

Discharger's effluent caused by changes in its water supply EC. Consequently, it is impracticable to calculate performance-based effluent limitations for EC on a shorter averaging period (e.g. weekly or monthly).

This Order also requires the Discharger to implement salinity reduction measures to reduce the salinity in its discharge to the Sacramento River. Specifically, Special Provision VI.C.3.a of this Order requires the Discharger to implement a salinity evaluation and minimization plan to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to the Sacramento River within the Sacramento-San Joaquin Delta. Special Provision VI.C.3.b requires the Discharger to report on progress in reducing salinity discharges to the Sacramento River. Implementation measures to reduce salt loading may include source control, mineralization reduction, chemical addition reductions, changing to water supplies with lower salinity, and limiting the salt load from domestic and industrial dischargers. Compliance with these requirements will result in a salinity reduction in the effluent discharged to the receiving water.

- z. **Temperature.** Since the Facility is discharging to the Sacramento-San Joaquin Delta, the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) is applicable to the discharge. The Thermal Plan requires that, "*The maximum temperature shall not exceed the natural receiving water temperature by more than 20 °F*" nor the "*Shall cause a surface water temperature rise greater than 4 °F above the natural temperature of the receiving waters at any time or place.*" Therefore, to ensure compliance with the Thermal Plan temperature effluent limitations are included in this Order based on the thermal plan.
- aa. **Toxicity.** See Section IV.C.5. of the Fact Sheet regarding whole effluent toxicity.

4. WQBEL Calculations

- a. As discussed in Section IV.C.3 above, effluent limitations based on primary MCLs were applied as AMELs for nitrate and nitrite. Effluent limitations based on the Basin Plan were applied as MDELs for arsenic, iron and manganese. Effluent limitations for chlorine residual, persistent chlorinated hydrocarbon pesticides, and pH were based on Basin Plan objectives and applied directly as effluent limitations. Effluent limitations for temperature were based on the Thermal Plan and applied directly as effluent limitations.
- b. Effluent limitations for aluminum, ammonia, copper, dibromochloromethane, dichlorobromomethane, and lead were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations.
- c. **Effluent Limitation Calculations.** For each water quality criterion/ objective, calculate the effluent concentration allowance (ECA) using the following steady-state mass balance equation:

$$ECA = C + D(C - B) \quad \text{where } C > B, \text{ and}$$

$$ECA = C \quad \text{where } C \leq B,$$

where:

- ECA = effluent concentration allowance
- D = dilution credit
- C = the priority pollutant criterion/objective
- B = the ambient background concentration. The ambient background concentration shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the ambient background concentration as an arithmetic mean.

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTAs) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL).

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$AMEL = mult_{AMEL} \left[\min \left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic} \right) \right]$$

$$MDEL = mult_{MDEL} \left[\min \left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}} \right) \right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}} \right) AMEL_{HH}$$

- where:
- mult_{AMEL} = statistical multiplier converting minimum LTA to AMEL
 - mult_{MDEL} = statistical multiplier converting minimum LTA to MDEL
 - M_A = statistical multiplier converting CMC to LTA
 - M_C = statistical multiplier converting CCC to LTA

Water quality-based effluent limitations were calculated for aluminum, ammonia, copper, dibromochloromethane, dichlorobromomethane, and lead as follows in Tables F-8 through F-13, below.

Table F-8. WQBEL Calculations for Aluminium

	Acute	Chronic
Criteria (µg/L) ⁽¹⁾	750	750
Dilution Credit	No Dilution	No Dilution
ECA	750	750
ECA Multiplier	0.38	0.59
LTA	285.0	441.4
AMEL Multiplier (95 th %)	1.44	⁽²⁾
AMEL (µg/L)	411	⁽²⁾
MDEL Multiplier (99 th %)	2.63	⁽²⁾
MDEL (µg/L)	750	⁽²⁾

⁽¹⁾ USEPA Ambient Water Quality Criteria.

⁽²⁾ Limitations based on Acute LTA (Acute LTA < Chronic LTA).

Table F-9. WQBEL Calculations for Ammonia

	Acute	Chronic (30-day)	Chronic (4-day)
pH ⁽¹⁾	8.1	7.8	N/A
Temperature °C ⁽²⁾	N/A	24	N/A
Criteria (mg/L) ⁽³⁾	4.64	1.73	4.33
Dilution Credit	20:1	20:1	20:1
ECA	91.44	30.33	84.83
ECA Multiplier	0.19	0.65	0.35
LTA ⁽⁴⁾	17.60	19.73	30.02
AMEL Multiplier (95 th %)	2.01	⁽⁵⁾	⁽⁵⁾
AMEL (mg/L)	35	⁽⁵⁾	⁽⁵⁾
MDEL Multiplier (99 th %)	5.19	⁽⁵⁾	⁽⁵⁾
MDEL (mg/L)	91	⁽⁵⁾	⁽⁵⁾

⁽¹⁾ Acute design pH = 8.1 (max. allowed pH); chronic design pH = 7.8 (max. observed 30-day effluent pH).

⁽²⁾ Temperature = the maximum observed running 30-day average effluent temperature.

⁽³⁾ USEPA Ambient Water Quality Criteria.

⁽⁴⁾ LTA developed based on Acute and Chronic ECA Multipliers calculated at 99th percentile level per sections 5.4.1 and 5.5.4 of TSD.

⁽⁵⁾ Limitations based on the acute (1-hr) LTA.

Table F-10. WQBEL Calculations for Copper

	Acute	Chronic	Basin Plan
Criteria, dissolved (µg/L)	10.63 ⁽¹⁾	7.24 ⁽¹⁾	10 ⁽²⁾
Dilution Credit	20:1	20:1	20:1
Translator ⁽²⁾	0.96	0.96	0.96
Criteria, total recoverable	11.1	7.5	10.4
ECA	145	70.4	131
ECA Multiplier	0.32	0.53	N/A
LTA	46.4	37.1	N/A
AMEL Multiplier (95 th %)	⁽⁴⁾	1.55	--
AMEL (µg/L)	⁽⁴⁾	58	--
MDEL Multiplier (99 th %)	⁽⁴⁾	3.11	--
MDEL (µg/L)	⁽⁴⁾	116	131

⁽¹⁾ CTR aquatic life criteria, based on the lowest hardness of the effluent of 78 mg/L as CaCO₃.

⁽²⁾ Basin Plan site-specific objective for the Delta.

⁽³⁾ EPA Translator used as default.

⁽⁴⁾ Limitations based on chronic LTA (chronic LTA < acute LTA).

Table F-11. WQBEL Calculations for Dibromochloromethane

	Human Health
Criteria (µg/L)	0.41
Dilution Credit	1000:1
ECA	230
AMEL (µg/L) ⁽¹⁾	230
MDEL/AMEL Multiplier ⁽²⁾	2.01
MDEL (µg/L)	463

⁽¹⁾ AMEL = ECA per section 1.4.B, Step 6 of SIP.

⁽²⁾ Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-12. WQBEL Calculations for Dichlorobromomethane

	Human Health
Criteria (µg/L)	0.56
Dilution Credit	1000:1
ECA	360
AMEL (µg/L) ⁽¹⁾	360
MDEL/AMEL Multiplier ⁽²⁾	2.01
MDEL (µg/L)	724

⁽¹⁾ AMEL = ECA per section 1.4.B, Step 6 of SIP.

⁽²⁾ Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-13. WQBEL Calculations for Lead

	Acute	Chronic
Criteria, dissolved (µg/L) ⁽¹⁾	86	2.8
Translator	0.83	0.83
Criteria, Total	104	3.3
Dilution Credit	20:1	20:1
ECA	2182	59.6
ECA Multiplier	0.32	0.53
LTA	700.6	31.4
AMEL Multiplier (95 th %)	⁽²⁾	1.55
AMEL (µg/L)	⁽²⁾	49
MDEL Multiplier (99 th %)	⁽²⁾	3.11
MDEL (µg/L)	⁽²⁾	98

⁽¹⁾ CTR aquatic life criteria, based on the lowest hardness of the effluent of 78 mg/L and the highest hardness of the receiving water of 100 mg/L as CaCO₃.

