

CASE STUDY

# EWEB

Eugene Water & Electric Board (EWEB) Utilizes On-Site Hypochlorite Generation to Improve Disinfection Safety and Resilience



## OVERVIEW

Born out of a disease-driven epidemic in 1908, the focus of the Eugene Water & Electric Board (EWEB) has always been on public safety and public ownership. Citizens took to the streets to form a citizen-owned, municipal utility that would provide water to the people.

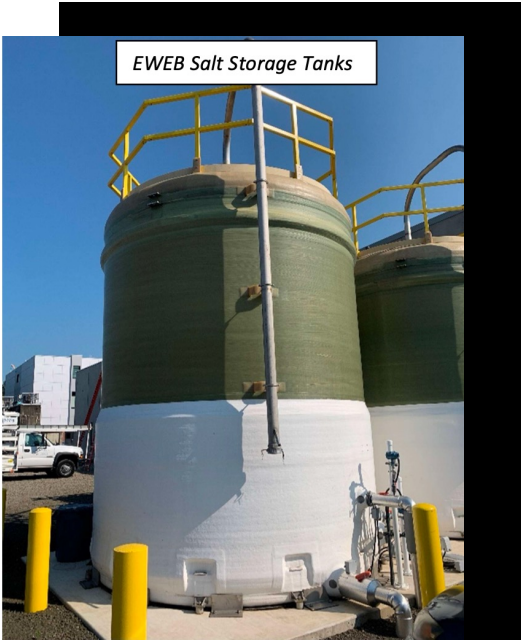
At the same time the utility was officially forming, the city council of Eugene began construction of a hydroelectrically powered plant. The plant, known as, the Waterville Power Plant, would power the pumps available to ensure adequate water pressure. As the years went by, the Waterville Power Plant would provide power power across the city. This expansion allowed it to become the full-service utility that it is today.

Much has changed over the years in the Eugene, Oregon area, but EWEB's founding focus on safety and resiliency has not. As the home to over 175,000 residents, Eugene's demand for good quality water is naturally, quite high. This led them to researching safer, more modern solutions to achieving high quality water.

## SITUATION

The main concern by utility management was in respect to EWEB's use of gas chlorine for potable water disinfection. While chlorine gas is a very effective disinfectant, the toxic and hazardous nature of the gas created hazards for both rate payers and operators.

Additionally, the supply of chlorine gas was limited to only two suppliers in all of the West – raising concerns over supply disruption or a lack of economic control. EWEB wanted a system that would allow them to generate their own disinfectant on-site and reduce hazardous material usage. This would also have the benefit of creating a safer work environment.



EWEB Salt Storage Tanks

*EWEB is Oregon's largest customer-owned utility and provides water through over 800 miles of pipes, with coverage of nearly 45 square miles.*

# APPROACH

The utility implemented an evaluated bid process to analyze things such as safety, footprint, service, etc., in order to decide which option would provide the best possible results while achieving their desired goals.

EWEB evaluated its options and selected the the Microclor® On-Site Hypochlorite Generation System for a few reasons:

- OSHG utilizes an electrolytic process to convert a salt brine solution (table salt – sodium chloride) into a safe low concentration sodium hypochlorite solution (0.8% or 8,000 ppm)
- The OSHG technology allowed users to produce a safer chlorine disinfectant for a fraction of the cost of bulk delivered hypochlorite and can be produced as needed.
- The Microclor® OSHG system was safer because the core generation system made-up of multi-cell loops were open to the atmosphere, passively venting the hydrogen generated by the process to the exterior of the facility.
- The vertically-oriented cells have a smaller installation footprint and can be fully cleaned in place.

Microclor® OSHG was the clear choice. The alternatives were dangerous chlorine-based systems that required costly 12.5% concentrated liquid bleach.

# CONCLUSION

The utility installed three vertical cell Microclor® OSHG skids, each capable of generating approximately 500 pounds-per-day (PPD) of chlorine equivalent. The Microclor® OSHG system was installed and started-up after a smooth 6-month design and installation process

The investment in Microclor® OSHG allowed EWEB to generate their own disinfectant on-site at a much safer concentration of 0.8%, which is 20% below the hazardous material threshold.

EWEB was very happy with the efficiency and results that the Microclor® OSHG was able to generate.



OSHG System 500 PPD Skid Frontal View

# RESULTS



- The investment in Microclor® OSHG allowed EWEB to generate their own disinfectant on-site at a much safer concentration of 0.8%, which is 20% below the hazardous material threshold.
- OSHG allowed EWEB to meet its sodium hypochlorite needs for slightly over one-third the cost of trucked-in bleach while employing a much safer technology for operators and residents.
- The new smaller, vertically-oriented cells were safer, had a smaller footprint, are easier to clean and can operate on demand.

*"Safety is paramount for us, this equipment has made our plant much safer. We were doing a lot of maintenance on the gas chlorine system, and we were ready to make a change to a safer and more resilient disinfection process"*

**Toby Dixon, Lead Treatment Plant Operator,  
EWEB**

To access our full assortment of case studies, data sheets, brochures and more, visit our document library at <https://documents.cleanwater1.com> or scan the QR code.

