

Article for SLCWD Website

PRESENT STATUS OF

DSPUD WASTEWATER TREATMENT PLANT UPGRADE/EXPANSION

This article presents the status as of year-end 2009 of the upgrade and potential expansion of the Donner Summit Public Utility District (DSPUD) wastewater treatment plant (WWTP). Our district, the Sierra Lakes County Water District (SLCWD), collects and exports Serene Lakes' wastewater to that plant for treatment, under agreements with DSPUD that have been in effect for the past 25 or so years. SLCWD, through its financial contributions to the original plant construction and later upgrades, and monthly payments for the plant's operation and maintenance, has a right to a share (currently 44 percent) of the plant's treatment capacity, even though we do not have direct ownership in the plant.

The plant's treatment capacity has been near its upper limit for several years. At the same time as upgrades have been made to the plant, there were sewer connection restrictions in effect in both Districts at various times. At present our District has about ten sewer connections available for purchase until the capacity of the plant is increased.

The plant discharges its treated wastewater to the Soda Springs ski hill during summer and early fall, and to the South Fork of the Yuba River the rest of the year. DSPUD's permit for discharge to the river expired in 2007. Since then the plant has operated under an interim permit. New and greatly more restrictive discharge limits were adopted by the Central Valley Regional Water Quality Control Board (RWQCB) in April 2009. These limits must be met by a plant upgrade by April 2014. The plant modifications to meet these limits represent the **plant upgrade**.

In the same plant construction phase, a capacity expansion is highly desirable to overcome the existing plant's capacity limitations, as discussed above. A process has been adopted by the two districts whereby each District adopted an initial increase in the plant capacity "owned" by each. The capacity is expressed in terms of requested additional Equivalent Dwelling Units (EDUs), a unit corresponding to the expected wastewater produced by a single-family residence. For reference, the present EDU count is approximately 820 EDUs for DSPUD and 818 EDUs for SLCWD. The initial requested additional EDU's were about 240 by DSPUD and 80 by SLCWD. The final commitments for EDUs will be due after the overall new plant concept will have been adopted in early 2010. Our District's considerations regarding our final EDU request is discussed in a separate article devoted just to this complex issue. The plant's modification to increase capacity represents the **plant expansion**, and the combined modification is termed herein the **plant upgrade/expansion**.

With this lengthy preamble, we finally get to the discussion of the present status of the plant upgrade/expansion. DSPUD has engaged the firm Eco:Logic Consultants (Ecologic), a well-respected water and wastewater engineering consulting firm based in Roseville, to plan and

subsequently design the plant modification. Also, a Joint Wastewater Upgrade Committee with representatives from DSPUD and SLCWD has been formed to oversee the overall work of the plant modification, in particular the front-end work done by Ecologic. This committee has met several times to-date at critical times in the present planning process and will continue to do so throughout the planning and construction phases.

At present Ecologic has made an initial determination of “flows and loads” to be accommodated by the plant modification based on the above initial EDU requests. The “flows” are the expected volumes of wastewater inflow into the plant from both Districts, in terms of various critical flow volumes to be accommodated by the modified plant (such a maximum daily flow, average flows at various times, and short-term ramping up of flows, which are all important parameters in designing the treatment process). The loads refer to the chemical and physical characteristics of the plant inflow, in terms of numerous parameters such as total suspended solids, Kjeldahl nitrogen, and many others).

Also, an initial study by Ecologic identified several types of wastewater treatments processes to be considered for use. These included both continuation of the present IFAS (Integrated Fixed-Film Activated Sludge) system and several entirely different systems. IFAS involves the addition of a medium (in this case webbing material supported on stainless steel frames) to enhance growth of the microorganisms that “treat” the wastewater. At a meeting in August, the Joint Committee gave direction to Ecologic regarding a reduced number of treatment systems they should continue to investigate. Also, several other important issues that impact on the plant modification were discussed and direction given to Ecologic. These issues included, among others, storage of plant inflow to minimize sharp changes in flows to be treated by the plant, and potential temporary effluent storage to combat algae growth that had been experienced in the Yuba River in 2008. Also, a planning contract for Ecologic’s work was approved at that meeting, with a report due in early 2010. The report is expected to provide Ecologic’s recommendations on the plant treatment system and on the important auxiliary issues noted above.

The report, once received, will be reviewed by the Joint Committee representatives and the two boards. Subsequently the Joint Committee will convene to discuss, and hopefully adopt, specific decisions regarding the type of plant modification and the auxiliary issues. Decisions on each district’s and the total additional EDUs to be accommodated by the modified plant will be due soon after that time. A companion article discusses the issue of the EDUs to be requested by each District.

With these decisions made, detailed design for the modified plant can proceed, with a goal to start construction hopefully in 2011 to meet the plant upgrade requirement by April 2014.