⁽²⁾ Limitations based on chronic LTA (Chronic LTA < Acute LTA).

**Summary of Water Quality-based Effluent Limitations
 Discharge Point No. 001**

Table F-14. Summary of Water Quality-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Aluminum, Total Recoverable	µg/L	411	200 ⁽⁶⁾	750	--	--
Ammonia Nitrogen, Total (as N)	mg/L	35	--	91	--	--
	lbs/day ⁽⁸⁾	190	--	493	--	--
	lbs/day ⁽⁹⁾	671	--	1746	--	--
Arsenic, Total Recoverable	µg/L	--	--	6,910 ⁽⁷⁾	--	--
Chlorine Total Residual	mg/L	0.011 ⁽¹⁾	--	0.019 ⁽²⁾	--	--
Coliform, Total	MPN/100 mL	--	23 ⁽³⁾	240 ⁽⁴⁾	--	--
Copper, Total Recoverable	µg/L	58	--	116	--	--
Dibromochloromethane	µg/L	230 ⁽⁷⁾	--	463 ⁽⁷⁾	--	--
Dichlorobromomethane	µg/L	360 ⁽⁷⁾	--	724 ⁽⁷⁾	--	--
Iron, Total Recoverable	µg/L	--	--	300	--	--
Lead, Total Recoverable	µg/L	49 ⁽⁷⁾	--	98 ⁽⁷⁾	--	--
Manganese, Total Recoverable	µg/L	--	--	1,750 ⁽⁷⁾	--	--
Nitrate Nitrogen, Total (as N)	mg/L	7,810 ⁽⁷⁾	--	--	--	--
Nitrite Nitrogen, Total (as N)	mg/L	972 ⁽⁷⁾	--	--	--	--
pH	Standard Units	--	--	--	6.5	8.5
Settleable Solids	ml/L	0.1	--	0.2	--	--

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Temperature	°F	--	--	--	--	(5)

- (1) Applied as a 4-day average.
- (2) Applied as a 1-hour average.
- (3) 7-day median
- (4) Effluent total coliform concentration shall not exceed 240 MPN/100 mL more than once in any 30-day period.
- (5) The maximum effluent temperature shall not exceed the natural receiving water temperature by more than 20 °F.
- (6) Annual average
- (7) More stringent performance-based limit applies to ensure compliance with BPTC requirements of State Water Board Resolution 68-16.
- (8) Based on a design average dry weather flow capacity of 0.65 mgd (applicable May-Oct).
- (9) Based on a design peak wet weather flow capacity of 2.3 mgd (applicable Nov-Apr).

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan’s narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E, Section V). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

- a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at III-8.00) The Basin Plan also states that, “...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate...”. USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

- Minimum for any one bioassay ----- 70%
- Median for any three or more consecutive bioassays ----- 90%

- b. **Chronic Aquatic Toxicity.** Based on annual whole effluent chronic toxicity testing performed by the Discharger, the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. A dilution credit of 20:1 has been granted for the chronic condition. Therefore, chronic toxicity testing results exceeding 20 chronic toxicity unit (TUc) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Table F-15, below, shows chronic whole effluent toxicity testing for 2003 and 2004.

Table F-15. Chronic Toxicity Exceedances

Date	Chronic Toxicity Unit (TUc)				
	<i>Ceriodaphnia dubia</i>		<i>Pimephales promelas</i>		<i>Selenastrum capricornutum</i>
	survival	reproduction	survival	growth	growth
12 August 2003	4.0	4.0	--	--	--
12 August 2003	--	--	4.0	2.0	--
12 August 2003	8.0	8.0	--	--	--
14 August 2003	--	--	--	--	4.0
14 August 2003	--	--	--	--	8.0
31 August 2004	1.33	4.0	4.0	4.0	--

To ensure compliance with the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V). Furthermore, Special Provision VI.C.2.a. of this Order requires the Discharger to conduct a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan, if the discharge demonstrates a pattern of toxicity exceeding the numeric monitoring trigger (16 TUc). The numeric toxicity monitoring trigger is not an effluent limitation, it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations

Title 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Consistent with 40 CFR 122.45(b)(1) for POTWs, permit effluent limitations shall be calculated based on design flow. In Order No.5-01-178 mass limitations were based on a design average daily discharge flow of 0.65 mgd (applicable May through

October) and a design peak wet weather flow (PWWF) of 2.3 mgd (applicable November through April). Mass-based effluent limitations for BOD and TSS in this Order remain unchanged from the previous Order and are based on an average daily discharge flow of 0.65.

Also, due to the concern over bioaccumulation, this Order contains an interim performance-based mass effluent limitation of 0.0071 lbs/month for mercury, which is based on an average daily discharge flow of 0.65 mgd.

2. Averaging Periods for Effluent Limitations

Title 40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for POTWs unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, the USEPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. *"First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed."* (TSD, pg. 96) This Order utilizes maximum daily effluent limitations in lieu of average weekly effluent limitations for aluminum, ammonia, copper, dibromochloromethane, dichlorobromomethane, and lead as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Furthermore, for BOD, TSS, pH, settleable solids, and coliform, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. For chlorine residual average weekly and average monthly effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods.² The rationale for using shorter averaging periods for these constituents is discussed in Attachment F, Section IV.C.3., above.

For effluent limitations based on Primary and Secondary MCLs, except nitrate and nitrite, this Order includes annual average effluent limitations. The Primary and Secondary MCLs are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis (except for nitrate and nitrite), when sampling at least quarterly. Since it is necessary to determine compliance on an annual average basis, it is impracticable to calculate average weekly and average monthly effluent limitations.

² This Order applies the USEPA National Ambient Water Quality Criteria for chlorine directly as effluent limitations (1-hour average, acute, and 4-day average, chronic). See Section IV.C.3., above, for rationale regarding the chlorine residual effluent limitations.

3. Satisfaction of Anti-Backsliding Requirements

The effluent limitations for oil and grease have been removed from this Order. The monitoring data for oil and grease collected during the existing Order term were well below the effluent limitations in the existing Order. The monitoring data submitted by the Facility is considered new information by the Regional Water Board. In addition, due to no detections of pesticides, the effluent limitations for organo-chlorine pesticides have been removed. The removal of the effluent limitations for pesticides and oil and grease is consistent with federal antibacksliding regulations and the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. The impact to water quality will be insignificant.

4. Satisfaction of Antidegradation Policy

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. There is no increase in flow or mass of pollutants from this Facility. Therefore, the permitted surface water discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant due to the relatively small size of the discharge in relation to the size of the receiving water and the level of treatment of the effluent.

This Order allows a mixing/dilution zone in accordance with the Basin Plan, the SIP, EPA's *Water Quality Standards Handbook, 2d Edition* (updated July 2007) and EPA's *Technical Support Document for Water Quality-based Toxics Control*. As discussed in Finding IV.C.2.c of this Fact Sheet (Assimilative Capacity/Mixing Zone), the mixing zone complies with all applicable requirements. In addition, this Order includes more stringent performance-based requirements for total arsenic, dibromochloromethane, dichlorobromomethane, total lead, manganese, mercury, nitrate as nitrogen and salinity, than would be allowed under the mixing zone analysis alone. Therefore, the mixing zone will not be adverse to the purpose of the state and federal antidegradation policies.

