

Central Valley Regional Water Quality Control Board  
11/12 June 2009 Board Meeting

Staff Response to Comments  
City of Grass Valley Wastewater Treatment Plant  
Revised Tentative NPDES Permit Renewal and Cease and Desist Order

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The following are Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (NPDES Permit) renewal and new Cease and Desist Order (CDO) for the City of Grass Valley (hereinafter Discharger) Wastewater Treatment Plant (hereinafter Facility).

The Regional Water Board held a public hearing regarding the tentative NPDES permit renewal and CDO on 4 December 2008. The Board continued the hearing to allow public comments on a subsequent tentative permit addressing concerns regarding salinity effluent limitations; removal of effluent limitations for aluminum, copper and zinc; and issues related to the protection of the municipal and domestic supply (MUN) beneficial use. A revised tentative NPDES Permit was issued for public review on 15 December 2008. Public comments regarding the proposed NPDES Permit were required to be submitted to the Regional Water Board office by 11 February 2009 in order to receive full consideration. As required by a California Water Code (CWC) Section 13267 letter issued by the Executive Officer, on 9 March 2009, the Discharger provided additional information from the Nevada Irrigation District regarding local ordinances prohibiting MUN use in Wolf Creek downstream of the discharge location. The proposed tentative permit was again modified to include additional basis regarding the standards used to protect the MUN use in Wolf Creek and to address public comments on the 15 December 2008 Tentative Permit. On 9 April 2009, the Regional Water Board re-issued a Notice of Public Hearing and the modified tentative NPDES Permit. Public comments on the re-issued tentative Permit were required to be submitted to the Regional Water Board office by 11 May 2008 in order to receive full consideration.

The Regional Water Board received public comments regarding the tentative NPDES Permit issued on 15 December 2008 and 9 April 2009 from the Discharger and the California Sportfishing Protection Alliance (CSPA). The submitted comments were accepted into the record. Part One and Part Two of the following Staff Response to Comments includes a summary of the public comments received on the tentative NPDES Permit issued on 15 December 2008, and on 9 April 2009, respectively.

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**PART ONE: 15 December 2008 TENTATIVE NPDES PERMIT**

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**CITY OF GRASS VALLEY (DISCHARGER) COMMENTS**

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**Discharger Comment No. 1. Effluent Limits for Copper, Lead, and Zinc**

In its October 2008 public comments, the Discharger requested that site-specific translator values for copper, lead and zinc and site-specific Water-Effect Ratio (WER) values for copper and zinc be used in determining the need for effluent limits for these metals. The revised tentative permit addresses its request and is supported of the revisions to avoid unwarranted compliance problems while being protective of beneficial uses in Wolf Creek.

**RESPONSE:** Although the appropriate WER and translator values were used to calculate criteria for copper, lead, and zinc for the 15 December 2008 Tentative Order, criteria for these parameters were calculated incorrectly. The appropriate calculations and rationale for the WER and translator values used to determine criteria for these parameters is described in further detail in sections IV.C.2.d, IV.C.2.e, IV.C.3.i, and IV.C.3.x of the Fact Sheet for the 9 April 2009 Tentative Order. The results of the reasonable potential analysis (RPA) using the re-calculated criteria for copper, lead, and zinc continue to indicate that these parameters do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives.

**Discharger Comment No. 2. Effluent Limits for Electrical Conductivity (EC)**

The Discharger requests that the proposed effluent limits for EC be expressed as interim rather than final limits, consistent with the permitting approach used in other NPDES permits in the region. The adoption of interim limits is appropriate since the existing effluent quality does not trigger reasonable potential based on the most restrictive EC screening level used by the Regional Water Board (700  $\mu\text{mhos/cm}$ ). The Discharger requests that the language on page 10 of the Tentative permit and on page F-38 of the Fact Sheet be modified to state that the proposed EC limit is an interim limit.

**RESPONSE:** Regional Water Board staff does not concur that the effluent limitation for EC should be established as an interim, rather than a final, effluent limitation. The proposed permit includes a final effluent limitation for EC of "municipal water supply EC plus an increment of 500  $\mu\text{mhos/cm}$ , not to exceed 700  $\mu\text{mhos/cm}$ ". Monitoring data indicates that the Discharger can immediately comply with the proposed limitation. Thus, a compliance schedule and associated interim limitations are not necessary.

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### **Discharger Comment No. 3. Effluent Limits for pH**

The Discharger notes that the instantaneous effluent limit for pH shown in Table F-9 on page F-33 of the Fact Sheet should be 8.0 rather than 8.5, per its previous request.

**RESPONSE:** Regional Water Board staff concurs. Staff had previously confirmed that the existing effluent data demonstrates that the pH of the discharge is consistently less than 8.0, and not including a pH effluent limitation equal to 8.0 was an unintended oversight. The proposed permit has been modified accordingly.

### **Discharger Comment No. 4. Reopener Language**

The Discharger requests that the previously-proposed text on page 18 in the Special Provisions section (C.1.e) of the proposed permit and page F-45 of the Fact Sheet, regarding issues that have been addressed for the WER and translator values, be eliminated since this issue has been addressed in the revised tentative permit. The Discharger also requests that substitute text be inserted to replace the eliminated text for a general re-opener to allow, for example, effluent limits for trihalomethanes (THMs) to be modified to take into account the harmonic mean dilution that exists in Wolf Creek. This request is consistent with previous Discharger comments provided in its letter dated October 24, 2008 and is consistent with the response to those comments provided by the Regional Board.

