2008-0025), which states that "*A Water Board may establish a compliance schedule that exceeds ten years in a permit that either: (1) is a single permitting action, as defined in this Policy, or (2) has a permit limitation that implements or is consistent with the waste load allocations specified in a TMDL that is established through a Basin Plan amendment, provided that the TMDL implementation plan contains a compliance schedule or implementation schedule.*" Consistent with the State Water Board's recommendations, this Order requires the Discharger to develop and implement a salinity source control program that will identify and implement measures to reduce salinity in the discharge to the San Joaquin River. This Order also contains an interim performance based effluent limitation for electrical conductivity of 979 µmhos/cm applied as an annual average. This interim performance-based effluent limitation was calculated as described in section IV.E.2 of this Fact Sheet.

aa. **Selenium.** The CTR includes maximum 1-hour average and 4-day average selenium concentrations of 20 µg/L and 5 µg/L, respectively, for the protection of freshwater aquatic life. The Regional Water Board adopted site-specific water quality objectives for selenium in the San Joaquin River from the mouth of the Merced River to Vernalis of 12 µg/L as a maximum concentration and 5 µg/L as a 4-day average for the protection of aquatic life.

The MEC for selenium was 5 µg/L, based on 20 samples collected between October 2006 and April 2008. Selenium was not detected in the upstream receiving water in Harding Drain, based on six samples collected between May 2005 and April 2008. The maximum observed upstream receiving water selenium concentration in the San Joaquin River was 2.6 µg/L, based on six samples collected between May 2005 and April 2008. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for selenium in Harding Drain and the Basin Plan objective for selenium in the San Joaquin River. An AMEL and MDEL for selenium of 3.7 µg/L and 9.1 µg/L, respectively, are included in this Order for the discharge to Harding Drain through Discharge Point No. 001 based on CTR criteria for the protection of freshwater aquatic life (see Attachment F, Table F-26 for WQBEL calculations). An AMEL and MDEL for selenium of 3.7 µg/L and 9.1 µg/L, respectively, are included in this Order for the discharge to the San Joaquin River through Discharge Point No. 002 based on Basin Plan objective for the protection of freshwater aquatic life (see Attachment F, Table F-27 for WQBEL calculations).

Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance for discharges to Harding Drain and the San Joaquin River. New or modified control measures may be necessary in order to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed and put into operation within 30 calendar days. Furthermore, the effluent limitations for selenium are a new regulatory requirement within this permit, which becomes applicable to the waste discharge

with the adoption of this Order, which was adopted after 1 July 2000. Therefore, a compliance time schedule for compliance with the selenium effluent limitations is established in TSO No. R5-2010-0003 in accordance with CWC section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

bb. **Settleable Solids.** Order No. 5-01-122 included numeric monthly average and daily maximum effluent limitations of 0.1 mL/L and 0.2 mL/L, respectively. Settleable solids have not been detected in the effluent based on recent monitoring data conducted between October 2006 through April 2008. Therefore, monitoring data for settleable solids indicates that there is no reasonable potential to exceed water quality objectives. Therefore, as described in section IV.D.3, settleable solids effluent limitations have not been retained in this Order.

cc. **Silver.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for silver. As discussed in section IV.C.2.b of this Fact Sheet, receiving water hardness data is not available for Harding Drain. Therefore, to determine reasonable potential for silver in discharges to Harding Drain, aquatic life criteria were developed using the default conversion factors and a hardness of 89 mg/L (as $CaCO_3$). The applicable acute (1-hour average) criterion is 3.3 µg/L. The MEC for silver was 2.6 µg/L (as total recoverable), which does not exceed the applicable water quality criteria for silver. Silver was not detected in the upstream receiving water in Harding Drain, based on six samples collected between May 2005 and April 2008. Therefore, silver in the discharge to Harding Drain does not exhibit reasonable potential to cause or contribute to an exceedance of water quality criteria.

Reasonable potential to exceed the hardness-dependent criteria for silver in the San Joaquin River was determined using the default conversion factors and the reasonable worst-case downstream receiving water hardness and the maximum effluent silver concentration.. As discussed in Section IV.C.2.b, the applicable CTR acute (1-hour average) criterion for silver for the discharge to the San Joaquin River is 2.3 µg/L, as total recoverable, and was determined as shown for Concave Up Metals. The MEC for silver was 2.6 µg/L (as total recoverable) exceeds the applicable water quality criteria for silver. Silver was not detected in the upstream receiving water in the San Joaquin River, based on six samples collected between May 2005 and April 2008. Therefore, silver in the future discharge to the San Joaquin River has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of freshwater aquatic life.

Using the procedures for Concave Up Metals as discussed in Section IV.C.2.b, the ECA_{acute} for silver is 2.3 µg/L. Using the procedures for calculating WQBELs in section 1.4 of the SIP, an AMEL and MDEL for silver of 1.2 µg/L and 2.3 µg/L, respectively, are included in this Order based on the CTR criterion for the

protection of freshwater aquatic life for discharges to the San Joaquin River (see Attachment F, Table F-28 for WQBEL calculations).

Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance for discharges to the San Joaquin River. New or modified control measures may be necessary in order to comply with the effluent limitations. Furthermore, the effluent limitations for silver are a new regulatory requirement within this permit, which becomes applicable to the waste discharge with the adoption of this Order, which was adopted after 1 July 2000. Therefore, a compliance time schedule for compliance with the silver effluent limitations is established in TSO No. R5-2010-0003 in accordance with CWC section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

dd. **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, WQBELs for chlorine residual and pH were based on Basin Plan objectives and applied directly as effluent limitations. Because the San Joaquin River is on the 303(d) list for boron and has reasonable potential to cause or contribute to an excursion above the Basin Plan's site-specific objectives, WQBELs for boron at Discharge Point No. 002 were based on Basin Plan objectives and applied directly as effluent limitations. WQBELs for pathogens were based on California DPH reclamation criteria. Based on input from DPH, the WQBELs for aluminum, iron (discharge to the San Joaquin River only), and manganese (discharge to the San Joaquin River only) are based on the Secondary MCL and established directly as annual average effluent limitations. The WQBEL for nitrate was based on the Primary MCL and established directly as an AMEL. Final WQBELs for salinity are based on the waste load allocations established in the Basin Plan Amendment for the Control of Salt and Boron Discharges into the Lower San Joaquin River.

b. Effluent limitations for aluminum, ammonia, carbon tetrachloride, chloride, chlorodibromomethane, copper, dichlorobromomethane, lead (discharge to the San Joaquin River only), selenium, and silver (discharge to the San Joaquin River only) 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.** In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

For the human health, agriculture, or other long-term criterion/objective, a dilution credit can be applied. The ECA is calculated as follows:

$$ECA_{HH} = HH + D(HH - B)$$

where:

ECA_{acute} = effluent concentration allowance for acute (1-hour average) toxicity criterion

$ECA_{chronic}$ = effluent concentration allowance for chronic (4-day average) toxicity criterion

ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective

CMC = criteria maximum concentration (1-hour average)

CCC = criteria continuous concentration (4-day average, unless otherwise noted)

HH = human health, agriculture, or other long-term criterion/objective

D = dilution credit

B = maximum receiving water concentration

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) 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

WQBELs were calculated for aluminum, ammonia, carbon tetrachloride, chloride, chlorodibromomethane, copper, dichlorobromomethane, lead, selenium, and silver as follows in Tables F-14 through F-28, below.

Table F-14. WQBEL Calculations for Aluminum at Discharge Point No. 002

	Acute
Criteria (µg/L)[1]	750
Dilution Credit	No Dilution
ECA	750
ECA Multiplier	0.15
LTA	109
AMEL Multiplier (95th%)	2.39
AMEL (µg/L)	**261**
MDEL Multiplier (99th%)	6.86
MDEL (µg/L)	**750**

1 USEPA Ambient Water Quality Criteria
2 Limitations based on chronic LTA (Chronic LTA < Acute LTA)

Table F-15. WQBEL Calculations for Ammonia at Discharge Point No. 001

	Acute	Chronic (4-day)	Chronic (30-day)
Criteria (mg/L)[1]	2.14	6.68	2.67
Dilution Credit	No Dilution	No Dilution	No Dilution
ECA	2.14	3.95	2.67
ECA Multiplier	0.32	0.53	0.78
LTA[2]	0.68	3.54	2.08
AMEL Multiplier (95th%)	1.55	[3]	[3]
AMEL (mg/L)	**1.1**	[3]	[3]
MDEL Multiplier (99th%)	3.11	[3]	[3]
MDEL (mg/L)	**2.1**	[3]	[3]

1 USEPA Ambient Water Quality Criteria.
2 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.
3 Limitations based on acute LTA ($LTA_{acute} < LTA_{chronic(4\text{-}day)}$ and $LTA_{acute} < LTA_{chronic(30\text{-}day)}$).

