



CSWEA  
**Webinar**  
Series

**Wednesday – January 22nd & 29th, 2025**

**12:00 PM to 1:30 PM**

## **Instrumentation & Controls for Process Engineers and Operators**

Instruments and digital controls are now standard for wastewater treatment plant operation. This function is often termed a SCADA system (Supervisory Control and Data Acquisition). A basic understanding of control considerations and tools can aid in process design, process start-ups and in operations and troubleshooting.

### **Agenda**

#### **January 22<sup>nd</sup> - Implementation and equipment considerations**

**12:00 PM** - Introduction

**12:05 PM** - Defining the system and implementation needs

**12:45 PM** - Electrical Considerations and Instruments

- Codes, guidelines and power constraints for instruments and equipment

- The all-important field control elements and data communication

**1:20 PM** - Questions

#### **January 29<sup>th</sup> - The power of software tools and ideas for optimizing control**

**12:00 PM** - Introduction

**12:05 PM** - Understanding Proportional Integral Derivative (PID) Control and tuning

**12:40 PM** - Application of control tools

- Common algorithms; applications for blowers, pumps and VFD's

- New ideas, digital twinning and simulation

**1:20 PM** - Questions

### **CONTINUING EDUCATION**

**3.0 CEUs** for Operators in Illinois, Wisconsin & Minnesota.

Operator ID/Quiz required for webinar.

**3.6 PDHs** for all Professional Engineers



### **COST**

\$50 – Members (Discount Code: CSWEA)

\$60 – Non-Members

\$15 – Student (Discount Code: Student)

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**PRESENTED BY:**



**Steven R. Reusser, P.E.**  
**Certified Operator**  
**M.S. Bioenvironmental Engineering**  
**Adjunct Professor - University of Wisconsin - Madison**

Steve is an Adjunct Professor in the Department of Civil and Environmental Engineering (CEE), University of Wisconsin – Madison. He retired in 2016, from a 34-year career as Operations Engineer at the Madison Metropolitan Sewerage District (MMSD), Madison, WI. He continued working as a Senior Process Engineer in consulting until 2020 and has continued teaching in the on-line UW-Madison Master of Environmental Engineering program since 2017.

With MMSD, Steve was responsible for plant operations, process control programming, and operator supervision for the 36 MGD plant. He contributed significantly to many research and engineering projects at the plant.

Steve was involved with the programming and start-up of the District’s initial SCADA system in the early ‘80’s, an innovative system for the era. This involvement continued with new programming for many process upgrades, plant additions and major generational changes to the control system hardware and software in 1997 and 2011. During much of this period, he was responsible for control descriptions, detailed control programming, start-up of new processes, process reporting and coordination with engineering and contractors.

Steve has authored many papers on process research and process control. On five separate occasions his papers were awarded the Radebaugh Award from the Central States Water Environment Association (CSWEA). He has participated in the authoring of several WEF manuals, including WEF Special Publication, “Automated Process Control Strategies”, 1997; and WEF 37-24, “Operation of Nutrient Removal Facilities”, 2024.