

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

Changes to Proposed NPDES Permit Renewal

1. **Amending Order, Finding 6 pH / Temperature Sampling.** Modify Finding 6, as shown in underline/strikeout format below:

6. **pH / Temperature Sampling.** The Court required the Central Valley Water Board to “consider whether it is legally and factually possible for the District to comply with the requirements of Water Code section 13176 either (i) by having its on-site laboratory re-certified or (ii) by having certified laboratory personnel travel to the District’s facility and conduct the testing on site.” For the reasons set forth in Section VI.B.2 of the Fact Sheet, the Central Valley Water Board finds that the District does not have an on-site laboratory to recertify; and that it is not legally or factually possible for the District to comply with Water Code section 13176 by having its off-site laboratory certified for pH and temperature, by having certified laboratory personnel travel to the Deer Creek wastewater treatment plant (WWTP) and conduct the testing on site, or by any other means.~~The Central Valley Water Board finds that the District leased its on-site laboratory at its El Dorado Hills Wastewater Treatment Plant to Sierra Foothills Laboratory, a certified private contract lab for a minimum of 3 years beginning in April 2010 in an effort to save costs, and therefore, it is factually impossible for the District to recertify its own lab. Additionally, it is not legally possible for the Central Valley Water Board to require the Discharger to have an on-site laboratory.~~

~~The California Water Codes requires the Central Valley Water Board to set forth reasonable requirements. The Sierra Foothills Laboratory is not certified for pH and temperature. For the sampling of the Deer Creek WWTP discharge, a certified laboratory would have to send out its personnel and lab equipment to collect an onsite sample for pH and temperature. In this instance, it is not possible for the sample to be returned to a certified lab for proper analysis. In addition, it is not legally or factually possible to require Environmental Laboratory Accreditation Program (ELAP) certification of District personnel or equipment, because the personnel or equipment is affiliated with a certified laboratory.~~

~~The California Water Codes requires the Central Valley Water Board to set forth reasonable requirements. The Sierra Foothills Laboratory is not certified for pH and temperature. ELAP certification of a laboratory does not improve the data quality because the quality of the data is related to maintaining manufacturer specified calibration procedures, maintenance procedures, proper use of the equipment and proper Quality Assurance/Quality Control (QA/QC) methods. In Section D, Standard Provisions, the permit contains QA/QC requirements for the Discharger to maintain equipment calibration and maintenance procedures on record for the past 5 years, which assures reliable results and maintenance of the equipment to manufacturer’s~~

~~standards. The Discharger presently has a QA/QC program in place where all operators are trained on proper calibration and use of the equipment. Per USEPA 40 CFR 136, methods 4500-H and B can be performed in the field with a handheld pH meter with a combination electrode that is calibrated with at least 2 standards that bracket the pH samples.~~

~~Therefore, the Central Valley Water Board determines that the additional expenses affiliated with ELAP certification makes it economically impossible for the District to comply with the requirements of Water Code section 13176.~~

2. **NPDES Permit, Determining the Need for WQBELs – Aluminum (Attachment F).**

Modify the proposed Permit in Section IV.C.3.e, as shown in underline/strikeout format below:

- e. **Aluminum.** ...As discussed in detail below, based on this information, the acute and chronic aquatic life criteria for aluminum are ~~2,894~~1,107 (1-hour average) and ~~1,155~~442 µg/L (4-day average), respectively. These criteria interpret the narrative toxicity objective and are protective of the aquatic life beneficial use...

City of Auburn Site-Specific Aluminum Toxicity Study... Therefore, application of the recalculated NAWQC criterion at Deer Creek is conservative, and thus, protective of aquatic life under all water quality conditions, minimum pH of 8.0 and hardness concentrations from ~~71~~42 mg/L to 290 mg/L...

Reasonable Potential Analysis

As previously discussed in this section, the ~~mean~~receiving water's most critical condition hardness value down stream of the discharge (Monitoring Location RSW-002~~effluent dominant conditions~~) is ~~133~~42 mg/L as CaCO₃, which is well within the Technical Report's model range of 1 to 220 mg of CaCO₃/L. Using the hardness value of ~~133~~42 mg/L as CaCO₃, the revised NAWQC acute criterion is ~~2,894~~1,107 µg/L and chronic criterion is ~~1,155~~442 µg/L... However, as required by the EID Court Order, staff conducted additional pollutant variability analyses using the methods described in *Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row* (Basic Statistical Methods) ~~and section 3.3.2 of EPA's Technical Support Document for Water Quality-Based Toxics Control (TSD)~~. The projected MEC at a 99.9% confidence interval using the Basic Statistical Methods is 201 µg/L, ~~which is~~ —The projected MEC using the TSD approach with a 99% confidence interval is 450 µg/L. The projected MECs from both approaches are below the revised NAWQC of ~~2,894~~1,107 and ~~1,155~~442 µg/L and the USEPA NAWQC acute criterion of 750 µg/L for protection of aquatic life. Therefore, aluminum in the discharge does not exhibit reasonable potential to exceed the narrative toxicity objective. However, the projected MECs of 201 µg/L derived from the Basic Statistical Methods and TSD approach exceeds the Secondary MCL for protection of human health.

