
Santa Clara River - Hydrologic Unit 403.11	
Existing:	industrial service, industrial process, and agriculture supply; groundwater recharge; freshwater replenishment; water contact and non-contact water recreation; rare, threatened, or endangered species; migration of aquatic organisms; warm and cold freshwater, wildlife, and wetland[1] habitat.
Potential:	municipal and domestic supply [2]
Santa Clara River Estuary - Hydrologic Unit 403.11	
Existing:	navigation, water contact[1] and non-contact water recreation; commercial and sport fishing; estuary, marine, wildlife, and wetland[2] habitat; rare, threatened, or endangered species[4]; migration of aquatic organisms[5]; spawning, reproduction, and/or early development[5].

Footnote:

[1]. This wetland habitat may be associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

[2]. Municipal and domestic supply uses were designated for the State Water Resources Control Board Order No. 88-63 and Regional Board Resolution No. 89-003.

[3]. The Los Angeles County Department of Public Works posted signs prohibiting access to the stream. However, there is public access to the Santa Clara River and its tributaries though the bike trails that run parallel to the stream. The public has been observed fishing and wading across sections of the river. There is a public contact in the downstream areas; hence, the quality of treated wastewater discharged to the Santa Clara River must be such that no health hazard is created.

[4]. One or more rare species utilize estuary and coastal wetlands for foraging and/or nesting.

[5]. Aquatic organisms utilize estuary and coastal wetland, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.

B. The beneficial uses of the receiving groundwater are:

Eastern Santa Clara – DWR Basin No.[1] 4-4.07	
South Fork	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Placerita Canyon	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Santa Clara-Bouquet and san Francisquito Canyons	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Castaic Valley	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Saugus Aquifer	
Existing:	municipal and domestic supply
Potential:	None
Ventura Central – DWR Basin No.[1] 4.4	
Santa Clara – Lower area east of Piru Creek	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None

Santa Clara – Lower area west of Piru Creek	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Santa Clara – Upper Sespe area	
Existing:	industrial service supply, and agriculture supply
Potential:	municipal and domestic supply, and industrial process supply
Santa Clara – Fillmore area: Pole Creek Fan area	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Santa Clara – Fillmore area: South side of Santa Clara River	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Santa Clara – Remaining Fillmore area	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, agriculture supply, and aquaculture
Potential:	None
Santa Clara – Santa Paula area: East of Peck Road	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Santa Clara – Santa Paula area: West of Peck Road	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Oxnard Plain – Oxnard Forebay	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Oxnard Plain – Confined aquifers	
Existing:	municipal and domestic supply, industrial service supply, industrial process supply, and agriculture supply
Potential:	None
Oxnard Plain – Unconfined and perched aquifers	
Existing:	municipal and domestic supply, and agriculture supply
Potential:	industrial service supply

Footnote:

[1]. Basins are numbered according to DWR Bulletin No. 118-80 (DWR, 1980).

C. The requirements in this Order are intended to protect designated beneficial uses and enhance the water quality of the watershed. Effluent limits must protect both existing and potential beneficial uses.

D. Consistent with Regional Board Resolution No. 89-03 and State Board Resolution No. 88-63, all inland surface waters in Table 2-1 of the 1994 Basin Plan are designated existing, intermittent, or potential for Municipal and Domestic Supply (MUN).

8. ***Title 22 of the California Code of Regulations -*** The California Department of Health Services established primary and secondary maximum contaminant levels (MCLs) for inorganic, organic, and radioactive contaminants in drinking water. These MCLs are codified in Title 22, California Code of Regulations (Title 22). The Basin Plan (Chapter 3) incorporates Title 22 primary MCLs by reference. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect. Title 22 primary MCLs have been used as bases for effluent limitations in WDRs and NPDES permits to protect the groundwater recharge beneficial use when that receiving groundwater is designated as MUN. Also, the Basin Plan specifies that "Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." Therefore the secondary MCL's, which are limits based on aesthetic, organoleptic standards, are also incorporated into this permit to protect groundwater quality.

9. ***Antidegradation Policy -*** On October 28, 1968, the State Board adopted Resolution No. 68-16*, Maintaining High Quality Water*, which established an antidegradation policy for State and Regional Boards. The State Board has, in State Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy. Similarly, the CWA (section 304(d)(4)(B)) and USEPA regulations (40 CFR, Section 131.12) require that all permitting actions be consistent with the federal antidegradation policy. Together, the State and Federal policies are designed to ensure that a water body will not be degraded resulting from the permitted discharge. The provisions of this Order are consistent with the antidegradation policies.

10. ***Watershed Approach -*** This Regional Board has been implementing a Watershed Management Approach (WMA), to address water quality protection in the Los Angeles Region, as detailed in the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues and use sound science. Information about the Santa Clara River Watershed and other watersheds in the region can be obtained from the Regional Board's web site at *http://www.swrcb.ca.gov/rwqcb4/* and clicking on the word "Watersheds".

Pursuant to this Regional Board's watershed initiative framework, the Santa Clara River Watershed Management Area was the targeted watershed for fiscal year 1999-2000. However, the NPDES permit renewals were re-scheduled for the 2002-2003

fiscal year so that provisions of the CTR and SIP could be incorporated into the permits.

VII. REGULATORY BASIS FOR EFFLUENT AND RECEIVING WATER LIMITS AND OTHER DISCHARGE REQUIREMENTS

1. ***Water Quality Objectives and Effluent Limits -*** *Water* Quality Objectives (WQOs) and effluent limitations in this permit are based on:

   A. Applicable State Regulations/Policies/Guidances

      a. The plans, policies and water quality standards (beneficial uses + objectives + antidegradation policy) contained in the 1994 *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, as amended, including chemical constituent limitations established by incorporating the California Code of Regulations, title 22, maximum contaminant levels designed to protect the existing drinking water use of the receiving groundwaters;

      b. California Toxics Rule (40 CFR 131.38);

      c. The State Board's "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California" (the State Implementation Plan or SIP); and,

      d. Administrative Procedures Manual and Administrative Procedure Updates.

   B. Applicable Federal Regulations/Policies/Guidances

      a. Federal Clean Water Act;

      b. 40 CFR, Parts 122, 131, among others;

      c. Best professional judgment (pursuant to 40 CFR 122.44);

      d. USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996;

      e. USEPA Whole Effluent Toxicity (WET) Control Policy July 1994;

      f. Inspectors Guide for Evaluation of Municipal Wastewater Treatment Plants, April 1979 (EPA/430/9-79-010);

      g. Fate of Priority Pollutants in Publicly Owned Treatment Works Pilot Study October 1979 (EPA-440/1-79-300);

      h. *Technical Support Document for Water Quality Based Toxics Control,* March 1991 (EPA-505/ 2-90-001); and,

i. *U.S. EPA NPDES Permit Writers' Manual,* December 1996 (EPA-833-B-96-003).

Where numeric water quality objectives have not been established in the Basin Plan, 40 CFR, Part 122.44(d) specifies that water quality based effluent limits 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.

2. ***Mass and Concentration Limits -*** 40 CFR, Section 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR, Section 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

   Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents, except during wet-weather, storm events that cause flows to the treatment plant to exceed the plant's design capacity.

3. ***Maximum Daily Effluent Limitations -*** Pursuant to 40 CFR, Section 122.45(d)(2), for POTWs continuous discharges, all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall, unless impracticable, be stated as average weekly and average monthly discharge limitations. It is impracticable to only include average weekly and average monthly effluent limitations in the permits, because a single daily discharge of certain pollutants, in excess amounts, can cause violations of water quality objectives. The effects of certain pollutants on aquatic organisms are often rapid. For many pollutants, an average weekly or average monthly effluent limitation alone is not sufficiently protective of beneficial uses. As a result, maximum daily effluent limitations, as referenced in 40 CFR, Section 122.45(d)(1), are included in the permit for certain constituents as discussed in the Fact Sheet accompanying this Order.

4. ***Pretreatment -*** Pursuant to 40 CFR, Section 403, the CSDLAC developed and has been implementing an approved industrial wastewater Pretreatment Program. This Order requires the CSDLAC to continue the implementation of the approved Pretreatment Program and modifications thereof.

5. ***Sludge Disposal -*** To implement CWA Section 405(d), on February 19, 1993, the USEPA promulgated 40 CFR, Part 503 to regulate the use and disposal of municipal sewage sludge. This regulation was amended on September 3, 1999. The regulation requires that producers of sewage sludge meet certain reporting, handling,

and disposal requirements. It is the responsibility of the CSDLAC to comply with said regulations that are enforceable by USEPA, because California has not been delegated the authority to implement this program.

6. ***Storm Water Management*** **-** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR, Section 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities.* This permit was amended in September 1992 and reissued on April 17, 1997 in State Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity.

