

ITEM: 28

SUBJECT: El Dorado Irrigation District
El Dorado Hills WWTP, El Dorado County

BOARD ACTION: *Consideration of NPDES Permit Renewal.*

BACKGROUND: The El Dorado Irrigation District (Discharger) owns and operates the El Dorado Hills wastewater treatment plant (WWTP) that serves the community of El Dorado Hills and surrounding areas. Tertiary treated effluent is discharged to Carson Creek, an ephemeral stream and tributary to Deer Creek and the Cosumnes River from approximately November through May, and is reclaimed pursuant to Title 22 of the California Code of Regulations the rest of the year. Similar to the existing NPDES permit (Waste Discharge Requirements (WDR) Order No. R5-01-135), the proposed permit does not prohibit year-round discharge to Carson Creek. Biosolids produced by the treatment process are land-applied offsite.

The NPDES permit authorizes a major discharge. It proposes an increased regulated discharge from 3.0 mgd to 4.0 mgd to Carson Creek upon completion of the Discharger's proposed WWTP expansion project. The permit also includes a significant number of new and more stringent effluent limitations. New effluent limitations are proposed for aluminum, bis(2-chloroethyl)ether, bis(2-ethylhexyl)phthalate, carbon tetrachloride, copper, cyanide, dibromochloromethane, dichlorobromomethane, iron, manganese, mercury, persistent chlorinated hydrocarbon pesticides, total trihalomethanes, zinc, and electrical conductivity. A new "fixed" ammonia concentration and mass limitations replace the existing "floating" ammonia limitations. The proposed permit additionally addresses the Discharger's proposed replacement of chlorine disinfection with ultraviolet (UV) disinfection for effluent discharges to Carson Creek. Compliance schedules and corresponding interim effluent limitations are included in the permit for new and more stringent effluent limitations in which the Discharger is unable to immediately comply.

ISSUES: The Discharger, the California Sportfishing Protection Alliance (CSPA), and the Environmental Law Foundation (ELF) submitted comments on the tentative permit issued in April 2007. The major issues discussed in the comments are summarized below. Further detail on all comments is included in Regional Water Board staff's Responses to Comments:

Salinity: CSPA commented that the proposed permit does not contain a final salinity (electrical conductivity or EC) effluent limitation even though there is reasonable potential of exceedance of water quality objectives.

The average EC effluent level of 751 umhos/cm and average total dissolved solids (TDS) effluent concentration of 450 mg/l exceed the salinity levels (700 umhos/cm EC level and 450 mg/l TDS concentration) discussed in cited literature by Ayers and Westcot that are considered as screening values that are generally protective of the salt-sensitive crops for maximum crop yield. However, there is no numerical site-specific

salinity water quality objective/criteria for Carson Creek.

The proposed permit requires the Discharger to conduct and submit a site-specific EC/Salinity receiving water study to determine the appropriate salinity levels that are protective of the agricultural crops irrigated with the receiving water. The proposed permit states that final salinity effluent limitations, based on site-specific salinity levels determined to protect crops grown in the local area, will be established in a subsequent permit renewal or amendment. The proposed permit includes an interim maximum daily performance-based EC limitation of 1041 umhos/cm, which is statistically calculated based on the average EC effluent level of 751 umhos/cm. The proposed Order also: (1) includes a reopener provision that allows the Regional Water Board to include final salinity effluent limitations in the permit when approved site-specific receiving water EC/Salinity information is available, and (2) requires the discharger to develop and implement a salinity minimization plan to reduce salinity entering the WWTP.

Stringency Of Requirements For Individual Pollutants: The Discharger comments that the proposed permit and fact sheet contain inadequate discussion and findings relating to California Water Code (CWC) Section 13241 factors when imposing limitations more stringent than federal standards.

Due to a Regional Water Board staff oversight, the proposed permit was initially developed not recognizing the existing requirement in the current NPDES permit that requires the Discharger to provide tertiary treatment only when the receiving stream to effluent ratio is less than 20:1 dilution. During this lower-flow condition, the Discharger is required to provide tertiary treatment (or equivalent) and meet pathogen reduction requirements stipulated by the Department of Health Services to protect contact-recreation beneficial uses. The oversight was corrected and the proposed permit contains the same tertiary treatment requirements as the existing permit. Nevertheless, language was added to Finding M. in the proposed permit and the fact sheet to address CWC Section 13241.

Antidegradation Analysis: The Discharger submitted an Antidegradation Analysis consistent with 40 CFR section 131.12 and State Water Resources Control Board (State Water Board) Resolution No. 68-16. The analysis addresses potential degradation of the receiving water due to the proposed increase in regulated discharge from 3.0 mgd to 4.0 mgd to Carson Creek. ELF and CSPA commented that the antidegradation analysis performed for the proposed permit is inadequate and not in accordance with antidegradation policies. ELF expressed concern regarding use of the existing water quality as the baseline for potential degradation comparison and that cumulative effects from prior expansions/permits since 1968 when State Water Board Resolution No. 68-16 was adopted, or since 1975 under the federal policy, must be considered. Additionally, ELF commented that the findings and fact sheet discussion in the proposed permit were insufficient.