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

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

Table F-20. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants						
Bromodichloromethane	µg/L	0.56	--	0.79 <u>0.80</u>	--	--

4. **NPDES Permit, Rationale for Monitoring and Reporting Provisions (Attachment F).** Modify effluent monitoring, Section VI.B.2, as shown in underline/strikeout format below:

2. Effluent monitoring requirements for flow, pH, temperature, BOD₅, TSS, total coliform organisms, ammonia, electrical conductivity, and hardness have been retained from Order No. R5-2002-0210 to characterize the effluent and determine compliance with applicable effluent limitations.

The EID Court Order required the Central Valley Water Board to “consider whether it is legally and factually possible for the District to comply with the requirements of Water Code section 13176 either (i) by having its on-site laboratory re-certified or (ii) by having certified laboratory personnel travel to the District’s facility and conduct the testing on site.” ~~California Water Code section 13176 requires that the analysis of water quality be performed by a laboratory that has accreditation or certification under the Health and Safety Code. The Central Valley Water Board cannot specify the Discharger’s manner of compliance with section 13176. (Wat. Code § 13360.)~~

California Water Code section 13176, subdivision (a), states: “The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code.” The Department of Health Services certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

The Central Valley Water Board cannot specify the District’s manner of compliance with any permit requirement. (Wat. Code § 13360.) Thus, the Central Valley Water Board cannot specify that the District must use an on-site laboratory or obtain certification for specific constituents. The Central Valley Water Board only regulates waste dischargers, and not third-party laboratories. The Department of Health Services, not the Central Valley Water Board, regulates certified laboratories. The Central Valley Water Board cannot require the Sierra Foothills Laboratory or any other contract laboratory to obtain certification to perform pH or temperature analyses.

The Central Valley Water Board finds that the District did not have an on-site laboratory at the Deer Creek Wastewater Treatment Plant (WWTP), so there is no on-site laboratory to re-certify. The District previously had a certified laboratory at its El Dorado Hills WWTP. The District leased that laboratory to Sierra Foothills Laboratory, a certified private contract laboratory, for a minimum of three years beginning in April 2010 in an effort to save costs. Therefore, it is factually impossible for the District to recertify its own off-site laboratory.

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the Clean Water Act. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with Clean Water Act requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for pH, and immediate analysis for temperature. (40 C.F.R. § 136.3(e), Table II (lines 28 and 69, respectively).) EPA regulations specify acceptable test methods in 40 CFR part 136.3(a), Table 1B. The acceptable test methods for pH grab samples are: ASTM 1293-84 and Standard Methods 4500 H and B. Under 40 CFR Part 136, these methods can be performed in the field with a handheld pH meter with a combination electrode that is calibrated with at least two standards that bracket the pH samples. The acceptable test method for temperature is Standard Methods 2550 B, for which there is no allowable holding time. It is both legally and factually impossible for the District to comply with section 13176 in any manner that would prevent the District from meeting EPA holding time requirements.

~~The Environmental Laboratory Accreditation Program (ELAP) certification for the lab located at the El Dorado Hills WWTP was transferred to Sierra Foothill Laboratory in 2010, where Sierra Foothill Laboratory entered into a 3-year contract in April 2010 with the El Dorado Irrigation District for sole use of the onsite laboratory. The Sierra Foothills Laboratory is not currently ELAP-certified to conduct pH or temperature analyses. The Central Valley Water Board does not have the authority to require this or any third-party laboratory to be certified-obtain such certification. Furthermore, even if the laboratory was certified for pH and temperature analysis, it is approximately 10 miles away from the Deer Creek WWTP, which is at minimum a 14 minute drive from Deer Creek WWTP, to the laboratory at El Dorado Hills WWTP, which This 14-minute estimate does not account for sample collection time. Therefore, it is not factually not possible to collect-transport samples from-at the sample location at Deer Creek and transport them to the El Dorado Hills WWTP laboratory within the federally-required 15 minute holding time for a pH sample and the near-immediate analysis requirement for temperature samples.~~

There are four private certified ~~labs-laboratories~~ with mobile units located within the vicinity of the District's facilities, which includes the private contract ~~labs-laboratories~~ now located at the El Dorado Hill WWTP. However, none of the ~~labs-laboratories'~~ mobile units are currently certified for pH and temperature nor provide this service and the Central Valley Water Board cannot require them to obtain this certification. Even if the mobile units decided to provide this service, they would use the same hand-held field equipment as the District's personnel. As described below, ELAP does not certify

personnel or equipment. Thus, it is not factually possible for the District to comply through the use of mobile units. However, the Central Valley Water Board cannot legally require these labs to be ELAP certified for on-site monitoring and analysis of pH and temperature.