   General NPDES permit No. CAS000001 is applicable to storm water discharges from the Saugus WRP's premises. On June 4, 1992, the CSDLAC filed a Notice of Intent to comply with the requirements of the general permit. CSDLAC developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP), to comply with the State Board's Order No. 97-03-DWQ.

7. ***Clean Water Act Effluent Limitations*** **-** Numeric and narrative effluent limitations are established pursuant to Section 301 (Effluent Limitations), Section 302 (Water Quality-Related Effluent Limitations), Section 303 (Water Quality Standards and Implementation Plans), Section 304 (Information and Guidelines [Effluent]), Section 305 (Water Quality Inventory), Section 307 (Toxic and Pretreatment Effluent Standards), and Section 402 (NPDES) of the CWA. The CWA and amendments thereto are applicable to the discharges herein.

8. ***Antibacksliding Policies*** **-** Antibacksliding provisions are contained in Sections 303(d)(4) and 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. Section 402(o)(2) outlines six exceptions where effluent limitations may be relaxed.

9. ***Applicable Water Quality Objectives*** **-** 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 use.

   The Basin Plan includes narrative and numeric Water Quality Objectives (WQOs). The CTR promulgates numeric aquatic life criteria for 23 toxic pollutants and numeric human health criteria for 57 toxic pollutants. A compliance schedule provision in the CTR and the SIP authorizes the State to issue schedules of compliance for new or revised NPDES permit limits based on the federal CTR criteria when certain conditions are met. 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.

10. ***Types of Pollutants -*** For CWA regulatory purposes, pollutants are grouped into three general categories under the NPDES program: conventional, toxic, and non-conventional. By definition, there are five conventional pollutants (listed in 40 CFR 401.16) – 5-day biochemical oxygen demand, total suspended solids, fecal coliform, pH, and oil and grease. Toxic or "priority" pollutants are those defined in Section 307(a)(1) of the CWA (and listed in 40 CFR 401.12 and 40 CFR 423, Appendix A) and include heavy metals and organic compounds. Non-conventional pollutants are those which do not fall under either of the two previously described categories and include such parameters as ammonia, phosphorous, chemical oxygen demand, whole effluent toxicity, etc.

11. ***Technology-Based Limits for Municipal Facilities (POTWs) -*** Technology-based effluent limits require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the Discharger to use any available control techniques to meet the effluent limits. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level—referred to as "secondary treatment"—that all POTWs were required to meet by July 1, 1977. More specifically, Section 301(b)(1)(B) of the CWA required that USEPA develop secondary treatment standards for POTWs as defined in Section 304(d)(1). Based on this statutory requirement, USEPA developed national secondary treatment regulations, which are specified in 40 CFR 133. These technology-based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment in terms of five-day biochemical oxygen demand, total suspended solids, and pH.

12. ***Water Quality Based Effluent Limits (WQBELs) -*** Water quality-based effluent limits are designed to protect the quality of the receiving water by ensuring that State water quality standards are met by discharges from an industrial/municipal point source. If, after technology-based effluent limits are applied, a point source discharge will cause, have the reasonable potential to cause, or contribute to an exceedance of an applicable water quality criterion, then 40 CFR 122.44(d)(1) requires that the permit contain a WQBEL. Although the CWA establishes explicit technology-based requirements for POTWs, Congress did not exempt POTWs from additional regulation to protect water quality standards. As a result, POTWs are also subject to WQBELs. This was upheld by the Appellate Court in *the City of Burbank, City of Los Angeles v. State Water Resources Control Board* case. Applicable water quality standards for the Santa Clara River are contained in the Basin Plan and CTR, as described in previous findings. Applicable water quality standards for the Santa Clara River are contained in the Basin Plan and CTR, as described in previous findings.

13. ***Water Quality Based Effluent Limitations for Toxic Pollutants -*** Toxic substances are regulated in this permit by water quality based effluent limitations derived from the 1994 Basin Plan, the CTR, and/or best professional judgment (BPJ) pursuant to Part 122.44. If a discharge causes, has a reasonable potential to cause, or contribute to a receiving water excursion above a narrative or numeric objective within a State water quality standard, federal law and regulations, as specified in 40 CFR 122.44(d)(1)(i), and in part, the SIP, require the establishment of WQBELs that

will protect water quality. As documented in the Fact Sheet, pollutants exhibiting reasonable potential in the discharge, authorized in this Order, are identified in the Reasonable Potential Analysis (RPA) section and have final effluent limits. Because ambient receiving water data is not available, reasonable potential was not triggered for some of the 126 priority pollutants and final limits cannot be determined at this time. The Discharger is required to gather the appropriate data and the Regional Board will determine if final effluent limits are needed. If final limits are needed, the permit will be reopened and limits will be included in the permit.

14. ***Basis for Effluent Limits for 303(d) Listed Pollutants -*** For 303(d) listed pollutants, the Regional Board plans to develop and adopt total maximum daily loads (TMDLs) which will specify wasteload allocations (WLAs) for point sources and load allocations (LA) for non-point sources, as appropriate. Following the adoption of TMDLs by the Regional Board, NPDES permits will be issued, and where appropriate, reopened to include effluent limits consistent with the assumptions of the TMDL, based on applicable WLAs. In the absence of a TMDL, the permits will include water quality-based effluent limitations derived as provided in the CTR and SIP (if applicable). These effluent limits are based on criteria applied end-of-pipe due to no mixing zone or dilution credits allowed.

15. ***303(d) Listed Pollutants -*** On July 25, 2003, USEPA approved the State's most recent 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.

    Santa Clara River, Santa Clara River Estuary, and their tributaries are on the 303(d) List. The following pollutants/stressors, from point and non-point sources, were identified as impacting the receiving waters:

    A. Santa Clara River Reach 8-W (Pier Hwy 99 to Bouquet Canyon Rd. Bridge) -- Hydrologic Unit 403.51: Chloride and High Coliform Count

    B. Santa Clara River Reach 9 (Bouquet Canyon Rd to above Lang Gaging) -- Hydrologic Unit 403.51: High Coliform Count+

    The Regional Board revised the 303(d) list in 2002 and submitted the draft to the State Board for approval. The State Board had scheduled the draft 303(d) list, dated October 15, 2002, for approval at two of its meetings, however the item was postponed to hold additional workshops and to allow more time for the public to submit comments. The draft 303(d) list dated October 15, 2002, was revised on January 13, 2003, based on comments received. The draft 303(d) list, dated January 13, 2003, was adopted by the State Board at its February 4, 2003 meeting. The adopted 303(d) list was approved by USEPA on July 25, 2003.

16. ***Relevant Total Maximum Daily Loads -*** A Total Maximum Daily Load (TMDL) is a determination of the amount of a pollutant, from point, nonpoint, and natural background sources, including a margin of safety that may be discharged to a water

quality-limited water body. Section 303(d) of the CWA established the TMDL process. The statutory requirements are codified at 40 CFR, Part 130.7. TMDLs must be developed for the pollutants of concern, which impact the water quality of water bodies on the 303(d) list. The Regional Board has developed a TMDL that assesses the extent and sources of the ammonia and algae (nutrient/nitrogen) problems in the Santa Clara River. According to the TMDL schedule, under the amended concent decree*, Heal the Bay, Santa Monica Bay Keeper, et al. v. Browner, et al.* (March 23, 1999), the nitrogen and chloride TMDLs for the Santa Clara River must be completed by 2004 and 2003, respectively. The coliform TMDL is scheduled for completion by 2006.

Chloride TMDL. On October 24, 2002, the Regional Board adopted Resolution No. 2002-018, Amendment to the Basin Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load to Reduce Chloride Loading in the Upper Santa Clara River. Soon after, the Regional Board submitted the TMDL to the State Board for approval. On February 19, 2003, the State Board adopted Resolution No. 2003-0014, the "Remand Resolution," finding that the Regional Board staff prepared the documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act, scientific peer review, and other State laws and regulations to develop a TMDL. However, the Remand Resolution directed the Regional Board to consider revising the implementation provisions of the chloride TMDL. On July 10, 2003, the Regional Board reconsidered Resolution No. 2002-018, in light of the Remand Resolution, and adopted Resolution No. 2003-008 which modified the chloride TMDL implementation provisions by:

A. Expanding the phased-TMDL approach to allow CSDLAC to complete the implementation tasks sequentially and within 13 years;

B. Extending the interim limits beyond the proposed two and a half years but not to exceed 13 years, so that the interim limits may remain in effect during the planning, construction, and execution portions of the TMDL's implementation tasks; and,

C. Modifying the TMDL analysis task list to include an assessment/ evaluation of alternative water supplies for agricultural beneficial uses.