Table F-16. WQBEL Calculations for Ammonia at Discharge Point No. 002

	Acute	Chronic (4-day)	Chronic (30-day)
Criteria (mg/L)[1]	2.14	9.2	3.68
Dilution Credit	No Dilution	No Dilution	No Dilution
ECA	2.14	9.2	3.68
ECA Multiplier	0.32	0.53	0.78
LTA[2]	0.68	4.88	2.87
AMEL Multiplier (95th%)	1.55	[3]	[3]
AMEL (mg/L)	**1.1**	[3]	[3]
MDEL Multiplier (99th%)	3.11	[3]	[3]
MDEL (mg/L)	**2.1**	[3]	[3]

1 USEPA Ambient Water Quality Criteria.
2 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.
3 Limitations based on acute LTA ($LTA_{acute} < LTA_{chronic(4\text{-}day)}$ and $LTA_{acute} < LTA_{chronic(30\text{-}day)}$).

Table F-17. WQBEL Calculations for Carbon Tetrachloride at Discharge Point No. 001

	Human Health
Criteria (µg/L)	0.25
Dilution Credit	No Dilution
ECA	0.25
AMEL (µg/L)[1]	**0.25**
MDEL/AMEL Multiplier[2]	2.87
MDEL (µg/L)	**0.72**

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-18. WQBEL Calculations for Carbon Tetrachloride at Discharge Point No. 002

	Human Health
Criteria (µg/L)	0.25
Dilution Credit	19.9
ECA	4.2
AMEL (µg/L)[1]	**4.2**
MDEL/AMEL Multiplier[2]	2.87
MDEL (µg/L)	**12**

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-19. WQBEL Calculations for Chloride at Discharge Point No. 002

	Acute	Chronic
Criteria (mg/L) (1)	860	230
Dilution Credit	No Dilution	No Dilution
ECA (2)	860	230
ECA Multiplier (3)	0.47	0.67
LTA	404	154
AMEL Multiplier (95th%) (4)(5)	(7)	1.32
AMEL (mg/L)	(7)	**203**
MDEL Multiplier (99th%) (6)	(7)	2.13
MDEL (mg/L)	(7)	**328**

1 CTR aquatic life criteria, based on a hardness of 89 mg/L as $CaCO_3$.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 Limitations based on chronic LTA (Chronic LTA < Acute LTA).

Table F-20. WQBEL Calculations for Chlorodibromomethane at Discharge Point No. 001

	Human Health
Criteria (µg/L)	0.41
Dilution Credit	No Dilution
ECA	0.41
AMEL (µg/L)[1]	**0.41**
MDEL/AMEL Multiplier[2]	1.91
MDEL (µg/L)	**0.78**

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-21. WQBEL Calculations for Chlorodibromomethane at Discharge Point No. 002

	Human Health
Criteria (µg/L)	0.41
Dilution Credit	19.9
ECA	7.6
AMEL (µg/L)[1]	**7.6**
MDEL/AMEL Multiplier[2]	1.91
MDEL (µg/L)	**14**

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-22. WQBEL Calculations for Copper at Discharge Point Nos. 001 and 002

	Acute	Chronic
Criteria, total recoverable (µg/L) (1)	12	15
Dilution Credit	No Dilution	No Dilution
ECA, total recoverable (2)	12	15
ECA Multiplier (3)	0.45	0.65
LTA	6.59	8.00
AMEL Multiplier (95th%) (4)(5)	1.35	(7)
AMEL (µg/L)	**8.9**	(7)
MDEL Multiplier (99th%) (6)	2.23	(7)
MDEL (µg/L)	**15**	(7)

1 CTR aquatic life criteria, based on a hardness of 89 mg/L as $CaCO_3$. The criteria are based on application of a site-specific metals translator.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 Limitations based on acute LTA (Acute LTA < Chronic LTA).

Table F-23. WQBEL Calculations for Dichlorobromomethane at Discharge Point No. 001

	Human Health
Criteria (µg/L)	0.56
Dilution Credit	No Dilution
ECA	0.56
AMEL (µg/L)[1]	**0.56**
MDEL/AMEL Multiplier[2]	1.45
MDEL (µg/L)	**0.81**

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-24. WQBEL Calculations for Dichlorobromomethane at Discharge Point No. 002

	Human Health
Criteria (µg/L)	0.56
Dilution Credit	19.9
ECA	11
AMEL (µg/L)[1]	**11**
MDEL/AMEL Multiplier[2]	1.45
MDEL (µg/L)	**16**

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-25. WQBEL Calculations for Lead at Discharge Point No. 002

	Acute	Chronic
Criteria, total recoverable (µg/L) (1)	55	2.9
Dilution Credit	No Dilution	No Dilution
ECA, total recoverable (2)	55	2.9
ECA Multiplier (3)	0.53	0.72
LTA	29	2.1
AMEL Multiplier (95th%) (4)(5)	(7)	1.26
AMEL (µg/L)	(7)	**2.6**
MDEL Multiplier (99th%) (6)	(7)	1.88
MDEL (µg/L)	(7)	**3.9**

1 CTR aquatic life criteria, based on the reasonable worst-case downstream receiving water hardness (see Section IV.C.2.b). The criteria are based on application of a site-specific metals translator.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 Limitations based on chronic LTA (Acute LTA > Chronic LTA).

Table F-26. WQBEL Calculations for Selenium at Discharge Point No. 001

	Acute	Chronic
Criteria, total recoverable (µg/L) [1]	20	5
Dilution Credit	No Dilution	No Dilution
ECA, total recoverable [2]	20	5
ECA Multiplier [3]	0.22	0.39
LTA	4.32	1.96
AMEL Multiplier (95th%) [4][5]	[7]	1.89
AMEL (µg/L)	[7]	**3.7**
MDEL Multiplier (99th%) [6]	[7]	4.63
MDEL (µg/L)	[7]	**9.1**

1 CTR aquatic life criteria.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 Limitations based on chronic LTA (Chronic LTA < Acute LTA).

Table F-27. WQBEL Calculations for Selenium at Discharge Point No. 002

	Acute	Chronic
Criteria, total recoverable (µg/L) [1]	12	5
Dilution Credit	No Dilution	No Dilution
ECA, total recoverable [2]	12	5
ECA Multiplier [3]	0.22	0.39
LTA	2.59	1.96
AMEL Multiplier (95th%) [4][5]	[7]	1.89
AMEL (µg/L)	[7]	**3.7**
MDEL Multiplier (99th%) [6]	[7]	4.63
MDEL (µg/L)	[7]	**9.1**

1 Basin Plan site-specific water quality objectives for the San Joaquin River from the mouth of the Merced River to Vernalis.
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
7 Limitations based on chronic LTA (Chronic LTA < Acute LTA).

Table F-28. WQBEL Calculations for Silver at Discharge Point No. 002

	Acute
Criteria, total recoverable (µg/L) [1]	2.3
Dilution Credit	No Dilution
ECA, total recoverable [2]	2.3
ECA Multiplier [3]	0.32
LTA	0.74
AMEL Multiplier (95th%) [4][5]	1.55
AMEL (µg/L)	**1.2**
MDEL Multiplier (99th%) [6]	3.11
MDEL (µg/L)	**2.3**

1 CTR aquatic life criteria are based on the reasonable worst-case downstream receiving water hardness (see Section IV.C.2.b).
2 ECA calculated per section 1.4.B, Step 2 of SIP.
3 Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
4 Assumes sampling frequency n<=4.
5 The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
6 The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.

Summary of Water Quality-based Effluent Limitations Discharge Point Nos. 001 and 002

Table F-29. Summary of Water Quality-based Effluent Limitations for Discharge Point No. 001 (Harding Drain)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
pH	standard units	--	--	--	6.5	8.5
Priority Pollutants						
Copper, Total Recoverable	µg/L	8.9	--	15	--	--
Selenium, Total Recoverable	µg/L	3.7	--	9.1	--	--
	lbs/day[7]	0.62	--	1.52	--	--
Carbon Tetrachloride	µg/L	0.25	--	0.72	--	--
Chlorodibromomethane	µg/L	0.41	--	0.78	--	--
Dichlorobromomethane	µg/L	0.56	--	0.81	--	--
Non-Conventional Pollutants						
Aluminum, Total Recoverable	µg/L	--	200[1]	--	--	--
Ammonia Nitrogen, Total (as N)	mg/L	1.1	--	2.1	--	--
	lbs/day[7]	183	--	350	--	--
Chlorine, Total Residual	mg/L	--	0.011[2]	0.019[3]	--	--
Electrical Conductivity @ 25°C	µmhos/cm	1,000/700[4]	--	--	--	--

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--
Total Coliform Organisms	MPN/100 mL	--	2.2[5]	23[6]	--	240

1 Applied as an annual average effluent limitation.
2 Applied as a 4-day average effluent limitation.
3 Applied as a 1-hour average effluent limitation.
4 The discharge of electrical conductivity shall not exceed the following:
   i. From 1 September through 31 March, the effluent electrical conductivity @ 25°C shall not exceed 1,000 µmhos/cm as a monthly average.
   ii. From 1 April through 31 August, the effluent electrical conductivity @ 25°C shall not exceed 700 µmhos/cm as a monthly average.
   Compliance with the final effluent limitations for electrical conductivity is not required in this Order until 28 July 2022 for all water year types, except critically dry. For critically dry years, full compliance is not required until 28 July 2026.
5 Applied as a 7-day median effluent limitation.
6 Effluent total coliform organisms are not to exceed 23 MPN/100 mL more than once in any 30-day period.
7 Based on a design flow of 20 MGD.

