



TRIBAL DRINKING WATER SYMPOSIUM

Building Capacity to Protect
Drinking Water in Tribal Country

Reno, Nevada • May 21–24, 2018



Tribal Drinking Water Symposium

Building Capacity to Protect Drinking Water in Tribal Country

About the Conference

Protecting drinking water quality and ensuring a sufficient supply are complex responsibilities. Tribal utilities must have the financial stability, managerial competence and technical skills to address their immediate and projected drinking water needs, and protect community health and well-being in a sustainable manner. They must make decisions on operating costs, aging infrastructure, and much more on a daily basis.

Join your colleagues, EPA and RCAC, to learn new skills, gain information, earn contact hours, network, and of course have a little fun! Mark your calendars for May 21–24, 2018 and begin planning your attendance for the US EPA Region 9/RCAC Tribal Symposium to be held at the Grand Sierra Resort in Reno, Nevada.

All conference sessions qualify for contact hours/professional development hours.

Sponsoring Agencies



Rural Community Assistance Corporation (RCAC) is a nonprofit organization that provides training, technical and financial resources and advocacy so rural communities can achieve their goals and visions.

EPA Region 9 Drinking Water Office provides Safe Drinking Water Act oversight, guidance, training and funding for Tribal water systems in California, Arizona and Nevada.

Hotel and Travel Information

WHEN:

Monday, May 21 (3:30 PM) – Thursday, May 24 (12:00 PM), 2018

WHERE:

Grand Sierra Resort • 2500 E 2nd St • Reno, NV 89595 • (800) 501-2651

A block of sleeping rooms has been reserved under Federal per diem rate of \$60 single/double, plus a resort fee of \$29 as well as state and local taxes. Use the conference code: DRINK8 to receive the group rate. The hotel sleeping room rate has been extended until April 27, so please make your reservations prior to that date. You can also reserve your sleeping room online at:

<https://aws.passkey.com/go/DRINK8>

The Grand Sierra is a resort hotel and has multiple restaurants, a bowling center, pool, casino, spa, and fitness center.

TRAVEL:

Many airlines service the Reno, Nevada airport, such as Southwest Airlines, United, Alaska Airlines and Delta. Rental cars are available at the airport. The hotel does offer an airport shuttle. The shuttle departs the airport every 15 minutes, from 4:30 AM to 12:15 AM. Pick up is from the exit located at the far end of baggage claim area.

PARKING:

Valet Parking and self-parking are covered in your daily resort fee.

Conference Schedule at a Glance

Registration and check-in desk will be open Monday from 1:00 PM–5:00 PM and Tuesday–Thursday from 8:00 AM–5:00 PM.

DAY 1 • Monday, May 21

3:30 PM–5:00 PM	Plenary Session
5:00 PM–6:30 PM	Networking Reception

DAY 2 • Tuesday, May 22

8:30 AM–10:00 AM	Drinking Water Lab Sampling (<i>mandatory</i>)	Emergency Response/Water Plan/Line Break (<i>mandatory</i>)		
10:30 AM–12:00 PM	Drinking Water Lab Sampling (<i>mandatory</i>)	Emergency Response/Water Plan/Line Break (<i>mandatory</i>)		
12:00 PM–1:30 PM	Lunch on your own			
1:30 PM–3:00 PM	Cross Connection Controls	Groundwater & Wells/ WaterOperator.org	Chemical Feed Pump Operation and Maintenance	Distribution System and Operator Exam Topics
3:30 PM–5:00 PM	Cross Connection Controls	Water & Wastewater Utility Management	Common Sanitary Survey Deficiencies & RTCR	Affordable Treatment / Wastewater Lagoons & Ponds
				Wastewater FOG & Treated Recycled Water