**RESPONSE:** Regional Water Board staff concurs that the identified text needed to be updated. Staff also concurs with the addition of a permit re-opener, allowing the Discharger to submit a future dilution study. The proposed permit has been modified accordingly.

### **Discharger Comment No. 5. Facility Contact**

The Discharger requests that Table 4 on page 1 of the Tentative Order be revised to substitute Mr. Norm Benton, Treatment Plant Operator, for Mr. Rick Beckley (previous facility operator) as the Facility Contact. The Discharger requests that the same change also be made in other appropriate locations in the proposed permit and CDO, and other associated documentation.

**RESPONSE:** The tentative permit and CDO have been modified accordingly.

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## **CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS**

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### **CSPA Comment No. 1. EC Effluent Limitation is Contrary to Federal Regulations**

Federal Regulation 40 CFR 122.45 (d)(2) requires that a permit for POTWs establish Effluent Limitations as average weekly and average monthly unless impracticable. The

proposed Permit establishes an Effluent Limitation for EC as an annual average contrary to the cited Federal Regulation. Establishing the Effluent Limitation for EC in accordance with the Federal Regulation is not impracticable; to the contrary the Central Valley Regional Board has a long history of having done so. Proof of “impracticability” is properly a steep slope and the Regional Board has not presented any evidence that properly and legally limiting EC is impracticable.

In addition to ignoring the cited regulation, the Regional Board has not presented any information that the proposed annual average limitation is protective of the beneficial uses of the receiving stream. For example:

Research at UCD (*Water and Soil Salinity Studies on California Rice*) shows that rice seedlings are very sensitive to salt concentrations and that early season soil salinity had the strongest correlation with yield. In addition, in a *Biological Significance* document, dated November 1st 2006, James M. Harrington, Staff Water Quality Biologist with the California Department of Fish and Game, citing McKee and Wolf (1971 Water Quality Criteria) wrote that: “Surveys of inland fresh waters indicates that good mixes of fish fauna are found where conductivity values range between 150 and 500 umhos/cm. Even in the most alkaline waters, the upper tolerance limit for aquatic life is approximately 2000 umhos/cm.” The drinking water secondary MCL for EC is based on taste and odor which occur instantaneously. *McKee and Wolf* (1971 Water Quality Criteria) lists the limiting TDS concentrations for numerous industrial uses in mg/l; boiler feed water 50- 3000, brewing 500-1000, canning 850, general food processing 850 and paper manufacturing 80-500.

Limiting EC on an annual basis could significantly harm all of the above-cited uses. Not only are the Effluent Limitations for EC practicable to limit on an average weekly and average monthly basis, but they are also such necessary to protect the beneficial uses of the receiving stream.

**RESPONSE:** Regional Water Board staff does not concur. Based on the reported salinity in the effluent being less than the 700  $\mu\text{mhos/cm}$  screening level, the discharge does not have reasonable potential to cause or contribute to an instream excursion of water quality objectives for salinity. However, since the Facility discharges to Wolf Creek, which is tributary to the Bear River, and further the Sacramento-San Joaquin Delta, of additional concern is the salt contribution to Delta waters. Therefore, the proposed permit includes an annual average effluent limitation for EC equal to the municipal water supply EC plus an increment of 500  $\mu\text{mhos/cm}$ , or 700  $\mu\text{mhos/cm}$ , whichever is less. The proposed limitation serves as a cap to maintain the salinity in the discharge at current levels. Regional Water Board staff concludes that an annual average limitation is appropriate to address salt contributions to downstream water bodies.

### **CSPA Comment No. 2. Quarterly Sampling for Municipal Water Supply EC Not Adequate**

Most of the domestic water supply in the foothills is supplied by irrigation District deliveries. The irrigation Districts change sources on a supply on demand basis. The source and quality of potable water can change quickly and often. The City of Grass Valley's past consultants have documented significant potable water diversions as being the cause of "unnaturally" low hardness in the receiving stream. Sampling for EC generally is fast, easy and inexpensive. A plan developed by the Discharger to capture representative potable supply EC levels or monthly sampling would result in more representative results than quarterly. Monthly sampling would also result in a number of samples that has statistical relevance as opposed to 4 isolated events.

**RESPONSE:** Regional Water Board staff concurs that monthly water supply monitoring is will represent the potential changes in irrigation district source water. The proposed water supply sampling frequency for EC has been changed from quarterly to monthly.

### **CSPA Comment No. 3. Proposed Permit Fails to Contain Aluminum Effluent Limitation**

Federal Regulations, 40 CFR 122.44 (d)(i), requires that; "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." The Basin Plan contains a narrative water quality objective for toxicity that states in part that "[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life" (narrative toxicity objective). Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. U.S. EPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for aluminum to prevent toxicity to freshwater aquatic life. The recommended ambient criteria four-day average (chronic) and one-hour average (acute) criteria for aluminum are 87 mg/l and 750 mg/l, respectively.

