

Cuyama Community Services District (CCSD) Wastewater Treatment Plant Effluent Disinfection Project

Prop 50 Funding

In a competitive grant for Integrated Regional Water Management monies under Proposition 50, the Cuyama Community Services District (CCSD) was awarded \$279,800 by the State Water Resources Control Board for the Wastewater Treatment Plant Effluent Disinfection Project.

Wastewater Treatment Plant (WWTP) Effluent Disinfection Project

The CCSD Wastewater Treatment Plant (Plant) is an activated sludge facility that treats an average flow of 40,000 gallons per day. The clarified effluent is disinfected via gaseous chlorine prior to discharge. The sludge produced from the activated sludge system is aerobically digested and applied to the sludge drying beds. Recent water quality analyses performed at the Plant have shown that the disinfection byproducts of bromodichloromethane and dibromochloromethane have exceeded permit limits. Moreover, permit requirements also dictate that the effluent be nearly free of chlorine; therefore CCSD is replacing the gaseous chlorine system to meet the coliform and disinfection byproducts' discharge limits with a safer and more environmentally superior technology. This reduces these disinfection byproducts in the wastewater effluent by implementing the following improvements:

- modifying the existing potable water disinfection facility to allow increased control of chlorine addition together with the addition of ammonia, to create chloramines; and
- disinfecting the treated wastewater effluent with ultra-violet (UV) light instead of chlorine;
- use of small solar panels to power the UV system

Need for the Project

In the absence of dechlorination, it is impossible for the District to meet the chlorine residual requirement while also providing enough disinfection to satisfy fecal coliform requirements. CCSD is replacing the gaseous chlorine system with an alternative disinfection technology that enables it to meet both the coliform and disinfection byproducts (bromodichloromethane and dibromochloromethane) discharge limits.

Project Benefits

The principle advantages of these improvements include: 1) protection of public health; 2) reduction of the potential for byproduct formation; 3) reduction of chemical storage and handling; and 4) no residual remains of byproducts in the treated water.