CASE STUDY

CHATSWORTH

Chatsworth Water Works Commission Lowers Risk Profile By Converting to a Safer Disinfectant

OVERVIEW

Chatsworth Water Works Commission provides both water and wastewater services to the 5,000 residents of the cities of Chatsworth and Eton along with water service to the majority of the additional 35,000 Murray County residents in the nearly-350 square mile service area nestled in the northern part of Georgia at the foot of Fort Mountain. The Commission is committed to provide the best water and waste services at the lowest possible rates without compromising safety of the community. This is reflected in its rank among those utilities as having the lowest average consumer bill for water and waste-water services.

The Commission is constantly involved in seeking new, innovative ways in which to improve customer service, safety, and reliability. A recent accomplishment was to replace the aging chlorine gas disinfection systems at both the Eton Water Treatment Plant and the Judson Vick Wastewater Treatment Plant with the latest technology in on-site hypochlorite generation (OSHG).

Chlorine gas, used regularly as a disinfectant against bacteria and other microbes for well over 100 years, requires a number of high-risk plant activities. In search of an innovative and safe alternative to gas disinfection, an extensive evaluation process was commissioned in conjunction with an independent engineering consultant that included not only a request for proposal but also site visits at existing installations and interviews with owners of various manufacturers' OSHG systems. The PSI Water Technologies, Inc. (PSI) Microclor® On-Site Hypochlorite Generation System was selected in part due to its advanced design and enhanced safety features as well as PSI's willingness to provide the support needed so that the Commission could install the equipment themselves without the use of a contractor.

A Microclor® MC-60 OSHG system, which can generate 60 pounds per day (PPD) of chlorine equivalent, was selected for the 2.0 million gallons per day (MGD) Eton Water Treatment Plant. This system was specifically designed to be expandable to 100 PPD to provide the disinfection needed for a possible future wastewater treatment plant located on the same site. Across town at the Judson Vick Wastewater Treatment Plant, the Commission installed another Microclor® MC-60 OSHG system to meet the requirements of the facility, which has a treatment capacity of 3 MGD, including septage receiving.

> *"With assistance from PSI, our team was able to install the Microclor® systems and transition from chlorine gas to on- site hypochlorite generation without any problem. We are very happy to have reduced our risk potential."*
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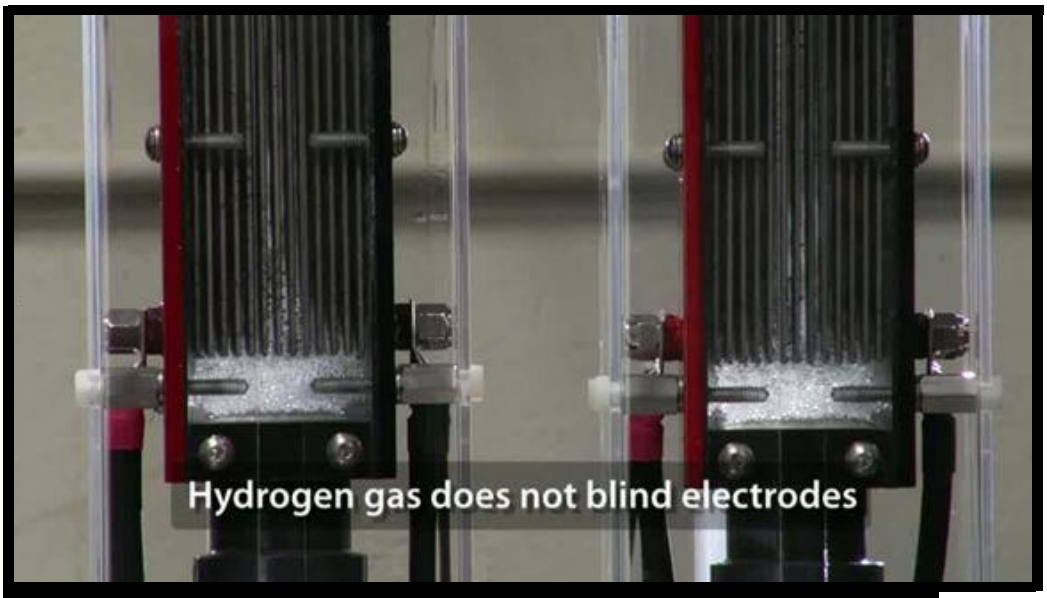
> ***Heath Harrison, Assistant General Manager Chatsworth Water Works Commission***

With the installation of the PSI Water Technologies, Inc. Microclor® OSHG systems, the Commission avoids unnecessary hazards.

This innovative and safe disinfection alternative eliminates transportation of large amounts of the highly-toxic chlorine gas through local communities, bulk storage of hazardous materials in neighborhood facilities, and operating procedures so dangerous that operators are required to don self- contained breathing apparatus (SCBA). The Microclor® OSHG system's modern design uses a vertical arrangement for the electrolytic cells. Unlike previous generations of OSHG systems, this unique design feature allows the cells to operate at atmospheric pressure and have continuous evacuation of hydrogen gas, an electrolysis byproduct. Entrapment of the gas is further reduced by the lack of internal baffles and hardware within Microclor® OSHG systems. The vertical movement of the gas also functions to clean the electrodes, reducing the rate of scaling.

Using low cost and readily available salt, the operating costs for the Microclor® On-Site Hypochlorite Generation Systems remain predictable and low. The Chatsworth Water Works Commission can be proud every time a consumer smiles as they open the small bill received for water and waste water services and know their dedication to providing the community with clean, safe, and reliable drinking water for all of their customers is paying off.



The clear design of the electrolytic cells allows the operator to see what is happening. The degree of scaling, an indication of need for cell cleaning, can also be easily observed.

PSI Water Technologies, Inc.'s Microclor® MC-60 On-Site Hypochlorite Generation System

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