43rd Annual Management & Technical Conference - March 2021

Monday, March 1, 2021 Pre-Conference Schedule			0.6 Total CEUs
Great Hall 9:00 am – 4:00 pm **Small Water System Training Course** This course will cover the basics of water system operations. A review of the SDWA Amendments, the State Revolving Loan Fund, and security issues. Review of technical, managerial and financial needs of a small system. *Tim Tice, OAWU* – **0.6 W / 0.4 WW** CEUs ESAC #3577	**Landmark I/II** 9:00 am – 4:30 pm **Effective Utility Management** Participate in a workshop for success at your water and wastewater facility. Look at challenges such as aging infrastructure, growth, and adequate revenues that reflect true operational costs today and in the future. At this workshop, you will be involved in ten key management areas, assessing your strengths and weaknesses with a framework conducive of a well-rounded water and wastewater utility management approach. • 9:00-10:30 (0.15) Review of the "Keys to Success" pertaining to leadership, strategy planning, organization structure and measurement with an on-going framework towards improvement for water and wastewater utilities. • 10:30-10:45 Break • 10:45-12:15 (0.15) Understanding the current conditions, providing a "ranking" order of attributes and deficiencies of 10 areas in your water and wastewater utility, which will allow for providing and implementing an improvement plan. • 12:15-1:15 Lunch Break • 1:15-3:15 (0.2) A look at the detail measurement of root causes in areas of under-performance and developing methods to reach the goals and timeframe associated with reaching the goal for your water and wastewater utility. • 3:15-3:30 Break • 3:30-4:30 (0.1) Water and wastewater operators and decision makes will use resource tools to define and select the best management practices for specific challenges are to mitigate concerns and position the utility for the future. *Scott Berry, OAWU* – **0.6 W/WW** CEUs	**Heritage I** 9:00 am – 12:00 pm **Emerging Contaminants PFOS Workshop** Class Will provide an overview of sources and treatment options as well as current trends in regulations. *Keith Bedell* - **0.3 W/WW** CEUs ESAC #TBA	**Heritage II** 9:00 am – 4:45 pm **Cross Connection Specialist Update** Obtain your Cross Connection Specialist updates and any updates on the cross connection program. *Garrett Yates, BMI* – **0.6 W** CEUs ESAC #TBA

Tuesday, March 2, 2021 Conference Schedule — 0.575 Total CEUs

10:00 – 10:30 am (0.05) Great Hall – **Opening Session – Communications and Emergency Response:** Carry out plans, and communications, during emergency responses and working through COVID for water and wastewater facilities. *Jason Green, OAWU Executive Director*. **W/WW**

10:30 – 11:00 am (0.05) Great Hall – **NRWA Update** – *David Baird, NRWA Board President, Russ Cooper, City of Monmouth*. The State of Water & Wastewater at the national level. **W/WW**

11:00 – 12:00 pm (0.1) Great Hall – **Legislative Update** – *Mark Landauer, OAWU/SDAO Lobbyist* – The latest issues of the State Legislature activities concerning water and wastewater utilities. **W/WW**

12 – 1 pm Lunch Break

1 – 2:45 pm (0.175) Training Sessions

Great Hall

Active Shooter

Today you are 18 times more likely to experience workplace violence than a fire. OSHA requires all employers to have Emergency Action Plans including a written plan and training for an Active Shooter event. Learn how to construct a plan for your water or wastewater system. What to expect when police arrive, conduct a head count and train employees how to respond to an Active Shooter using the "Run, Hide, Fight" protocol.

Ray Johnson, City of The Dalles **W/WW/OS**

Landmark I/II

Basic Pump Theory and Application

Outline the basic theory and design of centrifugal pumps, including submersible, vertical turbine, and centrifugal. Explain most common problems of suction and discharge sides, Troubleshooting of pumps and motors.