DAY 3 • Wednesday, May 23

8:30 AM–10:00 AM	Keeping Safe/ Worker Safety	Groundwater & Wells/ WaterOperator.org	Chemical Feed Pump Operation and Maintenance	Hydrants & Gate Valve Operation & Maintenance	Effective Communication for Small Water Systems
10:30 AM–12:00 PM	Common Sanitary Survey Deficiencies & RTCR	Funding Assistance for Water/Wastewater Systems Panel	Water Loss Control and Non-Revenue Water	SDWA 101	Membranes and Alternative Treatment Technologies
12:00 PM–1:30 PM	Lunch on your own				
1:30 PM–3:00 PM	Pumps & Motors Efficiency	SDWA 101	Affordable Biological Wastewater Systems	Distribution System and Operator Exam Topics	Wastewater FOG & Treated Recycled Water
3:30 PM–5:00 PM	Keeping Safe/Worker Safety	Q&A Panel for Drinking Water & Wastewater	Drought Contingency Planning	Basic Drinking Water Math	Effective Communication for Small Water Systems

DAY 4 • Thursday, May 24

8:30 AM–10:30 AM	Infrastructure/Finance/Funding – Case Study/Success Story – School Sample Tap Project Update
11:00 AM–12:00 PM	Closing Remarks & Raffle
1:30 PM–5:00 PM	Exam Session for Tribal Operator Certification

Session Descriptions

Tues. Morning Mandatory Sessions

There are two mandatory sessions on Tuesday Morning and each is offered twice. Please attend one at 8:30 AM and the other at 10:30 AM.

Drinking Water Lab Sampling

General Sampling Procedures

Proper sample collection and preservation is critical to any project. We will present recently revised sampling for guidance and compliance with the Lead and Copper Rule. It all starts with sample collection, incorrect sampling leads to incorrect results. We will guide you through the different drinking water sample containers, preservatives and holding times for compliance with the Safe Drinking Water Act.

How to read a Lab Report

Numbers; units; methods; results; making sense of a lab report can be a challenge. So many labs with so many ways of reporting the results. We will review some different lab reports that have qualifiers, comments and the various symbols and explain what it all means.

Quality Assurance & Quality Control

QA & QC starts with sample collection and ends with sample disposal. We will present the concept of quality assurance and the tools that laboratories use to validate their data. Quality control is a system of checks and balances that lets the laboratory and the end user know the data quality. Does the data meet the data quality objectives? The QC world has so many acronyms, what do they all mean? We can help.

Laboratory Ethics

If you google environmental lab fraud there are about 2,520,000 results. A strong laboratory ethics program starts at the top. Annual laboratory ethics training has become the standard in the industry. You can prevent fraud waste and abuse by getting everyone on board and building a culture of quality. Ethics is not something you are born with, it's a learned behavior noticeable by its absence. We will present an overview of ethical standards and present a few of the most shocking examples of laboratory fraud.

Emergency Response/Water Plan/Line Break

Does your utility have a plan of what to do in case of an emergency? Does your utility know your security weaknesses? Assessing risk and responding to emergency is an important component for every water system. In this session, we discuss how to evaluate your systems' susceptibility to potential risk threats by conducting a Vulnerability Assessment (VA), creating an Emergency Response Plan (ERP) and how to identify, classify and establish corrective active procedures for distribution repairs and breaks. These plans and response systems are crucial in mitigating and eliminating threats to public health in drinking water systems and need to be a part of every tribal utility's operating procedures.



Tues. & Wed. Breakout Sessions (alphabetical)

Affordable Biological Wastewater Treatment

Advanced wastewater treatment has been around for many years in the form of sand filters, aerobic treatment and now packed bed filters. The technology relies on multiple-pass (recirculation) through a packed-bed, fixed-film media filters which results in high-quality effluent for a wide range of applications. These treatment technologies are commonly used for small and decentralized wastewater systems ranging from individual onsite applications to larger community networks. Among the many proven benefits of these onsite and clustered systems is their ability to cost-effectively and reliably treat sewage to "better than secondary treatment standards".