Table F-30. Summary of Water Quality-based Effluent Limitations for Discharge Point No. 002 (San Joaquin River)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
pH	standard units	--	--	--	6.5	8.5
Priority Pollutants						
Copper, Total Recoverable	µg/L	8.9	--	15	--	--
Lead, Total Recoverable	µg/L	2.6	--	3.9	--	--
Selenium, Total Recoverable	µg/L	3.7	--	9.1	--	--
	lbs/day[9]	0.62	--	1.52	--	--
Silver, Total Recoverable	µg/L	1.2	--	2.3	--	--
Carbon Tetrachloride	µg/L	4.2	--	12	--	--
Chlorodibromomethane	µg/L	7.6	--	14	--	--
Dichlorobromomethane	µg/L	11	--	16	--	--
Non-Conventional Pollutants						
Aluminum, Total Recoverable	µg/L	261	200[1]	750	--	--
Ammonia Nitrogen, Total (as N)	mg/L	1.1	--	2.1	--	--
	lbs/day[9]	183	--	350	--	--
Boron, Total Recoverable	mg/L	0.8[2]/1.0[3]	--	2.0[2]/2.6[3]	--	--
Chloride	mg/L	203	--	328	--	--

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chlorine, Total Residual	mg/L	--	0.011[4]	0.019[5]	--	--
Electrical Conductivity @ 25°C	µmhos/cm	1,000/700[6]	--	--	--	--
Iron, Total Recoverable	µg/L	300[1]	--	--	--	--
Manganese, Total Recoverable	µg/L	50[1]	--	--	--	--
Nitrate Nitrogen, Total (as N)	mg/L	31	--	--	--	--
Total Coliform Organisms	MPN/100 mL	--	2.2[7]	23[8]	--	240

1 Applied as an annual average effluent limitation.

2 Applies 15 March through 15 September.

3 Applies 16 September through 14 March.

4 Applied as a 4-day average effluent limitation.

5 Applied as a 1-hour average effluent limitation.

6 The discharge of electrical conductivity shall not exceed the following:

i. From 1 September through 31 March, the effluent electrical conductivity @ 25°C shall not exceed 1,000 µmhos/cm as a monthly average.

ii. From 1 April through 31 August, the effluent electrical conductivity @ 25°C shall not exceed 700 µmhos/cm as a monthly average.

Compliance with the final effluent limitations for electrical conductivity is not required in this Order until 28 July 2022 for all water year types, except critically dry. For critically dry years, full compliance is not required until 28 July 2026.

7 Applied as a 7-day median effluent limitation.

8 Effluent total coliform organisms are not to exceed 23 MPN/100 mL more than once in any 30-day period.

9 Based on a design flow of 20 MGD.

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.** 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 page III-8.00). The following table summarizes test results exceeding 1 chronic toxicity unit (TUc) based on quarterly whole effluent chronic toxicity testing performed by the Discharger from October 2006 through April 2008.

Table F-31. Summary of Chronic Aquatic Toxicity Results

Date	Species	Test Endpoint	Result (TUc)
13 October 2006	*Ceriodaphnia dubia*	Reproduction	2
13 October 2006	*Selenastrum capricornutum*	Growth	8
19 January 2007	*Selenastrum capricornutum*	Growth	8
25 October 2007	*Ceriodaphnia dubia*	Reproduction	2
22 January 2008	*Pimephales promelas*	Larval Growth	2
22 January 2008	*Selenastrum capricornutum*	Growth	8

Based on the data provided 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. The results of several tests indicate impacts to growth and reproduction.

No dilution has been granted for the chronic condition. Therefore, chronic toxicity testing results exceeding 1 TUc demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Therefore, a narrative effluent limit for chronic whole effluent toxicity has been established in the Order.

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a

NPDES permit in the Los Angeles Region[1] that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.*" The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. However, the State Water Board found in WQO 2003-012 that, while it is not appropriate to include final numeric effluent limitations for chronic toxicity in NPDES permits for POTWs, permits must contain a narrative effluent limitation, numeric benchmarks for triggering accelerated monitoring, rigorous Toxicity Reduction Evaluation (TRE)/Toxicity Identification Evaluation (TIE) conditions, and a reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity. Therefore, this Order includes a narrative effluent limitation for chronic toxicity and requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 CFR 122.44(k). This Order also includes a reopener that allows the Regional Water Board to reopen the permit and include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

To ensure compliance with the narrative effluent limitation and the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E section V.). Furthermore, the Special Provision contained at VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE workplan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at

[1] In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a).

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.

Mass-based effluent limitations have been established in this Order for BOD_5, TSS, and ammonia because they are oxygen-demanding substances; selenium because it is a bioaccumulative pollutant; and mercury because it is a bioaccumulative pollutant and because the San Joaquin River is listed as impaired due to mercury. Mass-based effluent limitations were calculated based upon the permitted average dry weather flow allowed in Sections IV.A.1.g and IV.B.1.g of the Limitations and Discharge Requirements.

Except for the pollutants listed above, for those pollutant parameters for which effluent limitations are based on water quality objectives and criteria that are concentration-based, mass-based effluent limitations are not included in this Order.

2. Averaging Periods for Effluent Limitations.

Title 40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (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 carbon tetrachloride, chlorodibromomethane, copper, dichlorobromomethane, electrical conductivity, lead, selenium, and silver as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Based on a conversation between the Regional Water Board and the California DPH, annual average limitations are more appropriate for

some pollutants whose effluent limitations are based on primary and secondary MCLs. Therefore, annual average limitations have been applied for aluminum, iron, and manganese. DPH also recommends that an AMEL is more appropriate for pollutants such as nitrate for which the MCL is designed to be protective of acute health effects. Therefore, an AMEL has been applied for nitrate. Furthermore, for boron, chlorine residual, BOD_5, TSS, pH, and total coliform organisms, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in Attachment F, Section IV.C.3, above.

3. Satisfaction of Anti-Backsliding Requirements.

The Clean Water Act specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in Clean Water Act sections 402(o) or 303(d)(4), or, where applicable, 40 CFR 122.44(l).

Order No. 5-01-122 included effluent limitations for a number of parameters. However, in WQO 2002-0016, the State Water Board stayed the final effluent limitations for aluminum, copper, cyanide, zinc, bromodichloromethane, molybdenum, tributyltin, iron, ammonia, and manganese. Based on monitoring data collected during the term of Order No. 5-01-122, the discharge does not indicate reasonable potential to exceed water quality objectives for iron (Discharge Point No. 001), manganese (Discharge Point No. 001), molybdenum, cyanide, zinc, or tributyltin. Therefore, effluent limitations for these parameters were not included in this Order. Because the effluent limitations for iron (Discharge Point No. 001), manganese (Discharge Point No. 001), molybdenum, cyanide, zinc, or tributyltin were stayed as part of WQO 2002-0016 and recent monitoring data for these constituents does not indicate reasonable potential to exceed water quality objectives, the lack of effluent limitations in this Order does not constitute backsliding.

Order No. 5-01-122 contained effluent limitations for turbidity. The prior limitations were solely an operational check to ensure the filtration system was functioning properly to ensure adequate disinfection. The prior effluent limitations were not intended to regulate turbidity in the receiving water. Rather, turbidity is an operational parameter to determine proper system functioning and not a WQBEL.

This Order contains performance based operational turbidity specifications in lieu of effluent limitations. This Order does not include effluent limitations for turbidity. However, the performance-based specification in this Order is an equivalent limit that is not less stringent, and therefore does not constitute backsliding.

The proposed revised operational specifications for turbidity are the same as the effluent limitations in Order No. 5-01-122. (See Special Provision VI.C.4.c for

turbidity specifications.) These revisions are consistent with state regulations implementing recycled water requirements.

Order No. 5-01-122 established effluent limitations for oil and grease and settleable solids. As discussed further in section IV.C.3, monitoring data over the term of Order No. 5-01-122 indicated that the discharge no longer exhibits reasonable potential to exceed water quality objectives for oil and grease and settleable solids. For oil and grease, concentrations have been reported as below analytical detection levels since November 2007. Settleable solids have not been detected in the effluent based on recent monitoring data conducted between October 2006 through April 2008. Therefore, the effluent limitations are not retained in this Order. The monitoring data submitted by the Discharger is considered new information by the Regional Water Board.

Order No. 5-01-122 established effluent limitations for dissolved oxygen. The dissolved oxygen concentration in the effluent was below the effluent concentration of 7.5 mg/L on 18 June 2007 with a concentration of 7.1 mg/L, however the remaining 578 samples taken between October 2006 and April 2008 were above the effluent limitation of 7.5 mg/L. All effluent samples were above the water quality objective for dissolved oxygen of 7.0 mg/L. Additionally, the downstream receiving water concentration in Harding Drain was below the water quality objective only twice on 1 August 2007 and 26 September 2007 out of 83 samples taken between October 2006 and April 2008. On both occasions, the effluent concentration was above the water quality objective for dissolved oxygen. Therefore, the Regional Water Board finds that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the water quality objective for dissolved oxygen. Therefore, this Order does not retain the effluent limitation for dissolved oxygen from Order No. 5-01-122. The monitoring data submitted by the Facility is considered new information by the Regional Water Board.