Aluminum in the effluent has been measured as high as 516 µg/l. Freshwater Aquatic habitat and municipal (MUN) are beneficial uses of the receiving stream.

US EPA's 87 ug/l chronic criterion was developed using low pH and hardness testing. California Central Valley waters, the Sacramento River, at the Valley floor, have been

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sampled to have hardnesses as low as 39 mg/l CaCO<sub>3</sub> by the USGS in February 1996 for the *National Water Quality Assessment Program*. Contributory streams, especially foothill streams, have also been sampled and shown to contain even lower hardness levels. US EPA recognized in their ambient criteria development document, (Ambient Water Quality Criteria for Aluminum, EPA 440/5-86-008) that the pH was in the range 6.5 to 6.6 and that the hardness was below 20 mg/l. Typical values for pH and hardness in the Central Valley alone warrant use of the chronic ambient criteria for aluminum. Despite the hardness and pH values used in the development of the criteria; U.S. EPA's conclusions in their Ambient Criteria for the Protection of Freshwater Aquatic Life recommends that application of the ambient criteria as necessary to be protective of the aquatic beneficial uses of receiving waters in lieu of site-specific criteria.

The Regional Board and their proposed Permit cites US EPA's *Ambient Criteria for the Protection of Freshwater Aquatic Life for Aluminum* (criteria) as not being representative or necessary because the chronic criteria were based on a low hardness and low pH. The Regional Board cites one isolated section of the criteria development document but ignores the final recommendation to use the recommended criteria absent a site-specific objective for aluminum. The Regional Board then defaults to the US EPA recommended acute criteria of 750 ug/l. The Regional Board's citation of the criteria development document is incomplete its review, for example the *criteria* development document (EPA 440/5-86-008) also cites that:

- 169 ug/l of aluminum caused a 24% reduction in the growth of young brook trout.
- 174 ug/l of aluminum killed 58% of the exposed striped bass.
- Bioaccumulation factors ranged from 50 to 231 for young brook trout exposed for 15 days.
- Aluminum at 169 ug/l caused a 24% reduction in the weight of young brook trout.

US EPA recommends that understanding the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* is necessary in order to understand the text, tables and calculations of a criteria document. The Regional Board's assessment of the use of low hardness and low pH clearly shows they did not heed EPA's advise in understanding the criteria, the development procedures or the final recommendations. Ignoring the final recommendation of the criteria misses the protective intermediate measures to protect against mortality and reductions to growth and reproduction. The Regional Board's single use of the acute criteria for aluminum is not protective of the beneficial uses of the receiving stream.

The drinking water maximum contaminant level (MCL), which is included as a Basin Plan Water Quality Chemical Constituents Objective, for aluminum is 1,000 as a primary MCL and 200 µg/l as a secondary MCL.

The effluent data has exceeded the MCL and the chronic criteria for aluminum.

Based on information included in analytical laboratory reports submitted by the Discharger, aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life, and, therefore to violate the Basin Plan's narrative toxicity objective and the drinking water MCL.

Federal Regulations, 40 CFR 122.44 (d)(i), requires that; "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program* (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that "where valid, reliable, and representative effluent data or instream background data are available they MUST be used in applicable reasonable potential and limits derivation calculations. Data may not be arbitrarily discarded or ignored." The California Water Code (CWC), Section 13377 states in part that: "...the state board or the regional boards shall...issue waste discharge requirements... which apply and ensure compliance with ...water quality control plans, or for the protection of beneficial uses..." Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. A water quality standard for Failure to include an effluent limitation for aluminum in the proposed permit violates 40 CFR 122.44 and CWC 13377.

**RESPONSE:** CSPA comments that the chronic criterion (87 µg/L) recommended by the USEPA National Ambient Water Quality Criteria (NAWQC) for Aluminum should be applied for this discharge. Regional Water Board staff does not concur. The chronic criterion is based on studies conducted on waters with low pH (6.5 to 6.8 pH units) and hardness (<10 mg/L as CaCO<sub>3</sub>). Monitoring data demonstrates that these conditions are not similar to those in Wolf Creek, which consistently has an upstream pH greater than 7.0 and receiving water hardness concentrations ranging from 21 mg/L to 135 mg/L. Thus, it is unlikely that application of the chronic criterion of 87 ug/L is necessary to protect aquatic life in Wolf Creek and USEPA advises that a water effects ratio may be more appropriate to better reflect the actual toxicity of aluminum to aquatic organisms. Aluminum toxicity studies performed by other dischargers (i.e. City of Yuba City) demonstrated that using a site-specific water effects ratio (WER) to calculate the applicable chronic water quality criterion would result in no toxicity at an aluminum concentration of 8,000 µg/L. The tests were conducted at hardness levels similar to hardness values in Wolf Creek and effluent from the Facility. It is reasonable to conclude the water chemistries are comparable; therefore it is not appropriate to use the recommended chronic criterion from

USEPA's National Ambient Water Quality Criteria for interpretation of the Basin Plan's narrative toxicity objective. Instead, the acute criterion was used, making the appropriate adjustments in the calculations for protection of chronic impacts on aquatic life. Additionally, the Department of Public Health (DPH) Secondary Maximum Contaminant Level (MCL) for aluminum of 200 µg/L, was implemented as the basis for the reasonable potential analysis.