**Summary of Final Effluent Limitations
 Discharge Point No. 001**

Table F-16. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Electrical Conductivity	µmhos/cm	1,300 ⁽⁶⁾	--	--	--	--
Aluminum, Total Recoverable	µg/L	411	200 ⁽⁶⁾	750	--	--
Biochemical Oxygen Demand, 5-day @ 20 °C (BOD ₅)	mg/L	30	45	60	--	--
	lbs/day ⁽⁷⁾	163	244	326	--	--
	lbs/day ⁽⁸⁾	575	863	1151	--	--
	%removal	85	--	--	--	--
Total Suspended Solids (TSS)	mg/L	30	45	60	--	--
	lbs/day ⁽⁷⁾	163	244	326	--	--
	lbs/day ⁽⁸⁾	575	863	1151	--	--
	%removal	85	--	--	--	--
Ammonia Nitrogen, Total (as N)	mg/L	15	--	39	--	--
	lbs/day ⁽⁷⁾	190	--	493	--	--
	lbs/day ⁽⁸⁾	671	--	1746	--	--
Arsenic, Total Recoverable	µg/L	--	--	16	--	--
Chlorine Total Residual	mg/L	0.011 ⁽¹⁾	--	0.019 ⁽²⁾	--	--
Coliform, Total	MPN/100mL	--	23 ⁽³⁾	240 ⁽⁴⁾	--	--
Copper, Total Recoverable	µg/L	58	--	116	--	--
Dibromochloromethane	µg/L	--	--	41	--	--
Dichlorobromomethane	µg/L	--	--	38	--	--
Iron, Total Recoverable	µg/L	--	--	300	--	--
Lead, Total Recoverable	µg/L	--	--	7.2	--	--
Manganese, Total Recoverable	µg/L	--	--	467	--	--
Nitrate Nitrogen, Total (as N)	mg/L	--	--	65	--	--
Nitrite Nitrogen, Total (as N)	mg/L	--	--	3.1	--	--
pH	Stand. Units	--	--	--	6.5	8.5
Settleable Solids	ml/L	0.1	--	0.2	--	--
Temperature	°F	--	--	--	--	(4)

(1) Applied as a 4-day average.

(2) Applied as a 1-hour average.

(3) 7-day median

(4) Effluent total coliform concentration shall not exceed 240 MPN/100 mL more than once in any 30-day period.

(5) The maximum effluent temperature shall not exceed the natural receiving water temperature by more than 20 °F.

(6) Annual average

(7) Based on a design average dry weather flow capacity of 0.65 mgd (applicable May-Oct).

(8) Based on a design peak wet weather flow capacity of 2.3 mgd (applicable Nov-Apr).

E. Interim Effluent Limitations

1. The SIP, section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent. The State Water Board has held that the SIP may be used as guidance for non-CTR constituents. Therefore, the SIP requirement for interim effluent limitations has been applied to both CTR and non-CTR constituents in this Order.

In developing performance-based interim limitations, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on log normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean. Therefore, the interim limitations in this Order are established as the mean plus 3.3 standard deviations of the available data transformed by the natural log.

When there are less than 10 sampling data points available, the *Technical Support Document for Water Quality- Based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of 10 data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than 10 sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5-2).

Interim limitations are established when compliance with effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.

The procedure for calculating performance-based interim effluent limitations, discussed above, has been used in this Order to calculate performance-based effluent limitations for arsenic, dibromochloromethane, dichlorobromomethane, lead, manganese, nitrate, and nitrite. Table F-15 summarizes the calculations of the performance-based effluent limitations.

Table F-17. Performance-based Effluent Limitation Calculation Summary

Parameter	Unit	MEC	Mean of In	Std. Dev. of In	# of Samples	Performance-based Limit
Arsenic	µg/L	14	2.19	0.175	30	16
Dibromochloromethane	µg/L	29	13.4	8.42	10	41
Dichlorobromomethane	µg/L	29	16.1	6.73	10	38
Lead, Total Recoverable	µg/L	2.3	--	--	5	7.2
Manganese, Total Recoverable	µg/L	150	--	--	5	467
Nitrate as N	mg/L	21	--	--	4	65
Nitrite as N	mg/L	1	--	--	4	3.1

- Mercury.** This Order contains an interim performance-based mass effluent limitation of 0.007196 lbs/month for mercury. This limitation is based on maintaining the mercury loading at the current level until a TMDL can be established and USEPA develops mercury standards that are protective of human health.

F. Land Discharge Specifications

[Not applicable]

G. Reclamation Specifications

[Not applicable]

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Basin Plan water quality objectives to protect the beneficial uses of surface water and groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity, and tastes and odors. The toxicity objective requires that surface water and groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective requires that surface water and groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The tastes and odors objective states that surface water and groundwater shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.

A. Surface Water

- CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan.

The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, and electrical conductivity.

Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving Surface Water Limitations. Rational for these numeric receiving surface water limitations are as follows:

- a. **Bacteria.** The Basin Plan includes a water quality objective that “[i]n water designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.” Numeric Receiving Water Limitations for bacteria are included in this Order and are based on the Basin Plan objective.
- b. **Biostimulatory Substances.** The Basin Plan includes a water quality objective that “[W]ater shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for biostimulatory substances are included in this Order and are based on the Basin Plan objective.
- c. **Color.** The Basin Plan includes a water quality objective that “[W]ater shall be free of discoloration that causes nuisance or adversely affects beneficial uses.” Receiving Water Limitations for color are included in this Order and are based on the Basin Plan objective.
- d. **Chemical Constituents.** The Basin Plan includes a water quality objective that “[W]aters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.” Receiving Water Limitations for chemical constituents are included in this Order and are based on the Basin Plan objective.
- e. **Dissolved Oxygen.** The Basin Plan includes a water quality objective that “[W]ithin the legal boundaries of the Delta, the dissolved oxygen concentrations shall not be reduced below: 7.0 mg/L in the Sacramento River (below the I Street Bridge) and in all Delta waters west of the Antioch Bridge; 6.0 mg/L in the San Joaquin River (between Turner Cut and Stockton, 1 September through 30 November); and 5.0 mg/L in all other Delta waters except those bodies of water which are constructed for special purposes and from which fish have been excluded or where the fishery is not important as a beneficial use.” Numeric Receiving Water Limitations for dissolved oxygen are included in this Order and

are based on the Basin Plan objective.

- f. **Floating Material.** The Basin Plan includes a water quality objective that “[W]ater shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for floating material are included in this Order and are based on the Basin Plan objective.
- g. **Oil and Grease.** The Basin Plan includes a water quality objective that “[W]aters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.” Receiving Water Limitations for oil and grease are included in this Order and are based on the Basin Plan objective.
- h. **pH.** The Basin Plan includes water quality objective that “[T]he pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses” This Order includes receiving water limitations for both pH range and pH change.

The Basin Plan allows an appropriate averaging period for pH change in the receiving stream. Since there is no technical information available that indicates that aquatic organisms are adversely affected by shifts in pH within the 6.5 to 8.5 range, an averaging period is considered appropriate and a monthly averaging period for determining compliance with the 0.5 receiving water pH limitation is included in this Order.

- i. **Pesticides.** The Basin Plan includes a water quality objective for pesticides beginning on page III-6.00 . Receiving Water Limitations for pesticides are included in this Order and are based on the Basin Plan objective.
- j. **Radioactivity.** The Basin Plan includes a water quality objective that “[R]adionuclides shall not be present in concentrations that are harmful to human, plant, animal or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.” The Basin Plan states further that “[A]t a minimum, waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations...” Receiving Water Limitations for radioactivity are included in this Order and are based on the Basin Plan objective.
- k. **Sediment.** The Basin Plan includes a water quality objective that “[T]he suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses” Receiving Water Limitations for suspended sediments are included in this Order and are based on the Basin Plan objective.

