



# CVCWA

## Central Valley Clean Water Association

*Representing Over Fifty Wastewater Agencies*

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April 20, 2012

*Via Electronic Mail*

Dania Jimmerson  
Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Drive, #200  
Rancho Cordova, CA 95670  
[djimmerson@waterboards.ca.gov](mailto:djimmerson@waterboards.ca.gov)

**Re: Comments on the Tentative Waste Discharge Requirements for the City of Modesto Water Quality Control Facility**

Dear Ms. Jimmerson:

The Central Valley Clean Water Association (CVCWA) appreciates the opportunity to submit these comments on the tentative waste discharge requirements (Tentative Order) for the City of Modesto Water Quality Control Facility (Modesto WQCF). CVCWA is a non-profit organization representing more than 50 publicly owned treatment works throughout the Central Valley Region in regulatory matters affecting surface water discharge, land application, and water reuse. We approach these matters with a perspective to balance environmental and economic interests consistent with state and federal law.

Our comments on the Tentative Order relate to the effluent limitations for mercury, molybdenum, and nitrate + nitrite (as N) and the ultra violet (UV) disinfection requirements. For the reasons described below, we respectfully request that you: (1) express the effluent limitations for mercury as interim limitations in lieu of final limitations; (2) calculate the effluent limitations for molybdenum using a dilution ratio of 20:1; (3) remove the effluent limitation for nitrate + nitrite (as N); and (4) revise the UV disinfection requirements as proposed in section D of this letter.

**A. The Mass Effluent Limitations for Mercury Should Be Expressed as Interim Limitations, Rather Than Final Limitations**

The Tentative Order includes *final* annual mass-based effluent limitations for total mercury of 1.16 pounds applicable to the discharge of secondary and tertiary effluent from the Modesto WQCF. (Tentative Order at pp. 13, 15.) CVCWA requests that you revise the Tentative Order to express the requirements as interim effluent limitations, rather than final effluent limitations. This request is consistent with the Delta Mercury Control Program (Program) incorporated into the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* (rev. Oct. 2011) (Basin Plan).

The Basin Plan requires certain discharges to the Delta, including the San Joaquin River, to comply with the Program. (Basin Plan at p. IV-33.12.) The Program is to be implemented through a phased, adaptive management approach. (*Ibid.*) Phase 1 spans from October 20, 2011, through the anticipated date of October 20, 2020, and includes provisions for implementing *interim* mass effluent limitations for inorganic total mercury from point sources. (*Ibid.*) The Basin Plan states:

*During Phase 1, all facilities listed in Table IV-7B shall limit their discharges of inorganic (total) mercury to facility performance-based levels. The interim inorganic (total) mercury effluent mass limit is to be derived using current, representative data and shall not exceed the 99.9th percentile of 12-month running effluent inorganic (total) mercury loads (lbs/year). . . . The limit shall be assigned in permits and reported as an annual load based on a calendar year. At the end of Phase 1, the interim inorganic (total) mercury mass limit will be re-evaluated and modified as appropriate. (Basin Plan at p. IV-33.14.)*

The Modesto WQCF is not a facility listed in Table IV-7B. (Basin Plan at p. IV-33.25; see Tentative Order at p. F-37.) However, CVCWA believes that the same approach used in the Program—the use of interim limitations, rather than final limitations—should be used in this case. Further supporting the use of this approach is that the final mercury limitations for the Modesto WQCF are performance-based and the San Joaquin River from Merced River to the Tuolumne River is listed as impaired for mercury. (Tentative Order at pp. F-11, F-37.)

**B. Effluent Limitations for Molybdenum Should Be Revised Based on a Dilution Credit of 20:1**

With regard to the discharge of secondary effluent from the Modesto WQCF, the Tentative Order states that a 20:1 dilution credit was considered to calculate water quality-based effluent limitations (WQBELs) for molybdenum. (Tentative Order at p. F-54.) The Tentative Order further states:

However, the Central Valley Water Board finds that granting of these dilution credits could allocate an unnecessarily large portion of the receiving water's assimilative capacity for molybdenum and could violate the Antidegradation Policy. For this reason, a performance-based effluent limitation is included in this Order. (*Id.* at pp. F-54 to F-55.)

For the reasons explained below, CVCWA submits that recent treatment plant performance constitutes an improper baseline for interpreting consistency with the antidegradation policy. Further, it is also inappropriate to use the antidegradation policy to truncate effluent limitations and deny calculated dilution credits without first making proper findings. Therefore, we request that you calculate the effluent limitations for molybdenum using a dilution ratio of 20:1 and revise the Tentative Order accordingly.

