



Case Study: Orange County Sanitation District OC San Relies on Stem's AI-driven Energy Storage for 24/7 Operations



Location

Fountain Valley, CA

Customer Type

Water District

Facility Type

Water district

Energy Storage System Size

4.95 MW / 32.56 MWh

Solutions

Energy Storage, Utility
Bill Optimization, Demand
Response

Stem Operational Date

June 2020

The Orange County Sanitation District (OC San) is a public agency that provides wastewater collection, treatment, and disposal services for approximately 2.6 million people in central and northwest Orange County from two operating facilities that treat wastewater from residential, commercial, and industrial sources. In June 2020, Stem started operating OC San's energy storage system through the 345MWh portfolio awarded by Electrodes LLC for a 10-year period. Ever since, Stem has seamlessly coordinated trouble-free operations between OC San and the utility using Stem's Athena® smart energy storage software.

“Energy is the lifeblood of our process. The battery system was a great opportunity for us to improve our resilience. It allows us to have one more level of power in the event there is any sort of disruption. Stem takes care of the battery piece, we take care of the power piece. Plus, Stem's service has been stellar. Now we're able to seamlessly coordinate with Stem and the Southern California utility to make sure our needs are met and that there are trouble-free operations day in and day out - Stem does a great job of that.”

Rob Thompson
Assistant General Manager



Challenge

When OC San turned to energy storage to improve the facilities' resilience and operations, the most critical obstacles were determining the revised SCE utility interconnection requirements. Since the plant generation capacity increased and required additional monitoring and metering information for the site, they needed an AI-driven solution to monitor OC San's varying load conditions and cogeneration operating conditions to quickly control the ESS to maximize demand savings while meeting the utility's demand needs.



Solution

Stem's role at OC San is to make sure the ESS operates in a way that minimizes the overall input of electricity to the plant facilities. Stem manages OC San's internal loads to match what's available and what's needed to deliver wastewater services to their 2.6 million customers. The ESS, utilizing Stem's Athena platform, controls the charging of the batteries to minimize the peak monthly demand on the power grid. In the future, if the demand response restrictions change, the battery storage system will be used to intelligently manage the plant's peak power demand during peak power times.



Results

Stem's Athena platform helps enable four value streams for OC San. First, OC San is receiving revenue by allowing the ESS owners to use the available plant demand. Second, the ESS is achieving energy savings and utility bill optimization with Stem by charging the batteries during lower energy costs and discharging at peak energy costs. Third, the ESS discharges when a momentary peak demand exceeds the average monthly peak during an unexpected cogeneration system shutdown. And lastly, in 2019, OC San received California's Self-Generation Incentive Program (SGIP) funding.

To learn more about Stem's solutions, contact stem.com/contact-us.