As described in Section IV.C.3.e of the Fact Sheet for the proposed Order, the maximum effluent concentration (MEC) for aluminum was 516 µg/L and the maximum annual average effluent concentration was 98.6 µg/L. The MEC is less than the applicable criteria for protection of aquatic life. Similar to the annual averaging period used by DPH for compliance purposes, the maximum annual average effluent concentrations was used to evaluate the reasonable potential to exceed the secondary MCL. The Fact Sheet discusses how the MCLs are designed to protect human health over long exposure periods. Effluent concentrations of aluminum do not exceed the applicable water quality aquatic life criteria and public health standards, therefore, effluent limitations are not required.

#### **CSPA Comment No. 4. Removal of Existing Aluminum Effluent Limitation is Contrary to Antidegradation Requirements**

Under the Clean Water Act (CWA), point source dischargers are required to obtain federal discharge (NPDES) permits and to comply with water quality based effluent limits (WQBELs) in NPDES permits sufficient to make progress toward the achievement of water quality standards or goals. The antidegradation and antidegradation rules clearly spell out the interest of Congress in achieving the CWA's goal of continued progress toward eliminating all pollutant discharges. Congress clearly chose an overriding environmental interest in clean water through discharge reduction, imposition of technological controls, and adoption of a rule against relaxation of limitations once they are established.

Upon permit reissuance, modification, or renewal, a discharger may seek a relaxation of permit limitations. However, according to the CWA, relaxation of a WQBEL is permissible only if the requirements of the antidegradation rule are met. The antidegradation regulations prohibit EPA from reissuing NPDES permits containing interim effluent limitations, standards or conditions less stringent than the final limits contained in the previous permit, with limited exceptions. These regulations also prohibit, with some exceptions, the reissuance of permits originally based on best professional judgment (BPJ) to incorporate the effluent guidelines promulgated under CWA §304(b), which would result in limits less stringent than those in the previous BPJ-based permit. Congress statutorily ratified the general prohibition against backsliding by enacting §§402(o) and 303(d)(4) under the 1987 Amendments to the CWA. The amendments preserve present pollution control levels achieved by dischargers by

prohibiting the adoption of less stringent effluent limitations than those already contained in their discharge permits, except in certain narrowly defined circumstances.

When attempting to backslide from WQBELs under either the antidegradation rule or an exception to the antibacksliding rule, relaxed permit limits must not result in a violation of applicable water quality standards. The general prohibition against backsliding found in §402(o)(1) of the Act contains several exceptions. Specifically, under §402(o)(2), a permit may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant *if*: (A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation; (B)(i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or (ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B) of this section; (C) a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy [(e.g., Acts of God)]; (D) the permittee has received a permit modification under section 1311(c), 1311(g), 1311(h), 1311(i), 1311(k), 1311(n), or 1326(a) of this title; or (E) the permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit, and has properly operated and maintained the facilities, but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

Even if a discharger can meet either the requirements of the antidegradation rule under §303(d)(4) or one of the statutory exceptions listed in §402(o)(2), there are still limitations as to how far a permit may be allowed to backslide. Section 402(o)(3) acts as a floor to restrict the extent to which BPJ and water quality-based permit limitations may be relaxed under the antibacksliding rule. Under this subsection, even if EPA allows a permit to backslide from its previous permit requirements, EPA may never allow the reissued permit to contain effluent limitations which are less stringent than the current effluent limitation guidelines for that pollutant, or which would cause the receiving waters to violate the applicable state water quality standard adopted under the authority of §303.49.

Federal regulations 40 CFR 122.44 (l)(1) have been adopted to implement the antibacksliding requirements of the CWA:

(l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions

in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under Sec. 122.62.)

(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(i) Exceptions--A permit with respect to which paragraph (1)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if:

(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(1) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or (2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);

(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) The permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

(ii) Limitations. In no event may a permit with respect to which paragraph (1)(2) of this section applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 303 applicable to such waters.

**RESPONSE:** Existing Order No. R5-2003-0089 established effluent limitations for aluminum based on the NAWQC for protection of freshwater aquatic life to interpret the Basin Plan's narrative toxicity objective. However, upon evaluation of site-

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specific conditions in Wolf Creek, the Regional Water Board has determined that the chronic aquatic life criterion for aluminum is not applicable in Wolf Creek. 40 CFR 122.44(l)(2)(i)(B)(2) allows for less stringent limitations in a permit if the administrator determines that technical mistakes or mistaken interpretations of the law were made in issuing a permit. Based on available site-specific information that indicates that the application of the chronic aquatic life criterion for the discharge to Wolf Creek is not an applicable interpretation of the Basin Plan's narrative toxicity objective, relaxation of effluent limitations is allowed under 40 CFR 122.44(l)(2)(i)(B)(2). In the absence of an applicable chronic aquatic life criterion, the most stringent water quality criterion is the Secondary MCL for aluminum. As discussed further in section IV.C.3 of the Fact Sheet, the discharge no longer exhibits reasonable potential to exceed the applicable water quality criteria/standard for aluminum. Therefore, effluent limitations are not included in the proposed Order.