Ed Butts PE, CPI, 4B Engineering **W/WW**

Heritage I

Hydraulic Control Valve Training and Troubleshooting

Control valves can help provide data about a water system and diminish non-revenue water. I will discuss the hydraulic fundamentals of these valves, basics of a pilot system, and diverse valve/pilot set up solutions to help control and protect water system assets. Reviewed in this presentation will be common valve configurations, rolling diaphragm for low flow stability, and integral back-up valves for critical regions of a water system. We will also briefly cover cavitation within valves, and how using control valves, demand-based set points, and DMAs can reduce water loss.

Derek Zock, Correct Equipment, Mike Uthe, Mueller **W**

Heritage II

GPR Techniques

This class provides an in-depth look on how ground penetrating radar (GPR) equipment can be a valuable and cost-effective investment that amplifies the success of utility field crews. Subject matter will include the following: GPR science, utility line locating, sink hole and lava tube identification, data capture map plotting, water leak origin tracing, and compression testing. In addition, this class will explain how the Oregon Administrator Rules (OARs) that govern 811 can be utilized to assist your utility in damage investigations and liability planning.

Anthony Timineri, City of Bend **W/WW**

2:45 – 3 pm Break

3 – 5 pm (0.2) Training Sessions

Great Hall

System O&M

Understanding what it takes to successfully operate and maintain a water and/or wastewater system. Everything from paperwork you keep, critical parts inventory, budget, training, staff succession, outlining and delegating tasks, monthly reports and tracking, staff and council/ board communication and public relations.

OAWU Board (Mike Edwards, Matt Johnson, Tim Lyda, Mark Beam, Craig Smith) **W/WW**

Landmark I/II

Air Mitigation in Liquid Conveyance Systems

Teaches basic principles of fluid dynamics and strategies for mitigating air/gas in pipelines. The class discusses how air becomes entrained in water, how air moves through water/wastewater systems. Course explores valve maintenance best practices and prevention of catastrophic failure events.

Geoff Robinson, Frank J. Martin Co. **W/WW**

Heritage I

Communicating with Engineers

Effective ways to communicate with engineers on your water and wastewater projects. Getting your point across in a technical world is vital to any water and wastewater project that will need to be engineered. Come learn methods to be clear and concise so that the engineer can understand what we want at our systems.

Mike Grimm, West Slope Water District **W/WW**

Heritage II

Pretreatment and Working with the Beverage Industry

As Oregon economy has become known for there craft Beer produced in this great State, how do communities navigate working with the beverage industry and other high strength Wastewater dischargers. We will discuss how to set up a pretreatment plan to protect our Wastewater plant and successfully implement that plan to make it fair and equitable to all the system customers will be the topic of discussion.