The revision of the turbidity limitation and the removal of effluent limitations for oil and grease and dissolved oxygen are consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Any impact on existing water quality will be insignificant.

4. Satisfaction of Antidegradation Policy

The Discharger developed a report titled, *Antidegradation Analysis for Harding Drain Bypass Pipeline and Outfall Project, September 2008*, (Larry Walker Associates), that provides a simple antidegradation analysis following the guidance provided by State Water Board APU 90-004. Pursuant to the guidelines, the Report evaluated whether changes in water quality resulting from the relocation of the discharge of tertiary effluent from Harding Drain to the San Joaquin River are consistent with the maximum benefit to the people of the state, will not unreasonably affect beneficial uses, will not cause water quality to be less than water quality objectives, and that the discharge provides protection for existing in-stream uses and water quality necessary to protect those uses.

According to the study, the tertiary treated wastewater is determined to comprise best practicable treatment or control and is consistent with federal and State antidegradation policies for the following reasons:

- Under the proposed project, the Discharger's tertiary treated effluent will be discharged to the San Joaquin River approximately 560 feet upstream of the Harding Drain outfall. This shift in the discharge location would similarly shift the bounds of the expected mixing zone, but should not cause an increase in the size of the mixing zone. The relocation of the Discharger's discharge to the San Joaquin River from the Harding Drain will produce no change in San Joaquin River water quality downstream in the receiving water where effluent and ambient water are reasonably well-mixed. Concomitantly, there are no anticipated far-field impacts of the proposed project on San Joaquin River or Delta water quality.

- The proposed project is not anticipated to produce measurable effects in San Joaquin River water quality downstream of the Discharger's proposed new discharge location. There will be no change in the concentration or mass of pollutants discharged by the Facility as compared to the baseline or pre-project condition.

- The proposed project will not adversely affect existing or probable beneficial uses of the receiving water, nor will it cause water quality to fall below applicable water quality objectives.

- Any changes in water quality immediately surrounding the new outfall will be confined to the mixing zone.

The Regional Water Board concurs with the Antidegradation Analysis provided by the Discharger. This Order provides for the relocation of the discharge of tertiary effluent from Harding Drain to the San Joaquin River. Currently, the Facility discharges to Harding Drain which then empties into the San Joaquin River. The proposed relocation of the discharge into the San Joaquin River simply moves the point of discharge in the San Joaquin River approximately 560 feet upstream from where Harding Drain empties into the River. Therefore no increased flows or pollutant concentrations/loadings will occur as a result of the discharge relocation. The discharge is a Title 22, or equivalent, tertiary-level treated wastewater, which is a high level of treatment of sewage waste that is considered BPTC for most constituents in the wastewater and will result in attaining water quality standards applicable to the discharge.

For the above reasons, moving the point of discharge is not a substantial relocation requiring a complete anti-degradation analysis. The Regional Water Board finds that the permitted surface water discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

Summary of Final Effluent Limitations
Discharge Point Nos. 001 and 002

Table F-32. Summary of Final Effluent Limitations for Discharge Point No. 001

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Average Dry Weather Flow	MGD	20	--	--	--	--	DC
Conventional Pollutants							
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	10	15	20	--	--	TTC
	lbs/day[2]	1,668	2,502	3,336	--	--	
	% Removal	85	--	--	--	--	CFR
Total Suspended Solids	mg/L	10	15	20	--	--	TTC
	lbs/day[2]	1,668	2,502	3,336	--	--	
	% Removal	85	--	--	--	--	CFR
pH	standard units	--	--	--	6.5	8.5	BP
Priority Pollutants							
Copper, Total Recoverable	µg/L	8.9	--	15	--	--	CTR
Selenium, Total Recoverable	µg/L	3.7	--	9.1	--	--	CTR
	lbs/day[2]	0.62	--	1.52	--	--	
Carbon Tetrachloride	µg/L	0.25	--	0.72	--	--	CTR
Chlorodibromomethane	µg/L	0.41	--	0.78	--	--	CTR
Dichlorobromomethane	µg/L	0.56	--	0.81	--	--	CTR
Non-Conventional Pollutants							
Acute Toxicity	% Survival	[3]	--	--	--	--	BP
Aluminum, Total Recoverable	µg/L	--	200[4]	--	--	--	NAWQC/ SEC MCL
Ammonia Nitrogen, Total (as N)	mg/L	1.1	--	2.1	--	--	NAWQC
	lbs/day[2]	183	--	350	--	--	
Chlorine, Total Residual	mg/L	--	0.011[5]	0.019[6]	--	--	NAWQC
Electrical Conductivity @ 25°C	µmhos/cm	1,000/700[7]	--	--	--	--	TMDL
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--	MCL
Total Coliform Organisms	MPN/100 mL	--	2.2[8]	23[9]	--	240	Title 22

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	

[1] DC – Based on the design capacity of the Facility.
TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
CFR – Based on secondary treatment standards contained in 40 CFR Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
SEC MCL – Based on the Secondary Maximum Contaminant Level.
TMDL – Based on the TMDL for salinity and boron in the lower San Joaquin River.
MCL – Based on the Primary Maximum Contaminant Level.
Title 22 – Based on CA Department of Public Health Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

[2] Based on a design flow of 20 MGD.

[3] 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%

[4] Applied as an annual average effluent limitation.

[5] Applied as a 4-day average effluent limitation.

[6] Applied as a 1-hour average effluent limitation.

[7] The discharge of electrical conductivity shall not exceed the following:

i. From 1 September through 31 March, the effluent electrical conductivity @ 25°C shall not exceed 1,000 µmhos/cm as a monthly average.

ii. From 1 April through 31 August, the effluent electrical conductivity @ 25°C shall not exceed 700 µmhos/cm as a monthly average.

Compliance with the final effluent limitations for electrical conductivity is not required in this Order until 28 July 2022 for all water year types, except critically dry. For critically dry years, full compliance is not required until 28 July 2026.

[8] Applied as a 7-day median effluent limitation.

[9] Effluent total coliform organisms are not to exceed 23 MPN/100 mL more than once in any 30-day period.

Table F-33. Summary of Final Effluent Limitations for Discharge Point No. 002

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Average Dry Weather Flow	MGD	20	--	--	--	--	DC
Conventional Pollutants							
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	10	15	20	--	--	TTC
	lbs/day[2]	1,668	2,502	3,336	--	--	
	% Removal	85	--	--	--	--	CFR
Total Suspended Solids	mg/L	10	15	20	--	--	TTC
	lbs/day[2]	1,668	2,502	3,336	--	--	
	% Removal	85	--	--	--	--	CFR
pH	standard units	--	--	--	6.5	8.5	BP

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Priority Pollutants							
Copper, Total Recoverable	µg/L	8.9	--	15	--	--	CTR
Lead, Total Recoverable	µg/L	2.6	--	3.9	--	--	CTR
Selenium, Total Recoverable	µg/L	3.7	--	9.1	--	--	BP
	lbs/day[2]	0.62	--	1.52	--	--	
Silver, Total Recoverable	µg/L	1.2	--	2.3	--	--	CTR
Carbon Tetrachloride	µg/L	4.2	--	12	--	--	CTR
Chlorodibromomethane	µg/L	7.6	--	14	--	--	CTR
Dichlorobromomethane	µg/L	11	--	16	--	--	CTR
Non-Conventional Pollutants							
Acute Toxicity	% Survival	[3]	--	--	--	-	BP
Aluminum, Total Recoverable	µg/L	261	200[4]	750	--	--	NAWQC/ SEC MCL
Ammonia Nitrogen, Total (as N)	mg/L	1.1	--	2.1	--	--	NAWQC
	lbs/day[2]	183	--	350	--	--	NAWQC
Boron, Total Recoverable	mg/L	0.8[5]/1.0[6]	--	2.0[5]/2.6[6]	--	--	BP
Chloride	mg/L	203	--	328	--	--	NAWQC
Chlorine, Total Residual	mg/L	--	0.011[7]	0.019[8]	--	--	NAWQC
Electrical Conductivity @ 25°C	µmhos/cm	1,000/700[9]	--	--	--	--	TMDL
Iron, Total Recoverable	µg/L	300[4]	--	--	--	--	SEC MCL
Manganese, Total Recoverable	µg/L	50[4]	--	--	--	--	SEC MCL
Nitrate Nitrogen, Total (as N)	mg/L	31	--	--	--	--	PER
Total Coliform Organisms	MPN/100 mL	--	2.2[10]	23[11]	--	240	Title 22

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	

[1] DC – Based on the design capacity of the Facility.
TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
CFR – Based on secondary treatment standards contained in 40 CFR Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
SEC MCL – Based on the Secondary Maximum Contaminant Level.
TMDL – Based on the TMDL for salinity and boron in the lower San Joaquin River.
MCL – Based on the Primary Maximum Contaminant Level.
Title 22 – Based on CA Department of Public Health Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).
PER – Based on the performance of the existing treatment system.

