Central Valley Regional Water Quality Control Board
23/24 October 2008 Board Meeting

Response to Comments for California Department of Corrections and Rehabilitation, Deuel Vocational Institution

The following are Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (NPDES Permit renewal) for California Department of Corrections and Rehabilitation, Deuel Vocational Institution. Public comments regarding the proposed Orders were required to be submitted to the Regional Water Board by 5:00 p.m. on 26 September 2008 in order to receive full consideration.

The Regional Water Board received comments regarding the proposed NPDES Permit renewal by the due date from the California Department of Corrections and Rehabilitation (Discharger). The submitted comments were accepted into the record, and are summarized below, followed by Regional Water Board staff responses.

CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION (DISCHARGER) COMMENTS

Discharger Comment #1. Proposed Basin Plan Amendment for pH and Turbidity

We understand that a basin plan amendment is in review regarding receiving water pH and turbidity limits that may have an impact on the regulation of discharge to Deuel Drain. To assure that any future modifications are incorporated into the permit, we request that Section V.A.B. and V.A.15 be modified to include the phrase " ... or as may be amended in the Basin Plan in the future".

> **RESPONSE:** As a matter of practice, and to avoid potential future issues related to interpretation and implementation for specific circumstances, the Regional Water Board does not include prospective requirements in Orders to implement future Basin Plan amendments for water quality objectives. Therefore, the suggested modification has not been included in the proposed Order

Discharger Comment #2. Ultraviolet (UV) Disinfection System Operating Specifications

The Tentative Draft version of the permit includes new provisions in Section VI.C.4.b for operation and monitoring of the UV Disinfection System. These provisions were not present in the preliminary draft version of the permit previously reviewed by CDCR.

Based on our consultant's familiarity of UV systems operating in recycled water applications, it appears that the National Water Research Institute (NWRI) standards were incorrectly cited. A UV dose of 100 mJ/cm2 is appropriate for unrestricted reuse recycled water systems following granular or cloth media filtration systems with a UV transmittance of 55 percent. However, the treatment system designed at the WWTP

follows a membrane treatment system, for which NWRI prescribes a dose of BO mJ/cm2 at a minimum transmittance of 65 percent.

Further, the requirements for "visual" inspection of the lamps apply to an open channel type UV system. Closed vessel UV systems such as the units proposed for the WWTP rely upon instrumentation, primarily UV intensity meters, to assure the appropriate UV dose is being delivered and that the quartz sleeves are maintained in sufficient condition. Visual inspection is not possible without disassembling the UV reactor, which is not recommended by the UV system manufacturer. Attachment E - Monitoring and Reporting Program, Section IX.C. requires continuous monitoring of flow rate, turbidity, number of UV banks, transmittance, power setting and dose. These parameters are more than sufficient to confirm that the necessary power settings are utilized to account for lamp fouling and age, eliminating a need to visually inspect the lamps at any point between the appropriate maintenance intervals.

Therefore, the Discharger requests that Section VI.C.4.b. be revised to delete the requirement for a minimum UV dose of 100 mJ/cm2, and replace it with 80 mJ/cm2. Further, the minimum transmittance specified under VI.C.4.b.iii. should be increased to 65 percent. Finally, the requirement for visual inspection of the lamps should be deleted, as it is not feasible to do so with closed reactor UV systems, and not necessary due to the instrumentation utilized to monitor delivered dose.

> **RESPONSE:** Staff concurs that the requirements for the UV dosage contained in the proposed permit were inappropriate for the treatment system at the Facility. Modifications were made to Section VI.C.4.b of the Order and Section VII.B.4 of the Fact Sheet (Attachment F) to reflect the appropriate requirements for a membrane treatment system.
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> Staff also concurs regarding removal of the requirement for visual inspection for their closed vessel configuration, and the fact that the continuous UV performance monitoring required in Section IX.C of the Monitoring and Reporting Program (Attachment E) should ensure that the quartz sleeves are properly maintained.

Discharger Comment #3. Notification Requirements

Section VI.C.5.e. requires that an electronic notification system be installed within 6 months on any continuous monitoring parameters. The new WWTP, once completed, will comply with the specified notification requirements. The only parameter required to be monitored, before completion of the new WWTP, is flow. The current WWTP has a visual alarm system for significant events which alerts the guard towers to dispatch Plant Operations personnel. In this manner, Plant Operations staff can provide 24/7 coverage of the institution.

Therefore, the Discharger requests the requirement for electronic notification be tied to the initiation of operation at the new WWTP and that, in lieu of this requirement, the existing WWTP continue with its existing visual alarm notification system.

RESPONSE: Staff concurs that the visual alarm notification system is adequate for purposes of complying with the intent of the proposed Section VI.C.5.e. requirement for the existing plant, and that the electronic notification system should be tied to the completion of the new wastewater treatment plant. The provision in Section VI.C.5.e of the Order has been modified to require the Discharger to continue use of the visual alarm notification system, and to require the use of an electronic notification system for the new wastewater treatment plant upon initiation of the operations.