Christina Davenport, City of Bend **WW**

Wednesday, March 3, 2021 Conference Schedule — 0.75 Total CEUs

8 – 9 am (0.1) Training Sessions

Great Hall	Landmark I/II	Heritage I	Heritage II

The Show Must Go On Public Works Operations and Maintenance do not stop even in a pandemic. There are established rules on how the operations go on during major events e..g storms, floods, earthquake. But this deals with bigger showstoppers like the recent pandemics where business continuity becomes very important to keep serving our citizens. The citizen interactions also become important as people cannot meet physically. We will discuss business continuity and operations in an adaptive hybrid mode with a mix of online and in-person where whatever makes sense and how. The attendees will come out with a clear idea on how to deal such situations in the future and operate in the new normal. *Arnab Bhowmick, AAKAVS AKTIVOV* **W/WW**	**A Discussion of Field Sampling Techniques, Laboratory Protocols and Emerging Contaminants** We will discuss sample techniques that will help ensure representative and minimize environmental contamination. Becoming familiar with current analytical methodologies and strengths and weaknesses. Understanding sample result. Emerging contaminants and their potential impact on your water system. Open discussion if time permits. *Lawrence Henderson, Edge Analytical, Inc.* **W/WW**	**Hydrant Maintenance/breakdown** Go over some simple maintenance tips to keep fire hydrant operating for years, and also breaking down Kennedy's K81D fire hydrant. *Bryan Elford, Kennedy Valve* **W**	**Lagoon Management and Solids Handling** From toxic hits to solids handling, this class will cover the basics of lagoon management and help you prepare for an uncertain future. *Tanner Hartsock, BioLynceus LLC* **WW**
9 – 9:15 am Break			
9:15 – 10:15 am (0.1) Training Sessions			
Great Hall **Reagentless Chlorine Analysis** How reagentless technology works for chlorine analysis and when it is most applicable for water and wastewater systems. Frank Spevak, Emerson/Rosemont **W/WW**	**Landmark I/II** **Asphalt Use in Utilities: Code of Practices** The "why we use" and the "where we use." We will discuss the most recent innovations, special materials for extended service life, and the latest in the code of practices for asphalt for the water and wastewater industry. *Bill Baily, EZ Street/Lakeside Industries* **W/WW**	**Heritage I** **Non-Revenue Water with Solid State Meters and AMR/AMI** Non-Revenue Water (NRW) is a pervasive problem among utilities in the US and worldwide. While there are many contributors to non-revenue water, metering inaccuracies are the most common and most easily addressable. As of October 1, 2018, the AWWA C715-18 Standard "Cold Water Meters – Electromagnetic and Ultrasonic Type, for Revenue Applications" became effective. Both of these types of meters (also known as static meters) contain no moving parts and therefore not subject to the problem of under registering flow over time. They also are capable of registering much lower flows than mechanical meters of the same size. The primary benefits are increased accuracy and increased revenue capture. This presentation will cover static meter technologies – electromagnetic and ultrasonic – how they work and why utility managers should consider these meters for their AMR/AMI initiatives. *Tim Owens, Correct Equipment* **W**	**Heritage II** **Operation of an Anerobic Lagoon** The ins and outs of operating, managing, and maintaining an anerobic lagoon system. What it can treat and how it works. *Dick Heard, Heard Farms* **WW**
10:15 – 10:30 am Break			

10:30 – 12 pm (0.150) Training Sessions

Great Hall

Real World Strategies for Managing Aging Infrastructure – An Everyman's Approach to Everyone's Problems

This session will walk through the real-world challenges faced by a small 50-year-old municipality/ property located on the Oregon Coast. The property had suffered through the typical cycles of deferred maintenance and decades of deterioration which was compounded by a complete lack of documentation or maintenance plans. Over the past three years we have undertaken the challenge of developing a sustainable long-term maintenance plan. We will discuss the value of professional partnerships, and the steps we are undertaking to implement the tools required for success, including GIS mapping, CMMS asset management program, budgeting, and scheduling. This is seriously far more interesting than it sounds.

Leo Newberg, Inn at Otter Crest **W/WW**

Landmark I/II

Sodium Hypochlorite Basics

This course gives the viewer an overview of the different types of sodium hypochlorite and how they differ, allowing viewer ability to determine what will work best in their facility. Properties and decomposition are defined so plant personnel understand how to handle, manage, store, and deliver this chemical within parameters specific to their plants. Discussion also includes design considerations for those in engineering and those involved in remodeling a chemical system. If time permits the discussion will cover using GHS compliant Safety Data Sheets for training purposes.

Gabriel Talese, HASA, Inc. **W/WW**

Heritage I

Flexible Drop Pipe – Saving Money Pumping Water or Wastewater

Flexible Drop pipes are designed to replace the steel/rigid pipe in submersible pump water wells. This type of a drop pipe has been manufactured since 1990 and has proven itself as a long-term solution for water utilities, wastewater transfer pumps, mines, and industrial applications.

The advantages of flexible drop pipe include totally non-corrosive, easier, safer, and quicker to install and retrieve pumps and are also NSF 61 certified for use with portable water.

We will discuss the life-time savings you realize when moving to flexible drop pipes. We will touch on the fact that well rehabilitation, until now often viewed as an expensive luxury, but an extremely important part of well maintenance, is now very much a reality and in reach for most wells. Also, considerations for the wastewater industry.

