CASE STUDY

# COASTSIDE COUNTY

**Coastside County Water District, California Drives System Reliability and Sustainability with Microclor® On-Site Hypochlorite Generation, Encore® Metering Pumps and Polyblend® Polymer Activation**

## OVERVIEW

Located in northern California, the Coastside County Water District (CCWD) provides treated water to the scenic town of Half Moon Bay and several unincorporated communities in the area. The system is served by two treatment plants, the Nunes Water Treatment Plant (4.5 MGD) and Denniston Creek Water Treatment Plant (1.0 MGD) and water is distributed through about 100 miles of transmission and distribution pipe. Consistent with an ethic of longer term thinking regarding infrastructure as well as promoting system reliability and sustainability, CCWD embarked on a plan to modernize and upgrade water treatment capabilities in the 2006-2007 timeframe.

A key part of the upgrade effort was focused on the elimination of one-ton chlorine gas cylinders at Nunes and 150-lb pressurized gas cylinders at Denniston. Aside from the obvious improvements in operator and community safety (liquid containment of 0.8% sodium hypochlorite leak is far easier to manage than a chlorine gas leak), the cost savings related to the risk management plan and emergency scrubber maintenance made sense. CCWD undertook an effort to interview and analyze the on-site hypochlorite generation (OSHG) offerings from the four largest suppliers in North America. Weighing heavily in the analysis were the related issues of dependability and reliability. As Sean Donovan, Treatment Plant Supervisor put it, "We are the vanguard of public health. We don't get a day off, so we have to have reliable equipment". CCWD ultimately chose the Process Solutions, Inc. Microclor® OSHG system for both plants with Denniston installing a 40 pound-per-day (pounds of equivalent chlorine gas) first and Nunes utilizing a 100 pound-per-day system about a year later.

After over seven years of operation, the Microclor® system has proven itself in terms of reliability and safety. The clear, vertically oriented cells and the system's open architecture allows for easy inspection and simplifies any minor maintenance required. Furthermore, operators appreciate the fact that no special hazardous materials training or equipment is required (other than safety glasses and gloves) to work around the Microclor® system.

Additionally, CCWD both the Nunes and Dennison plants took the opportunity to upgrade their chemical feed capabilities to meet the same level of reliability and sustainability embodied by the move away from chlorine gas.


***Nunes Treatment Plant 100 PPD Microclor® OSHG system***

"Every time I meet more staff from Process Solutions and UGSI Chemical Feed it reminds me of why we use so many of the products. Not only are the products "bulletproof" but the people that stand behind them are some of the best in the business"

**Sean Donovan, Treatment Plant Supervisor, Coastside County Water District**

CCWD had previously utilized the Wallace & Tiernan (W&T) 44 series-metering pump for a variety of chemical feed needs including permanganate, caustic, and alum metering. The W&T 44 series pump was replaced by the Encore® metering pump in the early 90's and quickly became a standard of reliability in the industry - in fact, many of the Encore® metering pumps installed in the early 90's are still operating reliably today. "Both our plants have standardized on the Encore® metering pumps. The pumps are rugged and dependable. Since I have been at the plant, the only maintenance we have performed on theses pumps was change the oil" remarked Sean Donavan.

Regarding polymer feed which can often be a "top three" category of expense, many engineers and operators overlook the value of proper activation of polymer solutions and apply a "low-cost, low performance" equipment option that unwittingly creates higher lifecycle costs. CCWD and their engineer thought carefully about polymer blending and made the switch to the brand that introduced the industry to the science of polymer mixing – Polyblend®. "Prior to switching to the Polyblend® emulsion polymer activation system we had a non-mechanical polymer activation system. Once we installed the Polyblend® we saw an immediate 20% savings in polymer consumption. I am convinced that high g-value mechanical activation is the best method of activation polymer" said Sean Donavan. Over a 20 year equipment life, a 20% polymer savings can save thousands of dollars providing a strong payback on initial equipment cost.


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