Affordable Treatment -Wastewater Lagoons & Ponds

It is no wonder that one of the most popular methods for wastewater treatment around the world is also one of the simplest and least expensive. Lagoon systems use natural and energy-efficient processes to provide low-cost wastewater treatment. This presentation will give an overview of some of the different types of wastewater treatment lagoons, how they work, their operation and maintenance, and some of the advantages and disadvantages.

Basic Drinking Water Math

Tribal water operators frequently need to utilize water math while maintaining and operating the water system. This session is designed to give tribal water operators a review of the basic math principles required to successfully run a water system. Participants will review basic math concepts and practice reading and understanding certification style questions. Topics to be covered include: math tips and tricks, volumes, pressure and dosage. Please bring a calculator to this session.

Chemical Feed Pump Operation and Maintenance

Chemical feed pumps play an important role in providing clean, safe drinking water. Proper operation and maintenance of chemical feed pumps ensures that your system operates efficiently, with less down time and less overall expense while staying in compliance with federal drinking water regulations. We'll cover the selection, installation, maintenance, and troubleshooting and repair of chemical feed pumps and their components.

Common Sanitary Deficiencies and RTCR

This session will focus on the most common sanitary deficiencies and defects found in sanitary surveys and rTCR assessments. We will discuss how prevention can eliminate these deficiencies and defects from ever being identified, help you to understand what the deficiencies and defects are and why they are important, and how to take corrective actions that will satisfy the regulatory requirements for followup mitigation.

Cross Connection Controls

Do you have an active cross connection control program? If not, it is time to get in the game. Not only are you required to have an approved program, but cross connection controls provide yet another barrier against water contamination. This workshop will give you the information and resources on how to develop a program that fits your small water system. Participants will learn:

- How to identify potential cross connections
- What backflow prevention devices to use
- EPA requirements regarding cross connection control
- How to develop a successful program

Recommended audience includes operators, managers, and board members

Distribution System Health

To protect public health, water operators must balance several competing variables such as: water supply and demand; water pressure and system integrity; disinfection and water quality. Join us for a dynamic technical overview of distribution system health presented by operator and trainer Mr. Michael Alvidrez. This session will focus on water storage tank operations and maintenance, residual chlorine, hydraulics, and system flushing. In addition, strategies for preparing to take certification exams will be briefly covered.

Drought Contingency Planning

Droughts are a common occurrence in the west and tribal water systems are often the most severely impacted. Drought management planning and water conservation measures are tools that can help systems to reduce the effects of drought. This workshop will cover how to increase drought resilience and reduce drought impacts by developing a drought monitoring and preparedness plan, educating customers, and identifying drought mitigation and response actions.

Effective Communication for Small Water Systems

Successful leaders need strong communication skills to affect attitudes and get things done. Regardless of your position, leadership happens at every level of a water system. This session will help you learn how to communicate with the community, board, and funding agencies in order to gain support for decisions involving rates, budgets, and improvements.

Funding Assistance for Water/Wastewater Systems Panel

Tribal drinking and wastewater systems are not inexpensive operations and when tribes face a cataclysmic breakdown of either of those systems, the funding required to address the issues often becomes cost prohibitive. Many tribal communities have small populations located in rural locations that tend to also suffer limited financial ability to adequately support critical water and wastewater systems. For this reason, it is important for tribal communities to know what funding resources are available

to maintain, repair, upgrade, or replace water and wastewater systems. This session will help connect you with experts in identifying and accessing potential sources of funding in a variety of areas to support water and wastewater infrastructure in tribal communities.

Groundwater and Wells/Water Operator.org

Many small systems rely on groundwater for their water supply. In this session, we will cover the basics of groundwater and wells, looking at well types, geology, and what an operator should know about identifying potential sources of contamination. It will cover a new class, available for free and online, on groundwater and wells for small system and non-community system operators. We will also cover free resources that are available on the web to support water and wastewater operators. In this presentation, you will learn how to make the internet work for you in finding information on new topics, training available in your area, and resources available specifically for operators of tribal systems.