Andy Andiyastika, Hose Solutions, Inc. **W/WW**

Heritage II

Wastewater Modeling Process and Benefits

An in-depth look at the creation of a wastewater model, including flow monitoring requirements, and the benefits of a working model in regard to inflow & infiltration rehab, planning and development studies and future flow predictions for design storms and urban growth boundary expansions.

Samuel Novac, Novac Industries LLC **WW**

12 – 1 pm Lunch Break

1 – 3 pm (0.2) Training Sessions

Great Hall

Job Site Safety and OSHA Regulations

This class will discuss Job site safety including both excavation safety and confined space entry. There will also be a brief overview of OSHA regulations as well as a more in depth look at working with OR-OSHA consultation to help keep your job site safe.

Larry Fipps, OSHA **W/WW**

Landmark I/II

Asset Management, Capital Planning, Project Management

We will touch the basics on maintenance management and asset management, but also go beyond that into planning and project execution. Local govt. struggles with comprehensive plans and spends lots of $$$ on such plans, yet they are not equipped with a plan based on real time condition and data from the field. This session will discuss beyond the basics, how ailing and failing infrastructure can be identified and prioritized for repair, rehab or replacement, how capital budgets and plans can be developed, how maintenance crew becomes integral part of the capital planning, how activities and tasks can be forecasted and budgeted, and how projects can be managed within budget and timeline effectively.

Arnab Bhowmick, AAKAVS AKTIVOV **W/WW**

Heritage I

Getting Confident with Your Control Valves

Hydraulic control valves can cause uncertainty with water operators. For example, operators may ask, what is happening inside a control valve to achieve its function? What happens if it malfunctions? What can cause it to malfunction? How do we approach these valves safely if they do malfunction?

These age-old questions will be answered in this 2-hour class. We will begin with the basic understanding of hydraulic valves and move into how to approach these valves safely for shut down, troubleshooting, and start up.

Steve Causseaux, Cimco-GC Systems **W**

Heritage II

Chemical Free Odor Control Along Conveyance Systems

Every year Sewer Agencies face rising costs associated with wastewater treatment. Capacity to keep up with the growth in communities, more stringent regulations, energy prices, and managing labor are all budget related challenges faced by the industry. Combine these issues with the rising costs of collection and conveyance system maintenance, it all adds up to major financial obligations for agencies and municipalities. Agencies are plagued with cost and resource burdens associated with wastewater maintenance addressing:

- Fats/Oils/Grease (FOG)
- Corrosion
- Odors

			• Pathogens • Organics • Food Waste • Industrial discharges, and more Many times these issues are addressed with chemical by implementing new approaches and technologies in the conveyance systems, there are opportunities to address many of these vexing problems. Acknowledging issues at various conveyance points along the system, such as at pump stations, lift stations, and wet wells provides the opportunity to address site specific issues, ultimately lightening the treatment burden at the wastewater treatment plant. Incorporating De-Centralization techniques, and using new technologies, significantly reduces overall costs at the wastewater treatment facility, as well as throughout the entire conveyance and collections system. Innovations in De-Centralized Wastewater technologies have developed, evolved, and been implemented, with dramatic results. We will present several case studies, conducted over the last few years, in both public and private systems. Each case highlights the advantages that can be realized by implementing a De-Centralized system, and incorporating technologies such as aeration, ozone, mixing, and more. These, and other various technologies and products can provide effective, viable solutions, when incorporated into a De-Centralized wastewater system. De-Centralized Wastewater Treatment, along with aeration, ozone and mixing, is a proven concept in the wastewater industry. For communities of all sizes, De-centralized Wastewater Treatment: • Reduces costs • Addresses a magnitude of issues (grease, odor, etc.) • Improves wastewater quality • Extends the service life of infrastructure systems **High Efficiency Lagoon Aeration and Mixing**