[2] Based on a design flow of 20 MGD.

[3] 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%

[4] Applied as an annual average effluent limitation.

[5] Applies 15 March through 15 September.

[6] Applies 16 September through 14 March.

[7] Applied as a 4-day average effluent limitation.

[8] Applied as a 1-hour average effluent limitation.

[9] The discharge of electrical conductivity shall not exceed the following:
i. From 1 September through 31 March, the effluent electrical conductivity @ 25°C shall not exceed 1,000 µmhos/cm as a monthly average.
ii. From 1 April through 31 August, the effluent electrical conductivity @ 25°C shall not exceed 700 µmhos/cm as a monthly average.
Compliance with the final effluent limitations for electrical conductivity is not required in this Order until 28 July 2022 for all water year types, except critically dry. For critically dry years, full compliance is not required until 28 July 2026.

[10] Applied as a 7-day median effluent limitation.

[11] Effluent total coliform organisms are not to exceed 23 MPN/100 mL more than once in any 30-day period.

E. Interim Effluent Limitations

1. **Mercury.** As discussed in section IV.C.3, this Order contains an interim performance-based mass effluent limitation of 0.82 lbs/year for mercury for the effluent discharged to the receiving water. 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. The mass limitation was derived using the maximum observed effluent mercury concentration and the design average daily flow rate of the current treatment plant (20 MGD).

2. **Electrical Conductivity.** As discussed in section IV.C.3, this Order also contains an interim performance-based effluent limitation for electrical conductivity of 979 µmhos/cm applied as an annual average. Less than 3 years of effluent monitoring data is available for electrical conductivity (October 2006 through April 2008). Due to the limited dataset, there is a high probability that an interim limitation based on the maximum observed annual average will not be achievable.

Therefore, a probability distribution was fitted to the available monthly data (October 2006 through December 2008) with no consideration of possible seasonal affects, and a recursive "Monte Carlo" model was run for a 100-year period (i.e., 1,200 months). This recursion was performed 10 times to develop an estimate of average annual averages for the 10 recursions. The average was 914 µmhos/cm with a standard deviation of 19.6 µmhos/cm, and an average maximum of 967 µmhos/cm. Sampling and laboratory variability was accounted for by establishing an interim limitation that is based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, an interim limitation of 979 µmhos/cm is established in this Order based on the mean plus 3.3 standard deviations of the available data.

F. Land Discharge Specifications

[NOT APPLICABLE]

G. Reclamation Specifications

The 2004 tentative renewal Order stated that up to 7.9 MGD of the treated wastewater may be discharged to the Bar-Vee Dairy for irrigation of pasture. The discharge of wastewater at the Bar-Vee Dairy to irrigate silage and fodder crops using recycled water from the Facility was regulated under Water Reclamation Requirements Order No. 92-021, and subsequently Order No. R5-2002-0061 which was adopted on 26 April 2002. By letter dated 10 December 2007, the Discharger reported that they would not be renewing the WDRs for Bar-Vee Dairy. The Regional Water Board rescinded Order No. R5-2002-0061 on 25 April 2008. This Order does not include reclamation specifications for irrigation.

The Discharger indicated in a letter dated 21 November 2008 that they are currently providing 2.0 MGD of recycled water for cooling purposes to the Walnut Energy Center, a 250 Megawatt power plant owned and operated by the Turlock Irrigation District under a long-term agreement. The Discharger also provides recycled water to the Pedretti Sports Complex for irrigation purposes. The Discharger submitted a Title 22 Engineering Report to DPH in September 2006 to provide tertiary treated recycled water to the Walnut Energy Center and the Pedretti Sports Complex. DPH approved the Title 22 Engineering Report on 7 November 2006. Treated municipal wastewater discharged for reclamation usage must meet the requirements of CCRs, Title 22. Therefore, this Order contains the following reclamation specifications for the reclamation discharge at Discharge Point Nos. 003 and 004 requiring compliance with Title 22, Division 4, Chapter 3, Water Recycling Criteria.

1. **Reclamation Specification 1 through 3.** These specifications are based on Title 22, Division 4, Section 60301 et. seq.

2 **Reclamation Specification 4.** This specification is based on Title 22, Sections 6020l.230 and 60304 (Disinfected Tertiary Recycled Water).

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

1. 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 Water 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 bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, taste and odors, temperature, toxicity, and turbidity.

2. **Temperature.** Order No. 5-01-122 contained a receiving water limitation for temperature based on a water quality objective contained in the Basin Plan, which states that "*At no time shall the temperature of ... WARM intrastate waters be increased more than 5°F above natural receiving water temperature.*" In petitioning Order No. 5-01-122, the Discharger objected to the receiving water limitation for temperature. The Discharger argued that the limitation, which regulates increases over ambient temperature, is inappropriate because the Basin Plan objective addresses "natural receiving water temperature" and that Harding Drain has no natural temperature. In Order WQO 2002-0016, the State Water Board concluded that the Regional Water Board should impose appropriate temperature controls on the discharge based upon a site-specific study. The State Water Board stayed the receiving water limitation for temperature. In light of the fact that the Discharger is planning on moving the discharge from Harding Drain to the San Joaquin River during the term of this Order, a site-specific study to determine appropriate temperature limitations will not be required.

B. Groundwater

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that 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 states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.

3. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 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., BOD_5 and TSS percent reduction requirements).

2. This Order retains continuous monitoring for flow; daily monitoring for BOD_5, TSS, electrical conductivity, and pH; and weekly monitoring for total dissolved solids of the influent from Order No. 5-01-122.

3. Influent monitoring for ammonia and hardness have not been retained from Order No. 5-01-122 as they are not necessary for the evaluation of treatment plant performance.

4. Order No. 5-01-122 required semi-annual monitoring of priority pollutants in the influent. The Discharger's application indicates that the estimated daily waste flow from all industrial discharges is 3.67 MGD, which accounts for approximately 32% of the influent to the Facility. The Regional Water Board finds that annual monitoring is sufficient to characterize the contribution of priority pollutants to the Facility. Therefore, the monitoring frequency for priority pollutants has been reduced from semi-annual to annual monitoring in this Order.

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 and groundwater.

2. Effluent monitoring requirements for flow, chlorine residual, turbidity, pH, temperature, dissolved oxygen, BOD_5, TSS, total coliform organisms, hardness, aluminum, copper (total), iron, manganese, mercury, and nitrate have been retained from Order No. 5-01-122 to characterize the effluent and determine compliance with applicable effluent limitations. In addition, and consistent with the requirements for other metals, effluent monitoring requirements have been added for lead and silver for discharges from Discharge Point No. 002 to characterize the effluent and determine compliance with the new effluent limitations.

3. Monitoring data collected over the term of Order No. 5-01-122 for oil and grease, MBAS, cyanide, molybdenum, settleable solids, standard minerals, tributyltin, and zinc did not demonstrate reasonable potential to exceed water quality criteria. Thus, specific monitoring requirements for these parameters have not been retained from Order No. 5-01-122.

4. Monitoring data collected over the term of Order No. 5-01-122 for boron, carbon tetrachloride, chloride, chlorodibromomethane, dichlorobromomethane, and selenium indicate reasonable potential to exceed water quality criteria for these pollutants. Therefore, monthly effluent monitoring for boron, carbon tetrachloride, chloride, chlorodibromomethane, dichlorobromomethane, and selenium has been established in this Order.

5. Order No. 5-01-122 required monitoring for ammonia twice per week. Because untreated domestic wastewater contains ammonia and inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream, effluent limitations for ammonia have been included in this Order. However, ammonia was not detected in the effluent based on monitoring data collected from October 2006

through April 2008. Therefore, the monitoring frequency for ammonia has been reduced from twice per week to once per week.

6. Effluent monitoring requirements for electrical conductivity and total dissolved solids have been reduced to weekly, which should provide sufficient information to characterize salinity in the effluent and determine compliance with effluent limitations.

7. As discussed in section IV.C.3 of this Fact Sheet, although there were several detections of bis (2-ethylhexyl) phthalate, due to concerns with contamination from plastics in monitoring equipment, it is uncertain whether bis (2-ethylhexyl) phthalate is truly present in the effluent discharge. To collect the data necessary to determine the prevalence in the effluent, this Order establishes quarterly monitoring for bis (2-ethylhexyl) phthalate.

8. Results of effluent monitoring conducted by the Discharger using Method EPA 622, from October 2006 through April 2008, indicate concentrations of diazinon and chlorpyrifos have been less than the analytical reporting limit or 0.08 µg/L. Diazinon and chlorpyrifos can now be analyzed using Method EPA 8141A, EPA Method 625M or equivalent GC/MS method to reporting limits of 0.020 µg/L and 0.010 µg/L, respectively. This Order retains quarterly monitoring for diazinon and chlorpyrifos, however, this Order specifies a lower reporting limit sufficient for comparison with the applicable diazinon and chlorpyrifos water quality objectives and for use in the additive toxicity calculation for the TMDL.

