

Submersible Wastewater Pump Association

NEW FOR 2024 - DAY 1
ALL HANDS ON / TROUBLESHOOTING

2024 Pumping Systems & Controls Training Seminar

April 16-17, 2024 / DoubleTree O'Hare / Rosemont, IL



Forging the Future of the Submersible Wastewater Pump Industry

2024 SWPA Pumping Systems & Controls Training Seminar

About the Program

For over two decades, SWPA has been providing unmatched, one-of-a-kind educational programs giving attendees the opportunity to interact with dozens of SWPA Member Industry Experts while tapping into their extensive experience and wide-ranging expertise. This unique two-day session combines our two highly successful training programs into one comprehensive two-day forum. Day one will lead off with a general session – introduction to “The Systems Approach.” Then attendees will rotate through 6 hands on/troubleshooting programs led by SWPA Member Industry Leaders. Day two will provide in depth classroom style training on a host of Pump & Controls Topics, including two “200 Level” training courses .

Our Featured speaker for the Keynote presentation will be Tom Decker



In 2016 and after a career spanning more than four decades, Tom Decker saddled up his horse, rode into the sunset, and crossed full-time employment for large diversified engineering and construction companies off his bucket list. Following his formal retirement, Tom is now heading up Thomas E. Decker Consulting based in Northern Virginia and provides market strategy and business management expertise to water and wastewater sector companies, organizations, and agencies.

Prior to becoming “the best boss he has ever worked for”, Tom was a vice president and geographic area leader for Brown and Caldwell, a vice president, regional business group manager, and principal program manager with CH2M HILL, a vice president and business development director with the Parsons Corporation and a partner and director of marketing for the Infrastructure Business of Black & Veatch.

He has served on the board of directors of the Water Environment Federation and the American Academy of Environmental Engineers and Scientists and is a past president of the Missouri Water Environment Association.

During his long and eventful engagement in the water and wastewater field, he has led worldwide and national business development operations, directed numerous growth initiatives ranging from geographic expansions to acquisitions of companies, orchestrated “an impossible to count” number of direct sales efforts for engineering and construction services, developed strategic plans for business units, departments, and individual service lines, directed business unit operations, led business planning efforts for water and wastewater utilities, and has been a program manager for large capital improvement programs. At one point in his career, he even operated wastewater treatment plants. Because of this very expansive background, he has comprehensive and unique grasp of the business of water. He is a frequent speaker to a variety of trade and professional groups on the issues and trends impacting the water and wastewater marketplace. He is a registered professional engineer in multiple states and is a Board-Certified Environmental Engineer by the American Academy of Environmental Engineers and Scientists.

2024 SWPA Pumping Systems & Controls Training Seminar

Who Should Attend?

Attendance is open to any Consulting Engineers, Designers, Specifiers, Users, Distributors, Reps, Product Managers, Technical Managers, Engineering Managers, Sales & Marketing Managers, Product Specialists, Wastewater Operations & Service Personnel, and everyone else with an interest in the design and use of submersible wastewater pumping systems. **SWPA will be issuing CEU Credits/Certificates of completion for either one or two-day attendance.**

Registration Fees

Registration fees are \$595 SWPA Member/\$695 Non-Member. All attendees will receive copies of the SWPA Handbook and Start-Up and Field Check Out Procedures Manual for Submersible Sewage Lift Stations and SWPA's Grinder Pump in Pressure Sewers Publication, along with a flash drive of all PowerPoint presentations. Registration fee includes all food events during the seminar which includes continental breakfasts, breaks, lunches and Welcome Reception. First Time Attendees will also receive a complimentary 2024 SWPA Associate Membership (Membership criteria must be met and approved by SWPA Board). Cancellations received up to 7 days before the event are refundable, minus a 10% service charge. Cancellations one week prior to the event are non-refundable.

Hotel Reservations

Accommodations for the 2024 SWPA Training Seminar have been arranged at the DoubleTree by Hilton Hotel Chicago O'Hare Airport – Rosemont at the discounted rate of \$149 per night. To make reservations, call (847) 292-3280 and ask for the SWPA Room Block to receive the discounted rate. Last day to make reservations is April 5, 2024.