The TMDL is awaiting final approvals from the State Board, the Office of Administrative Law, and U.S.EPA. Subsequent to the effective date of the chloride TMDL, this Order or its successors may be reopened and modified to include effluent limits that will be consistent with the waste load allocations and other provisions in the chloride TMDL, as necessary.

Nitrogen Compounds and Related Effects TMDL. On August 7, 2003, the Regional Board adopted Resolution No. 2003-011, Amendment to the Basin Plan for the Los Angeles Region to Include a TMDL for Nitrogen Compounds in the Santa Clara River *(Nitrogen Compounds* TMDL). The TMDL is awaiting State Board, OAL, and USEPA approval.

17. ***Mixing Zones and Dilution Credits -*** Mixing zones, dilution credits, and attenuation factors are not allowed in this Order. Allowance of a mixing zone is in the Regional Board's discretion under Section 1.4.2 of the SIP and under the Basin Plan (Basin Plan Chapter 4, page 30). If the Discharger subsequently conducts appropriate mixing zone and dilution credit studies, the Regional Board can evaluate the propriety of granting a mixing zone or establishing dilution credits. The Regional Board has concluded mixing zones and dilution credits would be inappropriate to grant, at this time, in light of the following factors:

    A. The Saugus WRP discharge contributes the largest flow (effluent dominated) into the Santa Clara River watershed in the vicinity of the discharge point where it overwhelms the receiving water, providing very limited mixing and dilution;

    B. Even in the absence of the Saugus WRP discharge, the receiving water primarily consists of nuisance flows and other effluents, limiting its assimilative capacity;

    C. Several reaches of the Santa Clara River [including those subject to this Order] are 303(d) listed (i.e., impaired) for certain constituents;

    D. Impaired waters do not have the capacity to assimilate pollutants of concern at concentrations greater than the applicable objective;

    E. For the protection of the beneficial uses is listed on Section VI.7;

    F. Consistent with Antidegradation Policies;

    G. Because a mixing zone study has not been conducted; and,

    H. Because a hydrologic model of the discharge and the receiving water have not been conducted.

    On July 16, 2003, the State Board adopted Order No. WQO 2003-0009, directing Regional Board staff to work with CSDLAC, once data was provided, to determine whether dilution and attenuation are appropriate factors to consider in developing effluent limits to protect the GWR beneficial use, in the Whittier Narrows WRP NPDES permit. However, this does not apply to the Saugus or Valencia WRPs, because CSDLAC has not provided the necessary site-specific data or studies regarding the ground water basins in the Santa Clarita or Valencia areas.

18. Specific effluent limitations for each constituent contained in this order were developed in accordance with the foregoing laws, regulations, plans, policies, and guidance. The specific methodology and example calculations are documented in following sections of this Fact Sheet prepared by Regional Board staff.

VIII. REASONABLE POTENTIAL ANALYSIS

1. As specified in 40 CFR, Part 122.44(d)(1)(i), permits are required to include limits for all pollutants "which the Director (defined as the Regional Administrator, State Director, or authorized representative in 40 CFR, Part 122.2) determines are or may

be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard."

A. Using the method described in the TSD, the Regional Board has conducted Reasonable Potential Analysis (RPA) for:

a. Chronic Toxicity - RPA was conducted for Chronic Toxicity (Table A1 of the accompanying Fact Sheet) using the discharger's effluent data from their ROWD and annual self monitoring reports. Chronic Toxicity effluent data is summarized in Table A1 of the accompanying Fact Sheet. The RPA compares the effluent data with USEPA's 1 TUc water quality criteria. The Discharger's effluent demonstrated Chronic Toxicity during the last permit cycle. Based on this information, the Regional Board has determined that there is a reasonable potential that the discharge will cause toxicity in the receiving water and, consistent with SIP section 4, the Order contains a narrative effluent limitation for Chronic Toxicity. The circumstances warranting a numeric Chronic Toxicity effluent limitation were reviewed by the State Water Resources Control Board (State Board) in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, the State Board adopted Order No. WQO 2003-0012, deferring the numeric chronic toxicity effluent limitation issue until the adoption of Phase II of the SIP, and replaced the numeric chronic toxicity effluent limitation with a narrative effluent limitation for the time being.

b. Ammonia and other Nitrogen Species – RPA was conducted for Ammonia, Nitrate plus Nitrite as Nitrogen, and Nitrite Nitrogen (Table A3 of the accompanying Fact Sheet) using the Discharger's effluent data from their self monitoring reports. Ammonia, Nitrate plus Nitrite as Nitrogen, and Nitrite Nitrogen effluent data is summarized in Table A1 of the accompanying Fact Sheet. Temperature and pH effluent data is summarized in Table A2 of the accompanying Fact Sheet. The RPA compares the effluent data with the Basin Plan water quality objectives (WQOs). The Discharger's projected effluent exceeded the Basin Plan WQOs for Ammonia, Nitrate plus Nitrite as Nitrogen, and Nitrite Nitrogen, during the last permit cycle. Based on this information, the Regional Board has determined that there is a reasonable potential that the discharge will cause or contribute to an exceedance of the Basin Plan WQOs and, consistent with 40 CFR 122.44(d), the Order contains numeric effluent limitations for Ammonia, Nitrate plus Nitrite as Nitrogen, and Nitrite Nitrogen.

B. Using the method described in the SIP, the Regional Board has conducted Reasonable Potential Analyses (RPA) using the discharger's effluent data contained in Table D. The RPA compares the effluent data with water quality objectives in the Basin Plan and CTR.

a. ***Reasonable Potential Determination -*** The RPA (per the SIP) involves identifying the observed maximum pollutant concentration in the effluent

(MEC) for each constituent based on the effluent concentration data. There are three tiers to determining reasonable potential. If any of the following three tiers is triggered, then reasonable potential exists:

i. For the first tier, the MEC is compared with the lowest applicable Water Quality Objective (WQO), which has been adjusted for pH, hardness and translator data, if appropriate. If the MEC is greater than the (adjusted) WQO, then there is reasonable potential for the constituent to cause or contribute to an excursion above the WQO and a water quality-based effluent limitation (WQBEL) is required. However, if the pollutant was not detected in any of the effluent samples and all of the reported detection limits are greater than or equal to the WQO, proceed with Tier 2. The Regional Board exercised its discretion in identifying all available, valid, relevant, representative data and information in accordance with SIP Section 1.2 (page 8).

ii. For the second tier, if the MEC is less than the adjusted WQO, then the observed maximum ambient background concentration (B) for the pollutant is compared with the adjusted WQO. If B is greater than the adjusted WQO, then a WQBEL is required. If B is less than the WQO, then a limit is only required under certain circumstances to protect beneficial uses. If a constituent was not detected in any of the effluent samples and all of the detection limits are greater than or equal to the adjusted WQO, then the ambient background water quality concentration is compared with the adjusted WQO. The Regional Board exercised its discretion in identifying all available, applicable ambient background data in accordance with SIP Section 1.4.3 (page 16).

iii. For the third tier, other information is used to determine RPA, such as the current CWA 303(d) List. Section 1.3 of the SIP describes the type of information that can be considered in Tier 3.

For all parameters that have reasonable potential to cause or contribute to an exceedance of a WQO/criteria, numeric WQBELs are required. Section 1.4, Step 5 of the SIP (page 8) states that MDELs shall be used for publicly-owned treatment works (POTWs) in place of average weekly limitations. WQBELs are based on CTR, USEPA water quality criteria, and Basin Plan objectives.

If the data are unavailable or insufficient to conduct the RPA for the pollutant, or if all reported detection limits of the pollutant in the effluent are greater than or equal to the WQO, the Regional Board shall establish interim requirements, in accordance with Section 2.2.2. of the SIP, that require additional monitoring for the pollutant in place of a WQBEL. The effluent monitoring data from January 1997 to December 2002 indicate that 2,3,7,8-TCDD, benzidine, benzo(a)anthracene, 3,3'-dichlorobenzidine, 1,2-diphenylhydrazine, Hexachlorobenzene, aldrin,

chlordane, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, Dieldrin, heptachlor, heptachlor epoxide, PCBs, and toxaphene were not detected and their lowest detection limits were greater than their WQO. Therefore these constituents require interim monitoring requirements.

Upon completion of the required monitoring, the Regional Board shall use the gathered data to conduct RPA and determine if a WQBEL is required. However, if Tier 1 or Tier 3 triggered reasonable potential for a pollutant, then the lack of receiving water data for Tier 2 evaluation would not prohibit the establishing of WQBELs in the permit.