#### **CSPA Comment No. 5. Insufficient Information Regarding Removal of Copper and Zinc Effluent Limitations**

NPDES permit Fact Sheets are required to contain the basis for the permit conditions and an explanation of the reasons why such conditions are applicable. The removal of Effluent Limitations for copper and zinc from a permit should warrant such explanation. The proposed Permit modifications delete all *reasonable potential* calculations for copper and zinc, rather than replace them with calculations based on the WER. There are no details of the development of the WER or what specific EPA methods were used. There are no reasonable potential calculations based on the WER. The proposed permit contains insufficient information regarding development of the WER and removal of the effluent limitations for copper and zinc for the public to make any determinations regarding the adequacy of the proposed Permit. The Fact Sheet must be amended and recirculated for public comment containing sufficient information to form the basis for the proposed Permit.

**RESPONSE:** See Regional Water Board staff response to Discharger Comment No. 1.

### **PART TWO: 9 APRIL 2009 TENTATIVE PERMIT AND CEASE AND DESIST ORDER**

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#### **CITY OF GRASS VALLEY (DISCHARGER) COMMENTS**

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##### **Discharger Comment No. 1. Cease and Desist Order Time Schedule for Manganese Effluent Limit**

The Discharger is currently unable to meet a final effluent limit for manganese of 50 µg/l in winter months due to the existing contribution of high levels of manganese in the Newmont Mining Corporation (Newmont) flow originating from the Drew Tunnel. The Discharger has worked for years with the Regional Water Board office to resolve the

problems associated with the connection of mine drainage from the Drew Tunnel to the wastewater treatment plant. After extensive effort, the Discharger and Newmont settled their litigation in January 2009 and Newmont has agreed to separate its flow from the municipal wastewater treatment plant and obtain its own NPDES permit for a separate surface water discharge.

On March 19, 2009, Newmont submitted a letter to the Regional Water Board office initiating the NPDES permit application process. The time frame for the implementation of Newmont's separate wastewater treatment project is now a matter of actions by Newmont and the Regional Water Board office to move the proposed Newmont project forward and to complete the NPDES permitting process for the Newmont discharge. The Discharger has completed the actions within its control to resolve the manganese problem and is committed to working with Newmont to remove the abandoned mine drainage from the influent of the Discharger's treatment facility as soon as possible. However, the completion of the Newmont project which will resolve the Discharger's manganese compliance problem is now beyond the Discharger's control.

The Discharger requests that the compliance date in the proposed CDO for the final manganese effluent limit be modified from March, 1 2010 to a date in the future that reflects the time that it will take for Newmont to complete its project, for the Regional Water Board office to adopt an NPDES permit for the Drew Tunnel mine discharge, and for the mine flow to be removed from the Discharger's treatment plant influent. In the intervening period, the Discharger requests that the interim limit for manganese be retained.

**RESPONSE:** Regional Water Board staff concurs that an extension of the existing compliance schedule for manganese in the existing CDO No. R5-2007-0163 may be necessary. The letter submitted by Newmont Mining Corporation on 19 March 2009 does not include a proposed date in which the mine drainage will be removed from the municipal wastewater facility influent. The proposed CDO contains the existing compliance schedule for manganese adopted by the Regional Water Board on 6 December 2007. The Discharger's comment, which was submitted on 11 May 2009, is the only notification that the Regional Water Board staff has received requesting an extension to the existing compliance schedule. The request, however, does not include a proposed date of compliance. Specifically, a definite time schedule and interim milestones for the removal of Newmont Mining Corporation's discharge from the Facility remains unknown. Therefore, the compliance schedule for manganese has not been extended and the proposed CDO continues to require compliance with the effluent limitations for manganese by 1 March 2010. As additional information becomes available regarding the projected dates for the removal of Newmont Mining Corporation's discharge, the Discharger may request an amendment to the CDO for extension of the compliance schedule for manganese. Staff suggests that the Discharger submit a formal request for an extension of the existing compliance schedule for manganese, with a proposed time

schedule and corresponding interim milestones leading to compliance. The Discharger should also provide the Regional Water Board office with updated manganese effluent data to update the required performance-based interim limitations. Provided sufficient justification, the Regional Water Board may amend the CDO to extend the compliance schedule for manganese.

**Discharger Comment No. 2. Special Provision VI.C.1.e. Reopener Provisions, Dilution/Mixing Zone Study**

The Discharger requests that the language in the second sentence of Section VI. Special Provisions of the proposed permit be changed to state that the Regional Board “will reopen” rather than “may reopen” the permit (Order) to include effluent limitations based on an appropriate dilution factor. The Discharger has provided information to date that indicates that a harmonic mean dilution credit is appropriate for the establishment of human health-based effluent limits in the NPDES permit. If additional information is submitted in response to this provision, at additional expense to the Discharger, it is only proper that the permit shall be reopened to establish appropriate limits.

**RESPONSE:** Regional Water Board staff does not concur and has not made the suggested revision to the reopener language. As worded, the reopener allows the Regional Water Board to reopen the Order and consider adoption of effluent limitations based on an approved Dilution/Mixing Zone Study prepared in accordance with Section 1.4.2.2 of the SIP. Board consideration of effluent limitation modification must go through the public process and there is not a definite guarantee that effluent limitations “will” be modified. Additionally, although the Regional Water Board will make every effort to reopen the permit and modify as appropriate, the Regional Water Board is not obligated to reopen the permit and will not reopen the permit if all the necessary requirements have not been fulfilled.