			Efficient lagoon aeration and mixing has been a challenge faced by municipal, industrial, and commercial facilities for decades. Current technologies offer limited oxygen transfer and minimal mixing capabilities. The result is high levels of sludge that is very expensive to remove and unpleasant odor issues. As well, mechanical aerator/mixers that are typically used in lagoons, require extensive maintenance, have issues in extreme cold with icing, and require high voltage power to be delivered out in the lagoon, a serious safety concern. As new technology is developed, more advanced solutions are available. Many issues are eliminated, lagoon quality is improved, and resources are saved with lower operating and maintenance costs. *Lewis Titus, Titus Industrial Group, Inc.* **WW**
3 – 3:15 pm Break			
3:15 – 5 pm (0.175) Training Sessions			
Great Hall **Renovating and Maintaining Steel and Concrete Storage Tanks** Six benefits of full-service preventive tank maintenance programs that will be discussed are: single source responsibility, balanced funding, evaluation and planning, regulatory & GASB 34 compliance, annual inspection and maintenance, and emergency repair service. These asset management programs can meet the requirements of GASB 34 for asset management programs under the modified approach to infrastructure asset reporting. Jeff Austin, SUEZ **W/WW**	**Landmark I/II** **The Fundamentals of Electrochemistry** Learn about the fundamentals for how electrodes function for pH measurements. Common measurement problems, calibration and measurement hints, and troubleshooting. *Mark McElroy, Thermo Fisher Scientific* **W/WW**	**Heritage I** **The Role of Smart Tanks in Distribution Water Quality Management** Today, the two most common distribution network violations that water utilities contend with are disinfection by products (DBPs) and violations of the Revised Total Coliform Rule. With the promulgation of the EPA's Stage 1 and Stage 2 Disinfection Byproduct Rules, water treatment operators and utilities scrambled to ensure their treatment plants were in compliance with THM limits and more carefully monitored plant chlorine dosing – or switched to the more persistent (long-lived) chloramine as a secondary disinfectant – which had a much lower propensity to form THMs. However, chloramine levels remain difficult to maintain in networks due to their unique chemistry and degradation mechanisms. In systems that remained with free-chlorine disinfection, residual chlorine can react further within the distribution network forming DBPs —both by further reactions with naturally occurring organic matter and with biofilms present in network pipes and tanks. DBP formation rates vary according to the type of disinfectant used, the dose of disinfectant, the	**Heritage II** **Revolutionizing Sludge Dewatering** Discussion of how sludge is dewatered for drinking water treatment backwash beds and wastewater facilities currently and with what kinds of equipment. Each kind of equipment has their positives and negatives, but what are the most important features you want as a plant? Maintenance, sludge consistency, or simplicity? *Rich Owens, Owens Pump & Equipment* **W/WW**

		concentration of natural organic matter, the time since dosing (i.e. water age) and temperature. So, regardless of care taken at the plant level, DBPs could continue to form in distribution systems. On the other hand, moving to chloramine disinfection largely prevents THM formation in distribution networks, but creates another problem for operators due to the natural degradation of chloramines that releases ammonia which in turn becomes a food source for various strains of bacteria that can lead to nitrification. Determining a dosing strategy for a chloramine system is complex due to the dynamic nature of the breakpoint curve. The emergence of "Smart Tank" design and operations now provides utilities with the ability to utilize water storage tanks as water quality intervention points. Tanks provide the perfect intervention point to solve THM spikes and low disinfectant residuals (chlorine and chloramine), but it all starts with powerful mixing. By revisiting water storage resources as intervention points, overall distribution network treatment can be optimized with the added potential for reducing treatment plant costs as they relate to THM reduction and disinfectant residual levels. This presentation will examine the under-utilized water storage tank as an asset that can be used to improve distribution water quality with several methodologies. Several cases studies that illustrate "Smart Tank" technology improving chlorine residuals, reducing THM's and maintaining chloramine residuals will be included in the presentation. *Ethan Brooke, UGSI Solutions, Inc.* **W**	

