MONDAY PRE-CONFERENCE CLASSES	TOTAL CEUS 0.7 W/WW	AUGUST 21, 2023
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** CEUs ESAC #4328	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 #3388	8:00 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, OAWU*** – 0.4 **W/WW** CEUs ESAC #TBA 1:00 am – 4:00 pm **Risk Assessment and Emergency Response** How to complete a risk assessment and be proactive and prepared for an emergency at your water and wastewater system. ***Scott Berry, OAWU*** – 0.3 **W/WW** CEUs ESAC #TBA

TUESDAY		TOTAL CEUS 0.725 W/WW			AUGUST 22, 2023
08:00 – 09:00 AM		Registration			
09:00 – 09:30 AM	0.05	Opening session: **In Step** Positional responsibilities and relationships in a well-run water or wastewater system. **Jason Green, OAWU W/WW**			
09:30 – 10:45 AM	0.125	**Legislative Update** The latest issues of the State Legislature activities concerning water and wastewater utilities. **Mark Landauer, SDAO, Jason Green, OAWU W/WW**			
10:45 – 11:00 AM		Break			
		Necanicum	**Riverside A**	**Riverside B**	**Seaside A/B**
11:00 – 12:00 PM	0.1	**Improving Revenue Collections for Utilities** Utilities continually find themselves under pressure to control rate increases. One way to limit potential rate increases is to implement policies to improve collection rates and limit bad debt. In this session, participants will learn how policies and procedures at various stages of the customer cycle – application for service, billing, delinquent processing, and final bills – can impact collections. They will learn what policies and procedures other utilities have implemented to improve collection rates and reduce bad debt and write-offs. During the presentation, participants will complete two worksheets that illustrate points in the presentation. These worksheets highlight how much their utility could potentially have to write off when accounts skip out after being cut off for non-payment. This session will also examine alternative payment methods beyond the traditional cash and check payments over the	**Online Chlorine Measurement Methods** This presentation will cover: the history of chlorine measurement technologies, advantages of amperometric measurement over colorimetric measurement, limitations of amperometric measurement, and how modern chlorine analyzers can be used to efficiently drive disinfection and other chemical dosing processes. **Chris LaCour, ProMinent Fluid Controls, Inc. W/WW**	**Reservoir Mixing, TTHM/Corrosion Mitigation, and Automated Residual Control** 1) Highlight the importance of tank mixing. 2) Present water quality issues that occur inside potable water storage tanks & how to solve those issues w/mixing. 3) Trihalomethanes issues & corrosion inside the head space of tanks, & how to mitigate these. 4) Review residual issues throughout potable water storage tanks & highlight how automated residual control systems can help boost residual throughout tanks & distribution systems. **Kevin Chapa, Big Wave Technologies W**	**Introduction to Your DEQ Online** Over the next two years, Your DEQ Online will bring most of DEQ's application, payment and reporting processes into one cloud-based platform. This presentation will provide an overview of what to expect for this new platform called Your DEQ Online. There will also be a brief demonstration of the application process and key features of the system. **Margaret Gardner & Jessica Lorenz, DEQ WW**

		counter or through the mail. Participants will also learn about third party solutions that can assist in reducing bad debt and improving collections. **Gary Sanders, Utility Information Pipeline LLC W/WW**			
12:00 – 01:00 PM		Lunch with Exhibit Time: The latest applications, equipment, tools, and techniques in our industry.			
01:00 – 03:00 PM	0.2	**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**	**Chemical Feeds Pumps** Water and Wastewater chemical feed pump application, operation, maintenance, and installation. **Phil Pelletier, Furrow Pump W/WW**	**Certification Update** Reviewing certification rules and requirements for water distribution and treatment certifications. **Tony Fields, OHA W**	**DEQ Roundtable** Discussing CWSRF (what's a "LIRF"!?), What to expect when your inspected, Biosolid reporting, Permit scheduling, and more! **Tiffany Yelton-Bram, Kimi Gryzb DEQ WW**
03:00 – 03:30 PM		Break with Exhibit Time: The latest applications, equipment, tools, and techniques in our industry.			
03:30 – 05:00 PM	0.15	**Using Tracer Wire Systems to Locate Pipelines** Tracer wire systems 101, installation, components, methods, and new technologies for water and wastewater. **Geoff Robinson, Steve Causseaux, Cimco-GC Systems W/WW**	**On-Site Sodium Hypochlorite Generation: A Safe and Reliable Disinfection Alternative to Bulk Sodium Hypochlorite and Gas Chlorine** On-site hypochlorite generation (OSHG) systems for disinfection have seen an increased adoption rate in the last decade as water and wastewater utilities continue to grapple with the onerous complexity of risk management plans (RMPs) in the case of gas chlorine disinfection and the operational or cost challenges of using bulk 12.5% sodium hypochlorite for disinfection. OSHG systems which have been utilized in North America since the early 1990's use electricity to convert simple table salt (sodium chloride) into 0.8% (8,000 ppm) bleach or sodium hypochlorite. The latest generation of OSHG systems have a designed-in emphasis on safety, reliability and maintainability. Design advances such as the vertical electrolytic cell which vents by-product hydrogen immediately away from the system, modular cell configurations which allow for operational contingencies, efficient power management and open architecture have all contributed to the latest surge in OSHG adoption. In most regions, acceptable paybacks are achieved by replacing bulk hypochlorite delivery	**Annual Water Use Reporting, Permits -vs- Certificates, Extensions of Time, WMCPs, and Development Limitations** What happens with the annual water use report once the operator reports the recordings at the end of September? For example, an operator new to the system is reporting water as pumped but is unaware a single well or multi-well production can be applied to a single permits, multiple permits, or certificates. Operators are likely unaware of expirations dates on permits. Operators may not see actual permits, which are often held by management. We will provide examples of what a permit and certificate look like relating to total allowance, awareness of developmental limitations, awareness of expiration dates and what the processes are in extensions of time and Water Management Conservation Plans. **Tamara Smith, Jeffrey Pierceall, WRD W**	**DEQ Wastewater Operator Certification Basics** 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. **Kimi Grzyb, DEQ WW**