- i. **Settleable Material.** The Basin Plan includes a water quality objective that “[W]aters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.” Receiving Water Limitations for settleable material are included in this Order and are based on the Basin Plan objective.
- m. **Suspended Material.** The Basin Plan includes a water quality objective that “[W]aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for suspended material are included in this Order and are based on the Basin Plan objective.
- n. **Taste and Odors.** The Basin Plan includes a water quality objective that “[W]ater shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.” Receiving Water Limitations for taste- or odor-producing substances are included in this Order and are based on the Basin Plan objective.
- o. **Temperature.** The Thermal Plan is applicable to this discharge. The Thermal Plan requires the following:
- No discharge shall cause a surface water temperature rise greater than 4 °F above the natural temperature of the receiving water at any time or place;
 - The maximum temperature shall not exceed the natural receiving water temperature by more than 20 °F.

This Order includes receiving water limitations based on these objectives.

- p. **Toxicity.** The Basin Plan includes a water quality objective that “[A]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Receiving Water Limitations for toxicity are included in this Order and are based on the Basin Plan objective.
- q. **Turbidity.** The Basin Plan includes a water quality objective that “[I]ncreases in turbidity attributable to controllable water quality factors shall not exceed the following limits:
- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
 - Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.

- *Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.*
- *Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent."*

A numeric Receiving Surface Water Limitation for turbidity is included in this Order and is based on the Basin Plan objective for turbidity.

B. Groundwater

1. The discharge shall not cause the groundwater to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.
2. The previous Order contained groundwater limitations. This Order carries forward the following groundwater limitations:

Release of waste constituents from any storage, treatment, or disposal component associated with the Facility shall not, in combination with other sources of the waste constituents, cause groundwater within influence of the Facility to contain waste constituents in concentrations in excess of natural background quality or that listed below, whichever is greater:

- a. Total coliform organisms median of 2.2 MPN/100 mL over any 7-day period.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD₅ and TSS percent reduction requirements). Continuous flow monitoring, weekly monitoring for BOD₅, TSS, and pH and monthly monitoring for electrical conductivity have been carried over from Monitoring and Reporting Program No. 5-01-178.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the

treatment process, and to assess the impacts of the discharge on the receiving stream.

Monitoring requirements for flow, BOD, TSS, pH, settleable solids, temperature, total coliform, dissolved oxygen, oil and grease, electrical conductivity, ammonia, aluminum, arsenic, total dissolved solids, mercury, and priority pollutants have been retained from the previous Order. The monitoring frequency for chlorine residual has been changed to continuous. Monitoring data collected over the previous permit term for total organic carbon did not demonstrate potential to violate water quality. Therefore, monitoring for total organic carbon will be removed from the Order.

Monthly monitoring requirements for copper, dibromochloromethane, dichlorobromomethane, iron, lead, manganese, nitrate, and nitrite have been added to this Order, since the reasonable potential analysis demonstrated a reasonable potential to exceed water quality objectives/criteria. Quarterly monitoring requirement for boron and bis (2-chloroethyl) ether has been added to this Order in order to collect additional effluent data to evaluate reasonable potential.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Consistent with the previous Order, quarterly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Consistent with the previous Order, annual chronic whole effluent toxicity testing is required to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

- a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.
- b. Quarterly monitoring for priority pollutants upstream of the discharge point is required during the third year of the permit term to collect the necessary data to determine reasonable potential as required in section 1.2 of the SIP. The pH and hardness (as CaCO_3) of the up stream receiving water shall also be monitoring concurrently with the priority pollutants to ensure the water quality criteria/objectives are correctly adjusted for the receiving water when determining reasonable potential as specified in section 1.3 of the SIP.

2. Groundwater

[Not applicable]

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements (Special Provision VI.C.5). Biosolids disposal requirements are imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

2. Water Supply Monitoring

Consistent with the requirements contained in Order No. 5-01-178, monitoring water supply monitoring is required to evaluate the relative contribution of salinity from the source water to the effluent. In particular, quarterly monitoring for electrical conductivity and total dissolved solids is required.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

- a. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

Conditions that necessitate a major modification of a permit are described in 40 CFR 122.62, including:

- i. If new or amended applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.
 - ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.
- b. **Mercury.** This reopener provision allows the Regional Water Board to reopen this Order if mercury is found to be causing toxicity based on acute or chronic toxicity test results, if a TMDL program is adopted, or if the Regional Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit.
 - c. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.
 - d. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for inorganic constituents. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents. The Discharger is considering performing studies to develop site-specific dissolved-to-total metal translators for iron and manganese. This Order may be reopened

to modify the reasonable potential analysis and/or effluent limitations for iron and manganese based on the results of the Discharger's studies.

2. Special Studies and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00.) Based on annual whole effluent chronic toxicity testing performed by the Discharger, the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

This provision requires the Discharger to develop a Toxicity Reduction Evaluation (TRE) Work Plan in accordance with EPA guidance. In addition, the provision provides a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity has been demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of >16 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order allows up to a 20:1 dilution credit for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 6.25% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

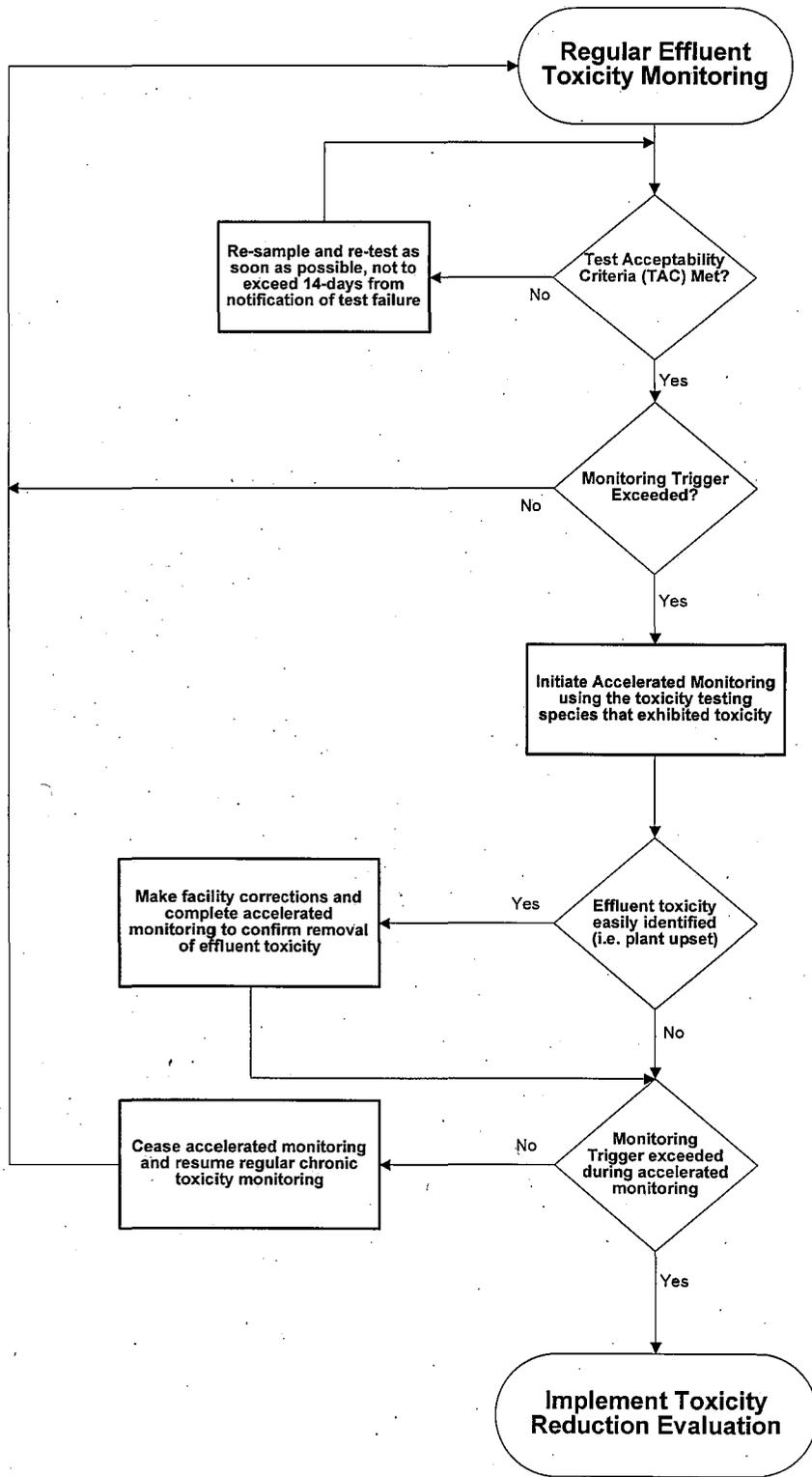
The provision requires accelerated monitoring consisting of four chronic toxicity tests every 2 weeks using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991* (TSD). The TSD at page 118 states, "EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required." Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity (i.e., toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA 833/B-99/002, August 1999.
- *Generalized Methodology for Conducting Industrial TREs*, EPA 600/2-88/070, April 1989.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*, Second Edition, EPA 600/6-91/005F, February 1991.
- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/080, September 1993.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.
- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, EPA 821/R-02/012, October 2002.
- *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA 821/R-02/013, October 2002.
- *Technical Support Document for Water Quality-based Toxics Control*, EPA 505/2-90-001, March 1991.