9. The San Joaquin River from the Merced River to the Tuolumne River and the Sacramento – San Joaquin Delta downstream of the discharge are on the 303(d) list for mercury. Therefore, this Order establishes monthly monitoring for total mercury and methylmercury in order to collect data on the presence of mercury in the effluent.

10. Order No. 5-01-122 required effluent monitoring for total and dissolved copper. Because effluent limitations for metals, including copper, must be expressed as total recoverable, monitoring for total copper must be used to determine compliance with effluent limitations. Monitoring for dissolved copper is not necessary to determine compliance with effluent limitations. Therefore, this Order does not retain effluent monitoring requirements for dissolved copper.

11. Priority pollutant data for the effluent has been provided by the Discharger over the term of Order No. 5-01-122, and was used to conduct a meaningful reasonable potential analysis. In accordance with Section 1.3 of the SIP, periodic monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. Periodic priority pollutant monitoring is also necessary to provide data that would account for changes in the service population. Monitoring for priority pollutants is required once per month during the 3rd year of the permit term to provide the data necessary for determining the reasonable potential for those pollutants for which no WQBELs were established.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity**. Order No. 5-01-122 specified that flow-through bioassays were to begin by 1 May 2006 for continuous sampling frequency for acute toxicity monitoring. The Discharger submitted a letter on 24 April 2006 requesting the flow-through bioassay requirement be removed. Prior to the requirement to conduct flow-through bioassays, the Discharger was allowed to use grab samples. As described in the Acute Toxicity Testing Manual (Version 5), the advantages of grab samples are that they are easy to collect; require a minimum of equipment and on-site time, and provide a measure of instantaneous toxicity. Therefore, consistent with requirements for other POTWs in the Central Valley Region, this Order requires monthly grab samples for acute toxicity monitoring. Monthly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Quarterly chronic whole effluent toxicity testing was required in Order No. 5-01-122 in order to demonstrate compliance with the Basin Plan's narrative toxicity objective. This monitoring requirement is retained in this Order to determine compliance with the narrative effluent limitations for chronic toxicity and 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. Order No. 5-01-122 established four receiving water monitoring stations: R1- TID Lateral 5 above the Hodges Drop (now referred to as RSW-001); R2- Harding Drain 100 feet below Hodges Drop (now referred to as RSW-002); R3- San Joaquin River 500 feet above Harding Drain; R4- San Joaquin River 1,000 feet below Harding Drain (now referred to as RSW-004). The Discharger is planning to construct a new outfall directly to the San Joaquin River and discontinue discharge to Harding Drain. The proposed outfall is located approximately 500 feet upstream in the San Joaquin River from the confluence of Harding Drain and the San Joaquin River. Because this location is the same as R3, a new upstream receiving monitoring location will be established (RSW-003; in the San Joaquin River 1,000 feet above Harding Drain). Additionally, while Monitoring Location R4 is necessary to evaluate the effects of the discharge to Harding Drain in the San Joaquin River, monitoring at this location will be inappropriate upon commencement of discharges to the San Joaquin River as sampling at this location would be influenced by Harding Drain. Therefore, a new monitoring location, RSW-005, has been established in the San Joaquin River 50 feet upstream of the confluence with Harding Drain. Monitoring at RSW-001, RSW-

002, and RSW-004 may be discontinued upon commencement of the discharge to the San Joaquin River.

c. As discussed in section IV.C.2.c of this Fact Sheet, a mixing zone has been granted for the calculation of water quality criteria for the protection of human health for carbon tetrachloride, chlorodibromomethane, and dichlorobromomethane. The Discharger reported in their mixing zone study that the size of the current mixing zone in the San Joaquin River extends approximately 3,000 meters (approximately 9,800 feet) downstream of the proposed discharge point into the San Joaquin River. Therefore, in order to evaluate the effects of the discharge on the receiving water at the edge of the mixing zone, quarterly monitoring of carbon tetrachloride, chlorodibromomethane, and dichlorobromomethane has been established at Monitoring Location RSW-006, at 9,800 feet downstream of Discharge Point No. 002.

d. Receiving water monitoring requirements for flow, dissolved oxygen, pH, turbidity, temperature, electrical conductivity, fecal coliform organisms, diazinon, and chlorpyrifos have been retained from Order No. 5-01-122. Monitoring for ammonia has been reduced from weekly to monthly.

e. Order No. 5-01-122 required semi-annual priority pollutant monitoring at RSW-001, RSW-002, RSW-003, and RSW-004. Because only upstream receiving water monitoring is necessary to determine reasonable potential, downstream priority pollutant monitoring requirements at RSW-002 and RSW-004 have been discontinued. Consistent with the effluent monitoring requirements, monthly monitoring during the 3rd year of the permit term for priority pollutants upstream of Discharge Point Nos. 001 and 002 at RSW-001 and RSW-003 is required to collect the necessary data to determine reasonable potential as required in section 1.2 of the SIP. The hardness (as $CaCO_3$) of the upstream receiving water shall also be monitoring concurrently with the priority pollutants as well as pH 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

a. Section 13267 of the California Water Code states, in part, *"(a) A Regional Water Board, in establishing...waste discharge requirements... may investigate the quality of any waters of the state within its region"* and *"(b) (1) In conducting an investigation..., the Regional Water Board may require that any person who... discharges... waste...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports."* In requiring those reports, the Regional Water Board shall provide the person with a written explanation with regard to the need

for the reports, and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program (Attachment E) is issued pursuant to California Water Code Section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the Facility subject to this Order.

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents that may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. This Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with Resolution No. 68-16 and the Basin Plan.

c. Groundwater monitoring data collected during the previous permit term showed no increase of constituents in groundwater in monitoring wells downstream of the emergency storage basin and sludge drying beds compared to monitoring wells upstream of the emergency storage basin and sludge drying beds. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to continue evaluating impacts to waters of the State to assure protection of beneficial uses and compliance with Regional Water Board plans and policies, including Resolution No. 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

d. Quarterly monitoring of groundwater elevation, electrical conductivity, total dissolve solids, pH, total coliform organisms, and nitrate and annual monitoring of standard minerals has been retained from Order No. 5-01-122. Quarterly monitoring for depth to groundwater, gradient, gradient direction, total nitrogen, ammonia (as NH_4), total Kjeldahl nitrogen, and fixed dissolved solids has been established to further characterize the underlying groundwater.

E. Other Monitoring Requirements

1. Biosolids Monitoring

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

2. Water Supply Monitoring

This Order retains monitoring requirements for standard minerals in the Discharger's water supply. In order to continue to evaluate the sources of salinity in the wastewater, this Order increases the monitoring frequency for electrical conductivity and total dissolved solids from semi-annually to quarterly.

3. Reclamation Monitoring

Reclamation monitoring is necessary to assess compliance with Title 22, California Code of Regulations, Section 60301, et. seq.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

40 CFR 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. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 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. **Mercury.** This provision allows the Regional Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Regional Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

b. **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.

c. **Water Effects Ratio (WER) and Metal Translators.** As described further in section IV.C.2.d of this Fact Sheet, site-specific translators were used to calculate water quality criteria for copper, lead, and zinc based on effluent data. For the remaining inorganic constituents, 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 contained within this Order. In addition, a default WER of 1.0 has been used in this Order for calculating criteria for applicable constituents. An acceptable WER can be used to adjust aquatic life-based water quality standards, including metals such as copper, and Basin Plan incorporated USEPA water quality standards for ammonia and aluminum. USEPA has also promulgated an objective for copper based on the Biotic Ligand Model (BLM) that can be used as the basis for site-specific copper effluent limitations. If the Discharger submits an approved report 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 constituents.

d. **Salinity (as Electrical Conductivity).** This provision allows the Regional Water Board to reopen this Order to modify the applicable effluent limitations based on new information provided by the TMDL program.

e. **Dynamic Modeling.** If the Discharger submits an approved dynamic modeling anaylsis for constituents regulated by this Order, this Order may be reopened to modify effluent limitations for the applicable constituents.

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 quarterly whole effluent chronic toxicity testing performed by the Discharger from October 2006 through April 2008, the discharge has reasonable potential to cause or contribute to an 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 USEPA 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 > 1 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% 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.