			with enhanced operator and ratepayer safety as a bonus. Lesson learned from over 30 years of OSHG installations will also be shared. Issues such as salt handling, salt purity, water softener reliability, ongoing maintenance and system layout will all be addressed specifically. Some of the largest water utilities in the country have turned to the new generation of OSHG systems to better manage their hypochlorite disinfection issues as highlighted in a recent AWWA OpFlow article. This presentation will discuss the relative advantages of OSHG, the design features of the modern OSHG systems and will present a number of case studies that include systems that generate from 10 pounds per day (PPD) of chlorine equivalent to over 14,000 PPD. **Ethan Brooke, UGSI Solutions, Inc.** **W/WW**		
05:30 – 07:30 PM 0.1		**Dinner with Exhibit Time: The latest applications, equipment, tools, and techniques in our industry**			**W/WW**

WEDNESDAY		TOTAL CEUS 0.675 W/WW			AUGUST 23, 2023
07:00 – 08:00 AM		Continental Breakfast Exhibit Hall			
		Necanicum	**Riverside A**	**Riverside B**	**Seaside A/B**
08:00 – 09:30 AM	0.15	**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**	**Distribution System Water Quality Improvements with Implementation of Active Tank Mixing** Active mixing in drinking water storage tanks has become a proven tool for improving water quality in potable water distribution systems. By ensuring water chemistry homogeneity, properly sized active mixing can reduce disinfectant residual loss, water age, prevent tank icing and, when combined with active ventilation or aeration, remove THMs from finished water. A water tank is a dynamic environment impacted by a fill and drain cycle, daily heating and cooling as well as biological growth which can rob a tank of effective disinfectant residual. High water temperatures exacerbate the layering and separation of cold and hot water inside tanks (thermal stratification). Hot, stagnant water settles at the top of the tank as a fixed strata as tank water levels rise and fall – causing excessive water age and residual loss. These upper layers of stratified water are not only characterized by higher average water temperatures, but by much lower levels of disinfectant residual due to accelerated chemical reaction kinetics. Lower disinfectant levels in turn encourage biofilm formation which resists future emergency boosting and water quality improvement. Active mixing provides continual circulation – distributing residual to all corners of a storage tank so that the entire volume is homogenous in both temperature and chemistry (disinfectant levels). In warm climates or during seasonal heat, active mixing fully incorporates the cooler, disinfectant-rich water entering the tank to overcome thermal stratification and maximize the impact of existing disinfectant levels. In the winter, mixing circulates the warmer water entering through the inlet	**AMI Options** Various options in AMI. **Drew Baird, Consolidated Supply W**	**Control Valve Basics** Hydraulic control valves – how they're built, how they work, and where they're used. **Steve Causseaux and Geoff Robinson, Cimco-GC Systems W/WW**

