

**LATE REVISIONS
CITY OF LIVE OAK
WASTEWATER TREATMENT PLANT
SUTTER COUNTY
NPDES Permit Renewal (NPDES No. CA0079022)
and Cease and Desist Order Amendment
Regional Water Quality Control Board, Central Valley Region
Board Meeting – 3 February 2011
ITEM # 13**

Changes to Proposed NPDES Permit Renewal

1. **NPDES Permit, Limitations and Discharge Requirements.** Modify Table 6 – Effluent Limitations, as shown in underline/strikeout format below:

Table 6. Effluent Limitations

| Parameter | Units | Effluent Limitations | | | | |
|----------------------------|-------|---------------------------|----------------|---------------------------|-----------------------|-----------------------|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Copper, Total Recoverable | µg/L | <u>15</u> 2.4 | -- | <u>28</u> 4.5 | -- | -- |
| Cadmium, Total Recoverable | µg/L | <u>3.8</u> 0.6 | -- | <u>7.6</u> 1.2 | -- | -- |

2. **NPDES Permit, Limitations and Discharge Requirements.** In Section IV.A.2, add interim effluent limitations for total trihalomethane and arsenic, as shown in underline/strikeout format below:

2. Interim Effluent Limitations

- a. **Total Trihalomethanes. Effective immediately and ending by 3 years from the adoption date of this Order, or compliance with the final effluent limits, whichever is sooner,** the Discharger shall maintain compliance with the interim effluent limitation at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (Attachment E). The interim effluent limitation for Total Trihalomethanes is 567.3 µg/L as a daily average. This interim effluent limitation shall apply in lieu of all of the final effluent limitations for Total Trihalomethanes specified in Table 6 of this Order during the time period specified in this provision.
- b. **Arsenic. Effective immediately and ending by 5 years from the adoption date of this Order, or compliance with the final effluent limits, whichever is sooner,** the Discharger shall maintain compliance with the interim effluent limitation at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (Attachment E). The interim effluent limitation for Arsenic is 88.9 µg/L as a daily average. This interim effluent limitation shall apply in lieu of all of the final effluent limitations for Arsenic specified in Table 6 of this Order during the time period specified in this provision.

3. **NPDES Permit, Limitations and Discharge Requirements.** Modify the last paragraph of the turbidity receiving surface water limitations, Section V.A.17, as shown in underline/strikeout format below:

Compliance to be determined based on the difference in ~~temperature~~ turbidity at RSW-001 and RSW-002.

4. **NPDES Permit, Limitations and Discharge Requirements.** Modify the effluent turbidity operational specifications, Section VI.C.4.a, as shown in underline/strikeout format below:

a. **Turbidity.** Effluent turbidity shall not exceed the following ~~for~~ upon initiation of operation of the new tertiary treatment facility:

5. **NPDES Permit, Limitations and Discharge Requirements.** In Section VI.C.7, add compliance schedules for total trihalomethane and arsenic, as shown in underline/strikeout format below:

1. Compliance Schedules – Not Applicable

a. Compliance Schedule for Final Effluent Limitations for Arsenic and Total Trihalomethanes. This Order requires compliance with the final effluent limitations for total trihalomethanes by 3 years from the adoption date of this Order, and for arsenic by 5 years from the adoption date of this Order. The Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitations:

| <u>Task</u> | <u>Compliance Due</u> |
|--|--|
| i. <u>Update and Implement Pollution Prevention Plan (PPP)¹ for Total Trihalomethanes and Arsenic</u> | <u>Ongoing</u> |
| ii. <u>Progress Reports²</u> | <u>1 March and 1 September of each year</u> |
| iii. <u>Achieve Full Compliance with the Effluent Limitations IV.A.1.a for Total Trihalomethanes.</u> | <u>3 years from the adoption date of this Order</u> |
| iv. <u>Achieve Full Compliance with the Effluent Limitations IV.A.1.a for Arsenic.</u> | <u>5 years from the adoption date of this Order</u> |

¹ The PPP for total trihalomethanes and arsenic shall be updated and implemented in accordance with CWC section 13263.3(d)(3) as outlined in the Fact Sheet (Attachment F, Section VII.B.7.b.).

² The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final compliance date.

6. **NPDES Permit, Monitoring and Reporting Program (Attachment E).** Modify footnote 10 in Table E-3. Effluent Monitoring for EFF-001, as shown in underline/strikeout format below:

¹⁰ When the new Facility is completed ~~or 30 September 2012, whichever is sooner~~, monitoring for turbidity and pH shall be conducted according to Section IV.B. of the Monitoring and Reporting Program. Upon initiation of operation of the new Facility, the Discharger shall indicate in the SMR that the monitoring location has changed.

7. **NPDES Permit, Monitoring and Reporting Program (Attachment E).** Modify the pond monitoring, Section C.1.a, as shown in underline/strikeout format below:

a The Discharger shall monitor the wastewater impounded in the Facility equalization basin at PND-001 and the emergency storage basin at PND-002 as follows. A sampling station shall be established where a representative sample of the wastewater in the basins can be obtained. Monitoring is required only when the depth of water covering the entire basin is ~~less~~more than one foot; however, the monthly self-monitoring report shall so state.

8. **NPDES Permit, Monitoring and Reporting Program (Attachment E).** In Section IX.D. Ultraviolet Light (UV) Disinfection System, modify subsection 1, as shown in underline/strikeout format below:

The Discharger shall monitor the UV disinfection system at UVS-001 when the system is operational ~~or 30 September 2012, whichever is sooner~~, as follows:

9. **NPDES Permit, Fact Sheet (Attachment F), Effluent and Ambient Background Data.** Modify last paragraph of Section IV.C.2.b, as shown in underline/strikeout format below:

Order No. R5-2004-0096 includes effluent limits for cadmium, cyanide, and copper due to elevated concentrations of these constituents in the receiving water. Since no other receiving water data is available for these constituents, the 2002 data is being used for the RPA in this permit. ~~For cadmium and copper, a measured minimum observed receiving water hardness of 30 mg/L was used for the RPA to calculate limits.~~ The 2002 receiving water data results in reasonable potential for cadmium, and copper (i.e., B > C) for this permit. The effluent data showed detections for these constituents, but did not exceed the criteria. This Order includes receiving water sampling in order to have sufficient and better representative data to perform the reasonable potential analysis for the next permit.