~~Additionally, it is not legally possible for the Central Valley Water Board to specify the manner of complying with section 13176 by requiring the Discharger to have an on-site laboratory or certification for specific constituents. Sierra Foothill Laboratory is not ELAP certified for pH or temperature and therefore is not available to the Discharger for contracting out for pH and temperature sample analysis as a certified laboratory. Based on conversations with three of the four private labs, it would be possible to acquire certification, but the monitoring fees are approximately \$100 per hour, which includes travel time to and from the monitoring locations. Thus, the cost to the District ranges from \$51,000 to \$81,000 per year for each Facility.~~

~~The District provided information that the on-site private lab at the El Dorado Hills Wastewater Treatment Plant can conduct the in-situ monitoring for an approximate annual cost of \$20,000 per facility; however, the District's current budget is \$19.661 million per year after recent local sewer fee increases, and the 2012 budget is projected at \$20.362 million per year (www.eid.org/2011-2012_OpBudget.pdf). The District states that they have reduced staff since 2008 by 34.8%, and increased sewerage fees up to 15%. The District states that it is not economically (factually) possible to pay these costs.~~

A certified laboratory would have to send out its personnel and lab equipment to collect an onsite sample for pH and temperature. In this instance, it is not possible for the sample to be returned to a certified lab for proper analysis. In addition, it is not legally or factually possible to require ELAP certification of individual personnel or equipment not affiliated with a certified laboratory, because A certified laboratory could dispatch personnel with hand-held instruments to perform field (on-site) measurements for pH and temperature. However, ELAP does not certify personnel or individual instruments; ELAP only certifies laboratories. This is clear from reading the applicable statutory requirements (Ca. Health & Safety Code §§ 100825-100920) and was confirmed in a letter dated June 2, 2011 from the Chief of the Division of Drinking Water and Environmental Management, which oversees the ELAP program. (The Division's organizational structure is available at <http://www.cdph.ca.gov/programs/Pages/DDWEM.aspx>, last visited 6 June 2011.) Having personnel employed by a certified laboratory travel to the site to conduct testing is legally indistinguishable from having the District's own personnel conduct the testing; ELAP does not certify the personnel or the instruments in either case. It is both legally and factually impossible for the District to have its personnel or field instruments obtain ELAP certification. Thus, it is legally and factually impossible for the District to comply with section 13176 in this manner.

It is important to consider whether the accuracy or the precision of the pH and temperature is most important to the field samples. Temperature results may change rapidly from the collection point to the analysis location. The pH of water is

temperature dependent, which is considered in the maximum holding time of 15 minutes specified in test methods. As water samples are transported from a field collection site to a laboratory, the temperature may change, affecting the results for both temperature and pH. Thus, the pH and temperature determined in an ELAP-certified laboratory will be precise for the sample water when analyzed, but may not be accurate for the site conditions (e.g., the receiving water or effluent being tested). This violates 40 CFR section 122.48(b), which requires monitoring that is sufficient to yield data that are representative of the monitored activity. It is legally impossible for the District to comply with section 13176 in a manner that violates this Clean Water Act requirement.

~~ELAP certification of a laboratory does not improve the data quality because the quality of the data is related to maintaining manufacturer specified calibration procedures, maintenance procedures, proper use of the equipment and proper Quality Assurance/Quality Control (QA/QC) methods. In Section D, Standard Provisions, the proposed permit requires QA/QC requirements for the Discharger to maintain equipment calibration and maintenance procedures on record for the past 5 years, which assures reliable results and maintenance of the equipment to manufacturer's standards. The Discharger presently has a QA/QC program in place where all operators are trained on proper calibration and use of the equipment. Per USEPA 40 CFR 136, methods 4500 H and B can be performed in the field with a handheld pH meter with a combination electrode that is calibrated with at least two standards that bracket the pH samples. Therefore, based on the above discussion, it is not legally or factually possible for the Regional Board to require pH or temperature analysis in accordance with California Water Code section 13176.~~

5. NPDES Permit, Summary of Reasonable Potential Analysis (Attachment G). Modify Aluminum in the table and add Footnote 6, as shown in underline/strikeout format below:

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum, Total Recoverable	ug/L	150	--	200	750 ¹	--	--	--	--	200	Yes ⁶

Footnotes:

6. Based on the Final Writ of Mandate issued by the Sacramento Superior Court on 28 March 2011