The antidegradation analysis conducted by the Discharger addresses

potential degradation due to the proposed increased discharge. The existing surface water quality and the effluent water quality allowed by the existing NPDES permit were used as the “baseline” to estimate degradation due to the proposed flow increase. The proposed permit allows for an increase of one million gallons per day to allow for treatment plant service to this growing community and establishes equal or more stringent effluent limitations to protect beneficial uses. The conclusions of the antidegradation analysis support that the potential lowering of water quality (1) does not threaten the beneficial uses of the receiving waters and (2) provides important housing and economic benefits to the people of the El Dorado community and the State. Therefore, staff believes the proposed permit is in accordance with antidegradation policies.

CSPA comments that the Antidegradation analysis does not address degradation to groundwater regarding discharge to the unlined ponds. The proposed permit does not allow an increase in pond capacity and requires the Discharger to conduct ground water monitoring and line the ponds. The proposed Order also contains reopener language that allows further limitations and/or regulatory measures to be included in the permit if monitoring data shows degradation of groundwater.

The permit findings and fact sheet have been modified to include further detail to address comments by ELF and CSPA.

Mass Limitations: CSPA comments that the proposed permit does not contain mass based effluent limitations and is not in accordance with 40 CFR 122.45(f). The permit includes mass limitations for oxygen-depleting constituents, bioaccumulative constituents, and constituents listed on the CWC Section 303(d) list or are TMDL-related. Other proposed limitations are concentration-based limitations in accordance with 40 CFR 122.45.

Compliance Schedules: In its Infeasibility Study, the Discharger requested a 5-year time schedule to comply with limitations for California Toxic Rule (CTR) priority pollutants. The proposed permit includes a compliance schedule until 18 May 2010 in the permit to comply with limitations for CTR constituents, aluminum and ammonia. The fact sheet acknowledges that the Regional Water Board may need to consider an additional time schedule in a future enforcement order for CTR constituents.

Comments submitted by the Discharger contain a request for an enforcement order, requesting a five years compliance schedule that is concurrent with the proposed time schedule in the proposed permit. This is a new request in which Regional Water Board staff will need to develop and circulate a proposed enforcement order prior to the Regional Water Board’s consideration of adoption.

Aluminum Criteria: The proposed aluminum limitation was developed

using the USEPA 2002 National Ambient Water Quality Criteria for Freshwater Aquatic Life of 87 ug/L. The Discharger commented that the 87 ug/L chronic 4-day criteria is only applicable to low-hardness, low-pH receiving waters, and is not applicable to Carson Creek. They requested the criteria recommended in the USEPA May 2006 publication titled *Evaluation of the EPA Recalculation Procedure in the Arid West Technical Report* be utilized, or as an alternative, use the aluminum acute maximum 1-hour criteria value of 750 ug/L.

Carson Creek is listed as an impaired waterbody on the 303(d) list for aluminum. Effluent data indicates the maximum effluent concentration (MEC) is 760 ug/l, and the average effluent concentration is 168 ug/l. The MEC exceeds both the freshwater aquatic life chronic criteria of 87 ug/l and acute maximum 1-hour criteria of 750 ug/l. The Discharger also uses alum, an aluminum-containing coagulant, in its treatment process. Therefore, corresponding effluent limitations are proposed. Lastly, Regional Water Board staff has not reviewed the 2006 Arid West Technical Report, and is not considering implementation of report conclusions in the currently proposed NPDES permit.

Technical Correction to Ammonia, Mercury, and Organochlorine Pesticides Limitations: A calculation error (the omission of a 2.5 multiplier for the chronic toxicity criteria) was identified in the final ammonia limitations in the tentative permit. The correction results in less stringent final limitations. Additionally, CSPA commented that the interim ammonia limitation is greater than the existing effluent limitation due to the statistical method of calculation, and allows backsliding. The proposed interim limitation was calculated by use of the statistical methods in accordance to USEPA Technical Support Document, resulting in a higher interim limitation than the ammonia limitations in the existing permit. To address CSPA's concerns, the permit was revised to include the same "floating" ammonia limitations as are in the existing permit to serve as proposed interim limitations, and not allow backsliding.

CSPA also commented that the proposed performance-based mercury mass limitation, based on the proposed increased flow of 4.0 mgd, allows backsliding. Staff concurs that this mass-limitation is to be based on current performance and regulated flow, and has revised the limitation to be based on the existing 3.0 mgd regulated flow.

The tentative permit contains (1) a 5-year compliance schedule (up to May 2012) for the Discharger to comply with final “non-detect” organochlorine (persistent chlorinated hydrocarbon) pesticide effluent limitations, and (2) corresponding interim performance-based limitations. However, the Discharger must comply with the CTR by 18 May 2010. Therefore, interim CTR criteria-based limitations for the CTR-listed organochlorine pesticides demonstrating “reasonable potential” have been added to the tentative permit.

Mgmt. Review _____

Legal Review _____

21/22 June 2007

11020 Sun Center Dr. #200

Rancho Cordova, CA 95670