Figure F-1
WET Accelerated Monitoring Flow Chart



b. Groundwater Monitoring

[Not applicable]

3. Best Management Practices and Pollution Prevention

- a. **Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required in this Order to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to the Sacramento River within the Sacramento-San Joaquin Delta.
- b. **Salinity Reduction Goal.** In an effort to monitor progress in reducing salinity discharges to the Sacramento River, the Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to the Sacramento River. Based on effluent data for this Facility, the Regional Water Board finds that an average annual salinity effluent limitation of 1256 $\mu\text{mhos/cm}$ as EC is a reasonable interim performance-based limitation that can be immediately achieved upon the effective date of this Order. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).

4. Construction, Operation, and Maintenance Specifications

[Not applicable]

5. Special Provisions for Municipal Facilities

a. Pretreatment Requirements

[Not applicable]

b. Sludge/Biosolids Discharge Specifications

The sludge/biosolids provisions are required to ensure compliance with State disposal requirements (Title 27, CCR, Division 2, Subdivision 1, section 20005, et seq) and USEPA sludge/biosolids use and disposal requirements at 40 CFR Part 503.

c. Collection System

This provision is included to ensure that the Discharger complies with the requirements in the State Water Board adopted Statewide General WDR for Sanitary Sewer Systems (Order 2006-0003).

6. Other Special Provisions

- a. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger must obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).

In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of Federal Standard Provision V.B.5 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the City of Rio Vista Beach Wastewater Treatment Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through direct mailing to agencies and known interested parties, posting of the NOPH at the Discharger's offices and the local post office and publication in the local newspaper.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in

person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on **8 July 2008**.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **31 July/1 August 2008**
Time: 8:30 am
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

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

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/rwqcb5/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (916) 464-3291.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to James D. Marshall at 916-464-4772.

ATTACHMENT G - SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum	µg/L	100	800	750	750 ⁽¹⁾	750 ⁽¹⁾	--	--	--	200 ⁽²⁾	Yes
Ammonia Nitrogen, Total (as N)	mg/L	30	0.3	1.73	2.14 ⁽³⁾	1.73 ⁽³⁾	--	--	--	--	Yes
Antimony	µg/L	0.5	0.3	6	--	--	14 ⁽⁴⁾	--	--	6 ⁽⁷⁾	No
Arsenic	µg/L	14	3.1	10	340	150	--	--	10	10 ⁽⁷⁾	Yes
Barium	µg/L	24	4	100	--	--	--	--	100	1,000 ⁽⁷⁾	No
Bis (2-Chloroethyl) Ether	µg/L	0.12J	ND	0.031	--	--	0.031	--	--	360	No
Boron	µg/L	1,200	NA	1,000	--	--	1,000 ⁽⁸⁾	--	--	--	Yes
Bromoform	µg/L	1.3	ND	4.3	--	--	4.3	--	--	100 ⁽⁶⁾	No
Bromomethane	µg/L	1.8	ND	48	--	--	48	--	--	--	No
Butylbenzylphthalate	µg/L	0.2	ND	3	--	3 ⁽¹⁾	3,000	--	--	--	No
Cadmium	µg/L	0.1	0.09	1.61	2.44	1.61	--	--	--	5	No
Chloride	mg/L	135	20	106	860	230	--	--	--	250	Yes
Chloroform	µg/L	2.9	ND	100	--	--	--	--	--	100 ⁽⁶⁾	No
Chromium (VI)	µg/L	0.7	ND	11.43	16.29	11.43	--	--	--	100 ⁽⁵⁾	No
Chromium, Total	µg/L	1.6	14	50	--	--	--	--	--	50 ⁽⁷⁾	No
Copper	µg/L	41	14	7.54	11.08	7.54	1,300	--	10	200 ⁽⁵⁾	Yes
Cyanide	µg/L	3	3	5.2	22	5.2	700	--	10	150	No
Diazinon	µg/L	0.23	ND	6	--	--	6 ⁽⁸⁾	--	--	--	No
Dibromochloromethane	µg/L	29	ND	0.41	--	--	0.41	--	--	100 ⁽⁶⁾	Yes
1,2-Dichlorobenzene	µg/L	0.08	ND	600	--	763 ⁽¹⁾	2,700	--	--	600 ⁽⁷⁾	No
1,3-Dichlorobenzene	µg/L	0.5	ND	400	--	763 ⁽¹⁾	400	--	--	--	No
1,4-Dichlorobenzene	µg/L	0.7	ND	5	--	763 ⁽¹⁾	6	--	--	5 ⁽⁷⁾	No
Dichlorobromomethane	µg/L	29	ND	0.56	--	--	0.56	--	--	80	Yes
2,4-Dichlorophenol	µg/L	0.066	ND	70	--	70 ⁽¹⁾	93	--	--	--	No
Diethylphthalate	µg/L	0.37	ND	3	--	3 ⁽¹⁾	23,000	--	--	--	No
2,4-Dimethylphenol	µg/L	0.11	ND	540	--	2,120	540	--	--	--	No
Dimethylphthalate	µg/L	0.03	0.4	3	--	313,000	3	--	--	--	No
Di-n-Butylphthalate	µg/L	1.9	1.7	3	--	3 ⁽¹⁾	2,700	--	--	--	No
Dinoseb	µg/L	1.11	0.1	7	--	--	--	--	--	7 ⁽⁷⁾	No
Fluoride	µg/L	700	400	2,000	--	--	--	--	--	2,000 ⁽⁷⁾	No
Iron	µg/L	1,800	1,600	300	--	1,000 ⁽¹⁾	--	--	300	300 ⁽²⁾	Yes
Lead	µg/L	2.3	3.1	2.29	58.8	2.3	--	--	--	15 ⁽⁷⁾	Yes
Manganese	µg/L	150	33	50	--	--	--	--	50	50 ⁽²⁾	Yes