A numerical limit has not been prescribed for a toxic constituent if it has been determined that it has no reasonable potential to cause or contribute to excursions of water quality standards. However, if the constituent had a limit in the previous permit, and if none of the Antibacksliding exceptions apply, then the limit will be retained. A narrative limit to comply with all water quality objectives is provided in *Standard Provisions* for the priority pollutants, which have no available numeric criteria.

b. ***RPA Data*** **-** The RPA was based on effluent monitoring data for January 1997 through December 2002 (Table D). Table R2 of the fact sheet summarizes the RPA, lists the constituents, and where available, the lowest, adjusted WQO, the MEC, the "Reasonable Potential" result, and the limits from the previous permit.

i. **Metals Water Quality Objective -** For metals, the lowest applicable Water Quality Objective (WQO) was expressed as total recoverable, and where applicable, adjusted for hardness. No samples were collected in the receiving water upstream of the discharge point because there was no flow in the Santa Clara River. As such, no hardness values are available. The Regional Board Staff used a hardness value of 400 mg/L, which is an average value of the Valencia WRP's receiving water data collected from July 2001 to September 2002, to convert the dissolved metal CTR criteria into the total recoverable metal form.

ii. **Interim Monitoring Requirements -** In accordance with the SIP, the Regional Board may impose interim monitoring requirements upon the Discharger, so that the Discharger obtains adequate ambient, background water data for priority pollutants upstream of the discharge point as well as suitable effluent data. On June 5, 2001 letter, the Executive Officer directed the Discharger to begin an interim monitoring program for the duration of 18 months, beginning July 2001. The Discharger shall collect samples on a monthly basis for all priority pollutants, with the exception of asbestos and 2,3,7,8-TCDD that are sampled semiannually, and reporting the results quarterly to the Regional Board. During these collecting periods, there was no flow at the receiving water sampling station located upstream of the discharge point, along the Santa

Clara River. Hence, no ambient and background water data for pH, TSS, flow, hardness, temperature, and priority pollutants were available. The Saugus WRP shall continue conducting an interim monitoring program in the effluent and the receiving water for another duration of 18 months, only when the flow is available at the upstream monitoring station R-A, starting at 50 days (December 26, 2003) after this permit being adopted. After this information is gathered, Regional Board staff will conduct RPA once again, to determine if additional numeric limitations are necessary. Section 1.3, Step 8, of the SIP authorizes the Regional Board to use the gathered data to conduct RPA, as outlined in Steps 1 through 7, and determine if a water quality-based effluent limitation is required.

A reopener provision is included in this Order that allows the permit to be reopened to allow the inclusion of new numeric limitations for any constituent that exhibits reasonable potential to cause or contribute to exceedance of applicable water quality objectives.

For some priority pollutants, the applicable water quality objectives are below the levels that current technology can measure. Section 2.4.5 of the SIP discusses how compliance will be determined in those cases. The Discharger should work with the laboratory to lower detection levels to meet applicable and reliable detection limits; follow procedures set forth in 40 CFR, Part 136; and, report the status of their findings in the annual report. During the term of the permit, if and when monitoring with lowered detection limits shows any of the priority pollutants at levels exceeding the applicable WQOs, the Discharger will be required to initiate source identification and control for the particular pollutant. Appendix 4 of the SIP lists the minimum levels and laboratory techniques for each constituent.

In case of cyanide, the monthly average limitation in the accompanying Order is lower than the lowest minimum level (ML) listed in Attachment 4 of the SIP, 5 µg/L, using the colorimetric technique. CSDLAC and other Dischargers have contacted Regional Board staff and State Board staff communicating the difficulty they are experiencing in achieving that low ML level for cyanide, the uncertainty in the results due to possible matrix interferences, and the possible impacts of interferences on the test method. CSDLAC submitted a workplan to investigate the assertion that matrix interferences cause spurious, random detections of cyanide in the total cyanide analytical test (Standard Methods Section 4500CN and EPA 335.1). In their workplan, CSDLAC proposed to: (i) establish matrix-specific MDLs, pursuant to 40 CFR, Section 136, and provide a broad-based evaluation of background effects using the method of standard additions; (ii) utilize an independent, EPA approved analytical test method (EPA 1677, ligand exchange method) to evaluate the presence of any available cyanide remaining after wastewater treatment; and, (iii) directly analyze the finite number of inert metal cyanide complexes, which could possibly survive the treatment plant process and chlorination, which could

be detected by the total cyanide method, but not by EPA method 1677. During the course of the eight-month investigation, the Discharger used 10 µg/L as an interim matrix specific ML. After an eight-month study on the cyanide matrix interferences, the CSDLAC has not positively identified the interferences. The Regional Board did not extend the use of 10 µg/L as an interim matrix specific ML.

c. The numeric limitations contained in this Order are intended to protect and maintain existing and potential beneficial uses of the receiving waters. Environmental benefits provided by these limitations are reasonable and necessary.

d. Regional Board staff have determined that copper, mercury, cyanide, and acrylonitrile showed the potential to exceed respective CTR objectives, and, therefore, require CTR-based effluent limitations.

2. The Order is consistent with State and Federal antidegradation policies in that it does not authorize a change in the quantity of treated wastewater discharged by the facility, nor does it authorize a change or relaxation in the manner or level of treatment. As a result, both the quantity and quality of the discharge are expected to remain the same or improve, consistent with antidegradation policies. The accompanying monitoring and reporting program requires continued data collection and if monitoring data show a reasonable potential for a constituent to cause or contribute to an exceedance of water quality standards, the permit will be reopened to incorporate appropriate WQBELs. Such an approach ensures that the discharge will adequately protect water quality standards for potential and existing uses and conforms with antidegradation policies and antibacksliding provisions.

3. The Regional Board also notes that the discharges regulated by the accompanying Order are discharges from a POTW. A POTW receives sewage from domestic, commercial, and industrial sources, with the industrial sources subject to pretreatment requirements. These diverse sewage sources are all subject to primary, secondary, and tertiary treatment and chlorination/dechlorination at the POTW. Due to the nature of a POTW, the Discharger would not be able to adjust treatment techniques to exploit removed effluent limitations, without running the risk of violating effluent limits for nonpriority pollutants. It is technically difficult and would also trigger a reopening of the NPDES permit. As a result, the accompanying Order is consistent with antidegradation because the discharge will not change or increase.

IX. PROPOSED EFFLUENT LIMITATIONS

1. Numeric toxic constituent limitations are based on the Basin Plan the narrative water quality objective for toxic constituents, “All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life”; on the CTR; and, the interpretation of the Basin Plan narrative criteria using USEPA’s 304(a) nationally recommended water quality criteria. For toxic constituents that have no reasonable potential to cause or contribute to excursions of water quality objectives, no numerical limitations are prescribed.

2. Pursuant to 40 CFR 122.45(d)(2), for a POTWs continuous discharges, all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall, unless impracticable, be stated as average weekly and average monthly discharge limitations for POTWs. It is impracticable to only include average weekly and average monthly effluent limitations in the permit, because a single daily discharge of a pollutant, in excess amounts, can cause violations of water quality objectives. The effects of pollutants on aquatic organisms are often rapid. For many pollutants, an average weekly or average monthly effluent limitation alone is not sufficiently protective of beneficial uses. As a result, maximum daily effluent limitations, as referenced in 40 CFR 122.45(d)(1), are included in the permit.

3. Furthermore, Section 1.4 of the SIP requires the step-by-step procedure to "adjust" or convert CTR numeric criteria into Average Monthly Effluent Limitations (AMELs) and Maximum Daily Effluent Limitations (MDELs), for toxics.

   A. Step 3 of Section 1.4 of the SIP (page 6) lists the statistical equations that adjust CTR criteria for effluent variability.

   B. Step 5 of Section 1.4 of the SIP (page 8) lists the statistical equations that adjust CTR criteria for averaging periods and exceedance frequencies of the criteria/objectives. This section also reads, "For this method only, maximum daily effluent limitations shall be used for publicly-owned treatment works (POTWs) in place of average weekly limitations.

4. Table R is the spreadsheet that staff used to calculate the AMELs and MDELs for priority pollutants.

5. 40 CFR, Section 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR, Section 122.45(f)(2) allows the permit writer, as its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

6. Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meets its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents, except during wet-weather, storm events that cause flows to the treatment plant to exceed the plant's design capacity.