Thursday, March 4, 2021 Conference Schedule			0.75 Total CEUs
8 – 9 am (0.1) Training Sessions			
Great Hall **Basic Math for Water/Wastewater Operators** This 8-hour workshop will cover basic problem-solving ability needed to evaluate and control water and wastewater systems and those math problems typically encountered in the Level I & II water and wastewater certification exams. The instruction	**Landmark I/II** **Intro to Cellular Telemetry** Introduction to cellular telemetry and online process instrumentation for water and wastewater. *Tim Owens, Correct Equipment* **W/WW**	**Heritage I** **Preparation for AMI** AMI offers you asset management features that you simply have not had before. It's important to understand what you are receiving and being prepared for it. This class will cover those features and ways to best prepare. *Pat Hart, Ferguson Waterworks* **W**	**Heritage II** **Industrial Pretreatment** Looking at industrial Pretreatment programs and how to make yours run smoothly. *Genet Belete, Oregon DEQ* **WW**

begins with basic math instruction, including percent and proportions and solving for X, and then moves to areas and volumes, detention time, flow calculations, hydraulic and organic loading and progresses to specialty areas in wastewater treatment. The workshop materials include many practice problems to help operators become proficient in basic problem solving. Student should bring reliable calculators and notebooks to the workshop. Handouts, including math problems and reference materials, will be provided. *Tim Anderson, Wastewater Solutions International* **W/WW**			
9 – 9:15 am Break			
9:15 – 10:15 am (0.1) Training Sessions			
Great Hall **Basic Math for Water/Wastewater Operators** (Continued) **W/WW**	**Landmark I/II** **A High-Performance HMI: Better Graphics for Operations Effectiveness** Almost all industrial processes are controlled by operators using dozens of graphic screens. The graphic designs are typically little more than P&IDs covered in hundreds of numbers. This traditional, "low performance" Human Machine Interface (HMI) paradigm is typical in all processes controlled by DCS and SCADA systems, including the water and wastewater sector. It has been shown to be lacking in both providing operator situation awareness and in facilitating proper response to upsets. In many industries, poor HMIs have contributed to major accidents, including fatalities. HMI improvement has become a hot topic. The knowledge and control capabilities now exist for creating High Performance HMIs. These provide for much improved situation awareness, improved surveillance and control, easier training, and verifiable cost savings. This training will cover: ● HMIs Past and Present ● Common but Poor HMI Practices ● Justification for HMI Improvement – What Can You Gain? ● High Performance HMI Principles and Examples	**Heritage I** **Certification Update** Reviewing certification rules and requirements for water distribution and treatment certifications. *Tony Fields, OHA* **W**	**Heritage II** **Wastewater Certification Update** This presentation will cover the application and certification process, tips to avoid mistakes, an overview of where to find the information you need on DEQ's website, and an opportunity for program feedback. *Keith Bedell and Jeff Crowther, OAWU* **WW**