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Mercury	µg/L	0.043	0.026	0.050	1.4 ⁽¹⁾	0.77 ⁽¹⁾	0.050	0.051	--	2.0	Yes
Mercury, Dissolved	µg/L	0.0087	ND	0.050	1.4 ⁽¹⁾	0.77 ⁽¹⁾	0.050	0.051	--	2.0	No
Methyl Blue Active Substances (MBAS)	µg/L	180	ND	500	--	--	--	--	--	500 ⁽²⁾	No
Methyl-T-Butyl Ether (MTBE)	µg/L	0.3	0.8	5	--	--	13	--	--	5 ⁽²⁾	No
Naphthalene	µg/L	0.03	ND	21	--	--	170	--	--	21 ⁽¹⁰⁾	No
Nickel	µg/L	3.5	22	32.9	295.9	32.9	610	--	--	100	No
Nitrate Nitrogen, Total (as N)	mg/L	21	2.2	10	--	--	--	--	--	10 ⁽⁷⁾	Yes
Nitrite Nitrogen, Total (as N)	mg/L	1	0.029	1	--	--	--	--	--	1 ⁽⁷⁾	Yes
2-Nitrophenol	µg/L	0.027	0.02	150	--	150 ⁽¹⁾	--	--	--	290	No
4-Nitrophenol	µg/L	0.12	ND	60	--	150 ⁽¹⁾	60 ⁽¹¹⁾	--	--	--	No
Pentachlorophenol	µg/L	0.11	0.04	0.28	--	0.28	0.4	--	--	1	No
Picloram	µg/L	0.98	ND	490	--	--	490 ⁽⁹⁾	--	--	500	No
Pyrene	µg/L	0.069	ND	960	--	--	960	--	--	--	No
Selenium	µg/L	2	ND	5	20	5	--	--	--	20 ⁽⁵⁾	No
Silver	µg/L	0.05	0.03	1.59	1.59	--	--	--	10	100 ⁽²⁾	No
Specific Conductance (EC)	µmhos/cm	1,300	280	450	--	--	--	--	450-2,780 ¹²	900/1600/2200 ⁽⁵⁾	Yes
Sulfate	µg/L	120	15	250	--	--	--	--	--	250 ⁽⁹⁾	No
Thallium	µg/L	0.06	0.03	1.7	--	--	1.7	--	--	2.0	No
Toluene	µg/L	1.5	ND	150	--	--	6,800	--	--	150 ⁽⁷⁾	No
Total Dissolved Solids (TDS)	mg/L	760	640	450	--	--	--	--	--	450 ⁽⁵⁾	Yes
Tributyltin	µg/L	0.003	0.002	0.063	--	0.063 ⁽¹⁾	2	--	--	--	No
2,4,6-Trichlorophenol	µg/L	0.16	ND	2.1	--	970	2.1	--	--	--	No
Zinc	µg/L	37	24	75.52	75.52	75.52	--	--	100	2,000 ⁽⁵⁾	No

General Note: All inorganic concentrations are given as a total recoverable.

MEC = Maximum Effluent Concentration

B = Maximum Receiving Water Concentration or lowest detection level, if non-detect

C = Criterion used for Reasonable Potential Analysis

CMC = Criterion Maximum Concentration (CTR or NTR)

CCC = Criterion Continuous Concentration (CTR or NTR)

Water & Org = Water and Organism Criterion Concentration (CTR or NTR)

Org. Only = Organism Criterion Concentration (CTR or NTR)

Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective

MCL = Drinking Water Standards Maximum Contaminant Level

NA = Not available

ND = Reported as non-detect

Footnotes:

(1) USEPA National Recommended Ambient Water Quality Standard.

(2) Secondary MCL.

(3) USEPA National Recommended Ambient Water Quality Standard. Chronic Criterion (CCC) based on the maximum 30-day average effluent pH (7.8), and the maximum 30-day running average effluent water temperature (24° C). The acute criterion (CMC) based on the maximum effluent pH (8.5).

(4) National Toxics Rule criteria.

(5) California Secondary MCL (recommended level/upper level/maximum short-term level).

(6) California Primary MCL for total trihalomethanes.

(7) California Primary MCL.

(8) California DHS Notification Level for Drinking Water.

(9) USEPA IRIS Reference Dose.

(10) Odor threshold (Amoore and Hautala).

(11) USEPA SNARL.

(12) Basin Plan Objective at Emmatton for protection of agricultural water supply beneficial use (varies during year based on water year)

Attachment H - Constituents to be monitored

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Suggested Test Methods	
			Basis	Criterion Concentration (ug/L or noted) (1)		
VOLATILE ORGANICS						
28	1,1-Dichloroethane	75343	Primary MCL	5	0.5	EPA 8260B
30	1,1-Dichloroethene	75354	National Toxics Rule	0.057	0.5	EPA 8260B
41	1,1,1-Trichloroethane	71556	Primary MCL	200	0.5	EPA 8260B
42	1,1,2-Trichloroethane	79005	National Toxics Rule	0.6	0.5	EPA 8260B
37	1,1,2,2-Tetrachloroethane	79345	National Toxics Rule	0.17	0.5	EPA 8260B
75	1,2-Dichlorobenzene	95501	Taste & Odor	10	0.5	EPA 8260B
29	1,2-Dichloroethane	107062	National Toxics Rule	0.38	0.5	EPA 8260B
	cis-1,2-Dichloroethene	156592	Primary MCL	6	0.5	EPA 8260B
31	1,2-Dichloropropane	78875	Calif. Toxics Rule	0.52	0.5	EPA 8260B
101	1,2,4-Trichlorobenzene	120821	Public Health Goal	5	0.5	EPA 8260B
76	1,3-Dichlorobenzene	541731	Taste & Odor	10	0.5	EPA 8260B
32	1,3-Dichloropropene	542756	Primary MCL	0.5	0.5	EPA 8260B
77	1,4-Dichlorobenzene	106467	Primary MCL	5	0.5	EPA 8260B
17	Acrolein	107028	Aquatic Toxicity	21	2	EPA 8260B
18	Acrylonitrile	107131	National Toxics Rule	0.059	2	EPA 8260B
19	Benzene	71432	Primary MCL	1	0.5	EPA 8260B
20	Bromoform	75252	Calif. Toxics Rule	4.3	0.5	EPA 8260B
34	Bromomethane	74839	Calif. Toxics Rule	48	1	EPA 8260B
21	Carbon tetrachloride	56235	National Toxics Rule	0.25	0.5	EPA 8260B
22	Chlorobenzene (mono chlorobenzene)	108907	Taste & Odor	50	0.5	EPA 8260B
24	Chloroethane	75003	Taste & Odor	16	0.5	EPA 8260B
25	2-Chloroethyl vinyl ether	110758	Aquatic Toxicity	122 (3)	1	EPA 8260B
26	Chloroform	67663	OEHHA Cancer Risk	1.1	0.5	EPA 8260B
35	Chloromethane	74873	USEPA Health Advisory	3	0.5	EPA 8260B
23	Dibromochloromethane	124481	Calif. Toxics Rule	0.41	0.5	EPA 8260B
27	Dichlorobromomethane	75274	Calif. Toxics Rule	0.56	0.5	EPA 8260B
36	Dichloromethane	75092	Calif. Toxics Rule	4.7	0.5	EPA 8260B
33	Ethylbenzene	100414	Taste & Odor	29	0.5	EPA 8260B
88	Hexachlorobenzene	118741	Calif. Toxics Rule	0.00075	1	EPA 8260B
89	Hexachlorobutadiene	87683	National Toxics Rule	0.44	1	EPA 8260B
91	Hexachloroethane	67721	National Toxics Rule	1.9	1	EPA 8260B
94	Naphthalene	91203	USEPA IRIS	14	10	EPA 8260B
38	Tetrachloroethene	127184	National Toxics Rule	0.8	0.5	EPA 8260B
39	Toluene	108883	Taste & Odor	42	0.5	EPA 8260B
40	trans-1,2-Dichloroethylene	156605	Primary MCL	10	0.5	EPA 8260B
43	Trichloroethene	79016	National Toxics Rule	2.7	0.5	EPA 8260B
44	Vinyl chloride	75014	Primary MCL	0.5	0.5	EPA 8260B
	Methyl-tert-butyl ether (MTBE)	1634044	Secondary MCL	5	0.5	EPA 8260B
	Trichlorofluoromethane	75694	Primary MCL	150	5	EPA 8260B
	1,1,2-Trichloro-1,2,2-Trifluoroethane	76131	Primary MCL	1200	10	EPA 8260B
	Styrene	100425	Taste & Odor	11	0.5	EPA 8260B
	Xylenes	1330207	Taste & Odor	17	0.5	EPA 8260B