10. **NPDES Permit, Fact Sheet (Attachment F), Hardness-Dependent CTR Metals Criteria.** Modify the second paragraph of Section IV.C.2.c.ii, as shown in underline/strikeout format below:

Once a discharge is made to a receiving water, the hardness downstream of the discharge will be altered and the applicable water quality criteria will alter accordingly. A 2006 Study developed procedures for calculating the effluent concentration allowance (ECA) for CTR hardness-dependent metals. The 2006 Study demonstrated that it is necessary to evaluate all discharge conditions (e.g. high and low flow conditions) and the hardness and metals concentrations of the effluent and receiving water when determining the appropriate ECA for these hardness-dependent metals. Simply using the lowest

recorded upstream receiving water hardness to calculate the ECA may result in over or under protective water quality-based effluent limitations.

11. NPDES Permit, Fact Sheet (Attachment F), Hardness-Dependent CTR Metals Criteria.

In Section IV.C.2.c.ii, modify the paragraphs discussing "ECA for Concave Down Metals" as shown in underline/strikeout format below:

ECA for Concave Down Metals – For Concave Down Metals (i.e., chronic cadmium, chromium III, copper, nickel, and zinc) the 2006 Study demonstrates that when the effluent is in compliance with the CTR criteria associated with its own hardness condition, it is not possible to cause or contribute to a violation of water quality criteria that are applicable once the effluent and receiving water are mixed (either fully or partially) and the upstream receiving water is in compliance with the CTR criteria, any mixture of the effluent and receiving water will always be in compliance with the CTR criteria. Therefore, based on any observed ambient background hardness, even when there is no receiving water assimilative capacity for metals (i.e., the ambient background metals concentrations are at or above their respective CTR criterion) and the minimum effluent hardness, the ECA calculated using Equation 1 with a downstream ambient hardness equivalent to the minimum effluent hardness is protective under all discharge conditions (i.e., high and low dilution conditions and under all mixtures of effluent and receiving water as the effluent mixes with the receiving water). The conclusions of the study do not change whether the receiving water initially exhibited a higher or lower hardness value or the degree of dilution within the receiving water. This is applicable whether the effluent hardness is less than or greater than the ambient background receiving water hardness.

In some instances, the receiving water may already contain concentrations of concave down metals that exceed water quality criteria associated with the hardness condition previous to the discharge. The 2006 study procedures remain applicable under these conditions. The discharge can not cause or contribute to a violation of water quality criteria/objectives in the receiving water. Although metals concentrations downstream of the discharge exceed CTR criteria, the cause of the exceedance is not due to the discharge, it is due to the elevated metals concentrations upstream of the discharge. Implementing the procedures of the 2006 study does not result in an increase in toxicity downstream of the discharge, and in fact reduces the amount of toxicity already present in the receiving water. This is demonstrated in the example below for copper (see Table F-7).

~~These procedures are applicable to calculate the CTR criteria for zinc, chromium III, and nickel. However, the receiving water has been shown to exceed the CTR criteria for the Concave Down Metals, copper and chronic cadmium, based on paired hardness and metals receiving water data from March 2002 and July 2002. This is not consistent with the assumptions of the 2006 Study, therefore, these procedures for calculating the ECA for Concave Down Metals are not applicable for copper and chronic cadmium. The procedure for selecting the appropriate hardness for copper and chronic cadmium is discussed below.~~

The effluent hardness ranged from 220 mg/L to 330 mg/L (as CaCO₃), based on 35 samples from June 2006 to June 2009. The receiving water hardness varied from 30 mg/L to 520 mg/L (as CaCO₃), based on 35 samples from June 2006 to June 2009. Using a hardness of 220 mg/L (as CaCO₃) to calculate the ECA for copper, chronic cadmium, chromium III, nickel, and zinc will result in water quality-based effluent limitations that are protective under all potential effluent/receiving water mixing scenarios and under all known hardness conditions, as demonstrated in the example using nickel shown in Table F-6, below. This example assumes the following conservative conditions for the upstream receiving water:

- Upstream receiving water is never greater than the lowest observed receiving water hardness (i.e., 30 mg/L as CaCO₃)
- Upstream receiving water nickel concentration is always at the CTR criteria (i.e., no assimilative capacity). Based on available data, the receiving water never exceeded the CTR criteria for chromium III, nickel, and zinc. For copper and cadmium, this condition has at times not been met in the receiving water upstream of the discharge. Further discussion regarding copper and cadmium is provided below.

Using these reasonable worst-case conditions, the discharge can be mixed with the receiving water and a resulting downstream mixed hardness (or metals concentration) can be calculated for all discharge and mixing conditions (e.g., 0% effluent to 100% effluent) based on a simple mass balance as shown in Equation 3, below. By evaluating all discharge conditions the reasonable worst-case downstream hardness can be determined for adjusting the CTR criteria.

$$C_{MIX} = C_{RW} \times (1-EF) + C_{Eff} \times (EF) \quad (\text{Equation 3})$$

Where:

C_{MIX} = Mixed concentration (e.g. metals or hardness)

C_{RW} = Upstream receiving water concentration

C_{Eff} = Effluent concentration

EF = Effluent Fraction

As demonstrated in Table F-6, using a minimum effluent hardness of 220 mg/L (as CaCO₃) to calculate the ECA for chromium III, nickel, and zinc ensures the discharge is protective under all discharge and mixing conditions. In this example, the effluent is in compliance with the CTR criteria and any mixture of the effluent and receiving water is in compliance with the CTR criteria. An ECA based on a lower hardness (e.g. lowest upstream receiving water hardness) would also be protective, but would result in unreasonably stringent effluent limits considering the known conditions. Therefore, in this Order the ECA for chromium III, nickel, and zinc has been calculated using Equation 1 with a hardness of 220 mg/L (as CaCO₃).