DoubleTree by Hilton Hotel Chicago
O'Hare Airport
5460 North River Road
Rosemont, IL 60018
847-292-3280



2024 Training Agenda

Tuesday, April 16

8:00 - 8:30 **Breakfast & Networking**

8:30 – 8:45 **Introduction to SWPA**

8:45 – 9:15 **Keynote Speaker Tom Decker**

9:15 – 9:45 **The Systems Approach to Lift Station Design, Construction, Operation & Maintenance**

This session will answer the question: “What is the Systems Approach?” and will describe, in detail, how it can benefit the design engineer, specifier, manufacturer, distributor, sales representative, contractor and the end user. The session will also explain Life Cycle Costing (LCC), energy conservation and related topics as they impact “The Systems Approach.” All subsequent presentations will expand upon the idea of a complete system approach and the integration of pumps, components, monitoring solutions, etc.

Presenting Company: Liberty Pumps

9:45 – 10:15 **Lift Station Safety**

This presentation will cover a variety of topics pertaining to lift station safety, equipment and recommended practices within the systems approach.

Presenting Companies: Liberty Pumps, SJE Rhombus

10:30 – 5:00 **We will break out into small groups and rotate through the following 1 hour hands on training/troubleshooting programs led by SWPA Members Industry Experts from:**



(we will recess for lunch from 12:30 – 1:00)

Tuesday, April 16, 2024 – Hands On

Hands on Course 1: “Taking the Mystique out of Pump Controllers”

Pump Controllers are often the heart of your collection system control panel. When they are simple to operate, they are actually fun to use, and the end users become really good at setting them up and making any necessary parameter changes. In this class, we will become familiar with MPE's Pump Station Controller, the SC2000. This Controller has been an industry favorite for its ruggedness and ease of use, and we will perform parameter changes for the SC2000, scale the Controller (for different transducer ranges), and see how to wire discrete inputs into the Controller - removing any trepidation that accompanies a piece of equipment encountered for the first time. **Presenting Company: Motor Protection Electronics**

Hands on Course 2: “Troubleshooting and Field Maintenance of Residential Grinder Pumps”



A longstanding topic of SWPA trainings has been Pressure Sewer and Grinder Pumps. This presentation is a hallmark of SWPA's educational courses and does an excellent job of presenting the technology. However, what about after the pumps have been installed and are in service? Often, these pumps are installed in a residential application where uptime is critical to the homeowners. This course will touch on some basic troubleshooting of a failed grinder pump, and then some basic field maintenance that can be performed to get that pump up and running again. **Presenting Companies: Crane Pumps & Systems, Liberty Pumps and Sulzer**

Hands on Course 3: “Chopper Pump Maintenance”

This session will focus on Chopper Pump overview, pump cutting surface adjustments, changing oil in the pump, troubleshooting a chopper pump and/or a pump application and more. **Presenting Company: Vaughan**

Hands on Course 4: “Control Panel Assembly and Troubleshooting”

We will break out into small groups of 2-3 people who will each have their own small control panel that we will assemble, and trouble shoot.

Presenting Company: SJE Rhombus



Hands on Course 5: “Flexibility and Cybersecurity in a Pump Station Controller”

Pump Station controllers need to evolve with the needs of the customer. The pump including those with Variable Frequency Drive (VFD), Multismart powered by Nexicon can handle the task for one to four pump applications. With configurable digital and analog inputs and outputs (IO) on the application manager and expansion modules, the controls can be as fine tuned to the installation as can be dreamed up. Modules to be discussed include Power module, Application manager, Machine modules (standard, Concertor, and VFD), Analog IO, Digital IO, and Probe. Providing a platform that has been tested to meet cybersecurity standard IEC/ISA 62443 while also storing data onboard or sharing via common control protocols (MODBUS RTU/TCP, DNP3 and IEC-104) allows for better visibility of the station beyond the touchscreen. **Presenting Company: Xylem**

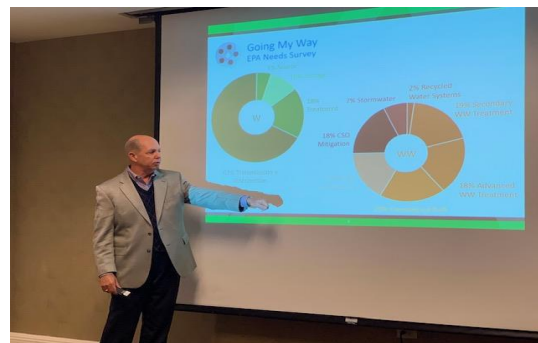
Tuesday, April 16, 2024 - Hands On - continued

Hands on Course 6: “Smart Pumps with integrated Drive”

Hands on demonstrations of wastewater pump with built-in controls, including an integrated control system with built in motor protection, soft start capabilities, and built in monitoring with auto-resetting of trips and alarms. Learn how they work to reduce energy cost, customize performance and more.