SEMI-VOLATILE ORGANICS						
60	1,2-Benzanthracene	56553	Calif. Toxics Rule	0.0044	5	EPA 8270C
85	1,2-Diphenylhydrazine	122667	National Toxics Rule	0.04	1	EPA 8270C
45	2-Chlorophenol	95578	Taste and Odor	0.1	2	EPA 8270C
46	2,4-Dichlorophenol	120832	Taste and Odor	0.3	1	EPA 8270C
47	2,4-Dimethylphenol	105679	Calif. Toxics Rule	540	2	EPA 8270C
49	2,4-Dinitrophenol	51285	National Toxics Rule	70	5	EPA 8270C
82	2,4-Dinitrotoluene	121142	National Toxics Rule	0.11	5	EPA 8270C
55	2,4,6-Trichlorophenol	88062	Taste and Odor	2	10	EPA 8270C
83	2,6-Dinitrotoluene	606202	USEPA IRIS	0.05	5	EPA 8270C
50	2-Nitrophenol	25154557	Aquatic Toxicity	150 (5)	10	EPA 8270C
71	2-Chloronaphthalene	91587	Aquatic Toxicity	1600 (6)	10	EPA 8270C
78	3,3'-Dichlorobenzidine	91941	National Toxics Rule	0.04	5	EPA 8270C
62	3,4-Benzofluoranthene	205992	Calif. Toxics Rule	0.0044	10	EPA 8270C
52	4-Chloro-3-methylphenol	59507	Aquatic Toxicity	30	5	EPA 8270C
48	4,6-Dinitro-2-methylphenol	534521	National Toxics Rule	13.4	10	EPA 8270C
51	4-Nitrophenol	100027	USEPA Health Advisory	60	5	EPA 8270C
69	4-Bromophenyl phenyl ether	101553	Aquatic Toxicity	122	10	EPA 8270C
72	4-Chlorophenyl phenyl ether	7005723	Aquatic Toxicity	122 (3)	5	EPA 8270C
56	Acenaphthene	83329	Taste and Odor	20	1	EPA 8270C
57	Acenaphthylene	208968	No Criteria Available		10	EPA 8270C
58	Anthracene	120127	Calif. Toxics Rule	9,600	10	EPA 8270C
59	Benzidine	92875	National Toxics Rule	0.00012	5	EPA 8270C
61	Benzo(a)pyrene (3,4-Benzopyrene)	50328	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
63	Benzo(g,h,i)perylene	191242	No Criteria Available		5	EPA 8270C
64	Benzo(k)fluoranthene	207089	Calif. Toxics Rule	0.0044	2	EPA 8270C
65	Bis(2-chloroethoxy) methane	111911	No Criteria Available		5	EPA 8270C
66	Bis(2-chloroethyl) ether	111444	National Toxics Rule	0.031	1	EPA 8270C
67	Bis(2-chloroisopropyl) ether	39638329	Aquatic Toxicity	122 (3)	10	EPA 8270C
68	Bis(2-ethylhexyl) phthalate	117817	National Toxics Rule	1.8	3	EPA 8270C
70	Butyl benzyl phthalate	85687	Aquatic Toxicity	3 (7)	10	EPA 8270C
73	Chrysene	218019	Calif. Toxics Rule	0.0044	5	EPA 8270C
81	Di-n-butylphthalate	84742	Aquatic Toxicity	3 (7)	10	EPA 8270C
84	Di-n-octylphthalate	117840	Aquatic Toxicity	3 (7)	10	EPA 8270C
74	Dibenzo(a,h)-anthracene	53703	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
79	Diethyl phthalate	84662	Aquatic Toxicity	3 (7)	2	EPA 8270C
80	Dimethyl phthalate	131113	Aquatic Toxicity	3 (7)	2	EPA 8270C
86	Fluoranthene	206440	Calif. Toxics Rule	300	10	EPA 8270C
87	Fluorene	86737	Calif. Toxics Rule	1300	10	EPA 8270C
90	Hexachlorocyclopentadiene	77474	Taste and Odor	1	1	EPA 8270C
92	Indeno(1,2,3-c,d)pyrene	193395	Calif. Toxics Rule	0.0044	0.05	EPA 8270C
93	Isophorone	78591	National Toxics Rule	8.4	1	EPA 8270C
98	N-Nitrosodiphenylamine	86306	National Toxics Rule	5	1	EPA 8270C
96	N-Nitrosodimethylamine	62759	National Toxics Rule	0.00069	5	EPA 8270C
97	N-Nitrosodi-n-propylamine	621647	Calif. Toxics Rule	0.005	5	EPA 8270C
95	Nitrobenzene	98953	National Toxics Rule	17	10	EPA 8270C
53	Pentachlorophenol	87865	Calif. Toxics Rule	0.28	0.2	EPA 8270C
99	Phenanthrene	85018	No Criteria Available		5	EPA 8270C
54	Phenol	108952	Taste and Odor	5	1	EPA 8270C
100	Pyrene	129000	Calif. Toxics Rule	960	10	EPA 8270C

