

**RESPONSE TO COMMENT LATE REVISIONS
EL DORADO IRRIGATION DISTRICT
DEER CREEK WASTEWATER TREATMENT PLANT
EL DORADO COUNTY
NPDES Permit Amendment (NPDES No. CA0078662)
Regional Water Quality Control Board, Central Valley Region
Board Meeting – 10 June 2011
ITEM # 23**

1. **Discharger Comment No. 3:** Modify response to Discharger Comment No. 3. beginning on page 5, as shown below in underline format:

[Response]... As demonstrated through these statistical analyses and the historical aluminum concentrations in the effluent, the Discharger is correct in stating that the TSD method does not realistically project aluminum concentrations in the effluent. Nevertheless, using a statistical method that has a lower margin of error, the 99.9% confidence level, also predicts that the effluent discharge could exceed the 200 µg/L, albeit by a small margin. Therefore, even though the discharge does not demonstrate reasonable potential in accordance with the SIP procedure, Central Valley Water Board staff recommends establishing a limitation of 200 µg/L as an annual average because both the statistical analyses project the MEC above the 200 µg/L. However, because of the low probability (0.0005) of an exceedance of the aluminum effluent limitation at 200 µg/L as an annual average, the proposed Order was changed from requiring monthly to quarterly monitoring. In addition, staff modified the proposed Order to implement use of the more accurate projected MEC of 201 µg/L (at a 99.9% confidence level) and to correct statements that the secondary MCL is intended to protect human health. The secondary MCL protects the MUN beneficial use, but it regulates taste, odor or appearance. Primary MCLs protect human health. (Health & Safety Code, § 116275, subd. (c).) The primary MCL for aluminum is 1.0 mg/L (1,000 µg/L). (Cal. Code of Regs., tit. 22, § 64431, subd. (a).) The discharge does not exhibit reasonable potential to exceed the primary MCL.

2. **CSPA Comment No. 2, a.** Modify response to CSPA Comment No. 2, a. beginning on page 17, as shown below in underline/strikethrough format:

[RESPONSE]... Based on the body of evidence evaluated from consideration of USEPA NRAWQC, National Recommended Water Quality Criteria–Correction, the Arid West Water Quality Research Project, and site-specific aluminum studies conducted by other dischargers within the Central Valley Region, all of which are more recent than the 1988 recommended criteria, Central Valley Water Board staff concluded that a site-specific chronic criterion of 287442 µg/L for interpreting the Basin Plan narrative toxicity objective is protective of aquatic life in Deer Creek under all water quality conditions (p F-37). Board staff does not concur that this review was incomplete or that the analysis and evaluation of the body of evidence and data was limited.

3. **CSPA Comment No. 2, c.** Modify response to CSPA Comment No. 2, c. beginning on page 17, as shown below in underline/strikethrough format:

[RESPONSE]... Instead, the site-specific objective for chronic criterion of 287442 µg/L applicable to Deer Creek, derived from the body of evidence documented in the Fact Sheet, was used to supplement interpretation of the Basin Plan's narrative toxicity objective for calculating WQBELs that are protective of aquatic life and human health.

4. **CSPA Comment No. 2, f.** Modify response to CSPA Comment No. 2, f. beginning on page 21, as shown below in underline/strikethrough format:

RESPONSE: Central Valley Water Board staff concurs that the receiving water mean hardness was used to determine the site-specific standard (the acute and chronic aquatic life criteria for aluminum are 2,891 and 1,155 µg/L, respectively) for interpreting the Basin Plan's narrative toxicity objective in comparing USEPA acute and chronic criteria and the Arid West Water Quality Research Project recalculated-USEPA criteria, which use the mean hardness in deriving their calculated criteria.

Central Valley Water Board staff also agrees that the worst case hardness should instead be used to determine the site-specific standard for interpreting the Basin Plan's narrative toxicity objective in the reasonable potential analysis and for calculating WQBELs protective of aquatic life and human health. Central Valley Water Board used a very conservative hardness value (25 mg/L as CaCO₃) to determine the site-specific objective for interpreting the Basin Plan's narrative toxicity objective. It is unclear what CSPA is referring to on page F-37 of the Fact Sheet. However, the Arid West Water Quality Research Project Evaluation of the EPA Recalculation Procedure in the Arid West Technical Report (Technical Report) updated/revised national standards table (Tables ES-1 or 3-8) is duplicated and referenced in the Fact Sheet of the Order (Table F-11). The Technical Report's table contains a column heading "Mean Hardness (mg/L as CaCO₃)" implying that a mean hardness value should be used in determining the appropriate criterion; however, Central Valley Water Board staff did not use the mean value. Based on historical monitoring data, the effluent hardness ranged from 42 mg/L to 100 mg/L, based on 157 samples; the upstream receiving water hardness varied from 71 mg/L to 290 mg/L, based on 156 samples; and the downstream receiving water hardness ranged from 61 mg/L to 230 mg/L, based on 156 samples (pp. F-15 to F-17). Under the receiving water's most critical condition, which in this case is the effluent dominated condition, the hardness is 42 mg/L as CaCO₃. Central Valley Water Board used the most critical condition in Table F-11, which is a hardness value of 25 mg/L as CaCO₃ equating to a chronic criterion of 287 µg/L. Using the receiving water's most critical condition hardness value of 42 µg/L as CaCO₃ in the Chronic Aluminum Criterion equation ($e^{(0.8327 \ln(\text{hardness})+2.9800)}$, Table ES-1 or 3-8 of the Technical Report) equates to a chronic criterion of 442 µg/L. Thus, Central Valley Water Board staff's evaluation erred conservatively.