**Discharger Comment No. 3. Special Provisions VI.C.6.f. for Municipal Facilities (POTWs Only)**

The Discharger has a software system in place to automatically contact operators in the event of alarms generated at the wastewater treatment plant. As such, it appears that the proposed requirement described in Provision 6.f. is unnecessary and should be eliminated. The Discharger requests that this action be taken, if appropriate.

In the event that a new system is required that exceeds the capabilities of the Discharger’s existing system, the Discharger requests that the proposed deadline for installation of an electronic notification system for continuous recording device alarms be extended from 30 December 2009 to 1 June 2010 to allow adequate time to develop and implement this new system.

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**RESPONSE:** Regional Water Board staff concurs that, because the Discharger already has a notification system in place, the requirement to install a notification system for existing continuous monitoring systems by 30 December 2009 is unnecessary. Therefore, Special Provision Section VI.C.5.f of the proposed permit has been revised as follows to require the Discharger to improve their notification system on an as-needed basis:

“This permit, and the Monitoring and Reporting Program which is a part of this permit, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant is not staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger is required to establish an electronic system for operator notification for continuous recording device alarms. ~~For existing continuous monitoring systems, the electronic notification system shall be installed within six months of adoption of this permit by 30 December 2009.~~ The Discharger has a software system in place to automatically contact facility operators in the event of alarms generated at the wastewater treatment plant. The Discharger shall upgrade this system with future facility expansions/upgrades, as necessary, to ensure timely notification. For continuous monitoring systems installed following permit adoption, the notification system shall be installed simultaneously.”

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## **CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS**

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### **CSPA Comment No. 1. Proposed Permit Amendment Includes Misleading and Incorrect Information Regarding MUN Use**

The proposed Permit amendment states that:

“As stated above, the beneficial uses of Wolf Creek include municipal and domestic supply. However, there are no documented drinking water intakes downstream of the discharge. In a letter to the Regional Water Board dated 6 August 2007, the Nevada Irrigation District (NID), which uses water diverted from Wolf Creek a couple of miles downstream from Discharge Point No. 001 to transport water from upper watershed areas to western Nevada County, indicated that they do not use the diverted water as a supply for treated water (potable) and were not aware of anyone using the diverted water for in-home use. In a second letter to the Regional Water Board on 3 March 2009, NID outlined their uses of water diverted from Wolf Creek downstream of Discharge Point No. 001 as follows:

- “• All District raw water sales off Wolf Creek below the City of Grass Valley are for agricultural use only.

- The District does not own operate any domestic water treatment plants that use water from Wolf Creek below the City of Grass Valley. There is no domestic water service by the District with water from Wolf Creek.
- District policy and State law prohibit the District from providing raw water for human consumption. In February of 2000, a survey was conducted of all District year-round water users. The 2000 survey indicated all year-round water users off the Wolf Creek system below the City of Grass Valley have a well on their property as their domestic water supply.”

Although there are no known drinking water intakes downstream of the discharge point and NID policy and State law prohibit NID from providing raw water for human consumption, municipal and domestic supply is a designated beneficial use of Wolf Creek that must be protected. The requirements of this Order are protective of the municipal and domestic supply in Wolf Creek.”

In discussing Nevada Irrigation District’s providing raw water for consumption, we present the following excerpt from the Regional Board’s NPDES permit for Placer County SMD-1 (ORDER NO. R5-2005-0074, NPDES NO. CA0079316): “In reviewing whether existing and/or potential uses of the Sacramento River, between the Colusa Basin Drain and the I Street Bridge, and for the Bear River, are applicable to Coon Creek, Dry Creek, and Rock Creek, the Regional Board considered the following facts:

- a. Municipal and Domestic Supply and Agricultural Irrigation and Stock Watering Supply: Municipal, domestic and food crop irrigation beneficial uses have been site-specifically confirmed for waters downstream of the wastewater treatment plant. State Board Resolution No. 88-63, a part of the Basin Plan pursuant to Regional Board Resolution 89-056, requires the Regional Board to assign the beneficial uses of municipal and domestic supply, to Rock Creek, Dry Creek, and Coon Creek. The State Water Resources Control Board (SWRCB) has issued numerous water rights, for domestic and irrigation uses, on Main Canal and downstream waters, the Sacramento River, the Bear River, and the Feather River, downstream of the discharge. Many of the waterways downstream of the discharge are managed by irrigation districts and retain the domestic and irrigation beneficial uses. Nevada Irrigation District (NID) controls the flows in Dry Creek, Coon Creek, and Camp Far West Ditch. Staff of NID confirmed the existence of domestic uses of this water by reporting that water from Camp Far West Ditch is utilized for in-home use. NID requires the homeowner to purchase 5 gallons of bottled drinking water per month. NID sells water from Coon Creek and Camp Far West Ditch and has assessed the principal uses as family garden use and pasture irrigation. Over a distance of approximately 25 miles on Camp Far West Ditch, there are 37 irrigation customers, two of whom have irrigation water connected to their homes. Riparian Rights, for landowners along streams and rivers, are not recorded with the SWRCB and have precedence over other 3

water rights and may include domestic and municipal uses. The wastewater discharge occurs in a residential area and the effluent immediately flows through numerous yards lining the Creek. Home garden irrigation has been identified as an existing beneficial use of the receiving stream.” (Emphasis added)

There is no indication in the proposed Permit amendment that the Regional Board investigated the issuance of water rights by the State Board along Wolf Creek to confirm the presence or absence of domestic and municipal users.