Table F-6: Chronic Nickel ECA Evaluation

| | | | |
|--|--|--|--------------------------------------|
| Minimum Observed Effluent Hardness | | 220 mg/L (as CaCO₃) | |
| Minimum Observed Upstream Receiving Water Hardness | | 30 mg/L (as CaCO₃) | |
| Maximum Upstream Receiving Water Nickel Concentration | | 19 µg/L¹ | |
| Nickel ECA_{chronic}² | | 102 µg/L | |
| Effluent Fraction | Mixed Downstream Ambient Concentration | | |
| | Hardness³ (mg/L) (as CaCO₃) | CTR Criteria⁴ (µg/L) | Nickel⁵ (µg/L) |
| 1% | 31.9 | 19.8 | 19.7 |
| 5% | 39.5 | 23.8 | 23.0 |
| 15% | 58.5 | 33.1 | 31.3 |
| 25% | 77.5 | 42.0 | 39.5 |
| 50% | 125 | 63.0 | 60.2 |
| 75% | 172.5 | 82.7 | 80.9 |
| 100% | 220 | 101.6 | 101.6 |

¹ Maximum upstream receiving water nickel concentration calculated using Equation 1 for chronic criterion at a hardness of 30 mg/L (as CaCO₃).

² ECA calculated using Equation 1 for chronic criterion at a hardness of 220 mg/L (as CaCO₃).

³ Mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction using Equation 3.

⁴ Mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.

⁵ Mixed downstream ambient nickel concentration is the mixture of the receiving water and effluent nickel concentrations at the applicable effluent fraction using Equation 3.

As discussed above, the receiving water at times exceeds the CTR criteria for copper and chronic cadmium. The 2006 study procedures remain applicable under these conditions. Using these procedures the discharge does not cause or contribute to a violation of the water quality criteria. Any exceedances of the CTR criteria are due to the elevated metal concentrations in the receiving water upstream of the discharge. For clarity, the impact of the copper discharge on the receiving water which already contains copper in excess of water quality criteria is illustrated in Table F-7, which does not satisfy one of the assumptions for these procedures for calculating the ECA for Concave Down Metals. Therefore, for copper and chronic cadmium, a more stringent ECA must be calculated using the minimum observed upstream receiving water hardness of 30 mg/L (as CaCO₃) to ensure the discharge is protective.

As reported in Table F-7, prior to the discharge the copper has been observed to exceed water quality criteria by up to 86%. When the receiving water contains some fraction of effluent, the percent exceedance is reduced. The greater the amount of effluent in the receiving water, the lower the percent exceedance, until a fully compliant state is achieved when the effluent constitutes the entire flow. The effluent limitation associated

with copper, therefore, was sufficient to assure that the discharge never causes or contributes to a violation of a water quality criterion, and in fact reduces the amount of toxicity already present in the receiving water. The results for chronic cadmium are similar.

Table F-7: Chronic Copper ECA Evaluation

| | | | | |
|---|--|--|----------------------------------|---------------------------|
| <u>Minimum Observed Effluent Hardness</u> | | <u>220 mg/L (as CaCO₃)</u> | | |
| <u>Minimum Observed Upstream Receiving Water Hardness</u> | | <u>30 mg/L (as CaCO₃)</u> | | |
| <u>Maximum Observed Upstream Receiving Water Copper Concentration</u> | | <u>6.2 µg/L¹</u> | | |
| <u>Copper ECA_{chronic}²</u> | | <u>18.3 µg/L</u> | | |
| <u>Effluent Fraction</u> | <u>Mixed Downstream Ambient Concentration</u> | | | |
| | <u>Hardness³ (mg/L) (as CaCO₃)</u> | <u>CTR Criteria⁴ (µg/L)</u> | <u>Copper⁵ (µg/L)</u> | <u>Percent exceedance</u> |
| <u>0%</u> | <u>30</u> | <u>3.3</u> | <u>6.2</u> | <u>86%</u> |
| <u>1%</u> | <u>31.9</u> | <u>3.5</u> | <u>6.32</u> | <u>80%</u> |
| <u>5%</u> | <u>39.5</u> | <u>4.2</u> | <u>6.81</u> | <u>61%</u> |
| <u>15%</u> | <u>58.5</u> | <u>5.9</u> | <u>8.02</u> | <u>36%</u> |
| <u>25%</u> | <u>77.5</u> | <u>7.5</u> | <u>9.23</u> | <u>23%</u> |
| <u>50%</u> | <u>125</u> | <u>11.3</u> | <u>12.3</u> | <u>9%</u> |
| <u>75%</u> | <u>172.5</u> | <u>14.9</u> | <u>15.3</u> | <u>3%</u> |
| <u>100%</u> | <u>220</u> | <u>18.3</u> | <u>18.3</u> | <u>0%</u> |

¹ Maximum observed upstream receiving water copper concentration.

² ECA calculated using Equation 1 for chronic criterion at a hardness of 220 mg/L (as CaCO₃).

³ Mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction using Equation 3.

⁴ Mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.

⁵ Mixed downstream ambient copper concentration is the mixture of the receiving water and effluent copper concentrations at the applicable effluent fraction using Equation 3.

12. NPDES Permit, Fact Sheet (Attachment F), Determining the Need for WQBELs - Aluminum. Modify Section IV.C.3.d.i, as shown in underline/strikeout format below:

i. Aluminum

- (a) **WQO.** USEPA developed National Recommended Ambient Water Quality Criteria (NAWQC) for protection of freshwater aquatic life for aluminum. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for aluminum are 87 µg/L and 750 µg/L, respectively, for waters with a pH of 6.5 to 9.0. The Secondary Maximum Contaminant Level - Consumer Acceptance Limit (MCL) for aluminum for the protection of the MUN beneficial use is 200 µg/L. USEPA recommends that the ambient criteria are protective of the aquatic