A. Effluent Limitations

a. Conventional and nonconventional pollutants

Constituent	Units	Discharge Limitations		
		Monthly Average[1]	Weekly Average[1]	Daily Maximum[2]
Settleable solids	ml/L	0.1	--	0.3
Suspended solids	mg/L	15	40	45
	lbs/day[3]	810	2170	2440
Oil and grease	mg/L	10	--	15
	lbs/day[3]	540	--	810
$BOD_{5@20°C}$	mg/L	20	30	45
	lbs/day[3]	1080	1630	2440
Total residual chlorine	mg/L	--	--	0.1[4]
Total dissolved solids	mg/L	1000	--	--
	lbs/day[3]	54210	--	--
Chloride	mg/L	100[5]	--	--
	lbs/day[3]	5420	--	--
	mg/L	--	--	100[6]
	mg/L	200[7]	--	218[7]
Sulfate	mg/L	300	--	--
	lbs/day[3]	16260	--	--
Boron	mg/L	1.5	--	--
	lbs/day[3]	81.3	--	--
Fluoride	mg/L	1.6	--	--
	lbs/day[3]	86.7	--	--
Detergents (as MBAS)	mg/L	0.5	--	--
	lbs/day[3]	27.1	--	--
Nitrate + Nitrite Nitrogen	mg/L	10[8]	--	--
	lbs/day[3]	540	--	--
	mg/L	7.1[9]		
	mg/L	10[10]		
Nitrite (as N)	mg/L	1[8]	--	--
	lbs/day[3]	54	--	--
	mg/L	0.9[9]		
	mg/L	1[10]		
Total ammonia	mg/L	[12]	--	[11]
	lbs/day[3]	[3]	--	[3]
	mg/L	2.0[9]		5.6[9]

Footnotes:

[1]. Average Monthly Discharge Limitation means the highest allowable average of daily discharge over a calendar month, calculated as the sum of all daily discharges measures during that month divided by the number of days on which monitoring was performed.

Average Weekly Discharge Limitation means the highest allowable average of daily discharge over a calendar week, calculated as the sum of all daily discharges measures during that week divided by the number of days on which monitoring was performed.

[2]. The daily maximum effluent concentration limit shall apply to both flow weighted 24-hour composite samples and grab samples, as specified in the Monitoring and Reporting Program.

[3]. The mass emission rates are based on the plant design flow rate of 6.5 mgd. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[4]. Total residual chlorine concentration excursions of up to 0.3 mg/L, at the point in treatment train immediately following dechlorination, shall not be considered violations of this requirement provided the total duration of such excursions do not exceed 15 minutes during any 24-hour period. Peaks in excess of 0.3 mg/L lasting less than one minute shall not be considered a violation of this requirement.

[5] This is the water quality objective for chloride in the current Basin Plan. This effluent limitation applies immediately and will stay in effect until the Chloride TMDL for the Santa Clara River, Resolution No. 2002-018, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Include a TMDL for Chloride in the Santa Clara River* (*Chloride TMDL)*, is approved by USEPA (i.e., the effective date of the TMDL). At that time, the interim effluent limitation accompanying table footnote [7] will be effective. If U.S. EPA does not approve the *Chloride TMDL*, this effluent limitation will remain in effect until revised by the Regional Board.

[6]. This is the waste load allocation (WLA), according to the Chloride TMDL Resolution No. 2002-018, adopted by the Regional Board on October 24, 2002. The waste load allocation will ultimately serve as the effluent limitation for the discharge. This limit becomes effective after the USEPA approves the Chloride TMDL. If U.S. EPA does not approve the *Chloride TMDL*, this effluent limitation will not apply.

[7]. This is the interim limit according to the *Chloride TMDL* adopted by the Regional Board on October 24, 2002. This interim limit becomes effective when the USEPA approves the *Chloride TMDL* for the Santa Clara River and continues for the duration of the TMDL interim limit provisions. This interim limit will supercede the effluent limitation specified accompanying table footnote [5] and will remain in effect until superceded by the effluent limitation specified accompanying table footnote [6]. If U.S. EPA does not approve the *Chloride TMDL*, this effluent limitation will not apply.

[8]. This is the water quality objective for nitrate plus nitrite as nitrogen and nitrite nitrogen in the current Basin Plan. This effluent limitation applies immediately and will stay in effect until the Nutrient TMDL for the Santa Clara River, Resolution No. 2003-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Include a TMDL for Nitrogen Compounds in the Santa Clara River* (*Nitrogen Compounds TMDL)*, is approved by USEPA (i.e., the effective date of the TMDL). At that time, the interim effluent limitation accompanying table footnote [10] will be effective. If U.S. EPA does not approve the *Nitrogen Compounds TMDL*, this effluent limitation will remain in effect until revised by the Regional Board.

[9]. This is the waste load allocation (WLA), according to the Nitrogen TMDL Resolution No. 2003-011, adopted by the Regional Board on August 7, 2003. The waste load allocation will ultimately serve as the effluent limitation for the discharge. This limit becomes effective after the USEPA approves the *Nitrogen TMDL*. If U.S. EPA does not approve the *Nitrogen TMDL*, this effluent limitation will not apply.

[10]. This is the interim limit according to the *Nitrogen TMDL* adopted by the Regional Board on August 7, 2003. This interim limit becomes effective when the USEPA approves the *Nitrogen TMDL* for the Santa Clara River and continues for the duration of the TMDL interim

limit provisions. This interim limit will supercede the effluent limitation specified accompanying table footnote [8] and will remain in effect until superceded by the effluent limitation specified accompanying table footnote [9]. If U.S. EPA does not approve the *Nitrogen TMDL*, this effluent limitation will not apply.

[11]. The Discharger must comply with the updated ammonia water quality objectives in the Basin Plan, Table 3-1 (Attachment H) which resulted from Resolution No. 2002-011 adopted by the Regional Board on April 25, 2002.

For compliance with Criteria Maximum Concentration (CMC) in the Attachment H, the pH sample collected in the receiving water downstream of the discharge and the ammonia nitrogen sample collected in the effluent, shall be taken and reported at the same time. Shall there be no receiving water present, the pH of the effluent at the end of pipe shall be determined and reported.

[12]. The Discharger must comply with the updated ammonia water quality objectives in the Basin Plan, Table 3-3 (Attachment H) which resulted from Resolution No. 2002-011 adopted by the Regional Board on April 25, 2002.

For compliance with Criteria Continuous Concentration (CCC) in the Attachment H, the pH and temperature samples collected in the receiving water downstream of the discharge and the ammonia nitrogen sample collected in the effluent, shall be taken and reported at the same time. Shall there be no receiving water present, the pH and temperature of the effluent at the end of pipe shall be determined and reported.

B. Basis for conventional and nonconventional pollutants

a. *Biochemical Oxygen Demand (BOD) and Suspended solids*

Biochemical oxygen demand (BOD) is a measure of the quantity of the organic matter in the water and, therefore, the water's potential for becoming depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration. Unless there is a steady resupply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, in fish kills.

40 CFR, Part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and suspended solids, as:

i. the monthly average shall not exceed 30 mg/L; and,

ii. the 7-day average shall not exceed 45 mg/L.

Saugus WRP provides tertiary treatment, as such, the limits in the permit are more stringent than secondary treatment requirements. The Plant achieves solids removal that are better than secondary-treated wastewater by adding a polymer (Alum) to enhance the precipitation of solids, and by filtering the effluent.

The monthly average, the 7-day average, and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Those limits were all included in the previous permit (Order 95-080) and the Saugus WRP has been able to meet all three limits (monthly average, the 7-day average, and the daily maximum), for both BOD and suspended solids.

In addition to having mass-based and concentration-based effluent limitations for BOD and suspended solids, the Saugus WRP also has a percent removal requirement for these two constituents. In accordance with 40 CFR, Sections 133.102(a)(3) and 133.102(b)(3), the 30-day average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

b. *Settleable solids*

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan (page 3-16) narrative, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." The numeric limits are empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation, because short term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit (Order 95-080) and the Saugus WRP has been able to meet both limits.

c. *Oil and grease*

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan (page 3-11) narrative, "Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day average limitation, because spikes that occur under a 7-day average scheme could cause visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Both limits were included in the previous permit (Order 95-080) and the Saugus WRP has been able to meet both limits.

d. *Residual chlorine*

Disinfection of wastewaters with chlorine produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan (page 3-9) narrative, "Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses."

It is impracticable to use a 7-day average or a 30-day average limitation, because it is not as protective as of beneficial uses as a daily maximum limitation is. Chlorine is very toxic to aquatic life and short-term exposures of chlorine may cause fish kills.

e. *Fluoride*

The existing permit effluent limitation of 1.6 mg/l for fluoride was developed based on the Basin Plan incorporation of Title 22, *Drinking Water Standards,* by reference, for the protection of GWR. It is practicable to express the limit as a monthly average, since fluoride is not expected to cause acute effects on beneficial uses.

f. *Total Dissolved Solids, Chloride, Sulfate, and Boron*

The limits for total dissolved solids, sulfate, chloride, and boron are based on Basin Plan Table 3-8 (page 3-12), for the Santa Clara River watershed (between Lang gaging station and Bouquet Canyon Road Bridge). TDS = 1000 mg/L; Sulfate = 300 mg/L; Chloride = 100 mg/L; and Boron = 1.5 mg/L. It is practicable to express these limits as monthly averages, since they are not expected to cause acute effects on beneficial uses.

g. *Methylene Blue Activated Substances (MBAS)*

The MBAS procedure tests for the presence of anionic surfactants (detergents) in surface and ground waters. Surfactants disturb the water surface tension, which affects insects and can affect gills in aquatic life. The MBAS can also impart an unpleasant soapy taste to water, as well as cause scum and foaming in waters, which impact the aesthetic quality of both surface and ground waters.

