

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**MEETING OF NOVEMBER 12 AND 13, 2008  
BARSTOW**

**ITEM:** 6

**SUBJECT:** STATUS REPORT ON COMPLIANCE BY THE CITY OF  
ADELANTO, WASTEWATER TREATMENT PLANT, SAN  
BERNARDINO COUNTY

**CHRONOLOGY:** September 11, 2002 Revised Waste Discharge Requirements  
(Board Order No. R6V-2002-050)

August 29, 2007 Cease and Desist Order  
(Order No. R6V-2007-24)

**DISCUSSION:** The purpose of this item is to inform the Water Board of the status of compliance by the City of Adelanto (City) with Cease and Desist Order (CDO) No. R6V-2007-24 to address violations associated with its wastewater treatment plant (Facility). Specifically, these violations are for exceeding the flow limit, exceeding the effluent limit for biochemical oxygen demand (BOD) and discharging to a percolation pond without a permit from the Water Board.

The Facility collects, treats, and disposes an average of 1.5 million gallons per day (MGD) of domestic and industrial wastewater and discharges the treated effluent to four existing percolation ponds. A fifth percolation pond is planned to be completed in 2009 based on the anticipated need for additional percolation capacity. While the Facility was designed to produce disinfected tertiary water using subsurface diffusion aerators, poor quality effluent is being produced, with a daily maximum BOD ranging between 35 and 99 mg/L. The BOD daily maximum effluent limit in the permit is 30 mg/L.

The CDO requires interim and long term corrective actions to correct violations of Waste Discharge Requirements (WDRs), and to achieve final compliance by December 31, 2008.

The CDO required the City to submit an Interim Action Plan by October 31, 2007 proposing near-term actions to address violations. The City's interim measures are as follows.

1. Septage is no longer accepted at the facility;
2. Replace inoperable aerators; and
3. Incorporate additional flow equalization into the treatment process.

Sample results show that while total nitrogen was somewhat reduced in the effluent, the plant performance did not improve significantly after implementing the interim measures, and the violations continue. Insufficient plant capacity is the primary antagonistic factor that is negating the effect of interim corrective actions on the discharge.

To address the long-term actions to achieve final compliance with WDRs, the City has designed and is constructing a new technology treatment process plant expansion that will increase the treatment plant capacity from the current 1.5 MGD to 4.0 MGD. Of this, 3.0 MGD will be handled by the new treatment process and 1.0 MGD will be treated by the existing treatment facility.

The new treatment technology is comprised of a "clean screen" primary separator, a Micromedia™ sand filter with coagulation, and a biological oxidation tank. The clean screen separator is a continuous belt which filters out suspended particles from the incoming wastewater, which in turn reduces the BOD to the Micromedia™ sand filter and biological oxidation tank. The organic substrate in the biological tank is used by the bacteria as an energy source, producing almost zero sludge during the process. The final plant effluent will reportedly meet the turbidity (suspended solids) requirement of California Code of Regulations, title 22, and will produce total nitrogen effluent concentrations of equal to or less than the current plant. The plant currently produces an effluent with an average total nitrogen of 17 mg/L.

The City submitted a Report of Waste Discharge (ROWD) for the new plant. The report states that the proposed effluent quality will contain a BOD of approximately 20 mg/L, be similar in TDS concentrations as the existing effluent, and will contain less total nitrogen. However, only general information was provided in the ROWD as to the expected effluent concentrations. The ROWD also states that it is not feasible to fully assess the expected groundwater quality changes resulting from the discharge.

Because ROWD was deficient, staff plans to incorporate the following submittal requirements into the proposed revised WDRs.

1. Further characterization of the discharge, such as, actual effluent concentrations for total nitrogen, and for other inorganic and organic constituents.
2. Quantitative analysis specifying background concentrations in the receiving water and adequate monitoring of groundwater to assess the water quality impacts from the discharge.

Overall, the City has taken both interim and long-term actions to comply and is in the process of constructing additional plant capacity. However, it has not adequately characterized proposed effluent quality or the potential impact on the groundwater, and continues to be in violation of its WDRs. Board staff plans to incorporate the additional requirements for groundwater protection as described above, into proposed revised WDRs for the Board's future consideration. Enclosed is a table showing the status of compliance with tasks required for the wastewater treatment plant.

**RECOMMENDATION:**

Information Item

Enclosure: Schedule of Tasks Table

JM/rp BO2008/Adelanto Compliance Status GS

**ENCLOSURE 1**

<b>SCHEDULE OF TASKS</b>			
<b>Adelanto Waste Water Treatment Facility</b>			
<b>PERFORMANCE TASK</b>	<b>DUE DATE</b>	<b>STATUS</b>	<b>COMMENTS</b>
<b>Req'd by Cease And Desist Order No. R6V-2007-24</b>			
<i>I. Interim Compliance Actions</i>			
1.B. Submit Interim Action Plan	Oct. 31, 2007	Late	Received Nov. 1, 2007
1.C. Begin operation of the modified Facility in the interim action plan	Jan 31, 2008	Met	
<i>II. Actions related to final compliance</i>			
II.A. Submit Long Term Action Plan	Dec 31, 2007	Met	
II.B. Achieve final compliance with WDR's	Dec 31, 2008		
<i>III. Reporting</i>			
Submit Jul. to Sept. 07 CDO Status Report	Oct. 15, 2007	Late	Received Nov. 7, 2007
Submit Oct. to Dec. 07 CDO Status Report	Jan 15, 2008	Met	
Submit Jan. to Mar. 08 CDO Status Report	Apr 15, 2008	Met	
Submit Apr. to Jun. 08 CDO Status Report	Jul 15, 2008	Met	
Submit Jul. to Sept. 08 CDO Status Report	Oct. 15, 2008	Met	
Submit Oct. to Dec. 08 CDO Status Report	Jan 15, 2009		
Submit Jan. to Mar. 09 CDO Status Report	Apr 15, 2009		
<b>Req'd by Waste Discharge Requirements No. R6V-2002-050</b>			
<i>II. Provisions</i>			
<i>II.C. Time Schedules</i>			
II.C.1. Submit Technical Report	Jan 17, 2003	Late	Received March 3, 2004
II.C.2. Submit Certification Report post construction			No record of submittal
II.C.3a. Submit work plan for phase 1 study	Nov 15, 2002	Late	Received Feb. 3, 2003
II.C.3b. Begin phase 1 study for TDS degradation of groundwater	Jan 17, 2003	Late	Received March 24, 2004
II.C.3c. Submit a phase 1 Report	Oct 17, 2003	Late	Received March 22, 2004
<b>Req'd by Monitoring and Reporting Program No. R6V-2002-050</b>			
II.C. Submit Quarterly Monitoring Reports	Oct. 31, 2007	Met	
II.C. Submit Quarterly Monitoring Reports	Jan 31, 2008	Met	
II.C. Submit Quarterly Monitoring Reports	Apr 30, 2008	Met	
II.C. Submit Quarterly Monitoring Reports	Jul 31, 2008	Met	
II.C. Submit Quarterly Monitoring Reports	Oct 31, 2008		
II.C. Submit Quarterly Monitoring Reports	Feb 2, 2009		
II.C. Submit Quarterly Monitoring Reports	Apr 30, 2009		
II.C. Submit Quarterly Monitoring Reports	Jul 31, 2009		
II.C. Submit Quarterly Monitoring Reports	Nov 2, 2009		
II.D. Submit Annual Reports	Mar 30, 2008	Met	