

**Regional Water Quality Control Board
Central Valley Region
Board Meeting – 2/3/4 February 2011**

**Response to Written Comments for Tentative Waste Discharge Requirements,
California Department of Corrections and Rehabilitation,
California Correctional Institution, Tehachapi
Kern County**

At a public hearing scheduled for 2 February 2011, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) will consider adoption of Waste Discharge Requirements for the discharge of disinfected tertiary recycled wastewater from the California Department of Correction's (Department or Discharger), Wastewater Treatment Facility (WWTF) at the California Correctional Institution in Tehachapi, to nearby reuse areas owned by the Department (Use Area) and others (Reclamation Areas). This document contains responses to written comments received from interested parties regarding the Tentative Waste Discharge Requirements (TWDRs), draft Monitoring and Reporting Program (MRP), and draft Information Sheet circulated on 3 December 2010. Written comments from interested parties were required by public notice to be received by the Central Valley Water Board by 3 January 2011 to receive full consideration.

Written comments were received from AECOM, the Department's consultant.

The written comments are summarized below, followed by Central Valley Water Board staff responses.

AECOM

AECOM – TWDR, COMMENT 1: TWDR, page 1, Finding 2. AECOM states that the Report of Waste Discharge and Title 22 Reports were submitted on 30 November 2010.

RESPONSE: The TWDRs and associated documents have been modified to reflect the receipt of the updated Report of Waste Discharge and Title 22 Report. At the time the TWDRs were distributed for review, the above referenced reports had not been received.

AECOM – TWDR, COMMENT 2: TWDR, page 3, Finding 12 (same issue on page 12, Finding 54; page 17, Effluent Limitation B.3; and page 25, Effluent Limitation B.17). AECOM states the total nitrogen concentration in effluent should be 15 mg/L and that the TWDRs be modified to reflect the higher limit. AECOM indicates the Discharger will submit a report that demonstrates that the requested increase will be protective of underlying groundwater quality.

RESPONSE: No changes were made to the TWDRs. The comments do not include the technical justification for the requested change. The initial reports addressing the proposed upgrade of the WWTF in 1998 and 2000 indicated the upgraded tertiary WWTF would produce an effluent with a Total Nitrogen concentration of 10 mg/L or less. The Updated RWD and Title 22 Report submitted by AECOM in November 2010 request the Total Nitrogen effluent limit be increased to 15 mg/L.

Provision B.17 of the TWDRs states

The Discharger shall comply with the effluent total nitrogen limitation of 10 mg/L ([Effluent Limitation B.2](#)) or, alternatively, the Discharger shall submit a design report and performance demonstration for the storage ponds. The performance demonstration shall establish that the pond design will be protective of groundwater quality and that seepage from the ponds will not contribute to nitrogen in groundwater exceeding groundwater limitations. This provision will be considered satisfied following written acknowledgement from the Executive Officer.

The change has not been made and the limit will remain 10 mg/L until the Discharger has demonstrated the discharge will be protective of underlying groundwater quality and the request has been approved by the Executive Officer. If the Discharger cannot make the demonstration, the limit is necessary to protect the beneficial uses of groundwater as listed in Finding 45 of these TWDRs.

AECOM – TWDR, COMMENT 3: TWDR, page 3, Finding 14. AECOM suggested the following changes to Finding 14, which addresses backup power sources and redundancy requirements. The requested changes are shown in **bold**.

*“A standby power generator will provide power **to the headworks and alarm system** in case of a power outage. **There is adequate emergency storage to meet Title 22 reliability and redundancy requirements.**”*

RESPONSE: The TWDRs and associated documents have been modified to reflect the updated information.

AECOM – TWDR, COMMENT 4: TWDR, page 4, Finding 18. AECOM requests the word “**treatment**” be replaced with “**storage**” in the first sentence of Finding 18.

RESPONSE: The TWDRs and associated documents have been modified to reflect the updated information.

AECOM – TWDR, COMMENT 5: TWDR, page 6, Finding 27. AECOM requests a statement be included in Finding 27 indicating the golf course (Horse Thief Golf Course and a proposed User of the disinfected tertiary recycled water) has submitted a Notice of Intent to be included in State Water Board Resolution No. 2009-0011.

