

Water Storage Investment Program Concept Paper Form

Please complete the questions below and return your completed concept paper by email to cwc@water.ca.gov by 5:00 p.m. on March 31, 2016. Completed concept papers should not exceed four pages.

Contact Information

Contact Name: Thomas J. Haglund
Email: thaglund@tudwater.com
Phone Number: 209 532 5536
Agency/Organization Name: Tuolumne Utilities District (TUD)
Agency Type (select one): <input checked="" type="checkbox"/> Public Agency <input type="checkbox"/> Nonprofit Organization <input type="checkbox"/> Public Utility <input type="checkbox"/> Tribe <input type="checkbox"/> Mutual Water Company <input type="checkbox"/> Local Joint Powers Authority <input type="checkbox"/> Other:

Project Information

Project Name: Tuolumne County Water Supply Reliability Project
Project Type: <input type="checkbox"/> CALFED Surface Storage <input type="checkbox"/> Groundwater Storage <input type="checkbox"/> Groundwater Contamination Prevention or Remediation <input type="checkbox"/> Conjunctive Use <input type="checkbox"/> Reservoir Reoperation <input type="checkbox"/> Local Surface Storage <input type="checkbox"/> Regional Surface Storage <input checked="" type="checkbox"/> Other:
Estimated Project Cost: \$48 Million
Estimated WSIP Funding Request: \$24 Million
Please describe your project, including location, water source, facilities, and operations: <p>In lieu of investment in new water storage, this project would improve the reliability and efficiency of the existing conveyance system; thereby, increasing the usability and reliability of the existing water storage at Lyons Reservoir, minimizing source contamination, and also providing hydroelectric power generation.</p> <p>The project would be a linear feature approximately 4.5 miles in length, parallel to the existing canyon of the South Fork of the Stanislaus River and located north of the community of Mi-Wuk in the county of Tuolumne. The project would involve construction of a tunnel and pipeline from Lyons Reservoir to the Section 4 ditch. The new system would bypass a series of wooden flumes that are precariously situated along the edge of the canyon wall. The flumes are extremely vulnerable to rock fall, tree fall, avalanche, and wildland fire.</p> <p>The water supply for this project would come from an existing contract between Tuolumne Utilities District and PG&E for a flow rate up to 52 cfs. The project would also include an in-line hydro facility capable of generating up to 800kw per day of green energy.</p>

Per Water Code section 79753, the Commission may only fund the public benefits of water storage projects. Further, ecosystem improvements must make up 50% of the funded public benefits (Water Code section 79756(b)). What public benefits does your project provide? (select all that apply):

- Ecosystem Improvements Water Quality Improvements Flood Control
 Emergency Response Recreation

Please describe the magnitude of the public benefits and how the project will be operated to provide the public benefits:

1. A new tunnel and pipe system would add disaster resiliency to an area that is “sandwiched” between two recent wildfires; the Rim Fire and the Butte Fire. A fire hazard assessment has been conducted on the Tuolumne Main Canal and within hours of a fire starting in the river canyon the entire wooden flume system could be destroyed. Destruction of the flume system would cut off approximately 95% of the water supply to the majority of the residents of Tuolumne County.
2. The existing flume and ditch conveyance system experiences significant water loss. Water loss would be reduced through converting the open system to a closed system.
3. PG&E would gain operational control over their releases from Lyons Reservoir and would minimize lag times in response as downstream demands fluctuate. Water saved from these operational efficiencies would translate to more water being available for release into the South Fork Stanislaus River which ultimately can reach the Delta.
4. By converting an open conveyance system, which is subject to many sources of contamination, to a closed system, the raw water quality improves. Improvements in the quality of raw water that is delivered to the District’s water treatment plants, translates to more efficient treatment and less backwash. Reducing backwash frequencies ultimately results in a reduction in raw water demand and savings of water that can be sent to the Delta.
5. The proposed tunnel and pipeline would terminate at a property that has been acquired by the Tuolumne Utilities District to site a regional water treatment facility. Integrating the proposed project with a regional water treatment facility would result in enhanced drinking water quality and also improve the efficiency of the water delivery system.
6. Even during normal water years, residents of Tuolumne County are asked to conserve water for a period of 2 weeks each year when the existing canal system is taken off-line for maintenance. The proposed tunnel and pipeline would minimize, if not eliminate entirely, the impact that the maintenance outage has on customers.

Water Code section 79752 requires that funded projects provide measurable improvements to the Delta ecosystem or to the tributaries of the Delta. Please describe how your project provides ecosystem improvements in the Delta or tributaries to the Delta:

1. The efficiencies gained from converting from the flume and open ditch system to a closed tunnel and pipe system will help achieve a sustained minimum instream flow in the South Fork Stanislaus River enhancing the riparian and related river bed ecosystem including water quality along this reach of river enhancing the ecosystem to a tributary of the Delta. *In 1977 and again in 2014, in-stream flows were significantly reduced to protect the human population from running out of water.*

Water Code sections 79755 and 79757 require the Commission to make a finding that a project will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta prior to allocating funding for a project. Please describe how your project could help advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta:

1. The efficiencies gained from converting from the flume and open ditch system to a closed tunnel and pipe system will help achieve a sustained minimum instream flow in the South Fork Stanislaus River enhancing the riparian and related river bed ecosystem including water quality along this reach of river enhancing the ecosystem to a tributary of the Delta. *In 1977 and again in 2014, in-stream flows were significantly reduced to protect the human population from running out of water.*

Please describe any other benefits provided by your project, such as water supply reliability benefits, and the potential beneficiaries:

1. The tunnel and pipeline will increase water reliability for the City of Sonora that supports a major medical center and cancer treatment care facility that draws thousands of patients from surrounding counties.
2. Sonora is an international destination for travelers visiting both the National Forests but also, destinations including Yosemite National Park and surrounding historic Gold rush era towns of the Motherlode. The proposed reservoir will help ensure a reliable water source to keep this regional function of the Tuolumne County community vibrant.
3. The hydroelectric power is green energy (*and peaking power capacity*) to California's power grid directly offsetting power generated using carbon intensive fuels.