	● Depicting Information Rather Than Raw Data ● The Power of Analog ● Proper and Improper Use of Color ● Depicting Alarm Conditions ● Trend Deficiencies and Improvements ● Display Hierarchy and the Big Picture ● The High-Performance HMI Development Work Process ● Obstacles and Resistance to Improvement ● Cost-effective Ways to Make a Major Difference Implementation of proper graphic principles can greatly enhance operator effectiveness. A High-Performance HMI is both practical and achievable. *Rick Patton, Advance Control Systems* **W/WW**		
10:15 – 10:45 am Exhibits			
10:45 – 12 pm (0.125) Training Sessions			
Great Hall **Basic Math for Water/Wastewater Operators** (Continued) **W/WW**	**Landmark I/II** **The New Tech Normal** The whole world is moving online more and more, and now accelerated by the pandemic. What are the best tools to do your jobs in local govt? What kind of technology you should be investing in? What protocols or trends are upcoming that you should consider leveraging? This session will deal with the basic understanding of the paradigm shift, and provide managers in all ranks ideas and tools to bank on. *Arnab Bhowmick, AAKAVS AKTIVOV* **W/WW**	**Heritage I** **Water System Surveys** How to prepare for your water system survey. What to expect during a system survey. *Kari Salis, OHA-DWP* **W**	**Heritage II** **DEQ Vertical Inspection, How, Who and Why?** How to prepare for your system inspection and what to expect for a virtual inspection. *Vanessa Rose, Anna Morgan Hayes, Oregon DEQ* **WW**
12 – 1:30 pm (0.1) Lunch Break with Exhibitors — Learn the latest applications, equipment, tools and techniques for the water and wastewater industry. **W/WW**			
1:30 – 2:45 pm (0.125) Training Sessions			
Great Hall **Basic Math for Water/Wastewater Operators** (Continued) **W/WW**	**Landmark I/II** **Pipe Rehabilitation Application** Acoustic Condition Assessment and Structural Epoxy Rehabilitation. Problems typically caused by sediment and biofilm build-up that accumulate over time within the distribution system mains can eventually manifest in consumer and regulatory issues. Many water authorities also face the challenge of a limited capital budget and aging infrastructure. To compound this problem, smaller water systems may have unknown service histories, making their useful life more difficult to assess. This presentation discusses unique approaches to	**Heritage I** **OHA Update** Come hear about some of the areas that OHA Drinking Water Services will be focusing on this coming year. *Tony Fields, OHA* **W**	**Heritage II** **Succession Planning and Financial Viability** We will discuss the fine art of succession planning how to make healthy decisions for the workforce. Also discussed will be the financial viability of the districts and cities and how that plays a role in why that maintains a healthy industry. *Randy Jones, DEQ, Tim Tice, OAWU* **W/WW**

	cleaning, assessing, and rehabilitation of pipes in water and wastewater systems. Also, as a means of bridging the gap between available capital funds and the capital requirements of replacing aging mains, pipeline condition assessment ensure that these limited capital funds are spent where they are most needed. Furthermore, Pipe replacement may not always be the most cost-effective approach. Alternative methods of restoration of aging piping systems using state of the art robotic spray application combined with 100% solids epoxy coating systems may offer a better solution. The coating system bonds with the piping system–preventing and sealing cracks–and moves with the structure, abating leaks caused by settlement. This process protects against future corrosion & degradation, Extends the service life of system piping & components, and enhances water quality. *Jeff Austin, Suez* **W/WW**		

2:45 – 3:15 pm Exhibits

3:15 – 5 pm (0.175) Training Sessions

Great Hall	**Landmark I/II**	**Heritage I**	**Heritage II**
Basic Math for Water/Wastewater Operators (Continued) **W/WW**	**Water and Wastewater Master Planning** We will cover the drivers for water and wastewater master planning, what data the operators should be collecting ahead of the master planning, what will the master planning process look like and what are the results of the master planning. The presentation will cover the various levels of master planning efforts and benefits of the varying efforts. *Peter Olsen, Emily Flock, Keller Associates, Inc.* **W/WW**	**Water Booster Pumps and Improvements** Learn the many options and features of different types of water booster pumps used in municipal water distribution. There are many different styles of pumps to transmit and boost your system water pressure. What types do you need to keep your system maintenance free, and simple to run. *Rich Owens, Owens Pump & Equipment* **W**	**Combination Trucks** Look at alternatives to traditional combination/jet-vac trucks when for excavation and maintaining a sewer system. Jet trucks, jet trailers, vacuum trailers, rodders, bucket machines, and easement machines are all examined. Safety, traditional operational challenges such as weather and space restrictions, budgets, and productivity goals are all discussed in relation to each of these pieces of equipment. *Shawn Patrick, Owens Equipment* **W/WW**