beneficial uses of receiving waters. However, information contained in footnote L to the NAWQC Correction (1999) summary table for aluminum indicates that the chronic aquatic life criterion is based on studies conducted under specific receiving water conditions with a low pH (6.5 to 6.6 pH units) and low hardness (<10 mg/L as CaCO₃). Monitoring data demonstrates that these conditions are not similar to those in Reclamation District 777 Lateral Drain No. 1. The receiving water monitoring indicates upstream hardness concentrations ranging from 72 to 546 mg/L as CaCO₃ and a pH that is greater than 7.0 standard units. Thus, it is unlikely that application of the chronic criterion of 87 µg/L is necessary to protect aquatic life in Reclamation District 777 Lateral Drain No. 1. For similar reasons, the Utah Department of Environmental Quality (Department) only applies the 87 µg/L chronic criterion for aluminum where the pH is less than 7.0 and the hardness is less than 50 mg/L as CaCO₃ in the receiving water after mixing. For conditions where the pH equals or exceeds 7.0 and the hardness is equal to or exceeds 50 mg/L as CaCO₃, the Department regulates aluminum based on the 750 µg/L acute criterion. USEPA is aware of field data indicating that many high quality waters in the U.S. contain more than 87 µg aluminum/L, when either total recoverable or dissolved is measured (Footnote L). As such, USEPA suggest the use of a water effects ratio (WER) might be appropriate for implementation of its recommended chronic criterion for aluminum to protect aquatic organisms.

Due to uncertainties with NAWQC for aluminum, in May 2006, the Arid West Water Quality Research Project produced its technical report, *Evaluation of the EPA Recalculation Procedure in the Arid West Technical Report*, to update NAWQC based on more recent data, and to recalculate USEPA's recommended NAWQC to reflect the resident species and water quality observed in arid West surface waters. Five effluent-dependent and ephemeral streams were studied during the research project for ambient water characteristics, and the aluminum criteria recalculation was based on this data and on taxa more representative of communities found in these streams. The Arid West research study found and the report states that "*speciation and/or complexation of aluminum is highly dependent on ambient water quality characteristics and ultimately determines the mechanism of toxicity. [Increased] Concentrations of calcium in the water was shown to decrease toxic effects to fish.*" Based on the Arid West Technical Report, the Chronic Aluminum (total) Criterion Recalculation Value is 1954 µg/L for a mean hardness value of 272 mg/L as CaCO₃.

The Arid West Technical Report that recalculated the aluminum NAWQC for effluent-dependent streams as waters that are "created by the discharge of treated effluent into ephemeral streambeds or streams that in the absence of effluent discharge would have only minimal flow." Similarly, as described previously in section IV.C.2.a of this Fact Sheet, Lateral Drain No. 7771 does not receive natural water flows but at times receives stormwater or agricultural runoff, and thus is effluent dominant. Therefore since the stream morphology of Lateral Drain No. 7771 is similar to the streams in the Arid West Research Project, Board staff also compared the ambient water quality characteristics.

The Arid West study streams' water quality characteristics and applicable recalculated aluminum criteria from Tables 10-1 and 10-2 in their Technical Report are summarized below:

| | Santa Ana River | Santa Cruz River | Salt/Gila River | Fountain Creek | South Platte River |
|--|-----------------|------------------|-----------------|----------------|--------------------|
| Mean Hardness (mg/L) | 188 | 170 | 388 | 218 | 280 |
| Mean pH (standard units) | 7.2 | 7.5 | 7.4 | 7.4 | 7.4 |
| Acute Criterion (CMC): Total Aluminum (µg/L) | 3464 | 6054 | 7763 | 3609 | 4826 |
| Chronic Criterion (CCC) Total Aluminum (µg/L) | 1384 | 2420 | 3103 | 1443 | 1929 |

Additionally, for comparison, monitoring results obtained from Lateral Drain No. 1, and other receiving waters within the Central Valley Region surrounded by similar land uses (e.g. agricultural runoff), from September 2004 through June 2009 for pH and hardness from upstream and downstream sites (RSW-001 and RSW-002) in Lateral No. 777, and the effluent, are summarized in the following table:

| | <u>Lateral Drain No. 1</u> <u>RSW-002</u> | <u>San Joaquin</u> <u>River</u> <u>Near Manteca</u> | <u>San Joaquin</u> <u>River</u> <u>Near Modesto</u> |
|---------------------------------|--|---|---|
| <u>Hardness Range (mg/L)</u> | <u>72 - 546</u> | <u>56 - 152</u> | <u>50-700</u> |
| <u>pH Range(standard units)</u> | <u>7.1 – 8.7</u> | <u>6.0 – 9.1</u> | <u>6.7-8.7</u> |
| <u>EC Range (µmhos/cm)</u> | <u>51-1079¹</u> | <u>113 - 1102</u> | <u>160-1812</u> |

1. Upstream Monitoring Location, RSW 001

| | <u>Upstream</u> <u>(RSW-001)</u> | <u>Treated</u> <u>Effluent</u> | <u>Downstream</u> <u>(RSW-002)</u> |
|---------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|
| <u>Mean Hardness (mg/L)</u> | <u>343</u> | <u>257</u> | <u>278</u> |
| <u>Mean pH (standard units)</u> | <u>Not Monitored</u> | <u>7.6</u> | <u>7.8</u> |

As shown in these two tables, the ambient water quality characteristics of the Arid West study streams and the streams in the Central Valley Region are similar, including Lateral Drain No. 777¹ are also similar. Thus, based on the recalculated aluminum chronic criterion in the Arid West Technical Report (shown in the previous table in this section) that ranges from 1384 µg/L to 3103 µg/L, and the WER studies conducted by the Cities of Manteca and Modesto as discussed below, the NAWQC (EPA-822-R-02-047) is overly protective in effluent dominant receiving waters such as Lateral Drain No. 777¹, and therefore, the NAWQC chronic criterion of 87 µg/L is not used to interpret the Basin Plan's narrative toxicity objective in this Order.

The Discharger did not conduct a site-specific study to determine the appropriate water quality criteria or whether the Arid West recalculated Chronic Aluminum (total) Criterion Value at 1954 µg/L for a mean hardness value of 272 mg/L is fully protective of the representative species found in Lateral Drain No. 777¹...

