

Central Valley Regional Water Quality Control Board  
5/6 February 2009 Board Meeting  
Response to Comments for the City of Live Oak  
Live Oak Wastewater Treatment Plant  
Tentative Cease and Desist Order

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The following are Regional Water Quality Control Board (Regional Water Board) staff responses to comments regarding the tentative Cease and Desist Order (CDO) for the City of Live Oak wastewater treatment plant (WWTP). The tentative CDO proposes to extend compliance dates in an existing CDO to allow the City of Live Oak (Discharger) to finalize planning efforts to potentially regionalize into the nearby City of Yuba City WWTP. The tentative CDO includes: (1) performance-based interim effluent limits for ammonia, aluminum and turbidity, and (2) a new compliance date for submittal of a formal decision regarding regionalization, and (3) two extended compliance dates for either compliance with existing tertiary-level effluent limitations (if Discharger chooses to upgrade existing secondary facility) or cease of waste discharge (if Discharger pursues regionalization).

The Regional Water Board received comments from the Discharger regarding the tentative CDO. Written comments are summarized below, followed by Regional Water Board staff responses.

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**City of Live Oak (DISCHARGER)**

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**DISCHARGER – COMMENT No. 1:** Page 6, Table – The Discharger requests that the procedure outlined in the US EPA Technical Document for Water Quality-Based Toxics Control be used for establishing the proposed interim effluent limitations. The Discharger states that by using statistical measures of 99 percent confidence interval and 99 percent probability on the existing data set, an interim limit for ammonia of 23.7 mg/L is calculated (based on the 260 ammonia data samples). For the proposed aluminum interim limitation, the Discharger states that using the same US EPA approach and statistical measures of 95 percent probability, an interim limit for aluminum of 8300 µg/L is calculated. The Discharger is proposing the use of the 95% probability because although existing data shows unusually high spikes of effluent aluminum concentration observed in the past, the use of a 99 percent probability will result in an unreasonably high interim effluent limit.

**RESPONSE:** Regional Water Board staff has considered the Discharger’s proposed approach for development of proposed ammonia and aluminum interim effluent limitations. Staff has also considered the existing treatment provided by the existing secondary pond treatment facility to prevent backsliding. The Discharger’s approach to establishing interim limitations, as discussed above, is more conservative than the Regional Water Board staff approach; however, the two approaches produced similar interim limitations.

Regional Water Board staff notes that the US EPA Technical Support Document (TSD) for Water Quality-Based Toxics Control method “suggests” that the use of log-normal distribution of data well characterizes effluent concentrations. However, staff finds that “the number of “non-detects” and unusually high spikes in the two existing data sets for ammonia and aluminum are not particularly well represented by a log-normal distribution of

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the data set. As an alternative to the TSD method, Regional Water Board staff performed normality tests on (1) the data sets, and (2) on the data sets transformed by natural-log. The data sets for each constituent were determined to not be well represented by either a normal or log-normal distribution. Therefore, Regional Water Board staff used a statistical program (MiniTab) to calculate a performance-based limit using a natural-log distribution of the existing data set. With use of best professional judgment to not allow an unreasonably high (statistically projected) interim limit, performance-based interim limitations were established (as proposed in the tentative CDO issued for public review) in which the Discharger is able to comply by maintaining the existing level of treatment and/or control.

For the proposed ammonia interim limitation, Regional Water Board staff believes that the difference in the resulting interim limitation from the Discharger approach versus Regional Water Board staff approaches is insignificant. Therefore, staff has modified the originally proposed ammonia interim limitation of 20 mg/L to 23.7 mg/L, as requested by the Discharger. However, Regional Water Board staff believes the Discharger's approach for calculating an aluminum interim effluent limitation results in an unreasonably high value of 8300 ug/L. The maximum observed aluminum concentration in the effluent was 3700 ug/L. Most of the effluent data indicates aluminum concentrations of "non-detect". Regional Water Board staff addressed the high standard deviation in the data set by using the natural-log of the data and best professional judgment, and concluded with a proposed interim limitation of 7300 ug/L. Staff believes that the originally proposed aluminum interim limitation of 7300 ug/L is one in which the Discharger can comply. Therefore, the proposed aluminum interim limitation remains unchanged.

**DISCHARGER – COMMENT No. 2:** CDO Page 6, Table – The Discharger requests that the proposed interim turbidity limitation be removed from the tentative CDO as it is not applicable to the existing secondary pond treatment plant. The Discharger states that turbidity effluent limitations are used for filtered influent to guarantee proper disinfection and to provide pathogen free water (coliform levels of less than 2.2 MPN/100 ml). Turbidity of the pond effluent is typically not regulated by a NPDES permit. The receiving water turbidity limits to protect the receiving water (Reclamation District 777- Lateral No. 1) are already included into the existing NPDES Permit Order No. R5-2004-0096, and the additional turbidity limit for the pond plant does not appear reasonable.

The Discharger also noted a typo in the turbidity interim limitation. The proposed turbidity interim limitation should read 102 NTU, not 102 µg/L.

**RESPONSE:** An interim performance-based turbidity effluent limitation of 102 NTUs is proposed due to the following factors: (1) the existing NPDES permit has a final effluent turbidity limitation in which the Discharger currently can not comply, (2) a compliance schedule has been granted, and an extended compliance schedule is being considered, for the Discharger to comply with the existing final turbidity effluent limitation, and (3) the

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existing treatment level must be maintained in the interim time period. Effluent turbidity on an interim basis is currently unregulated for this discharge. With future WWTP upgrades planned for completion on 30 September 2012 (or regionalization by 31 May 2014), as proposed in the tentative CDO, Regional Water Board staff believes an interim turbidity limitation is necessary and that the Discharger can comply with the proposed performance-based interim limit that is based on actual effluent data.