Friday, March 5, 2021 Conference Schedule — 0.4 Total CEUs

8 – 9 am (0.1) Training Sessions

Great Hall	**Landmark I/II**	**Heritage I**	**Heritage II**
The Santiam Canyon recovery from the Beachie Creek and Lions Head Fires and effect on the North Santiam Sewer Project The effect on the water system in the North Santiam Canyon, the recovery, and the effect that the fire has on the	**Speech Communication and The Art of Dialogue with Water and Wastewater Customers** This class will focus on some common pitfalls when communicating with your Customers. Learn basic skills to better enhance your conversation and dialogue with both internal and external customers by better understanding how to deal with the customers	**Municipal Extensions** Using Incremental Development to Limit "Fish Persistence" Reductions on "Green Light" Water. *Laura Schroeder, Schroeder Law* **W**	**Intelligent Pumping Solutions Case Studies** Connecting a non-clog pump to a VFD with a generic operating program can bring mixed results. This session we will explore using VFDs with impeller

progress of the North Santiam sewer district progress. Where are we now? *Danielle Gonzalez, Marion County Economic Development* **W/WW**	perspective from their worldview. Learn the value of crossing over into various communication communities and speak their language. *Mike Edwards, City of Bend* **W/WW**		specific algorithms and their outcomes in real stations here in Oregon. *Simon Cartwright, Xylem* **WW**
9 – 9:15 am Break			
9:15 – 10:15 am (0.1) Training Sessions			
Great Hall **The Santiam Canyon recovery from the Beachie Creek and Lions Head Fires and effect on the North Santiam Sewer Project** (Continued) *Danielle Gonzalez, Marion County Economic Development* **W/WW**	**Landmark I/II** **Speech Communication and The Art of Dialogue with Water and Wastewater Customers** (Continued) *Mike Edwards, City of Bend* **W/WW**	**Heritage I** **Contracting Out of Boundary Water and/or Sewer Services** What are your legal options when the prior governing board/council built, agreed to maintain, or provided utility services outside your jurisdictional boundaries, additional connections are requested or were made, and now the whole line requires replacement or upgrades? *Laura Schroder, Schroeder Law Offices* **W/WW**	**Heritage II** **Submersible Non-Clog Pumps** • Motor Design • Hydraulic Design ○ Contrablock Impeller Design and Comparison • Product Range ○ Construction ○ Monitoring Options ○ Dry Pit Configurations • Mounting Submersible Mixers • Product Range • Design Overview Aeration Turbo-Compressors • Project Range • Operating Principle • Turbo Blower Technology Comparison • Monitor and Control • Maintenance *Rick Barile, Sulzer Chris Briggs, Reiner Pump Systems* **WW**
10:15 – 10:30 am Break			
10:30 – 12 pm (0.15) Training Sessions			
Great Hall **Chemical Feeds Pumps** Water and Wastewater chemical feed pump application, operation, maintenance, and installation. *Phil Pelletier, Furrow Pump* **W/WW**	**Landmark I/II** **Project Inspections** How to prepare for and properly conduct construction inspections for the water and wastewater industry. This will incorporate the importance of implementing and using construction and materials specifications and standards. *Mike Edwards, City of Bend* **W/WW**	**Heritage I** **Rate/Ownership Changes: The Do's & Don't of the Oregon PUC** With the increasing interest in our domestic water supplies and aging infrastructure concerns, "for profit" private water companies are receiving additional scrutiny by their regulating agency, the Oregon Public Utility Commission. With this increased scrutiny, owners must not only attend to rate petitions, but must be more vigilant than in the past with any changes in operations. This class will explain what changes must be reported to the PUC, when and how to best report and/or navigate any approval processes for such changes. In addition, you will learn what to	**Heritage II** **Hydro-Excavation** Understanding efficiency variables in Hydro-Excavation. Learn about flow vs. pressure, vacuum vs. CFM, tool selection & equipment configurations. *Eric Lundy, Owens Equipment* **W/WW**

		include in a rate increase petition and what challenges to expect from the PUC and/or third parties in obtaining approval. *Wyatt Rolfe, Rolfe Law Offices* **W/WW**	
12:00 – 12:15 pm (0.025) Great Hall – **Closing Session – Communications and Emergency Response:** Continued. Jason Green, OAWU Executive Director. **W/WW**			