13. NPDES Permit, Fact Sheet (Attachment F), Determining the Need for WQBELs – Total Trihalomethanes (THM). Modify Section IV.C.3.d.viii.(d), as shown in underline/strikeout format below:

(d) Plant Performance and Attainability. Summation of the four constituents equals a combined MEC of 182.4 µg/L for total THMs, which is greater than the applicable WQBELs. Therefore, the Discharger appears to be in immediate non-compliance with the total THMs final effluent limitation. New or modified control measures may be necessary in order to comply with the effluent limitation, and the new or modified control measures cannot be designed, installed and put into operation within 30 calendar days. Therefore, a time schedule for compliance with the effluent limit is established in this Order amended CDO R5-2009-0012-02 in accordance with CWC section 13301. ~~The CDO~~ This Order also requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3. The Discharger began construction of major Facility upgrades in September 2009. The new Facility will use UV disinfection of the effluent which replaces the use of chlorine for disinfection. The Central Valley Water Board concludes that compliance with the effluent limit will be feasible as soon as the new Facility is operational.

14. NPDES Permit, Fact Sheet (Attachment F), Determining the Need for WQBELs - Copper. Modify Section IV.C.3.d.ix, as shown in underline/strikeout format below:

ix. Copper

(a) WQO. The CTR contains hardness dependent criteria for copper. Section 1.3 of the SIP contains the requirements for conducting the RPA for CTR constituents. Step 1 of the RPA requires that the CTR criteria be adjusted for hardness, as applicable. In this case, the reasonable worst-case downstream hardness (e.g., represented by the minimum observed effluent hardness, see Section IV.C.2.c) was used to adjust the CTR criteria for copper when comparing the MEC to the criteria and the minimum observed upstream receiving water hardness was used when comparing the maximum background receiving water copper concentrations to the criteria as discussed in section IV.C.2., above. The criteria are presented in dissolved concentrations. USEPA recommends using a default translator of 0.96 as a conversion factor to translate dissolved concentrations to total concentrations.

(b) RPA Results. For the ~~effluent and~~ receiving water, the applicable copper chronic criterion (maximum 4-day average concentration) is 3.3 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 4.5 µg/L, as total recoverable, based on a hardness of 30 mg/L. For the effluent, the applicable copper chronic criterion (maximum 4-day average concentration) is 18 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 29 µg/L, as total recoverable, based on a hardness of 220 mg/L. The previous Order required the Discharger sample copper monthly according to Order No. R5-2004-0096. Out of the 34 samples obtained from June 2006 through June 2009, the MEC of copper was 11 µg/L, which does not exceeds the lowest applicable

criterion of ~~3.318~~ $\mu\text{g/L}$. Due to the lack of recent receiving water samples, data from samples taken in March 2002 and July 2002 were used for the RPA. The receiving water concentration measured in the July 2002 sample was $6.2 \mu\text{g/L}$, which is greater than the lowest applicable copper criterion of $3.3 \mu\text{g/L}$. Based on this information, the discharge exhibits reasonable potential to cause or contribute to an in-stream excursion of the CTR criteria for copper.

(c) **WQBELs.** Using the procedures for calculating WQBELs in the Section 1.4 of the SIP, results in final effluent limitations for total recoverable copper of ~~2.415~~ $\mu\text{g/L}$ and ~~4.528~~ $\mu\text{g/L}$, as the AMEL and MDEL, respectively.

(d) **Plant Performance and Attainability.** Analysis of 34 effluent samples over three years of monitoring shows an MEC of $11 \mu\text{g/L}$ with the average effluent concentration of $1.9 \mu\text{g/L}$. Therefore, it appears that the Discharger appears to be in-immediate non-compliance with the copper final effluent limitations is feasible. ~~New or modified control measures may be necessary in order to comply with the effluent limitation, and the new or modified control measures cannot be designed, installed and put into operation within 30 calendar days. Therefore, a time schedule for compliance with the effluent limit is established in amended CDO R5-2009-0012-02 in accordance with CWC section 13301. The CDO also requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.~~

15. **NPDES Permit, Fact Sheet (Attachment F), Determining the Need for WQBELs – Arsenic.** Modify Section IV.C.3.d.x.(d), as shown in underline/strikeout format below:

(d) **Plant Performance and Attainability.** The effluent data shows that the MEC of $28.6 \mu\text{g/L}$ for arsenic is greater than the applicable WQBELs. Therefore, the Discharger appears to be in immediate non-compliance with the arsenic final effluent limitation. New or modified control measures may be necessary in order to comply with the effluent limitation, and the new or modified control measures cannot be designed, installed and put into operation within 30 calendar days. Therefore, a time schedule for compliance with the effluent limit is established in this Order. ~~amended CDO R5-2009-0012-02 in accordance with CWC section 13301. The CDO~~ This Order also requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

16. **NPDES Permit, Fact Sheet (Attachment F), Determining the Need for WQBELs - Cadmium.** Modify Section IV.C.3.d.xii, as shown in underline/strikeout format below:

xii. **Cadmium**

(a) **WQO.** The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for cadmium. Using the default conversion factors and reasonable worst-case measured hardness, as described in section VI.C.2.c of this

Fact Sheet, the applicable acute (1-hour average) criterion is ~~4.29.5~~ 4.6 µg/L and the applicable chronic (4-day average) criterion is 4.6 µg/L., as total recoverable.

- (b) RPA Results.** Order No. R5-2004-0096 included effluent limitations and quarterly monitoring requirements for cadmium and 17 samples from March 2005 through June 2009 were used for the RPA. Cadmium was detected in only one sample at a concentration of 0.15 µg/L and the other 16 samples were non-detect. Because cadmium was detected in the effluent, receiving water samples were also used for the RPA. Due to the lack of recent receiving water samples, data from samples taken in March 2002 and July 2002 were used for the RPA. The receiving water cadmium concentration measured in the March 2002 sample was non-detect and the July 2002 sample was 31 µg/L, which is greater than the lowest applicable receiving water cadmium criterion of 1.0 µg/L. Based on this information, the discharge exhibits reasonable potential to cause or contribute to an in-stream excursion of the CTR criteria for cadmium.
- (c) WQBELs.** This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for cadmium of ~~0.63.8~~ 0.638 µg/L and ~~4.27.6~~ 4.276 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.
- (d) Plant Performance and Attainability.** Analysis of 17 effluent samples over four plus years of monitoring shows an MEC of 0.15 µg/L. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