Presenting Company: Xylem

Wednesday, April 17, 2024 – Classroom Sessions



8:00 – 8:30 **Breakfast and Networking**

8:30 – 9:30 **AC Electric Motors for Submersible Pumps**

Overview of basic submersible motor construction features including application of submersible motors and detailed discussions of motor ratings such as efficiency, power factor, torque, insulation classes, etc.

Presenting Company: Sulzer

9:30 – 10:30 **Controls 101**

This presentation will cover the most seen methods of level control with an explanation of some commonly used control topics. These methods of Level Controls will be discussed: Floats and Float Systems, Bubbler Systems, Ultrasonic Control and Level Probe Control. Common Control Topics will include: The 4-20 mA loop, isolated vs. non-isolated inputs, Level control vs. PID and more.

Presenting Company: Motor Protection Electronics

Wednesday, April 17, 2024 – Classroom Sessions

10:45 -11:45 **Pressure Sewers, Grinder Pumps and Chopper Pumps**

Pressure sewer systems have been an effective method to move residential wastewater through small diameter pipes of a wastewater collection system where other methods are less economical and less feasible. It has taken more than three decades for pressure sewer systems to take their proper place within the public health engineering field. Today, these systems provide daily service to more than half a million users worldwide and range in size from a single pump to thousands of pumps. A key component to Pressure Sewer Systems is the grinder pump. However, grinder pumps can be found in other applications as well and are available in larger sizes than what is needed for pressure sewers. The second half of this training will provide a brief overview of the evolution of pump wet-end design, and then take a more detailed look into the new generation of larger HP grinder and chopper pumps, highlighting their differences, strengths, and weaknesses, and culminating with some real world examples of successful implementations.

11:45 – 12: 15 **Flushable Consumer Products – Effective Methods to Eliminate Clogging**

The introduction of new consumer products marketed as “flushables” along with water conservation efforts have combined to create many problems for wastewater utilities. One such problem in wastewater pump stations is frequent clogging of pumps. This presentation will consider characteristics of wastewater, yesterday and today, and how to deal with new challenges. **Presenting Company: EBARA Pumps**

12:15 – 1:00 **Lunch**

1:00 – 2:00 **Cavitation & Air Entrainment in Wastewater Pumps**

Learn how to identify the different types of cavitation through visual analysis of damaged components and through testing in the field and how to distinguish cavitation from air entrainment and learn the steps that must be taken to solve each of the problems. Intended for those who have a working knowledge of wastewater pump design, application, and operation and familiar with reading pump performance curves.

Presenting Company: EBARA Pumps

2:00 – 3:00 **Benefits of Using Digital Platforms to Manage Pump Stations**

For many in the water industry the word “digital” is one they want to let flow through their sewer pumps to let it get washed away. But the reality is there are new technologies that will improve the way pump stations and the aging pumps in them can be managed. Ultimately, making the pumps more efficient, prolonging the life of them and improve the way they are managed through Unified Network Support and Realtime Decision Support software. It might sound like a dirty word but the benefits of embracing it go way beyond the pump station.

Presenting Company: Xylem

3:00 -4:00 **Mechanical Seal & Sealing Systems Design and Trouble Shooting**

This seminar will provide an overview of seal design, applications and sealing systems. Basic principles of single and double seals will be discussed as well as standard piping systems. We will identify common features and potential modes of failure. **Presenting Companies: US Seal, Roplan**

4:00 – 4:30 **Concluding Programs, Q&A**



Training Concluding Reminders:

- ▶ **Complete Survey Forms**
- ▶ **Receive Technical Resources and Course Programs**
- ▶ **Request CEU Certificates**