Given the nature of the facility (a POTW) which accepts domestic washwater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has reasonable potential to exceed both the numeric MBAS water quality objective (WQO) and the narrative WQO for prohibition of floating material such as foams and scums. Therefore an effluent limitation is required.

In self monitoring reports submitted to the Regional Board under MRP requirements, the Discharger has reported MBAS concentrations in the effluent in excess of 0.5 mg/L. The 0.5 mg/L concentration (which has been determined to be protective of beneficial uses and the aesthetic quality of waters), is based on the Department of Health Services' secondary drinking water standard, and on the Basin Plan WQO (p.3-11) which reads, "Waters shall not have MBAS concentrations greater than 0.5 mg/L in waters designated MUN." While the wastewater from this POTW is not directly discharged into a MUN designated surface water body, it will percolate into unlined reaches of the Santa Clara River [via ground water recharge designated beneficial use (GWR)] to ground water designated for MUN beneficial use. In addition, the Basin Plan states that "Ground water shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." Therefore, the secondary MCL should be the MBAS limit for this discharge to protect ground water recharge and the MUN use of the underlying ground water, while also protecting surface waters from exhibiting scum or foaming.

Since the Basin Plan objective is based on a secondary drinking water standard, it is practicable to have a monthly average limitation in the permit.

h. *Total inorganic nitrogen*

Total inorganic nitrogen is the sum of Nitrate-nitrogen and Nitrite-nitrogen. High nitrate levels in drinking water can cause health problems in humans. Infants are particularly sensitive and can develop methemoglobinemia (blue-baby syndrome). Nitrogen is also considered a nutrient. Excessive amounts of nutrients can lead to other water quality impairments, ex. algae.

i. **Concentration-based Limit -** The effluent limit for total inorganic nitrogen (NO2-N + NO3-N) of 10 mg/L is based on Basin Plan Table 3-8 (page 3-12), for the Santa Clara River watershed (between Bouquet Canyon Road Bridge and West Pier Highway 99).

Watershed-wide monitoring will track concentration levels of phosphorus and all nitrogen series pollutants present in the effluent and receiving waters, pursuant to 40 CFR 122.44(d)(1)(vi)(C)(3).

ii. **Nitrite as Nitrogen -** Chapter 3 of the Basin Plan (page 3-11) contains the following water quality objective, "Waters shall not exceed the 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen (NO_3-N + NO_2-N), 45 mg/L as nitrate (NO_3), 10 mg/L as nitrate-

nitrogen (NO_3-N), or 1 mg/L as nitrite-nitrogen (NO_2-N) or as otherwise designated in Table 3-8." The Discharger will have to meet the 1 mg/L WQO at the end-of-pipe, since dilution is not an option at the present time.

i. *Ammonia as N*

Ammonia is a pollutant routinely found in the wastewater effluent of Publicly Owned Treatment Works (POTWs), in landfill-leachate, as well as in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. [There is groundwater recharge in these reaches]. Ammonia also combines with chlorine (often both are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

Ammonia is 303(d) listed in the Santa Clara River. Since ammonia has reasonable potential to cause or contribute to an excursion of a water quality objective, a water quality-based effluent limitation for total ammonia is required in order to be protective of the water quality objective.

The 1994 Basin Plan contained 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*. Resolution No. 2002-011 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, and are now in effect. The final effluent limitations for ammonia prescribed in this Order are based on the revised ammonia criteria (see Attachment H) and apply at the end of pipe.

On August 7, 2003, the Regional Board adopted Resolution No. 2003-011, Amendment to the Basin Plan for the Los Angeles Region to Include a TMDL for Nitrogen Compounds in the Santa Clara River *(Nitrogen Compounds* TMDL). The TMDL contains ammonia nitrogen Waste Load Allocations (WLA) for the Saugus WRP. However, the TMDL is awaiting State Board, OAL, and USEPA approval. Ultimately, if the State Board,

the Office of Administrative Law, and the USEPA approve the *Nitrogen Compounds TMDL*, the WLA for ammonia will supercede any ammonia limit in the NPDES permit.

j. *Coliform/Bacteria*

Total and fecal coliform bacteria are used to indicate the likelihood of pathogenic bacteria in surface waters. Given the nature of the facility, a wastewater treatment plant, pathogens are likely to be present in the effluent in cases where the disinfection process is not operating adequately. As such, the permit contains the following:

i. Effluent Limitations:

- The 7 day median number of coliform organisms at some point in the treatment process must not exceed 2.2 Most Probable Number (MPN) per 100 milliliters, and

- The number of coliform organisms must not exceed 23 MPN per 100 milliliters in more than one sample within any 30-day period.

These disinfection-based effluent limitations for coliform are for human health protection and are consistent with requirements established by the Department of Health Services. These limits for coliform must be met at the point of the treatment train immediately following disinfection, as a measure of the effectiveness of the disinfection process.

ii. Receiving Water Limitation

- Geometric Mean Limits

  * E.coli density shall not exceed 126/100 mL.
  * Fecal coliform density shall not exceed 200/100 mL.

- Single Sample Limits

  * E.coli density shall not exceed 235/100 mL.
  * Fecal coliform density shall not exceed 400/100 mL.

These receiving water limitations are based on Resolution No. 01-018, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Water Bodies Designated for Water Contact Recreation, adopted by the Regional Board on October 25, 2001. The Resolution was approved by State Board, OAL, and USEPA, on July 18, 2002, September 19, 2002, and September 25, 2002, respectively.

k. *pH*

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of "pure" water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. The effluent limitation for pH which reads, "the wastes discharged shall at all times be within the range of 6.5 to 8.5," is taken from the Basin Plan (page 3-15) which reads" the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge.

l. *Turbidity*

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity which reads, "For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed: (a) a daily average of 2 Nephelometric turbidity units (NTUs); and (b) 5 NTUs more than 5 percent of the time (72 minutes) during any 24 hour period," is based on the Basin Plan (page 3-17).

m. *Radioactivity*

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. The existing effluent limitation for radioactivity which reads, "Radioactivity of the wastes discharged shall not exceed the limits specified in Title 22, Chapter 15, Article 5, Section 64443, of the California Code of Regulations, or subsequent revisions," is based on the Basin Plan incorporation of Title 22, *Drinking Water Standards,* by reference, to protect the surface water MUN beneficial use. However, the Regional Board has new information about the appropriate designated uses for the water body, and based on the current designated uses, a limit for Radioactivity is unnecessary and inappropriate unless discharge is to a reach used for groundwater recharge, where Title 22-based limits apply. Therefore, the accompanying Order will contain a limit for radioactivity to protect the GWR beneficial use.

C. Toxicity

Ambient monitoring data indicates that the background concentration in the lower Santa Clara is toxic to aquatic organisms, and therefore exceeds water quality standards. Final effluent water quality data, contained in the Discharger's monitoring reports, also shows that chronic toxicity in the effluent has exceeded

1TUc (EPA WQO) several times. Therefore, pursuant to the TSD, reasonable potential exists for toxicity. As such, the permit should contain a numeric effluent limitation for toxicity.

The following support the inclusion of toxicity numeric effluent limitations for chronic toxicity:

a. 40 CFR 122.2 (Definition of Effluent Limitation);

b. 40 CFR 122.44(d)(v) – limits on whole effluent toxicity are necessary when chemical-specific limits are not sufficient to attain and maintain applicable numeric or narrative water quality standards;

c. 40 CFR 122.44(d)(vi)(A) – where a State has not developed a water quality criterion for a specific pollutant that is present in the effluent and has reasonable potential, the permitting authority can establish effluent limits using numeric water quality criterion;

d. Basin Plan objectives and implementation provisions for toxicity;

e. Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996;

f. Whole Effluent Toxicity (WET) Control Policy July 1994; and,

g. Technical Support Document (several chapters and Appendix B).

However, the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential were under review by the State Water Resources Control Board (State Board) in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 17, 2003, at a public hearing, the State Board decided to defer the issue of numeric chronic toxicity effluent limitations until Phase II of the SIP is adopted. In the mean time, the State Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This permit contains a similar chronic toxicity effluent limitation. This Order also contains a reopener to allow the Regional Board to modify the permit, if necessary, consistent with any new policy, law, or regulation.

