

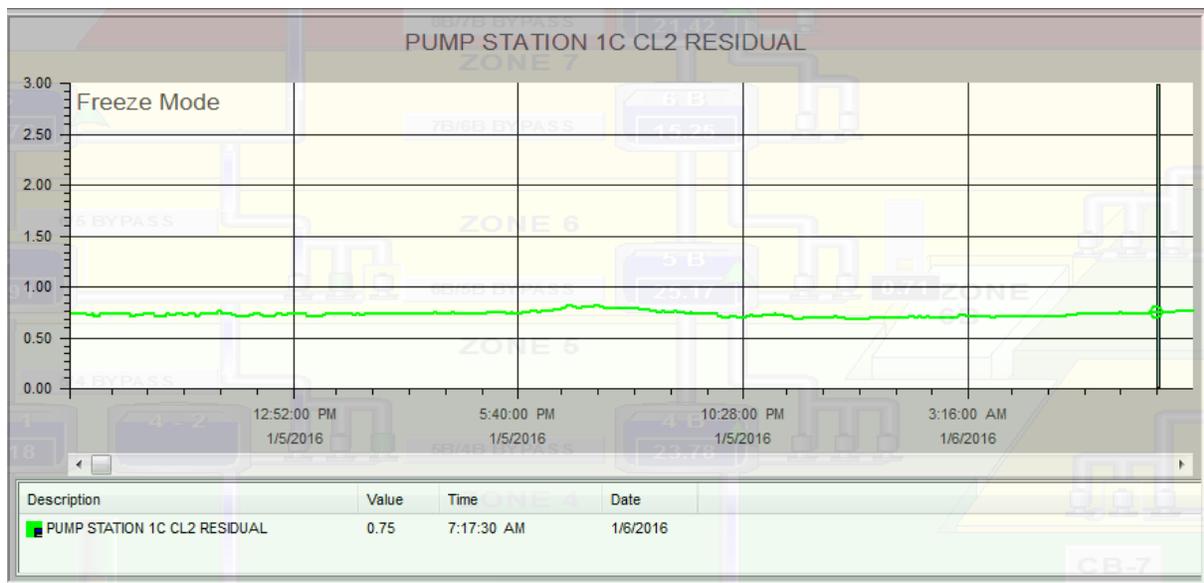
## California's Cucamonga Valley Water District Tackles Chlorine Residuals with Tank Shark® Reservoir Mixing and Dosing Systems



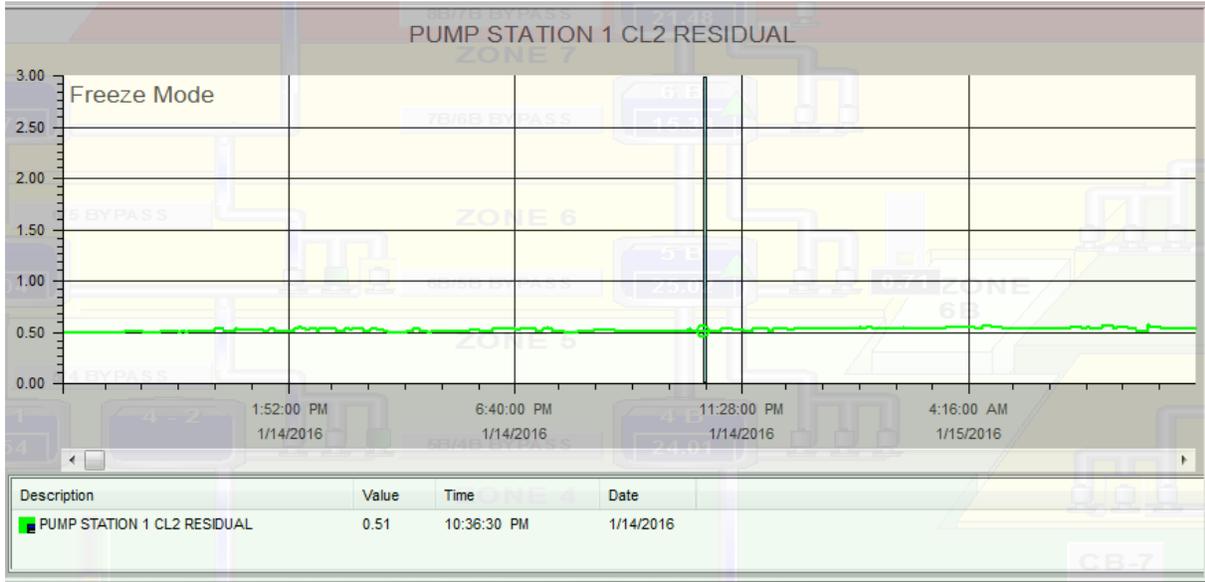
Cucamonga Valley Water District (CVWD) serves a 47-square-mile area with about 45,000 water connections and 35,000 sewer connections and an average daily demand of approximately 50 million gallons. CVWD's service area has both high and low density as it includes the City of Rancho Cucamonga, portions of the cities of Upland, Ontario and Fontana, and some unincorporated areas of San Bernardino County. As with many water service districts basking in the southern California climate, the challenge of managing seasonal water quality has only been complicated by recent drought conditions which only underscores the need for best operational practices.

With summer temperatures often hitting 100°F, the CVWD distribution team is tasked with delivering water with a reliable chlorine residual to a customer base across a network of 35 reservoirs and over 700 miles of distribution pipe. Since 2008, CVWD has employed a strategy of chlorine boosting and reservoir management that has been successful in stabilizing disinfectant residual levels in reservoirs. In order to control stratification in tanks, the CVWD staff employed a combination of powerful eductor type mixing devices and on-site hypochlorite generation in some of their most complex situations. Tank Shark® tank mixers and Microclor® sodium hypochlorite generators that produce 0.8% (8,000 ppm) bleach from salt and electricity were combined by Process Solutions to effectively generate consistent chlorine residuals. So, regardless of system flow or operating conditions, CVWD could adapt disinfection strategies to produce an optimal level of residual from the storage tanks.

The SCADA screen- shot below depicts a 5.5 million gallon reservoir utilizing (3) Tank Shark® mixers to sustain a free chlorine residual of .75 mg/L. The system is averaging .73mg/L with a standard deviation of 0.03 mg/L in the observed 24 hour period.



The SCADA screen- shot below depicts a 3.7 million gallon reservoir utilizing 2 Tank Shark® mixers to sustain a free chlorine residual of .53 mg/L. The system is averaging .52mg/L with a standard deviation of 0.02 mg/L in the observed 24 hour period.



“Tank Shark® from Process Solutions has been a reliable reservoir mixing system and an integral part of our disinfection process. It enables an adaptable approach and provides multiple disinfection strategies.”

**Michael Maestas**  
**Water Production Manager**  
**Cucamonga Valley Water District**

With the Tank Shark® mixing and dosing system, there is no confined space entry, power, pumps or moving parts within the reservoir which simplifies installation and maintenance tremendously. Combined with the convenience of on-site sodium hypochlorite generation, the Tank Shark® reservoir mixing and dosing system has proven to be an effective tool for CVWD which operates 16 units today.