**1. The Tentative Order's Use of Recent Treatment Plant Performance Is an Improper Baseline for Interpreting Consistency With the Antidegradation Policy**

The Central Valley Regional Water Quality Control Board (Regional Water Board) may impose increasingly stringent requirements on a permitted discharge by adopting WQBELs. (40 C.F.R. § 122.44(d).) However, setting treatment *outcomes* based on antidegradation is beyond the scope of the Regional Water Board's authority. WQBELs are based on the effects of a discharge on the immediate receiving waters to provide reasonable protection of beneficial uses while giving due consideration of applicable policies (e.g., *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005) or "SIP"). (See 40 C.F.R. § 122.44(d)(1).) In Finding G titled "Water Quality-based Effluent Limitations (WQBELs)," the Tentative Order explains: "Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements *where necessary to achieve applicable water quality standards.*" (Tentative Order at p. 6, emphasis added.) Appropriately, Finding G does not mention the antidegradation policies. (*Ibid.*)

In contrast, antidegradation determinations require consideration of the impact to water quality when compared to the existing permitted condition of that water body. (Administrative Procedures Update No. 90-004, State Water Resources Control Board (State Water Board) (July 1990) at p. 4.) Accordingly, calculating WQBELs and preventing antidegradation are two different processes. Using the procedure in the Tentative Order for determining the WQBELs for molybdenum thus undercuts the existing water quality planning process and impermissibly amounts to open-ended regulatory authority to dictate outcomes in the permitting process.

**2. The Tentative Order Impermissibly Denies Calculated Dilution Credits and Truncates Effluent Limitations Without Making Requisite Findings**

The Tentative Order impermissibly denies the calculated dilution credit of ratio of 20:1 and truncates the effluent limitations for molybdenum without making the findings required by law. That is, the Tentative Order “must set forth findings to bridge the analytic gap between the raw evidence and ultimate decision or order.” (*Topanga Association for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515; *Environmental Protection Information Center v. Cal. Dept. of Forestry and Fire Protection* (2008) 44 Cal.4th 459, 516.) This legal requirement “minimize[s] the likelihood that the agency will randomly leap from evidence to conclusions” and is critical to assure interested parties that the decision rendered is reasoned and equitable. (*Topanga, supra*, 11 Cal.3d at 516.) As the California Supreme Court has noted, clear articulation of “the relationships between evidence and findings and between findings and ultimate action” discloses “the analytic route the administrative agency traveled from evidence to action.” (*Id.* at 515.) The Legislature “contemplated that the agency would reveal this route.” (*Ibid.*)

Therefore, when the Regional Water Board determines that truncating calculated WQBELs is appropriate, the findings in the permit must adequately support such determinations. (See also Order WQO 2004-0013, *In the Matter of the Petition of Yuba City* (July 22, 2004) at p. 16 [“[T]here are situations where a more stringent, performance-based effluent limitation may be required pursuant to our anti-degradation policy, but if that is the case, the findings must clearly explain the basis for establishing the more stringent effluent limitations.”].) Mere reference to the antidegradation policy, as was done in the Tentative Order, does not constitute the necessary and adequate support or appropriate findings.

**C. The Effluent Limitation for Nitrate + Nitrite (as N) Is Not Based On a Reasonable Potential Analysis and Therefore Should Be Removed From the Tentative Order**

The Tentative Order includes a final effluent limitation for nitrate + nitrite (as N) of 10 milligrams per liter applicable to the tertiary discharge. (Tentative Order at p. 14.) This limitation is based on the primary maximum contaminant levels developed by the State Department of Public Health and United States Environmental Protection Agency (USEPA). The Tentative Order states that “[t]he biological treatment system for the new tertiary facility is not operational, therefore, there is no data for nitrate or nitrite. A new RPA [reasonable potential analysis] cannot be performed.” (*Id.* at p. F-55.)

Because it has not been determined that the discharge has reasonable potential for nitrate + nitrite (as N) for either the secondary or tertiary discharge, including WQBELs for the same is inappropriate. (See Tentative Order at p. F-55.) Under the federal regulations, where:

[A] discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria

within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant. (40 C.F.R. § 122.44(d)(1)(iii).)

To determine whether a discharge has reasonable potential, the Regional Water Board must use procedures that account various factors. Such factors include existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, and dilution of the effluent in the receiving water where appropriate. (40 C.F.R. § 122.44(d)(1)(ii).)

In this case, there has been no consideration of whether the Modesto WQCF's discharge in fact causes or contributes to an exceedance of the primary MCLs with regard to nitrate + nitrite (as N). Without any such reasonable potential determination, the effluent limitation for nitrate + nitrite (as N) is inappropriate and should be removed from the Tentative Order.