RESPONSE: No changes were made to the TWDRs. Finding 27 includes language indicating the TWDRs comply with efforts to promote and expand wastewater recycling opportunities and programs (such as State Water Board Resolution No. 2009-0011) and a specific reference is not necessary.

AECOM – TWDR, COMMENT 6: TWDR, page 17, Effluent Limitation B.2. AECOM queries the effluent requirement of 90 percent removal of the influent BOD concentration and wonders if the requirement should be 80 percent removal.

RESPONSE: No changes were made to the TWDRs. The 90 percent removal limit is typical of tertiary requirements with ultraviolet disinfection. AECOM's concern is that influent BOD levels have been lower than anticipated since the upgraded WWTF has come on line. In three of the twelve months in 2010, the influent BOD concentration was lower than 100 mg/L (80 to 99 mg/L). Using the 90 percent removal scenario would result in limits of less than 10 mg/L (8.0 to 9.9 mg/L) during these months. However, the effluent BOD concentrations during 2010 were never greater than 2.0 mg/L, which is less than even the most restrictive limit of 8.0 mg/L calculated using the 90 percent removal approach. The current discharge would not violate the proposed Effluent Limitation.

AECOM – TWDR, COMMENT 7: TWDR, page 25, Provision G.15. AECOM requests that Provision G.15 be removed as it is not applicable because the WWTF does not filter with the stated media (microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane).

RESPONSE: No changes were made to the TWDRs. The Discharger does not plan to use the various media at this point, but leaving the Provision in the TWDRs will allow the Discharger the flexibility and opportunity to consider such a change in the future without having to issue new WDRs.

AECOM – DRAFT MRP, COMMENT 8: Draft MRP, page 2, Effluent Monitoring. AECOM requests that the effluent list include either Total Kjeldahl Nitrogen (TKN) or ammonia, but not both and indicates that TKN and ammonia are approximately equivalent in effluent.

RESPONSE: No changes were made to the TWDRs. Ammonia is a constituent that is typically included in current MRPs for sewage treatment systems. The existing MRP No. 88-035 did not require testing for nitrogen in any form, but the Discharger included results for influent and effluent samples collected in 2010 in its Self Monitoring reports. Influent and effluent samples were analyzed for nitrate as nitrogen and TKN, and Total Nitrogen was calculated by adding the two results. As expected, the reported Total Nitrogen values of the influent samples were comprised almost entirely of TKN and the effluent samples almost entirely of nitrate as nitrogen. Ammonia will be included to assess if it is consumed in the nitrification process as well or if it is included in the effluent and adds to the potential nitrogen loading of the discharge. After an appropriate number of samples have been collected and analyzed (six to eight sampling events) and should the results indicate ammonia is consumed in the treatment process as assumed, the Discharger could then request the removal of ammonia from the analytical suite.

AECOM – DRAFT INFORMATION SHEET, COMMENT 9: Draft Information Sheet, page 1, Background Section. AECOM suggests the following changes to the Background Section (third paragraph, first sentence) of the Draft Information Sheet. The requested changes are shown in ~~strikeout~~/**bold**.

*“final construction ~~landscaping~~ **of an irrigation pump station.**”*

RESPONSE: The TWDRs and associated documents have been modified to reflect the updated information.

AECOM – DRAFT INFORMATION SHEET, COMMENT 10: Draft Information Sheet, page 2, Solids/Biosolids Disposal Section (third paragraph, first sentence). AECOM suggests that in regards to the type of liner in place at the proposed biosolids storage area (former treatment pond) the statement “**clay-lined**” be replaced with “**compacted liner storage.**”

RESPONSE: No changes were made to the TWDRs. During the upgrade of the WWTF, the Discharger submitted a *Notice of Intent for Biosolids Discharge to Land* dated 22 January 2010 and prepared by AECOM. The Discharger proposed to remove sludge or solids that had accumulated in the former treatment ponds, dewater the solids with a centrifuge, and then dry the solids in a 3.6-acre clay-lined drying area (previously a treatment pond). The NOI includes a biosolids storage plan, stamped by a Professional Engineer of AECOM, that states that the biosolids will be stored in a “clay lined biosolids storage area” and further states that the “existing clay lining will confine any leachate produced by the biosolids.” Additionally, the November 2010 Title 22 report indicates on page 6 that the “sludge storage area is lined with treated clay material with a permeability less than 10^{-6} cm/s.”