INORGANICS						
	Aluminum	7429905	Ambient Water Quality	87	50	EPA 6020/200.8
1	Antimony	7440360	Primary MCL	6	5	EPA 6020/200.8
2	Arsenic	7440382	Ambient Water Quality	0.018	0.01	EPA 1632
15	Asbestos	1332214	National Toxics Rule/ Primary MCL	7 MFL	0.2 MFL >10um	EPA/600/R-93/116(PCM)
	Barium	7440393	Basin Plan Objective	100	100	EPA 6020/200.8
3	Beryllium	7440417	Primary MCL	4	1	EPA 6020/200.8
4	Cadmium	7440439	Public Health Goal	0.07	0.25	EPA 1638/200.8
5a	Chromium (total)	7440473	Primary MCL	50	2	EPA 6020/200.8
5b	Chromium (VI)	18540299	Public Health Goal	0.2	0.5	EPA 7199/1636
6	Copper	7440508	National Toxics Rule	4.1 (2)	0.5	EPA 6020/200.8
14	Cyanide	57125	National Toxics Rule	5.2	5	EPA 9012A
	Fluoride	7782414	Public Health Goal	1000	0.1	EPA 300
	Iron	7439896	Secondary MCL	300	100	EPA 6020/200.8
7	Lead	7439921	Calif. Toxics Rule	0.92 (2)	0.5	EPA 1638
8	Mercury	7439976	TMDL Development		0.0002 (11)	EPA 1669/1631
	Manganese	7439965	Secondary MCL/ Basin Plan Objective	50	20	EPA 6020/200.8
9	Nickel	7440020	Calif. Toxics Rule	24 (2)	5	EPA 6020/200.8
10	Selenium	7782492	Calif. Toxics Rule	5 (8)	5	EPA 6020/200.8
11	Silver	7440224	Calif. Toxics Rule	0.71 (2)	1	EPA 6020/200.8
12	Thallium	7440280	National Toxics Rule	1.7	1	EPA 6020/200.8
	Tributyltin	688733	Ambient Water Quality	0.063	0.002	EV-024/025
13	Zinc	7440666	Calif. Toxics Rule/ Basin Plan Objective	54/ 16 (2)	10	EPA 6020/200.8
PESTICIDES - PCBs						
110	4,4'-DDD	72548	Calif. Toxics Rule	0.00083	0.02	EPA 8081A
109	4,4'-DDE	72559	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
108	4,4'-DDT	50293	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
112	alpha-Endosulfan	959988	National Toxics Rule	0.056 (9)	0.02	EPA 8081A
103	alpha-Hexachlorocyclohexane (BHC)	319846	Calif. Toxics Rule	0.0039	0.01	EPA 8081A
	Alachlor	15972608	Primary MCL	2	1	EPA 8081A
102	Aldrin	309002	Calif. Toxics Rule	0.00013	0.005	EPA 8081A
113	beta-Endosulfan	33213659	Calif. Toxics Rule	0.056 (9)	0.01	EPA 8081A
104	beta-Hexachlorocyclohexane	319857	Calif. Toxics Rule	0.014	0.005	EPA 8081A
107	Chlordane	57749	Calif. Toxics Rule	0.00057	0.1	EPA 8081A
106	delta-Hexachlorocyclohexane	319868	No Criteria Available		0.005	EPA 8081A
111	Dieldrin	60571	Calif. Toxics Rule	0.00014	0.01	EPA 8081A
114	Endosulfan sulfate	1031078	Ambient Water Quality	0.056	0.05	EPA 8081A
115	Endrin	72208	Calif. Toxics Rule	0.036	0.01	EPA 8081A
116	Endrin Aldehyde	7421934	Calif. Toxics Rule	0.76	0.01	EPA 8081A
117	Heptachlor	76448	Calif. Toxics Rule	0.00021	0.01	EPA 8081A
118	Heptachlor Epoxide	1024573	Calif. Toxics Rule	0.0001	0.01	EPA 8081A
105	Lindane (gamma-Hexachlorocyclohexane)	58899	Calif. Toxics Rule	0.019	0.019	EPA 8081A
119	PCB-1016	12674112	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
120	PCB-1221	11104282	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082

121	PCB-1232	11141165	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
122	PCB-1242	53469219	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
123	PCB-1248	12672296	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
124	PCB-1254	11097691	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
125	PCB-1260	11096825	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
126	Toxaphene	8001352	Calif. Toxics Rule	0.0002	0.5	EPA 8081A
	Atrazine	1912249	Public Health Goal	0.15	1	EPA 8141A
	Bentazon	25057890	Primary MCL	18	2	EPA 643/ 515.2
	Carbofuran	1563662	CDFG Hazard Assess.	0.5	5	EPA 8318
	2,4-D	94757	Primary MCL	70	10	EPA 8151A
	Dalapon	75990	Ambient Water Quality	110	10	EPA 8151A
	1,2-Dibromo-3-chloropropane (DBCP)	96128	Public Health Goal	0.0017	0.01	EPA 8260B
	Di(2-ethylhexyl)adipate	103231	USEPA IRIS	30	5	EPA 8270C
	Dinoseb	88857	Primary MCL	7	2	EPA 8151A
	Diquat	85007	Ambient Water Quality	0.5	4	EPA 8340/ 549.1/HPLC
	Endothal	145733	Primary MCL	100	45	EPA 548.1
	Ethylene Dibromide	106934	OEHA Cancer Risk	0.0097	0.02	EPA 8260B/ 504
	Glyphosate	1071836	Primary MCL	700	25	HPLC/ EPA 547
	Methoxychlor	72435	Public Health Goal	30	10	EPA 8081A
	Molinate (Ordram)	2212671	CDFG Hazard Assess.	13	2	EPA 634
	Oxamyl	23135220	Public Health Goal	50	20	EPA 8318/ 632
	Picloram	1918021	Primary MCL	500	1	EPA 8151A
	Simazine (Princep)	122349	USEPA IRIS	3.4	1	EPA 8141A
	Thiobencarb	28249776	Basin Plan Objective/ Secondary MCL	1	1	HPLC/ EPA 639
16	2,3,7,8-TCDD (Dioxin)	1746016	Calif. Toxics Rule	1.30E-08	5.00E-06	EPA 8290 (HRGC) MS
	2,4,5-TP (Silvex)	93765	Ambient Water Quality	10	1	EPA 8151A
	Diázinon	333415	CDFG Hazard Assess.	0.05	0.25	EPA 8141A/ GCMS
	Chlorpyrifos	2921882	CDFG Hazard Assess.	0.014	1	EPA 8141A/ GCMS

OTHER CONSTITUENTS					
Ammonia (as N)	7664417	Ambient Water Quality	1500 (4)		EPA 350.1
Chloride	16887006	Agricultural Use	106,000		EPA 300.0
Flow			1 CFS		
Hardness (as CaCO ₃)			5000		EPA 130.2
Foaming Agents (MBAS)		Secondary MCL	500		SM5540C
Nitrate (as N)	14797558	Primary MCL	10,000	2,000	EPA 300.0
Nitrite (as N)	14797650	Primary MCL	1000	400	EPA 300.0
pH		Basin Plan Objective	6.5-8.5	0.1	EPA 150.1
Phosphorus, Total (as P)	7723140	USEPA IRIS	0.14		EPA 365.3
Specific conductance (EC)		Agricultural Use	700 umhos/cm		EPA 120.1
Sulfate		Secondary MCL	250,000	500	EPA 300.0
Sulfide (as S)		Taste and Odor	0.029		EPA 376.2
Sulfite (as SO ₃)		No Criteria Available			SM4500-SO3
Temperature		Basin Plan Objective	°F		
Total Dissolved Solids (TDS)		Agricultural Use	450,000		EPA 160.1

FOOTNOTES:

(1) - The Criterion Concentrations serve only as a point of reference for the selection of the appropriate analytical method. They do not indicate a regulatory decision that the cited concentration is either necessary or sufficient for full protection of beneficial uses. Available technology may require that effluent limits be set lower than these values.

(2) - Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. Values displayed correspond to a total hardness of 40 mg/L.

(3) - For haloethers

(4) - Freshwater aquatic life criteria for ammonia are expressed as a function of pH and temperature of the water body. Values displayed correspond to pH 8.0 and temperature of 22 C.

(5) - For nitrophenols.

(6) - For chlorinated naphthalenes.

(7) - For phthalate esters.

(8) - Basin Plan objective = 2 ug/L for Salt Slough and specific constructed channels in the Grassland watershed.

(9) - Criteria for sum of alpha- and beta- forms.

(10) - Criteria for sum of all PCBs.

(11) - Mercury monitoring shall utilize "ultra-clean" sampling and analytical methods. These methods include:
 Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, US EPA; and
 Method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence, US EPA

Dioxin and Furan Sampling

Section 3 of the State Implementation Plan requires that each NPDES discharger conduct sampling and analysis of dioxin and dibenzofuran congeners. Dioxin and Furan sampling shall be conducted in the effluent and receiving water once during dry weather and once during wet weather.

Each sample shall be analyzed for the seventeen congeners listed in the table below. High Resolution GCMS Method 8290, or another method capable of individually quantifying the congeners to an equivalent detection level, shall be used for the analyses.

For each sample the discharger shall report:

- The measured or estimated concentration of each of the seventeen congeners.
- The quantifiable limit of the test (as determined by procedures in Section 2.4.3, No. 5 of the SIP)
- The Method Detection Level (MDL) for the test

The TCDD equivalent concentration for each analysis calculated by multiplying the concentration of each congener by the Toxicity Equivalency Factor (TEF) in the following table, and summing the resultant products to determine the equivalent toxicity of the sample expressed as 2,3,7,8-TCDD.

Congener	TEF
2,3,7,8TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001