POTENTIAL NEW KAWEAH HYDRO PLANT

While drought and lack of water occupy the thinking of most of us involved in Kaweah River operations, the Kaweah River Power Authority steadily continues with its study of another potential hydropower plant at Terminus Dam on Lake Kaweah. Along with the Kaweah Delta WCD, TID is a member of the KRPA and is participating in the study. The new power plant would sit downstream of the existing Unit No. 1 plant below the dam. Unit No. 1, which began operation in 1989, has steadily produced energy being sold to SCE, and revenues from such sales have been used by both TID and KDWCD to advance water management and groundwater recharge operations within the Kaweah Basin.

Unit No. 1, which was increased in energy-generating capacity afforded by the enlargement of the lake’s storage capacity in 2004, can now generate up to 21 MW. Yet, lake levels and flows through the turbine must be at prescribed thresholds for the turbine to spin. At certain times of the year, flows being released at the dam are bypassed around the turbine when lake storage is below about 18,000 AF or when water demands from Kaweah River users fall much below 350 cfs. Also, Unit No. 1 can only take a maximum of about 1,400 cfs, and oftentimes in the summer demands can exceed 2,000 cfs.

The feasibility and cost-effectiveness of another generator or generators to utilize flows otherwise being bypassed have remained questionable and unproven, going back to the installation of the Kaplan turbine over twenty years ago which is still in use at Unit No. 1 today. Harnessing the energy of the bypass flows has thus plagued KRPA operators for many years – until now. A Cross-Flow turbine, operating much like a spinning water wheel, is being viewed as something that could be a cost-effective approach to make use of lower flow releases from the dam and reduced “head” that the turbine experiences when the lake storage is low. Planning is underway, with a license application pending with the FERC, a water diversion application with the SWRCB, and consultants undertaking design and cost studies. Bank financing will likely be the means to cover the planning and construction costs for the project, estimated to be upwards of $6 million.

Along the way as planning proceeds and costs are confirmed, the KRPA board will be provided status reports and ultimately reach a conclusion as to whether the construction costs can be paid back within a reasonable time frame, after which power sale revenues from the new plant can be devoted to the mutual objective of both TID and KDWCD, which is to secure much-needed water for the region and help sustain its limited groundwater resources.
Seeing no water in the District’s canal system for over two years, folks might be wondering what’s going on at TID. What happened to our water supplies? How are we staying busy? Are we able to stay afloat should the drought continue? We are planning a town hall meeting on May 1st to discuss these things and more. It’s going to last just half a day, and breakfast will be served. Look for an announcement coming in the mail soon. One of the key topics we will talk about is the new state legislation regarding groundwater management and regulations.

Groundwater Report

The farmer accounts of groundwater woes abound - failing wells, deeper wells, rapidly falling water levels, waiting lists months long for repairs, well production way down. We thought we’d seen the worst of it in 2014 but here we are, facing another summer just as bad as the last. We’ve just finished the spring depth-to-water surveys and were bracing for the worst. Yet, from last spring, the average rose by 3 ft., up to 152 deep from 155 ft. We even saw an uptick from the expected low last fall, from 159 ft. With such a dry winter we anticipated little, if any, recovery.

The long-term downward trend continues to be troubling, but why the leveling off, if not a slight recovery, in the midst of one of the worst drought in recent times? We see it all around us in the Tulare area and within neighboring districts as well. Row crop ground, some of which under rotational cropping patterns, is being planted to trees. Some react with trepidation, knowing that the water demand hardens and that the land cannot be fallowed as before during times of scarcity. Yet, a single crop will use less than rotational crops, and young trees bring a few years of nominal water use. The tree water demand hardens and that the land cannot be fallowed as before during times of scarcity. Yet, a single crop will use less than rotational crops, and young trees bring a few years of nominal water use. The tree water demand hardens and that the land cannot be fallowed as before during times of scarcity. Yet, a single crop will use less than rotational crops, and young trees bring a few years of nominal water use.

Call it a market-driven correction or something else, this slowdown in the “race to the bottom” isn’t going to save the day as far as the state’s concerned. The newly-passed Sustainable Groundwater Management Act (SGMA) is the law of the land, and it means that the Kaweah sub-basin, like all others in the Central Valley, must come into long-term balance within the next 25 years, and then demonstrate that we can sustain the balance over another 30 years beyond that. That won’t happen by itself, and our region needs to establish an agency or agencies that will develop plans to achieve this.

Over a 50-year time horizon, the cities in our area are likely to grow, land-use patterns will continue to change, and TID will seek to maintain, if not improve on, its ability to import more water for groundwater recharge purposes. It follows that we are

(Continued from page 3)