17. NPDES Permit, Fact Sheet (Attachment F), WQBEL Calculations - Copper. Modify Table F-13, as shown in underline/strikeout format below:

Table F-143. WQBEL Calculations For Copper

| | Acute | Chronic |
|--------------------------------------|------------------------------|------------------------------|
| Criteria (µg/L) ¹ | 4.5-29 | 3-3-18 |
| Dilution Credit | No Dilution | No Dilution |
| ECA | 4.5-29 | 3-3-18 |
| ECA Multiplier | 0.367 | 0.576 |
| LTA | 4.653-10.65 | 4.904-10.37 |
| AMEL Multiplier (95 th %) | 1.46 ² | 1.46 ² |
| AMEL (µg/L) | 2.4 ² | 2.15 ² |
| MDEL Multiplier (99 th %) | 2.72 ² | 2.72 ² |
| MDEL (µg/L) | 4.5 ² | 2.8 ² |

¹ USEPA Ambient Water Quality CTR Criteria (Total)

² Limitations based on ~~acute~~chronic LTA (~~Acute~~Chronic LTA < ~~Chronic~~Acute LTA)

18. NPDES Permit, Fact Sheet (Attachment F), WQBEL Calculations - Cadmium. Modify Table F-14, as shown in underline/strikeout format below:

Table F-154. WQBEL Calculations For Cadmium

| | Acute | Chronic |
|--------------------------------------|------------------------------|------------------------------|
| Criteria (µg/L) ¹ | 1.2-9.5 | 4.6 |
| Dilution Credit | No Dilution | No Dilution |
| ECA | 1.2-9.5 | 4.6 |
| ECA Multiplier | 0.321 | 0.527 |
| LTA | 0.385-3.050 | 2.426 |
| AMEL Multiplier (95 th %) | 1.56 ² | ² 1.55 |
| AMEL (µg/L) | 0.6 ² | ² 3.8 |
| MDEL Multiplier (99 th %) | 3.11 ² | ² 3.11 |
| MDEL (µg/L) | 1.2 ² | ² 7.6 |

¹ USEPA Ambient Water Quality CTR Criteria (Total)

² Limitations based on ~~acute~~chronic LTA (~~Acute~~Chronic LTA < ~~Chronic~~Acute)

19. NPDES Permit, Fact Sheet (Attachment F), WQBEL Calculations - Summary of Water Quality-Based Effluent Limitations. Modify Table F-19, as shown in underline/strikeout format below:

Table F-2019. Summary of Water Quality-Based Effluent Limitations

| Parameter | Units | Effluent Limitations | | | | |
|----------------------------|-------|---------------------------|----------------|---------------------------|-----------------------|-----------------------|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Copper, Total Recoverable | µg/L | 2.4 <u>15</u> | -- | 4.5 <u>28</u> | -- | -- |
| Cadmium, Total Recoverable | µg/L | 0.6 <u>3.8</u> | -- | 1.2 <u>7.6</u> | -- | -- |

20. NPDES Permit, Fact Sheet (Attachment F), WQBEL Calculations - Summary of Final Effluent Limitations. Modify Table F-19, as shown in underline/strikeout format below:

Table F-2120. Summary of Final Effluent Limitations

| Parameter | Units | Effluent Limitations | | | | |
|----------------------------|-------|---------------------------|----------------|---------------------------|-----------------------|-----------------------|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Copper, Total Recoverable | µg/L | 2.4 <u>15</u> | -- | 4.5 <u>28</u> | -- | -- |
| Cadmium, Total Recoverable | µg/L | 0.6 <u>3.8</u> | -- | 1.2 <u>7.6</u> | -- | -- |

21. NPDES Permit, Fact Sheet (Attachment F), Satisfaction of Anti-Backsliding Requirements. In Section IV.D.3, add new subsections c and d, as shown below:

- c. **Copper.** Order R5-2004-0096 contained floating effluent limitations for copper that were calculated based on measured hardness of the receiving water downstream of the discharge at monitoring location RSW-002 (R-2 in the

previous Order). Since adoption of Order R5-2004-0096, the average hardness of RSW-002 was 279 mg/L (as CaCO₃). Based on Attachment F of Order R5-2004-0096, this corresponds to copper effluent limits of 18 µg/L and 36 µg/L, as an average monthly and maximum daily, respectively. The new effluent limits for copper in this Order are 15 µg/L and 28 µg/L, as an average monthly and maximum daily, respectively. Therefore, the new limits are on average more stringent than the previous Order and are consistent with the anti-backsliding requirements of the CWA and federal regulations.

The revision in the copper effluent limitations is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16 because this Order imposes on average more stringent requirements than Order No. R5-2004-0096 and therefore does not allow degradation.

- d. **Cadmium.** Order R5-2004-0096 contained floating effluent limitations for cadmium that were calculated based on measured hardness of the receiving water downstream of the discharge at monitoring location RSW-002 (R-2 in the previous Order). Since adoption of Order R5-2004-0096, the average hardness of RSW-002 was 279 mg/L (as CaCO₃). Based on Attachment E of Order R5-2004-0096, this corresponds to cadmium effluent limits of 4.5 µg/L and 9.1 µg/L, as an average monthly and maximum daily, respectively. . The new effluent limits for cadmium in this Order are 3.8 µg/L and 7.6 µg/L, as an average monthly and maximum daily, respectively. Therefore, the new limits are on average more stringent than the previous Order and are consistent with the anti-backsliding requirements of the CWA and federal regulations.

The revision in the copper effluent limitations is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16 because this Order imposes on average more stringent requirements than Order No. R5-2004-0096 and therefore does not allow degradation.

22. **NPDES Permit, Fact Sheet (Attachment F), Interim Effluent Limitation.** Modify Section IV.E, and add new subsections 1 and 2, as shown in underline/strikeout format below:

E. Interim Effluent Limitation – ~~NOT APPLICABLE~~

1. **Compliance Schedules for total Trihalomethanes and Arsenic.** The permit limitations for total trihalomethanes and arsenic are new limitations that are based on a new interpretation of the narrative chemical constituents objective. To implement the narrative objective, this Order contains effluent limitations for total trihalomethane and arsenic based on the Department of Public Health's Drinking Water Standards that were promulgated after September 1995. The Drinking Water Standards' primary maximum contaminant levels for total trihalomethanes became effective on 17 June 2006 and for arsenic became effective on 28 November 2008.

