Course Title**: On-Site Sodium Hypochlorite Generation as a Safe and Efficient Alternative to Chlorine Gas or Commercial Strength Bulk Hypochlorite for Water Disinfection**

60 minutes of instruction

Course Description: This 60-minute seminar will provide water system managers, operators and engineers a practical understanding of the science and implementation behind on-site sodium hypochlorite generation (OSHG) as a source of chlorine disinfection capacity for water and wastewater plants as well as distributed well systems.

Course Outline:

1. The basics of electrolytic generation of sodium hypochlorite or bleach
    a. Understanding the relationships between table salt (NaCl), electricity, softened water, hydrogen and the bleach product
    b. Economic considerations versus bulk hypochlorite and OSHG
2. Equipment Components and Technical Design
    a. Previous generations of OSHG equipment versus current generation
    b. Role of equipment components
    c. Process flow diagram walk-through
    d. Engineering design considerations and lessons learned
3. Case Studies

Presenter Bios:

Ethan Brooke is an internationally recognized expert on aeration technologies for trihalomethane (THM) removal. His master's thesis on THM aeration was published in the *Journal American Water Works Association* and resulted in three patents which are held by the University of New Hampshire. Ethan has a background in civil engineering and product management and has worked on a variety of water, wastewater and distribution system infrastructure improvement projects.

Learning Outcomes:

- Attendees will understand the basics of on-site generation of hypochlorite as an option for water or wastewater disinfection versus gas chlorine or commercial strength bleach
- Attendees will understand the roles of OSHG components as part of an overall OSHG system
- Attendees will be able relate to many applications of OSHG in both large and small plants as well as in applications distant from plants in the well fields or distribution systems