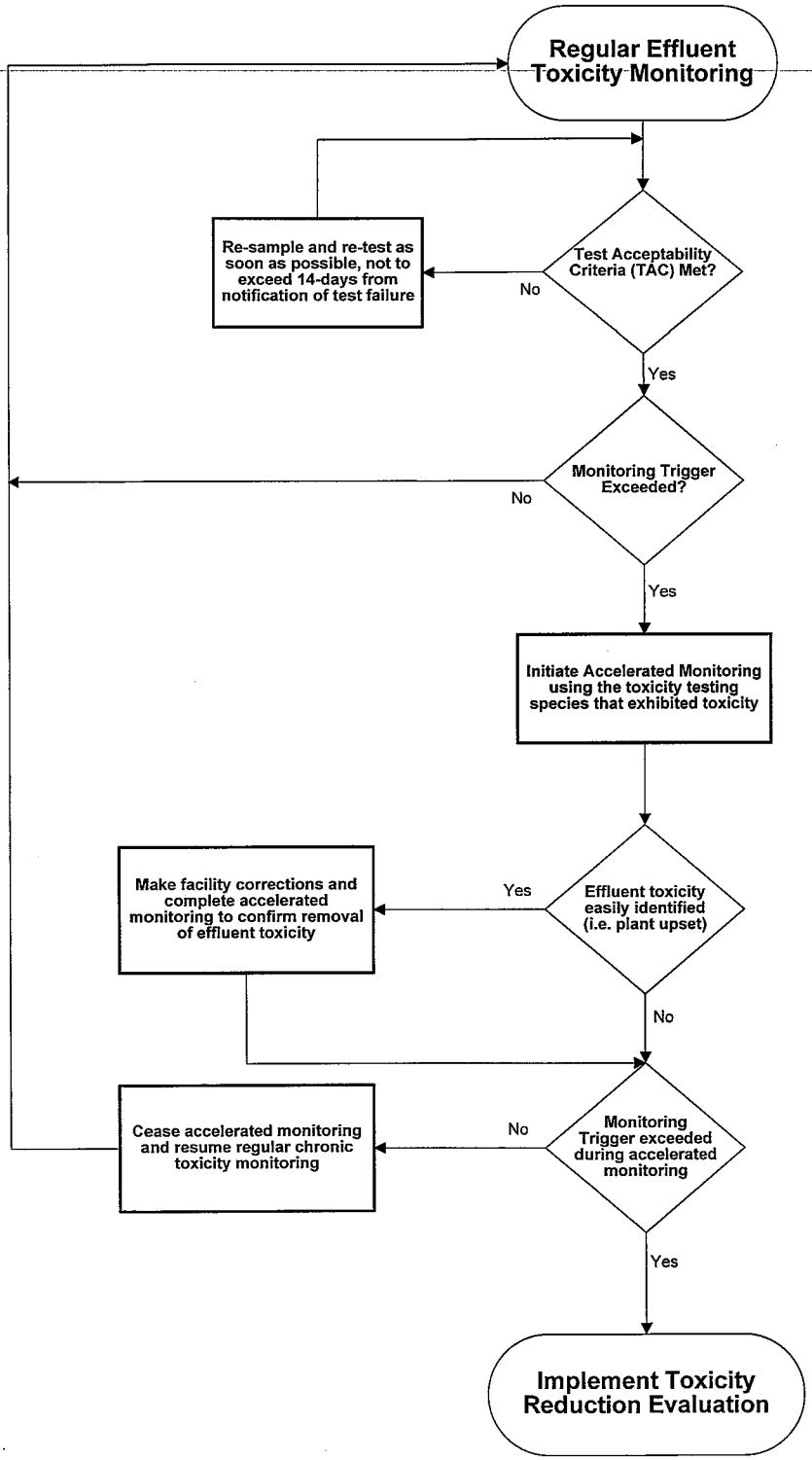
The provision requires accelerated monitoring consisting of four chronic toxicity tests every 2 weeks using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, 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/833B-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. **Mixing Zone Study.** The Discharger conducted a mixing zone study prior to adoption of this Order to determine the size of the mixing zones for carcinogens and nitrate. Since the outfall to the San Joaquin River had not been constructed and the Facility had not begun discharging, certain assumptions had to be made and the model could not be calibrated or validated. Therefore, this Order requires the Discharger to conduct a mixing zone study following construction and operation of the outfall to the San Joaquin River to verify the results of the mixing zone study. A work plan and schedule for conducting the study shall be submitted to the Regional Water Board within 120 days after initiation of the discharge to the San Joaquin River. The mixing zone study shall be completed and submitted to the Regional Water Board within one year of approval of the work plan and schedule.

3. Best Management Practices and Pollution Prevention

a. **Salinity Source Control Program.** This provision requires the Discharger to provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to the San Joaquin River, and is based on the Salinity Policy of the Sacramento-San Joaquin Rivers Basin Plan.

4. Construction, Operation, and Maintenance Specifications

a. **Emergency Storage Basin Operating Requirements.** The operation and maintenance specifications for the emergency storage basin are necessary to ensure proper operation of the emergency storage basin and minimize the potential for impacts to groundwater quality.

Order No. 5-01-122 contained a land discharge specification at section D.8 which required that discharges from the emergency storage basin to Harding Drain meet all effluent limitations. However, discharges from the emergency storage basin do not occur. Wastewater in the emergency storage basin is recycled to the treatment plant as conditions allow. Therefore, this specification has not been retained in this Order.

The remaining specifications from Order No. 5-01-122 have been retained in this Order.

b. **Turbidity.** Operations specifications for turbidity are included as an indicator of the effectiveness of the treatment process and to assure compliance with effluent limitations for total coliform organisms. The tertiary treatment process is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity shall not exceed

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Pretreatment Requirements.**

i. The Federal Clean Water Act, Section 307(b), and Federal Regulations, 40 CFR Part 403, require publicly owned treatment works to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR Part 403.

ii. The Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Regional Water Board, the State Water Board or USEPA may take enforcement actions against the Discharger as authorized by the CWA.

6. Other Special Provisions

a. **Ownership Change.** To maintain the accountability of the operation of the Facility, the Discharger is required to notify the succeeding owner or operator of the existence of this Order by letter if, and when, there is any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger.

7. Compliance Schedules

a. **Compliance Schedule for Final Effluent Limitations for Electrical Conductivity.** The Discharger shall comply with a time schedule to ensure compliance with the final effluent limitations for electrical conductivity, in accordance with the Salinity and Boron TMDL. The TMDL requires final compliance by 28 July 2022 for wet through dry years and 28 July 2026 for critical years. Consistent with the Regional Water Board's recommendations, this Order requires the Discharger to develop and implement a salinity source control program that will identify and implement measures to reduce salinity in the discharge to the San Joaquin River. This Order contains interim performance based effluent limitations for electrical conductivity.

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

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 publication of a Notice of Public Hearing (Notice) in the Turlock Daily Journal. The Notice was also posted at the Turlock City Hall and at the entrance to the Facility.

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 **20 November 2009**.

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:	28 January 2010
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 (ROWD), 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 Jim Marshall at (916) 464-4772.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Table G-1. Summary of Reasonable Potential Analysis for Discharge Point No. 001

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum, Total Recoverable	µg/L	640	500	200	750[1]	87[2,3]	--	--	--	200	Yes
Aluminum, Dissolved	µg/L	41.3	--	--	--	--	--	--	--	--	No
Aluminum, Acid-Soluble	µg/L	56.3	--	--	--	--	--	--	--	--	No
Antimony, Total Recoverable	µg/L	1.3	1	6	--	--	14	4,300	--	6	No
Ammonia Nitrogen, Total (as N)	mg/L	<1	4	2.14	2.14[1]	2.67[4]	--	--	--	--	Yes[5]
Arsenic, Total Recoverable	µg/L	9	2	10	340	150	--	--	--	10	No
Barium, Total Recoverable	µg/L	67	80	1,000	--	--	--	--	--	1,000	No
Bis (2-Ethylhexyl) Phthalate	µg/L	17.5	19	1.8	--	--	1.8	5.9	--	4	No[6]
Boron, Total Recoverable	µg/L	325	103	700[7]	--	--	--	--	--	--	No
Bromoform	µg/L	0.8	<2	4.3	--	--	4.3	360	--	80	No
Carbon Tetrachloride	µg/L	1.9	<0.5	0.25	--	--	0.25	4.4	--	0.5	Yes
Chloride	mg/L	154	--	106[7]	860[1]	230[2]	--	--	--	250	Yes[8]
Chlorodibromomethane	µg/L	10.3	<0.5	0.41	--	--	0.41	34	--	80	Yes
Chloroform	µg/L	41.4	<0.5	80	--	--	--	--	--	80	No
Chromium, Total Recoverable	µg/L	14	4	50	--	--	--	--	--	50	No
Copper, Total Recoverable	µg/L	16	12	12	15	12	1,300	--	--	1,000	Yes
Copper, Dissolved	µg/L	8	2.7	8.1	12	8.1	--	--	--	--	No
1,4-Dichlorobenzene	µg/L	0.3	<2	5	--	--	400	2,600	--	5	No
Dichlorobromomethane	µg/L	28.9	<0.5	0.56	--	--	0.56	46	--	80	Yes
Diethyl Phthalate	µg/L	2.4	2.4	23,000	--	--	23,000	120,000	--	--	No
Electrical Conductivity @ 25°C	µmhos/cm	1,198	--	700	--	--	--	--	700	900	Yes
Fluoride	µg/L	0.16	--	2,000	--	--	--	--	--	2,000	No
Iron, Total Recoverable	µg/L	300	271	300	--	--	--	--	--	300	No[9]