**D. The UV Requirements Should Be Modified In a Manner That Ensures Proper Disinfection Without Dictating the Manner of Permit Compliance**

The Tentative Order includes UV operational and monitoring requirements for the Modesto WQCF's year-round discharge of tertiary treated effluent. (Tentative Order at pp. 28, E-13, F-91 to F-92.) The stated purpose of the UV requirements is to ensure that adequate disinfection or pathogen removal occurs in accordance with the Tentative Order's provision that the discharge "be oxidized, filtered, and adequately disinfected pursuant to the Department of Public Health (DPH) reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent." (*Id.* at pp. 31, F-48, F-91 to F-92.) CVCWA submits that the UV operating criteria impermissibly specify the manner of compliance with the Tentative Order's disinfection requirement.

Water Code section 13360 prohibits a discharge permit from specifying the manner in which the permittee must comply with a permit requirement. (*Tahoe-Sierra Preservation Council v. State Water Resources Control Board* (1989) 210 Cal.App.3d 1421, 1438 (*Tahoe-Sierra*.) In relevant part, this section states:

No waste discharge requirement or other order of a regional board or the state board or decree of a court issued under this division shall specify the design, location, type of construction, or particular manner in which compliance may be had with that requirement, order, or decree, and the person so ordered shall be permitted to comply with the order in any lawful manner. (Wat. Code, § 13360(a).)

Water Code section 13360 "preserves the freedom of persons who are subject to a discharge to elect between available strategies to comply with that standard." (*Tahoe-Sierra, supra*, 210 Cal.App.3d at 1438.) That is, "[t]he discharger must be allowed to comply with the

permit in any lawful manner.” (State Water Board Order WQO 2002-0015<sup>1</sup> at p. 37; see State Water Board Order No. WQ 90-5<sup>2</sup> at p. 87 [board orders must “allow[] the dischargers to select the manner of compliance”]; State Water Board Order No. WQ 83-3<sup>3</sup> at p. 4 [Water Code section 13360 “allows the Regional Board to regulate discharges of waste fully, so long as it does not tell the discharger precisely how to meet the established limits.”].)

In this case, the Tentative Order impermissibly dictates the manner in which the Modesto WQCF must comply with the requirement for disinfection. For example, one criterion states that the Modesto WQCF “shall operate the UV disinfection system to provide a minimum UV dose per channel of 80 millijoules per square centimeter (mJ/cm<sup>2</sup>) at peak daily flow . . .” (Tentative Order at p. 28.) Another criterion states that “[t]he UV transmittance (at 254 nanometers) in the wastewater exiting the UV disinfection system shall not fall below 55 percent of maximum at any time.” (*Ibid.*) The Tentative Order also contains detailed operational requirements related to turbidity, quartz sleeves, and lamps. (*Ibid.*)

In lieu of the specific requirements proposed, CVCWA recommends that the permittee be required to submit an operations and maintenance program to ensure adequate disinfection. This approach is consistent with the Regional Water Board’s purpose, but does not specifically dictate the manner of compliance. In particular, we request that you replace section VI.C.4.a of the Tentative Order with the following:

**a. Filtration Operating Specifications.** To ensure the filtration system is operating properly to provide adequate disinfection of the wastewater, the turbidity of the filter effluent measured at FIL-001 shall not exceed:

- i. 2 NTU, as a daily average;
- ii. 5 NTU, more than 5% of the time within a 24-hour period; and
- iii. 10 NTU, at any time.

**b. Ultraviolet (UV) Disinfection System Operating Specifications.** The UV disinfection system must be operated in accordance with an approved UV Operations and Maintenance (O&M) Program that assures adequate disinfection. By <DATE>, the Discharger shall submit a UV Disinfection O&M Program. The O&M Program shall include, at a minimum, operational specifications for minimum average hourly UV dose, UV transmittance, flow, and turbidity necessary to meet the disinfection requirements of this Order and to provide virus inactivation equivalent to Title 22 Disinfected Tertiary Recycled Water. The O&M Program shall also include

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<sup>1</sup> State Water Board Order WQO 2002-0015, *In the Matter of the Review on Own Motion of Waste Discharge Requirements Order No. 5-01-044 for Vacaville’s Easterly Wastewater Treatment Plant* (Oct. 3, 2002).

<sup>2</sup> State Water Board Order No. WQ 90-5, *In the Matter of Petition of Citizens for a Better Environment (CBE), et al.* (Oct. 4, 1990).

<sup>3</sup> State Water Board Order No. WQ 83-3, *In the Matter of the Petition of the United States Department of Agriculture, Forest Service of Review of Order No. 6-82-123* (April 21, 1983).

maintenance requirements, such as lamp cleaning and lamp replacement procedures, meter maintenance procedures, and a contingency plan for when the turbidity and/or UV transmittance does not meet the operations requirements for adequate disinfection.

CVCWA appreciates your consideration of these comments and requested revisions. Please contact me at (530) 268-1338 or [eofficer@cvcwa.org](mailto:eofficer@cvcwa.org) if I can be of further assistance.

Sincerely,



Debbie Webster,  
Executive Officer

cc: Pamela Creedon, Central Valley Regional Water Quality Control Board  
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