Acute Toxicity Limitation:

The Dischargers may test for Acute toxicity by using USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October 2002 (EPA-821-R-02-012). Acute toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate acute toxicity monitoring and take further actions to identify the source of toxicity and to reduce acute toxicity.

Chronic Toxicity Limitation and Requirements:

Chronic toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate chronic toxicity monitoring and take further actions to identify the source of toxicity and to reduce chronic toxicity. The monthly median trigger of 1.0 TU_c for chronic toxicity is based on *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8). In cases where effluent receives no dilution or where mixing zones are not allowed, the I.0 TU_c chronic criterion should be expressed as a monthly median. The "median" is defined as the middle value in a distribution, above which and below which lie an equal number of values. For example, if the results of the WET testing for a month were 1.5, 1.0, and 1.0 TU_c, the median would be 1.0 TU_c.

The *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8) recommends two alternatives: using 2.0 TUc as the maximum daily limit; or using a statistical approach to develop a maximum daily effluent limitation.

D. Limits for priority pollutants and other toxics for Discharge Serial No. 001:

CTR #[1]	Constituent	Units	Discharge Limitations	
			Monthly Average[2]	Daily Maximum
6	Copper[3, 4]	µg/L	20[6, 7]	52[6, 7]
		lbs/day[5]	1.7	2.8
8	Mercury[3, 4]	µg/L	0.051[8]	0.10[8]
		lbs/day[5]	0.0028	0.0056
14	Cyanide[4]	µg/L	4.3	8.5
		lbs/day[5]	0.23	0.46
18	Acrylonitrile[4]	µg/L	0.66	1.3
		lbs/day[5]	0.036	0.070

Footnotes:

[1]. This number corresponds to the compound number found in Table 1 of CTR. It is simply the order in which the 126 priority pollutants were listed in 40 CFR, Section 131.38 (b)(1).

[2]. Use the requirements in IV.5.B.b.

[3]. Concentration expressed as total recoverable.

[4]. This constituent shows reasonable potential.

[5]. The mass emission rates are based on the plant design flow rate of 6.5 mgd. During storm events when flow exceeds the design capacity, the mass emission rate limit shall not apply.

Only the concentration limits shall apply.

[6]. The hardness in the receiving water at the sampling station located upstream of the Saugus WRP's outfall is unknown because there was no water flow at all during the sampling events. The monthly average and daily maximum limits for copper were calculated using a hardness value of 400. This value is representative of the receiving water hardness in the Santa Clara River in the vicinity of the Valencia WRP, which is close to the Saugus WRP and also has the Santa Clara River as the receiving water. Once the CSDLAC provides the hardness of the receiving water for the Saugus WRP, new numerical limitations for copper will be calculated. The permit will be reopened to incorporate the new copper limitations.

[7]. Based on most stringent CTR criteria [Criterion Continuous Concentration (CCC)] for the protection of freshwater aquatic life. To arrive at this calculated limitation, the CTR CCC was adjusted, according to SIP Section 1.4.
Federal Register Vol. 65, No. 97, page 31689, discusses the basis for the aquatic life criteria in the CTR. The Criterion Maximum Concentration (CMC), a short term concentration limit, and the Criterion Continuous Concentration (CCC), a four day concentration limit, are designed to provide protection of aquatic life and its uses from acute and chronic toxicity to animals and plants. The criteria are intended to identify average pollutant concentrations which will produce water quality generally suited to maintenance of aquatic life and designated uses while restricting the duration of excursions over the average so that total exposures will not cause unacceptable adverse effects.

Federal Register Vol. 65, No. 97, page 31691, discusses how CCC is intended to be the highest concentration that could be maintained indefinitely in a water body without causing an unacceptable effect on aquatic community or its uses.

[8]. Based on most stringent CTR criteria for the protection of human health from consumption of organisms only. These limitations were calculated in accordance with the procedures specified in the SIP Section 1.4, where, the average monthly effluent limitation (AMEL) is equal to the CTR human health criteria, and the daily maximum effluent limitation (DMEL) is equal to the product of the CTR human health criteria and a multiplying factor.

E. Basis for priority pollutants:

Mixing zones, dilution credits, and attenuation factors are not used in the accompanying order and would be inappropriate to grant, at this time, in light of the following factors:

a. The Saugus WRP discharge contributes the largest flow into the Santa Clara watershed in the vicinity of the discharge point; it overwhelms the receiving water providing limited mixing and dilution;

b. Even in the absence of the Saugus WRP discharge, the receiving water primarily consists of nuisance flows and other effluents, limiting its ability to assimilate additional waste;

c. Several reaches of the Santa Clara River [including those subject to this Order] are 303(d) listed (i.e, impaired) for certain constituents;

d. Impaired waters do not have the capacity to assimilate pollutants of concern at concentrations greater than the applicable objective;

e. For the protection of the beneficial uses, such as rare, threatened, or endangered species,

f. For the protection of warm freshwater habitat;

g. For the protection of the beneficial uses, such as estuarine habitat; marine habitat; wildlife habitat;

h. Consistent with Antidegradation Policies;

i. Because a mixing zone study has not been conducted; and,

j. Because a hydrologic model of the discharge and the receiving water has not been conducted.

Allowance of a mixing zone is in the Regional Board's discretion under Section 1.4.2 of the SIP and under the Basin Plan (Basin Plan Chapter 4, page 30). If the Discharger subsequently conducts appropriate mixing zone and dilution credit studies, the Regional Board can evaluate the propriety of granting a mixing zone or establishing dilution credits.

On July 16, 2003, the State Board adopted Order No. WQO 2003-0009, directing Regional Board staff to work with CSDLAC, once data was provided, to determine whether dilution and attenuation are appropriate factors to consider in developing effluent limits to protect the GWR beneficial use, in the Whittier Narrows WRP NPDES permit. However, this does not apply to the Saugus or Valencia WRPs, because CSDLAC has not provided the necessary site-specific data or studies regarding the ground water basins in the Santa Clarita or Valencia areas.

F. Example calculation: Mercury

Is a limit required? What is RPA?

a. From Attachment A, *Reasonable Potential & Limit Derivation*, we determined that Reasonable potential analysis (RPA) = Yes, therefore a limit is required.

Step 1: Identify applicable water quality criteria.

From California Toxics Rule (CTR), we can obtain the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC).

Freshwater Aquatic Life Criteria:
CMC = NA µg/L (CTR page 31712, column B1) and
CCC = NA µg/L (CTR page 31712, column B1); and

Human Health Criteria for Water & Organisms = 0.051µg/L (CTR page 31712, column D2).

Step 2: Calculate effluent concentration allowance (ECA)

ECA = Criteria in CTR, since no dilution is allowed.

Step 3: Determine long-term average (LTA) discharge condition

i. Calculate CV:

CV = Standard Deviation / Mean
= 0.6 (By default because data was > 80% nondetect, SIP page 6)

ii. Find the ECA Multipliers from SIP Table 1 (page 7), or by calculating them using equations on SIP page 6. When CV = 0.6, then:

ECA Multiplier acute = 0.321 and
ECA Multiplier acute = 0.527.

iii. LTA acute = ECA acute x ECA Multiplier acute
= NA µg/L x 0.321 = NA µg/L

iv. LTA chronic = ECA chronic x ECA Multiplier chronic
= NA µg/L x 0.527 = NA µg/L

Step 4: Select the lowest LTA

In this case, the lowest LTA is not applicable.

Step 5: Calculate the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for AQUATIC LIFE

i. Find the multipliers. You need to know CV and n (frequency of sample collection per month). If effluent samples are collected 4 times a month or less, then n = 4. CV was determined to be 0.6 in a previous step.

AMEL Multiplier = 1.552
MDEL Multiplier = 3.114

ii. AMEL aquatic life = lowest LTA (from Step4) x AMEL Multiplier
= NA µg/L x 1.552 = NA µg/L

iii. MDEL aquatic life = lowest LTA (from Step4) x AMEL Multiplier
= NA µg/L x 3.114 = NA µg/L

Step 6: Find the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for HUMAN HEALTH

i. Find factors. Given CV = 0.6 and n = 4.

For AMEL human health limit, there is no factor.
The MDEL/AMEL human health factor = 2.01

ii. AMEL human health = ECA = 0.051 µg/L

iii. MDEL human health = ECA x MDEL/AMEL factor
= 0.051 µg/L x 2.01 = 0.102 µg/L

Step 7: Compare the AMELs for Aquatic life and Human health and select the lowest. Compare the MDELs for Aquatic life and Human health and select the lowest

i. Lowest AMEL = 0.051 µg/L (Based on Human Health protection)

ii. Lowest MDEL = 0.102 µg/L (Based on Human Health protection)

G. A numerical limit has not been prescribed for a toxic constituent if it has been determined that it has no reasonable potential to cause or contribute to excursions of water quality standards. A narrative limit to comply with all water quality objectives is provided in *Standard Provisions* for the priority pollutants, which have no available numeric criteria.