			pipe to prevent ice damage in the upper region of tank. Importantly, the key benefit of creating a homogeneous chemistry in a water tank is the basic requirement for further water quality improvement whether that be disinfectant boosting or THM removal. Without active mixing, water sampling is unreliable, boosting strategies are uncertain and high THM removal rates are impossible. This presentation will point to real-world case studies and data that underscore powerful tank mixing as an important and necessary step to water quality improvement and distribution asset protection. **Ethan Brooke, UGSI Solutions, Inc. W**		
09:30 – 10:00 AM		Exhibit Time: Learn the latest applications, equipment, tools, and techniques in our industry			W/WW
10:00 – 12:00 PM	0.2	**Project Inspections** Continued **Mike Edwards, City of Bend W/WW**	**Large Fuel Spills- How do they affect your Water and Wastewater Systems?** Discusses how a large-scale fuel leak affected one City's systems. Would you be ready to protect your systems from gasoline? Gasoline infiltrating your Collection System? Gasoline seeping into your waterline trench? Discuss with Operators on the steps that were taken on their systems during a recent fuel spill. What went good? What could be improved on? **Matt Johnson, City of Monmouth W/WW**	**Service Line Inventories** How to prepare for and complete the new service line inventory requirement for the LCRR. **Kari Salis, OHA-DWS W** **Significant Deficiencies: The Most Common & How to Avoid Them** The most common significant deficiencies observed at drinking water systems during water system surveys will be identified and explained. Tips and resources to avoid common significant deficiencies will also be provided. **Nicole Alfafara, OHA-DWS W**	**Managing Aging Control Valves** Explore many different problems we face with aging control valves and possible solutions **Geoff Robinson, Steve Causseaux, Cimco-GC Systems W/WW** **If Check Valves Were Cars** Explore many different check valve types, their uses, and new technologies recently introduced. **Geoff Robinson, Steve Causseaux, Cimco-GC Systems W/WW**
12:00 – 01:30 PM		Lunch			
01:30 – 03:00 PM	0.15	**Only Two classes this session: Riverside A and Riverside B** **1:30 – 5:00**		**Communicating with Engineers** What do your engineers really need to know and how you can communicate your desires to them. AI/ML Technology for Small Systems. How this technology can change how systems are now being operated. **Mike Grimm, P.E., West Slope Water District W/WW**	**Math for Operators** This class will cover the understanding of basic math concepts and formulas for water and wastewater operators including areas, volume, conversions, pounds, formulas, velocity, flow, head and hydraulics and more for system operators. Please bring your calculators and system questions. **OAWU Staff W/WW/OS**
03:00 – 03:15 PM		Break			
03:15 – 05:00 PM	0.175	**Only Two classes this session: Necanicum and Riverside B** **1:30 – 5:00**		**Investment Strategies for Water Infrastructure** Proactive strategies for transferring utility infrastructure to investment opportunities	**Math for Operators** Continued **W/WW/OS**

			including venture capital, municipal green bond funds, and insurance. **Robert O'Connell, My Utility Claim Inc.** **W/WW**	

THURSDAY		**TOTAL CEUS 0.4 W/WW**			**AUGUST 24, 2023**
07:00 – 08:00 AM		Continental Breakfast			
08:00 – 09:45 AM	0.175	**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) W/WW**	**Strategies for Managing Aging Infrastructure** Case study of a small municipality's struggles and adventures of developing an executable plan for managing our aging water and sewer systems. Discussion will look at the details of developing plans and securing funding for our aging water plant and distribution system. Discussion will cover the unique challenges faced by small municipalities when navigating state and federal funding options. This class focuses on real world, day to day operations and master planning. **Leo Newberg, Inn at Otter Crest W/WW**	**Know What You Have to Know What You Need: Creating A Water Rights Inventory to Meet Deadlines/Required Conditions Including WMCP's** Importance of managing and protecting your water rights and meeting wmcp and green light water requirements. **Laura Schroeder, Schroeder Law Offices W**	**Locating the Unknown** Conventional methods of locating with standard pipe and cable locators and new methods for the pipe that just doesn't want located and found. Showing different methods and ways in the process. If time allows we can go outside and perform some of the techniques. **Nick Frappier, NW Hydro Vac W/WW**
09:45 – 10:00 AM		Break			
10:00 – 12:00 AM	0.2	**OSHA Inspections** What to expect in and how to be prepared for an OR-OSHA inspection. **Larry Fipps, OSHA W/WW**	**The Role We Play for Emergencies** Are you ready for an emergency? Fire, earthquake, snow, flooding they all require one same thing, You! We will talk about emergencies from the 30,000 foot level. Look at resources you may know about and others you don't. I will be sharing tools that I have used to get a volunteer work force, grants, equipment, and further education. **Dan Weitzle, City of Manzanita W/WW**	**Who's the Boss? Public and Private Entity Requirements for Meetings & Records** Board training - general responsibilities, liabilities and properly taking care of and retaining good employees. **Laura Schroeder, Schroeder Law Offices W/WW**	**Acoustic Leak Detection and Smart Water Meters** Integrated acoustic sensor housed in the meter presents an approach to increase the number of acoustic sensors in a water grid tenfold. **Tim Owens, Correct Equipment W**
12:00 – 12:15 PM	0.025	Closing Session: **In Step** (continued) Positional responsibilities and relationships in a well-run water or wastewater system. **Jason Green, OAWU W/WW**			