There is no indication in the proposed Permit amendment that the Regional Board considered Riparian Rights, for landowners along streams and rivers, which may not be recorded with the SWRCB and have precedence over other water rights and may include domestic and municipal uses. On 11 March 2009 the Sacramento Bee reported as follows: “Vicky Whitney, deputy director of the state Water Resources Control Board, said officials know little about the amount of water consumed by so-called “riparian” water rights holders. Riparian rights, usually attached to properties that border streams, are the most senior category of water entitlement in California. Riparian rights holders must annually report to the state how much water they divert. But Whitney said only about 10 percent do so, and her agency does not have the power to enforce compliance.” CSPA representatives have observed numerous pipes along Wolf Creek; the Regional Board’s conclusion that domestic and municipal uses do not exist along this water body is unsupported, undocumented and conclusory.

**RESPONSE:** Regional Water Board staff does not concur that the proposed permit contains misleading or incorrect information regarding the municipal and domestic supply (MUN) use of Wolf Creek. At the 4 December 2008 Board Meeting, the Regional Water Board continued the hearing and required the Discharger to provide additional information on the MUN use in Wolf Creek downstream of the discharge location. In response, the Discharger submitted a letter from the Nevada Irrigation District (NID) dated 3 March 2009, which confirmed that there is no legally allowed domestic water service by NID with water from Wolf Creek and NID policy and State law prohibit NID from providing raw water for human consumption. CSPA refers to water uses by NID in Dry Creek, Coon Creek, and Camp Far West Ditch; however, those are site-specific uses that are not applicable to Wolf Creek. Additionally, the Division of Water Rights has not identified any known water intakes in the vicinity of the discharge from the Facility in Wolf Creek. In site-specific situations where a discharge is occurring to a stream with a nearby water intake used as a domestic water supply with no treatment, the Department of Public Health (DPH) recommends the same Title 22 tertiary treatment requirements, as it recommends protecting REC-1 and AGR. In those cases, DPH recommends a 20:1 dilution ratio (receiving water: effluent) in addition to the Title 22 tertiary treatment requirement to protect the domestic water use. Because there are no known water intakes in the vicinity of the discharge, a 20:1 dilution ratio is not required for the tertiary-treated Title 22-quality effluent discharge to Wolf Creek.

The proposed permit is fully protective of the MUN beneficial use of Wolf Creek in a manner consistent with the protection of MUN in other NPDES permits within the Central Valley. The disinfection requirements in the proposed Order implement the DPH recommendations and are fully protective of the beneficial uses of the receiving stream.

### **CSPA Comment No. 2. The Proposed Permit Amendment Inappropriately Removes Copper, Lead and Zinc Effluent Limitations**

The proposed Permit amendment Fact Sheet contains the following excerpts:

**Copper.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to calculate dissolved criteria. The USEPA default conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria. As discussed further in section IV.C.2.d of this Fact Sheet, the applicable WER value for copper is 6.49. Using the worst-case measured hardness from the effluent (90 mg/L) and receiving water (21 mg/L), the default conversion factors, and the WER of 6.49, the applicable chronic criterion (maximum 4-day average concentration) is 53 ug/l and the applicable acute criterion (maximum 1-hour average concentration) is 79 ug/l, as dissolved concentrations. As discussed in section IV.C.2.e of this Fact Sheet, the applicable translator values for copper are 1.05 (1/fD) for acute freshwater and 1.19 (1/fD) for chronic freshwater. Using the site-specific translators to translate the dissolved criteria to total criteria, the applicable acute criterion is 83 µg/L and the applicable chronic criterion is 63 µg/L, as total recoverable.

The MEC for total copper was 18 ug/l, based on 43 samples collected between 1 January 2005 and 6 March 2008. Therefore, the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper.” (Track changes mode deleted, emphasis added)

**Zinc.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. The criteria for zinc are presented in dissolved concentrations. USEPA recommends conversion factors to calculate dissolved criteria. The USEPA default conversion factors for zinc in freshwater are 0.978 for the acute criteria and 0.986 for the chronic criteria. As discussed further in section IV.C.2.d of this Fact Sheet, the applicable WER value for zinc is 1.70. Using the worst-case measured hardness from the effluent (90 mg/L) and receiving water (21 mg/L), the default conversion factors, and the WER of 1.70, the applicable chronic criterion (maximum 4-day average concentration) and the applicable acute criterion (maximum 1-hour average concentration) are each 182 µg/L and 184 µg/L, respectively, as dissolved concentrations. As discussed in section IV.C.2.e of this Fact Sheet the applicable

translator values for zinc are 1.03 (1/fD) for acute freshwater and 1.19 (1/fD) for chronic freshwater. Using the site-specific translators to translate the dissolved criteria to total criteria, the applicable acute criterion is 187 µg/L and the applicable chronic criterion is 219 µg/L, as total recoverable.