H. The numeric limitations contained in the accompanying Order were derived using best professional judgement and are based on applicable state and federal authorities, and as they are met, will be in conformance with the goals of the aforementioned water quality control plans, and water quality criteria; and will protect and maintain existing and potential beneficial uses of the receiving waters.

X. INTERIM REQUIREMENTS

1. Pollutant Minimization Program

A. The accompanying Order provides for the use of Pollutant Minimization Program, developed in conformance with Section 2.4.5.1 of the SIP, when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods included in the permit in accordance with sections 2.4.2 or 2.4.3 above, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organisms tissue sampling) that a priority pollutant is present in the discharger's effluent above an effluent limitation.

B. The Discharger shall develop a Pollutant Minimization Program (PMP), in accordance with Section 2.4.5.1.,of the SIP, if all of the following conditions are

true, and shall submit the PMP to the Regional Board within 120 days of determining the conditions are true:

a. when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:

   i. A sample result is reported as detected but not quantified (DNQ) and the effluent limitation is less than the reported ML; or

   ii. A sample result is reported as nondetect (ND) and the effluent limitation is less than the MDL.

b. Examples of evidence that the priority pollutant is present in the effluent above an effluent limitation are:

   i. sample results reported as DNQ when the effluent limitation is less than the method detection limit (MDL);

   ii. sample results from analytical methods more sensitive than those methods included in the permit in accordance with Sections 2.4.2 or 2.4.3;

   iii. presence of whole effluent toxicity;

   iv. health advisories for fish consumption; or,

   v. results of benthic or aquatic organism tissue sampling.

C. The goal of the PMP is to reduce all potential sources of a priority pollutant(s) through pollution minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the WQBEL.

D. In a letter dated June 30, 2000, CSDLAC proposed a plan with a logical sequence of actions to achieve full compliance with the limits in the accompanying Order. The first phase of the plan is to investigate the sources of the high levels of contaminants in the collection system. If the sources can be identified, source reduction measures (including, when appropriate, Pollution Minimization Plans) will be instituted. At the time the accompanying Order is considered, CSDLAC is unsure whether or not all sources contributing to the high contaminant levels can be identified. Therefore, a parallel effort will be made to evaluate the appropriateness of Site Specific Objectives (SSO) and, when necessary, Use Attainability Analyses (UAA), and modifications to and/or construction of, treatment facilities. If it is determined that a SSO or UAA is necessary, CSDLAC will submit a written request for a SSO study, accompanied by a preliminary commitment to fund the study, to the Regional Board. The Discharger will then develop a workplan and submit it to the Regional Board for approval prior to the initiation of the studies.

2. Interim Limits

A. The Saugus WRP may not be able to achieve immediate compliance with the limits for mercury, copper, cyanide, and acrylonitrile contained in Section I.A.2.(b). Data submitted in previous self-monitoring reports indicate that mercury, copper, cyanide, and acrylonitrile have been detected in the effluent, at least once, at a concentration greater than the new limit proposed in the accompanying Order.

B. 40 CFR, Section 131.38(e) provides conditions under which interim effluent limits and compliance schedules may be issued, but the current Basin Plan does not allow inclusion of interim limits and compliance schedules in NPDES permits for effluent limits. The SIP allows inclusion of interim limits in NPDES permits for CTR-based priority pollutants. The CTR provides for a five-year maximum compliance schedule, while the SIP allows for longer, TMDL-based compliance schedule. However, the USEPA has yet to approve the longer compliance schedules. Therefore, this Order includes interim limits and compliance schedules based on the CTR for CTR-based priority pollutants limits when the Discharger has been determined to have problems in meeting the new limits. This Order also includes a reopener to allow the Regional Board to grant TMDL-based compliance schedules if the USEPA approves the longer compliance schedule provisions of the SIP. For new non-CTR-based limits prescribed in this Order for which the Discharger will not be able to meet immediately, interim limits and compliance dates are provided in an accompanying Time Schedule Order.

C. In conformance with the CTR and the relevant provisions of SIP Section 2.1, the Discharger has submitted documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutants entering the POTW. In addition, the Discharger already has in place a source control and pollutant minimization approach through its existing pollutant minimization strategies and through the pretreatment program. The duration of interim requirements established in this order was developed in coordination with Regional Board staff and the Discharger, and the proposed schedule is as short as practicable. In fact, the five-year compliance schedule is based on the maximum duration compliance schedule available because the Regional Board anticipates it will take longer than five years to achieve the final limits.

XI. MONITORING AND REPORTING PROGRAM

The Discharger will be required to conduct monitoring of influent, effluent, receiving waters, and groundwater in conformance with Monitoring and Reporting Program No. CI-2022 (Attachment T). The monitoring and reporting program is designed to ensure compliance with the applicable provisions of this Order, and where necessary, to collect information necessary to complete a reasonable potential analysis for CTR constituents.

1. Influent Monitoring Frequency

Constituents	Existing	Tentative
Copper	Semiannually	Quarterly
Mercury	Semiannually	Quarterly
Cyanide	Semiannually	Quarterly
Acrylonitrile	Semiannually	Quarterly

These constituents may have the reasonable potential, therefore, the monitoring frequency is increased.

2. Effluent Monitoring Frequency

Constituents	Existing	Tentative
Fecal coliform	−−−	varied
E.coli	−−−	Weekly
Oil and grease	Weekly	Monthly
Dissolved oxygen^	−−−	Monthly
Surfactants (CTAS)^	−−−	Monthly
Total hardness ($CaCO_3$) *	−−−	Monthly
Acute toxicity^	Annually	Quarterly
Perchlorate	----	Semiannually
1,4-Dioxane	---	Semiannually
1,2,3-Trichloropropane	---	Semiannually
MTBE	---	Semiannually
Copper	Quarterly	Monthly
Mercury	Quarterly	Monthly
2,3,7,8-TCDD	Semiannually	Semiannually**
Acrylonitrile	Semiannually	Monthly
Benzidine	Semiannually	Semiannually**
Benzo(a)anthracene	Semiannually	Semiannually**
1,4-Dichlorobenzene	Quarterly	Semiannually
3,3'-dichlorobenzidine	Semiannually	Semiannually**
1,2-diphenylhydrazine	Semiannually	Semiannually**
Hexachlorobenzene	Semiannually	Semiannually**
Aldrin	Semiannually	Semiannually**
Gamma-BHC (Lindane)	Quarterly	Semiannually
Chlordane	Semiannually	Semiannually**
4,4'-DDT	Semiannually	Semiannually**
4,4'-DDE	Semiannually	Semiannually**
4,4'-DDD	Semiannually	Semiannually**
Dieldrin	Semiannually	Semiannually**
Heptachlor	Semiannually	Semiannually**
Heptachlor epoxide	Semiannually	Semiannually**
PCBs	Semiannually	Semiannually**

Fecal coliform: Fecal coliform testing shall be conducted only if total coliform test result is positive.
^: To protect the receiving water
∗: Used for calculating copper limits
Copper, mercury, cyanide, and acrylonitrile may have the reasonable potential, therefore, the monitoring frequency is increased.
∗∗: These constituents need to have monthly monitoring for 18 months, only when the flow is available at the upstream monitoring station R-A, starting at 50 days (December 26, 2003) after this permit being adopted. After 18-month monitoring, the monitoring frequencies can be reduced to semiannually.
Gamma-BHC (Lindane) never appeared in the effluent. Therefore, the monitoring frequency is reduced.

3. Receiving Water Monitoring Frequency

The existing receiving water monitoring frequencies are "monthly" for nitrogen species, "quarterly" for total phosphate, TDS, sulfate, and chronic toxicity, and "annually" for acute toxicity and propriety pollutants. The frequency of monitoring in the existing MRP was not adequate to assess the impact of the discharge on the receiving water and its designated beneficial uses. Therefore, frequency of monitoring for most of the pollutants was increased in the revised MRP.

4. Groundwater

Constituents	Existing	Tentative
Nitrite-N + Nitrate-N	Semiannually	Semiannually
Total dissolved solids	Semiannually	Semiannually
Chloride	Semiannually	Semiannually
Sulfate	Semiannually	Semiannually
Priority pollutants	– – –	Semiannually
Perchlorate	– – –	Semiannually
1,4-Dioxane	– – –	Semiannually
1,2,3-Trichloropropane	– – –	Semiannually
MTBE	– – –	Semiannually

The treated wastewater is discharged into the Santa Clara River where is unlined. The treated wastewater may percolate into groundwater. This treated wastewater may contain pollutants and degrade groundwater quality. Therefore, the intensified groundwater monitoring program is needed.