



Submersible Wastewater Pump Association

2019 Pumping Systems & Controls Training Seminar

March 12-13, 2019 / DoubleTree O'Hare / Rosemont, IL



Forging the Future of the Submersible Wastewater Pump Industry

2019 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 be a general session for all attendees. Day two will break out into two separate tracks... Pumping Systems Training and Controls Training. **For those of you who are looking to the next level in training, we offer two “200 Level” training courses and a New Hands-on Control Panel Assembly and Troubleshooting course.**

Our Featured speaker for the Keynote presentation will be Tom Decker, former Vice-President at Brown and Caldwell



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.

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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 \$495. 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 2019 SWPA Associate Membership (Membership criteria must be met and approved by SWPA Board). Cancellations received up to 21 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 2019 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 February 15, 2019.

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



2019 Agenda

Tuesday, March 12

8:30 - 9:00 **Breakfast & Networking**

9:00 - 9:30 **Keynote Speaker Tom Decker**

9:30 – 10:00 **The Systems Approach to Lift Station Design, Construction, Operation & Maintenance**

This 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.”

10:15 -11:00 **Design of Submersible Pumps Including Impeller Types & Applications**

Overview of the design and construction of submersible pumps, including bearings, sealing systems, flame paths for explosion proof pumps, and pump wet end designs. Along with the advantages and disadvantages of wastewater impellers for wastewater applications.

11:00 – 12:00 **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.

12:00 – 12:30 **Lunch**

12:30 – 12:45 **Presentation by the Metropolitan Water Reclamation District of Chicago**

12:45 – 1:45 **Pumps in VFD Applications**

Focus on submersible pumps operating on variable frequency drives. The participants will learn how the pump’s performance is affected by the drive, and how to make good pump selections for use in variable speed applications. Potential energy savings, rules of thumb for variable speed applications, and NEMA MG1 part 31 will also be discussed

1:45 – 3:00 **SWPA 201 – 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.

3:15 – 3:45 **Counterfeiters**

This session will provide insights into counterfeiting trends and provide options to ensure companies are buying the "real thing."

3:45 – 4:45 **Flushable Consumer Products – Effective Methods to Eliminate Clogging of Pumps**

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.

WELCOME RECEPTION TO FOLLOW DAY’S PROGRAM



Forging the Future of the Submersible Wastewater Pump Industry

2019 Agenda (Cont'd)

Wednesday, March 13 (2 Separate Tracks. Attendees may move between tracks.)

Pumping Systems Track

8:00 - 9:00 Grinder Pumps in Pressure Sewers

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.

9:00 - 10:00 Pump Station Valving

The challenge for a pump station designer is to take advantage of the features and advantages of different types of valves on a system basis. This presentation will focus on the design and selection of check valves, air valves and plug/gate valves for wastewater lift stations. The types of valves on the market will be examined and how they interact within a system.

10:15 – 11:15 Pump Testing and Acceptance Standards

The history of the development of ANSI/HI 11.6-2012 Submersible Pump Tests is presented. The explanation of applicability of the standard and the types of tests that are covered by the standard, test procedure particulars and test acceptance criteria are explained.

11:15 – 12:15 Design of Small Circular Wet Wells

A “how to” session that will take you through a step-by-step real-life example of how to design a typical, small circular wet well pump station, including the calculations.

12:10 – 1:00 Lunch

1:00 – 2:00 Converting Conventional Dry Pit Solids Handling Pumps to Electric Submersible Pumps

This session focuses on upgrading line shaft dry pit pumps to dry pit submersibles. Topics include piping of the suction and discharge, replacing tangential discharge pumps with centerline discharge submersibles, proper support and installation of the replacement pump, and tips to insure flood proof operation of the dry pit submersibles.

2019 Agenda (Cont'd)

Wednesday, March 13 (2 Separate Tracks. Attendees may move between tracks.)

Controls Track

8:00 - 9:00 Schematic Diagrams / Dedicated Pump Controls

An introductory look into reading and interpreting electrical schematics such as basic electrical theory, definitions of common schematic symbols and their usage, and schematic notation standards. Techniques for troubleshooting a control system using the electrical schematic will also be presented.

9:00 - 10:00 Electrical Starting Methods for Submersible Pump Systems

This will cover considerations for selection of electrical starting equipment for submersible pump systems such as the most practical approaches of direct across the line start, reduced voltage and variable speed systems as they relate to “*The Systems Approach*.”

10:15 – 11:15 Controls 101

This presentation will cover the most commonly 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

11:15 – 12:15 PLC Controls (Programmable Logic Controls)

Programmable Logic Controls (PLC) based automation control systems continue to grow, at the same time evolve as new technologies enhance their capabilities. What are these devices? What can they do for you? Where are they going in the future? This session will provide insights into both the history and future trends that will impact the industry.

12:10 – 1:00 Lunch

1:00 – 2:00 Universal Enclosures, Thermal Management Solutions & Safety

Topics to be covered include Enclosure types, standards, thermal management solutions, software tools, motor control applications, power circuitry, and Arc Flash.

Regroup for concluding programs on Wednesday, March 13

2:00 – 3:00 SWPA 201 – Introduction to SCADA

A SCADA system is an integral part of any efficient and effective process at a facility. With the growth in new technologies, we are now able to control and run more of the day to day processes using computers that will help us monitor and maintain the effectiveness of the process. This session will give an overview of what SCADA entails, how communication plays into it, how it is displayed and is it secure?

3:00 – 4:00 Hands-On Control Panel Assembly and Troubleshooting

4:00 – 4:45 Pump Station Start-Up & Tuning

This session provides a step-by-step tutorial of the startup and tuning of a pump station from both a pump and control prospective. Topics include pre-startup checks, initial power up, test running and tuning of the control parameters for ideal station operation.

4:45 Panel Q & A



Registration Form

To Register online, go to www.SWPA.org or return this completed form to SWPA Headquarters (address listed below)

Questions: Contact SWPA Headquarters at 847-681-1868

Name _____

Title _____

Company _____

Company Description:

- Consulting/Specifying Engineer User Distributor Rep Organization
 Service Shop System Packager Pump Manufacturer
 Component Manufacturer Other, Please specify _____

Address _____

City _____ State _____ Zip Code _____

Telephone _____ Fax _____

Email _____

Special Dietary Considerations Yes No If yes, explain briefly _____

Registration Fee - \$495 per person

Enclosed is a check in the amount of \$ _____ representing _____ registration(s).

Please make checks payable to SWPA, reference: SWPA Training Seminar.

Mail to: SWPA Headquarters, 350 North LaSalle St., 9th Floor, Chicago, 60654

Charge my: VISA MasterCard Discover American Express

Card Number _____ Exp. Date _____

Security Number _____ Billing Zip Code _____

Name on Card _____