The MEC for total zinc was 177 ug/l, based on 43 samples collected between 1 January 2005 and 6 March 2008. Therefore, the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for zinc.

For lead, the Discharger acknowledged that the study did not satisfy the recommended minimum number of translator samples, but pointed out that it was apparent that dissolved lead does not have a large ambient presence in the system or that collection of additional samples would likely produce more detected results. Using the conservative assumption that the lead concentration is equal to the detection limit for non-detected samples in the translator calculations, it is assumed that the actual dissolved lead concentration would be lower than the assumed value at the detection limit. Thus, the resulting lead translators are slightly higher than they would be if lower detection limits were achieved. The Regional Water Board acknowledges that use of the detection limit for nondetected values is a conservative approach; however, the translators for lead have not been approved. The nine sampling events used to develop the lead translator occurred during high (>26 MGD) and low (<26 MGD) flow regimes. The minimum recommended number of sampling events for developing a translator with data from all flow regimes is 20, which is not satisfied by the Discharger's dataset. If the dataset were revised to exclude sampling events taken when flows in Wolf Creek exceeded 26 MGD, the dataset would consist of only six valid sampling events, which does not satisfy the minimum number of sampling events necessary to calculate a translator with sampling events taken during low flow regimes. Regardless of the use of the translator, lead does not exhibit reasonable potential to exceed the CTR criteria and effluent limitations have not been included in this Order."

There was no further information regarding any reasonable potential analysis for lead.

Federal Regulation 40 CFR 131.38(c)(4) states that: "For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/l or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations." (Emphasis added). The proposed Permit states that the effluent hardness and the receiving water hardness were used to calculate Effluent Limitations for metals. However, it appears only the effluent hardness was used. Use of the lowest recorded receiving water hardness would result in maintaining the Effluent Limitations for copper, lead and zinc. Use of the effluent hardness in determining reasonable potential is contrary to 40 CFR 131.38(c)(4) as cited above.

**RESPONSE:** CSPA submitted similar public comments on the use of effluent hardness to calculate metals' criteria on the tentative Order that was issued on 23 September 2008, which Regional Water Board staff provided a response. While the response sufficiently addresses CSPA's comment above regarding the use of effluent hardness to calculate metals' criteria, and section IV.C.2.b of the Fact Sheet clearly describes how the hardness values were selected to calculate criteria for copper and zinc, Regional Water Board staff acknowledges that sections IV.C.3.i and IV.C.3.x of the Fact Sheet should be clarified to indicate that the applicable criteria were calculated based on the worst-case hardness condition under zero-dilution represented by the use of the hardness of the effluent. Therefore, sections IV.C.3.i and IV.C.3.x of the Fact Sheet have been revised as follows:

**"Copper.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to calculate dissolved criteria. The USEPA default conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria. As discussed further in section IV.C.2.d of this Fact Sheet, the applicable WER value for copper is 6.49. Using the worst-case measured hardness from the effluent (90 mg/L) to represent zero-dilution conditions, as described in section IV.C.2.b of the Fact Sheet and receiving water (21 mg/L), the default conversion factors, and the WER of 6.49, the applicable chronic criterion (maximum 4-day average concentration) is 53 ug/l and the applicable acute criterion (maximum 1-hour average concentration) is 79 ug/l, as dissolved concentrations. As discussed in section IV.C.2.e of this Fact Sheet, the applicable translator values for copper are 1.05 (1/fD) for acute freshwater and 1.19 (1/fD) for chronic freshwater. Using the site-specific translators to translate the dissolved criteria to total criteria, the applicable acute criterion is 83 µg/L and the applicable chronic criterion is 63 µg/L, as total recoverable.

The MEC for total copper was 18 ug/l, based on 43 samples collected between 1 January 2005 and 6 March 2008. Therefore, analysis of site-specific data and information concludes that the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper."

**"Zinc.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. The criteria for zinc are presented in dissolved concentrations. USEPA recommends conversion factors to calculate dissolved criteria. The USEPA default conversion factors for zinc in freshwater are 0.978 for the acute criteria and 0.986 for the chronic criteria. As discussed further in section IV.C.2.d of this Fact Sheet, the applicable WER value for zinc is 1.70. Using the worst-case measured hardness from the effluent (90 mg/L) to represent zero-dilution conditions, as described in section IV.C.2.b of the Fact

~~Sheet and receiving water (21 mg/L)~~, the default conversion factors, and the WER of 1.70, the applicable chronic criterion (maximum 4-day average concentration) and the applicable acute criterion (maximum 1-hour average concentration) are each 184 µg/L and 182 µg/L, respectively, as dissolved concentrations. As discussed in section IV.C.2.e of this Fact Sheet the applicable translator values for zinc are 1.03 (1/fD) for acute freshwater and 1.19 (1/fD) for chronic freshwater. Using the site-specific translators to translate the dissolved criteria to total criteria, the applicable acute criterion is 187 µg/L and the applicable chronic criterion is 219 µg/L, as total recoverable.

The MEC for total zinc was 177 ug/l, based on 43 samples collected between 1 January 2005 and 6 March 2008. Therefore, analysis of site-specific data and information concludes that the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for zinc.”