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Lead, Total Recoverable	µg/L	1.4	2	2.9	61	2.9	--	--	--	15	No
Lead, Dissolved	µg/L	0.277	--	2.2	57	2.2	--	--	--	--	No
Manganese, Total Recoverable	µg/L	50	20	50	--	--	--	--	--	50	No[9]
Mercury, Total Recoverable	µg/L	0.0134	0.00286	0.050	--	--	0.050	0.051	--	2	No
Methyl Chloride	µg/L	19	<2	--	--	--	--	--	--	--	No
3-Methyl 4-Chlorophenol	µg/L	<1	<4	--	--	--	--	--	--	--	No
Methylene Blue Activated Substances	µg/L	530	--	500	--	--	--	--	--	500	No[9]
Methylene Chloride	µg/L	1.2	1.1	4.7	--	--	4.7	1,600	--	5	No
Molybdenum, Total Recoverable	µg/L	8	0.5	10[7]	--	--	--	--	--	--	No
Naphthalene	µg/L	0.4	<10	21[10]	--	--	--	--	--	--	No
Nickel, Total Recoverable	µg/L	3.3	2.2	47	425	47	610	4,600	--	100	No
Nitrate Nitrogen, Total (as N)	mg/L	31	--	10	--	--	--	--	--	10	Yes
Phosphorus	µg/L	3,530	--	--	--	--	--	--	--	--	No
Selenium, Total Recoverable	µg/L	5	<1	5.0	20	5	--	--	--	20	Yes
Silver, Total Recoverable	µg/L	2.6	<2	3.3	3.3	--	--	--	--	100	No
Sulfate	mg/L	80.6	--	250	--	--	--	--	--	250	No
Toluene	µg/L	0.6	<2	42[10]	--	--	6,800	200,000	--	150	No
Total Dissolved Solids	mg/L	722	--	500	--	--	--	--	--	500	Yes[8]
Tributyltin	µg/L	0.011	--	0.072	0.46[1]	0.072[2]	--	--	--	--	No
o-Xylene	µg/L	0.5	<0.5	20	--	--	--	--	--	20	No
Zinc, Total Recoverable	µg/L	62.9	80	106	106	111	--	--	--	5,000	No
Zinc, Dissolved	µg/L	61	--	106	106	107	--	--	--	--	No

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential

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 = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
ND = Non-detect

Footnotes:
(1) USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-hour Average
(2) USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 4-day Average.
(3) The chronic criterion for the protection of freshwater aquatic life of 87 µg/L may not be applicable because receiving water conditions are not similar to those under which the criterion was developed. The discharge does exhibit reasonable potential to exceed the acute criterion for the protection of freshwater aquatic life and the secondary MCL for aluminum.
(4) USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30-day Average.
(5) Untreated domestic wastewater contains ammonia. The Discharger currently uses nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Therefore, ammonia in the discharge has a reasonable potential to exceed the freshwater aquatic life criteria for ammonia.
(6) Due to potential contamination of effluent samples, reasonable potential for bis (2-ethylhexyl) phthalate cannot be determined.
(7) Water Quality for Agriculture.
(8) Electrical conductivity is an indicator parameter for salinity, including total dissolved solids and chloride. Establishing effluent limitations for electrical conductivity is expected to effectively limit the constituents that contribute to salinity, including total dissolved solids and chloride. Therefore, effluent limitations for total dissolved solids and chloride are not established in this Order.
(9) There is no reasonable potential for these parameters when evaluating data based on an annual average basis.
(10) Odor Threshold (Amoore and Hautala)

Table G-2. Summary of Reasonable Potential Analysis for Discharge Point No. 002

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum, Total Recoverable	µg/L	640	4,400	200	750[1]	87[2,3]	--	--	--	200	Yes
Aluminum, Dissolved	µg/L	41.3	134	--	--	--	--	--	--	--	No
Aluminum, Acid-Soluble	µg/L	56.3	457	--	--	--	--	--	--	--	No
Ammonia Nitrogen, Total (as N)	mg/L	<1	<1	2.14	2.14[1]	3.68[4]	--	--	--	--	Yes[5]
Antimony, Total Recoverable	µg/L	1.3	1	6	--	--	14	4,300	--	6	No
Arsenic, Total Recoverable	µg/L	9	4.3	10	340	150	--	--	--	10	No
Barium, Total Recoverable	µg/L	67	80	1,000	--	--	--	--	--	1,000	No
Bis (2-Ethylhexyl) Phthalate	µg/L	17.5	12.3	1.8	--	--	1.8	5.9	--	4	No[6]
Boron, Total Recoverable	µg/L	325	877	800	--	--	--	--	800	--	Yes
Bromoform	µg/L	0.8	<2	4.3	--	--	4.3	360	--	80	No
Carbon Tetrachloride	µg/L	1.9	<0.5	0.25	--	--	0.25	4.4	--	0.5	Yes
Chloride	mg/L	154	487	106[7]	860[1]	230[2]	--	--	--	250	Yes
Chlorodibromomethane	µg/L	10.3	<0.5	0.41	--	--	0.41	34	--	80	Yes
Chloroform	µg/L	41.4	<0.5	80	--	--	--	--	--	80	No
Chromium, Total Recoverable	µg/L	14	6	50	--	--	--	--	--	50	No
Copper, Total Recoverable	µg/L	16	17	12	15	12	1,300	--	--	1,000	Yes
Copper, Dissolved	µg/L	8	2.64	8.1	12	8.1	--	--	--	--	No
1,4-Dichlorobenzene	µg/L	0.3	0.3	5	--	--	400	2,600	--	5	No
Dichlorobromomethane	µg/L	28.9	<0.5	0.56	--	--	0.56	46	--	80	Yes
Diethyl Phthalate	µg/L	2.4	4.9	23,000	--	--	23,000	120,000	--	--	No
Electrical Conductivity @ 25°C	µmhos/cm	1,198	--	700	--	--	--	--	700	900	Yes
Fluoride	µg/L	0.16	--	2,000	--	--	--	--	--	2,000	No
Iron, Total Recoverable	µg/L	300	3,360	300	--	--	--	--	--	300	Yes
Lead, Total Recoverable	µg/L	1.4	1.52	3.0	19	1.0	--	--	--	15	Yes
Lead, Dissolved	µg/L	0.277	0.173	2.3	57	2.3	--	--	--	--	No

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Manganese, Total Recoverable	µg/L	50	292	50	--	--	--	--	--	50	Yes
Mercury, Total Recoverable	µg/L	0.0134	0.00875	0.050	--	--	0.050	0.051	--	2	No
Methyl Chloride	µg/L	19	<2	--	--	--	--	--	--	--	No
Methylene Chloride	µg/L	1.2	0.97	4.7	--	--	4.7	1,600	--	5	No
Methylene Blue Activated Substances	µg/L	530	--	500	--	--	--	--	--	500	No[8]
Molybdenum, Total Recoverable	µg/L	8	7	10[7]	--	--	--	--	10	--	No
Naphthalene	µg/L	0.4	<10	21[9]	--	--	--	--	--	--	No
Nickel, Total Recoverable	µg/L	3.3	6.8	47.27	425	47.27	610	4,600	--	100	No
Nitrate Nitrogen, Total (as N)	mg/L	31	--	10	--	--	--	--	--	10	Yes
Phosphorus	µg/L	3,530	--	--	--	--	--	--	--	--	No
Selenium, Total Recoverable	µg/L	5	2.6	5.0	20	5	--	--	5	20	Yes
Silver, Total Recoverable	µg/L	2.6	<2	2.3	2.3	--	--	--	--	100	Yes
Sulfate	mg/L	80.6	297	250	--	--	--	--	--	250	Yes[10]
Toluene	µg/L	0.6	<2	42[9]	--	--	6,800	200,000	--	150	No
Total Dissolved Solids	mg/L	722	--	500	--	--	--	--	--	500	Yes[10]
Tributyltin	µg/L	0.011	--	0.072	0.46[1]	0.072[2]	--	--	--	--	No
o-Xylene	µg/L	0.5	<0.5	20	--	--	--	--	--	20	No
Zinc, Total Recoverable	µg/L	62.9	12	106	106	111	--	--	--	5,000	No
Zinc, Dissolved	µg/L	61	2	106	106	107	--	--	--	--	No

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential

MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
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Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level

Footnotes:

(1) USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-hour Average
(2) USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 4-day Average.
(3) The chronic criterion for the protection of freshwater aquatic life of 87 µg/L may not be applicable because receiving water conditions are not similar to those under which the criterion was developed. The discharge does exhibit reasonable potential to exceed the acute criterion for the protection of freshwater aquatic life and the secondary MCL for aluminum.
(4) USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30-day Average.
(5) Untreated domestic wastewater contains ammonia. The Discharger currently uses nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Therefore, ammonia in the discharge has a reasonable potential to exceed the freshwater aquatic life criteria for ammonia.
(6) Due to potential contamination of effluent samples, effluent limitations for bis (2-ethylhexyl) phthalate are not established in this Order.
(7) Water Quality for Agriculture
(8) There is no reasonable potential for this parameter when evaluating data based on an annual average basis.
(9) Odor Threshold (Amoore and Hautala)
(10) Electrical conductivity is an indicator parameter for salinity, including sulfate and total dissolved solids. Establishing effluent limitations for electrical conductivity is expected to effectively limit the constituents that contribute to salinity, including sulfate, and total dissolved solids. Therefore, effluent limitations for sulfate and total dissolved solids are not established in this Order.