

Memorandum

To: Board of Directors, Sierra Lakes County Water District
From: Bill Quesnel PE, Operations Manager
Subject: Donner Summit Public Utility District Board Workshop
Treatment Plant Permitting
Date: February 11, 2009

The purpose of this memorandum is to provide the Board with a summary of the Donner Summit Public Utility District's Workshop on the proposed permit conditions for the Wastewater Treatment Plant. The meeting was held on February 10, 2009, at Sugar Bowl. There were approximately 25 people in attendance not including the PUD Board, Staff, Consultants and two representatives from the Central Valley Regional Water Quality Control Board (Regional Board). The meeting lasted about three hours and included presentations by the Regional Board Staff and ECO:LOGIC.

Regional Board

Mr. Ken Landau, Assistant Executive Director, with assistance from Ms. Diana Messina, Senior Engineer, provided a two page handout (attached) summarizing the permitting process and highlighting some of the key considerations. Mr. Landau and Ms. Messina reviewed the handout and expanded some of the discussion points:

- The Board regulates both surface and groundwater discharges, administers both State and Federal laws. The rules are written to protect the "uses" of the water body
- A new NPDES (National Pollutant Discharge Elimination System) permit is required every five years and the renewal is overdue.
- A Cease and Desist Order is necessary because the plant is not able to consistently meet its existing permit conditions. The order allows time for the discharger to make the improvements necessary to comply with the permit. The Order would have been issued even if a new permit was not being considered.
- The permit contains six main sections; the "meat" is in Section F "Fact Sheets". The permit and supporting documents can be found at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/index.shtml scroll down to the Nevada County portion of the page.
- The effects of nitrates on new-borns and ammonia on aquatic life were described along with a short review of the nitrification and denitrification processes.
- The Regional Board believes the plant's discharges contributed to the algae bloom in the river but are not sure to what extent. The result is increased monitoring as part of the new permit
- Some permit conditions have not changed:
 - Flow rate remains at 0.52 MGD
 - Same basic disposal system: land when possible, otherwise the river
 - The river discharge must meet the disinfection requirement to allow unrestricted human contact
- Revised permit conditions include:

- Numerous constituents added: aluminum, copper, zinc, manganese, silver, cyanide and disinfection by-products.
- Study of the “bio-stimulation” of the river resulting from the plant discharges
- The installation of a diffuser at the end of the pipe to provide better mixing of river water and effluent
- Three options for nitrate and disinfection by-product discharge requirements are being considered:
 - dilution credit for both nitrates and disinfection by-products
 - dilution credit for disinfection by-products only
 - no dilution credits
- Written comments are due no later than March 6, 2009.
- Dilution Credits and flows in the Yuba River were a major discussion point. The Regional Board Staff’s explanations (according to my notes/understanding) were:
 - credits are calculated based on an average flow in the river over a period of time.
 - due to variations in flow, the actual dilution at any one time will be different than at another.
 - the current permit does not require flow in the river in order to discharge because the effluent must meet a numerical standard “out of the pipe”.
 - if dilution is allowed, the plant will not be able to discharge unless there is water in the river to provide dilution.
 - the Regional Board is considering adding river flow monitoring to the permit to prove dilution is occurring when the plant discharges to the river.
- There is an incentive to not discharge to the river because fines must be levied if the discharge does not meet permit standards; that is not the case for land applications, i.e. fines are not mandatory. Discharge to the river also requires additional monitoring and chemical treatment while the land application results in increased power costs.
- The five year time frame for the Cease and Desist Order is “standard” for treatment plant upgrades because of the time/effort involved to make changes (design, permitting, construction, operation).
- The dilution credit is proposed only for constituents that could affect humans (the mixing zone is ~500 feet in length and will be shortened with the new diffuser). No dilution is allowed for constituents that could affect aquatic life in the short-term (1 hour) at the discharge point.

ECO:LOGIC

Jeff Hauser, with help from Bob Emerick, presented an overview of how the plant is currently operated, the ACCU-Web installation and what the new permit conditions could mean from a Capital and Operational cost perspective. Much of what Mr. Hauser described is contained in a January 15, 2009, letter provided to the DSPUD and available on their website at <http://www.dspud.com/assets/news/hauserletter.pdf> In effect, ECO:LOGIC believes it will be necessary to create synthetic wastewater during periods of low flow in order to have the ability to treat the peak holiday and weekend flows if dilution credits are not allowed by the permit. The costs of the biological capacity upgrades could range from \$0.5 Million to \$10.0 Million depending upon the final requirements. These costs do not include items like the river diffuser, the installation of an ultra-violet disinfection system (instead of chlorine) and increased operational (personnel, chemicals, energy) costs to create and treat wastewater.

Summary

The meeting was productive and informative. Once the permit conditions have been established, the two Districts will meet and begin the process of determining how best to meet the new conditions.

Attachments: Regional Board Meeting Handout