The Discharger submitted an Infeasibility Analysis on 19 July 2010 (and updated on 26 August 2010) in compliance with paragraph 4 of the State Water Board's Compliance Schedule Policy. The Discharger's analysis demonstrates the need for additional time to implement actions to comply with the new limitations. Therefore, a compliance schedule for compliance with the effluent limitations for total trihalomethanes and arsenic are established in this Order.

- 2. Interim Effluent Limitation for total Trihalomethanes and Arsenic.** The Compliance Schedule Policy requires the Central Valley Water Board to establish interim requirements and dates for their achievement in the NPDES permit. Interim numeric effluent limitations are required for compliance schedules longer than 1 year. Interim effluent limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent.

The interim limitations for total trihalomethanes and arsenic in this Order are based on the current treatment plant performance. Therefore, this Order includes an interim average daily effluent limit for total trihalomethanes of 567.3 µg/L and for arsenic of 88.9 µg/L. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are 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). When there are less than 10 sampling data points available, the EPA *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001), or TSD, recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of 10 data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than 10 sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5 2). Therefore, the interim limitations in this Order are established as 3.11 times the maximum observed effluent concentration of the available data.

The Central Valley Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved. The limited, short-term degradation associated with the compliance

schedule is consistent with State and federal policies and is authorized by 40 CFR 122.47 and the Compliance Schedule Policy.

23. NPDES Permit, Fact Sheet (Attachment F), Compliance Schedules. Modify Section VII.B.7, and add new subsections a. and b., as shown in underline/strikeout format below:

7. Compliance Schedules – Not Applicable

- a. The Discharger submitted a request, and justification (dated 19 July 2010, and updated on 26 August 2010) for compliance schedules for arsenic and total trihalomethanes. The compliance schedule justification included all items specified in paragraph 4 of the Compliance Schedule Policy, as discussed in Section IV.E of this Fact Sheet. This Order establishes a compliance schedule that is as short as practicable for the new, final, WQBELs for total trihalomethanes and arsenic.
- b. A pollution prevention plan for arsenic and total trihalomethanes is required in this Order per CWC section 13263.3(d)(1)(C). In accordance with CWC section 13263.3(d)(3), these pollution prevention plans shall, at a minimum, meet the following requirements:
- i. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.
 - ii. An analysis of the methods that could be used to prevent the discharge of the pollutants into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis also shall identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.
 - iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.
 - iv. A plan for monitoring the results of the pollution prevention program.
 - v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.
 - vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.

- vii.** A description of the Discharger's existing pollution prevention programs.
- viii.** An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.
- ix.** An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.

Changes to Proposed Cease and Desist Order Amendment

24. Proposed Cease and Desist Order. Modify Finding 7, as shown in underline/strikeout format below:

7. On 19 July 2010, the Discharger submitted "City of Live Oak Compliance Extension Request Infeasibility Analysis" that included justification for a compliance schedule for the new Effluent Limitations for aluminum, ammonia, arsenic, alpha-BHC, copper, 4,4'-DDE, dibromochloromethane, dichlorobromomethane, alpha endosulfan, endrin aldehyde, iron, manganese, nitrate, and total THMs. In addition to source control measures, the Discharger proposes to construct and implement a Title 22 tertiary filtration system and an ultraviolet light disinfection system. The new treatment system is expected to be completed by 30 September 2012. However on 8 December 2010, the Discharger submitted information from an independent schedule analyst that determined the construction contractor is behind schedule and that completion of the project on the proposed schedule is doubtful at the current rate of progress. Therefore, the compliance schedule to meet the final technology based effluent limitations was extended accordingly. If the new treatment system does not achieve compliance with some constituents, the Discharger requests time to conduct source investigations and site-specific studies (e.g. WER study) where applicable. For the newly imposed effluent limitations for arsenic, dibromochloromethane, dichlorobromomethane, total Trihalomethanes, iron, and manganese that are based on the municipal and domestic supply (or MUN) beneficial use, the Discharger may request additional time to complete a Basin Plan amendment study to de-designate the MUN beneficial use of the receiving water.

25. Order Amending Cease and Desist Order R5-2009-0012-01. Modify Findings 8 and 9, as shown in underline/strikeout format below:

8. Immediate compliance with the final effluent limitations for aluminum, ammonia, ~~arsenic~~, alpha-BHC, BOD, total coliform, 4,4' DDE, ~~copper~~, dibromochloromethane, dichlorobromomethane, alpha endosulfan, endrin aldehyde, iron, manganese, nitrate, ~~total THMs~~, and TSS is not possible or practicable. The Clean Water Act and the California Water Code authorize time schedules for achieving compliance. This Order amends CDO No. R5 2009 0012-01 (Attachment 1) to include or extend compliance time schedules for these final effluent limitations. Additionally, this Order removes the compliance schedules for cyanide, diazinon, and turbidity because these effluent limitations are not contained in WDRs Order No. R5 2011 XXXX, and therefore, a compliance schedule is no longer necessary.
9. Since the time schedules for completion of actions necessary to bring the waste discharge into compliance exceeds one year, this Order includes interim requirements and dates for achievement. The time schedules do not exceed five years. The compliance time schedules in the proposed Order (Attachment 1) that amends CDO No. R5-2009-0012-01 includes interim effluent limitations for aluminum, ammonia, ~~arsenic~~, alpha-BHC, BOD, ~~copper~~, 4,4' DDE,

dibromochloromethane, dichlorobromomethane, alpha endosulfan, endrin aldehyde, iron, manganese, nitrate, total coliform, and TSS, and total THMs.

26. Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1. Modify table in Finding 7, as shown in underline/strikeout format below:

| Parameter | Units | Effluent Limitations | | | | |
|---------------------------|-------|----------------------|----------------|---------------|-----------------------|-----------------------|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Copper, Total Recoverable | µg/L | 2.4 | -- | 4.5 | -- | -- |

27. Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1. Modify Finding 10, to strike “copper” from the fourth and seventh lines as highlighted below:

10. In accordance with California Water Code (CWC) Section 13385(j)(3), the Central Valley Water Board finds that the Discharger is not able to consistently comply with WDRs Order No. R5-2011-XXXX, Effluent Limitations IV.A.1. for aluminum, ammonia, arsenic, alpha-BHC, BOD, copper, 4,4'-DDE, dibromochloromethane, dichlorobromomethane, alpha endosulfan, endrin aldehyde, iron, manganese, nitrate, total coliform, total THMs, and TSS. Additional time is necessary to finalize onsite plant upgrades. New time schedules are necessary in a CDO for aluminum, ammonia, arsenic, alpha-BHC, BOD, copper, cyanide, diazinon, 4,4'-DDE, dibromochloromethane, dichlorobromomethane, alpha endosulfan, endrin aldehyde, iron, manganese, nitrate, total coliform, total THMs, and TSS.

28. Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1. Modify Finding 12, to strike “copper” from the second line as highlighted below:

12. The compliance time schedule in this Order includes interim effluent limitations for aluminum, ammonia, arsenic, alpha-BHC, BOD, copper, total coliform, TSS, 4,4'-DDE, dibromochloromethane, dichlorobromomethane, alpha endosulfan, endrin aldehyde, iron, manganese, nitrate, total coliform, total THMs, and TSS....

29. Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1. Modify table in Finding 12, as shown in underline/strikeout format below:

| Parameter | Units | MEC | Mean (x) | Std. Dev. (sd) | Formula Used | Interim Limitation Maximum Daily |
|------------|-------|-------|----------|----------------|--------------|----------------------------------|
| Copper | µg/L | -- | -- | -- | Previous CDO | 22 |
| Arsenic | µg/L | 28.6 | 18.9 | 6.68 | 3.11*MEC | 88.9 |
| Total THMs | µg/L | 182.4 | 122.9 | 59.20 | 3.11*MEC | 567.3 |

30. Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1. Modify Finding 16, to strike “copper” from the fourth and sixth lines as highlighted below:

16. In accordance with CWC section 13385(j)(3), the Central Valley Water Board finds that, based upon results of effluent monitoring, the Discharger is not able to consistently comply with the new effluent limitations for BOD and TSS, aluminum, ammonia, ~~arsenic~~, alpha-BHC, ~~copper~~, 4,4'-DDE, dibromochloromethane, dichlorobromomethane, alpha-endosulfan, endrin aldehyde, iron, manganese, nitrate, ~~and total coliform, and total THMs~~. The final effluent limitations for BOD, TSS, aluminum, ammonia, ~~arsenic~~, alpha-BHC, ~~copper~~, 4,4'-DDE, dibromochloromethane, dichlorobromomethane, alpha-endosulfan, endrin aldehyde, iron, manganese, nitrate, ~~and total coliform, and total THMs~~...

31. **Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1.** Modify the third and fourth paragraph of Finding 17, as highlighted below:

- ~~Ammonia, Arsenic, Copper~~: The effluent limits in WDRs Order R5-2011-XXXX are lower than the limit in the previous Order. Therefore MMP protection begins with adoption of this Order on XXXX and may not extend beyond the compliance date of this Order or five years from adoption of Order No. R5-2009-0012-02, whichever is shorter.
- ~~Dibromochloromethane, Dichlorobromomethane, Iron, Manganese, and Nitrate, and Total THMs~~...

32. **Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1.** Modify the Herby Ordered #1 by deleting “copper”, as highlighted below:

1. The Discharger shall comply with the following time schedule to assure compliance with WDRs Order No. R5-2011-XXXX, Effluent Limitations IV.A.1, in part, ~~for aluminum, ammonia, arsenic, alpha-BHC, BOD, copper, 4,4'-DDE, dibromochloromethane, dichlorobromomethane, alpha endosulfan, endrin aldehyde, iron, manganese, nitrate, total coliform, total THMs, TSS, for aluminum, BOD, copper, total coliform, TSS,~~ , requir for 85 percent BOD and TSS removal, and the provisional requirement for Title 22 tertiary treatment, or equivalent:

33. **Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1.** Modify the Herby Ordered #1 compliance schedules, as highlighted below:

Task

Compliance Date

Implement PPP¹

Ongoing

Progress Reports²

1 March and 1 September of each year

Achieve full compliance with Effluent Limitations IV.A.1.a. for alpha BHC, alpha endosulfan, endrin aldehyde, and 4,4'-DDE, and implementation of Title 22 tertiary, or equivalent, treatment system.

30 September 2012

Achieve full compliance with Effluent Limitations IV.A.1.a., b., and f. for BOD, TSS, and total coliform, and implementation of Title 22 tertiary, or equivalent, treatment system.

2 years from the effective date of this Order

Achieve full compliance with Effluent Limitations IV.A.1.a. for copper, dibromochloromethane, and dichlorobromomethane, and total THMs.

3 years from the effective date of this Order

Achieve full compliance with Effluent Limitations IV.A.1.a., h., i., and j. for aluminum, ammonia, arsenic, iron, manganese, and nitrate.

5 years from the effective date of this Order

34. **Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1.** Modify Hereby Ordered #3, to strike “copper” from the second line as highlighted below:

3. The following interim effluent limitations for aluminum, ammonia, arsenic, alpha-BHC, copper, 4,4'-DDE, dibromochloromethane, dichlorobromomethane, alpha endosulfan, endrin aldehyde, iron, manganese, and nitrate, and total THMs shall be effective immediately, and shall remain in effect until the final compliance date, in accordance with Provision 1 above, or when the Discharger is able to come into compliance with the final effluent limitations, whichever is sooner.

35. **Order Amending Cease and Desist Order R5-2009-0012-01– Attachment 1.** Modify table in Hereby Ordered #3 as shown below:

| Parameter | Average Daily Effluent Limitation |
|------------|-----------------------------------|
| Copper | 22 ug/L |
| Arsenic | 88.9 µg/L |
| Total THMs | 567.3 µb/L |
| Nitrate | 42.9 µmg/L |