Keeping Safe/Worker Safety

This session is designed to show participants how to create and maintain a safety program for a Tribal utility. OSHA has identified the four leading causes of fatalities in the Construction Industry: Electrical Hazards, Fall Hazards, Struck-By Hazards and Caught-In or-Between Hazards. Special emphasis will be on fall protection because it is the leading cause of workplace fatalities. The attendees will learn that the most desirable way to create a safety program is by developing a safety culture within their group and that participation by everyone at every level is essential.

Membranes and Alternative Treatment Technologies

The use of membrane filtration has been growing in popularity for treatment of surface water and removal of inorganic contaminants. While they can be simpler to operate than other types of treatments, they have their operational challenges. This session will focus on microfiltration and ultrafiltration, their appropriate applications and proper operation and maintenance. Come with your stories of successes and challenges to share with the group. Includes a brief overview of surface water regulations for membrane filtration.

Pumps & Motors Efficiency

Pumping water is one of the most inefficient uses of energy there is. Most water pumping systems only convert 30 to 60 percent of the power they consume (and you pay for) into useful work, one of the lowest margins of efficiency of all commercial and industrial uses. Why? The laws of physics mostly, but also simple mistakes made in selecting a pump or motor for a given duty point. This workshop will help you understand and minimize inefficiency in your pumping systems and how to choose the right pump and motor for the job – one that will save money year after year. Participants attending this workshop will learn:

- Where to find and how to use free Total Dynamic Head (TDH) and horsepower calculators on the internet
- How to calculate TDH in a fluid pumping system
- How to solve wire-to-water energy calculations
- The six factors in friction loss and how to minimize them

This workshop will give participants a variety of tools, tips and information they can use to reduce energy costs at their utilities. The recommended audience is system operators and managers



Q&A Panel for Drinking Water & Wastewater

You just finished two days of intensive training and you still have questions. Does this sound familiar? Don't miss this opportunity to join us for this entertaining, interactive session where you, the audience, have the opportunity to present your questions to our panel of experts. This is a great way to find answers to those important questions, review your training, and have a little fun while you're at it.

SDWA 101

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water. All public drinking water systems must meet health-based standards for contaminants, including performing standard monitoring and reporting. This workshop will help tribal drinking water operators learn their roles and responsibilities under the SDWA. Topics include history of drinking water regulation, an overview of contaminants and monitoring requirements, sampling plans, monitoring waiver, recordkeeping, and types of violations and steps to avoid them.

Wastewater FOG & Treated Recycled Water: Problems, Control, and Treatment of Fat, Oil, and Grease (FOG): A Review

Presence of fat, oil, and grease (FOG) in wastewater is an ever-growing concern for wastewater treatment operators. FOG enters the sewer system from restaurants, residences, and industrial food processing facilities. Pouring fats, oils, and grease down the drain or garbage disposal creates obstructions in underground pipes and creates serious problems like blockages and sewer overflows. FOG is one of the leading causes of sewer overflows and blockages in the United States. When washed down the sink, grease sticks to the insides of your sewer pipes (both on your property and in the streets). Grease buildup can clog an entire pipeline! This presentation will give a view of FOG control and treatment.

California continues to face a severe drought. Nevada's Lake Mead has reached a record low. An Arizona drought emergency declaration has been in effect since 1999. Given our changing climate, drought conditions are expected to persist or intensify in much of the Southwest. Reusing water provides a dependable, locally-controlled source of water. Water reuse projects can range from low-tech/low-cost/small-scale greywater systems to advanced treatment systems with extensive distribution networks. Come hear San Pasqual Tribe showcase their successful reuse of treated wastewater.

Water & Wastewater Utility Management

Running a utility involves more than the technical work needed to keep pumps operating and treatment systems on line. This session will focus on management strategies and tools to assist Tribal utility managers and operators in the management of their staff and facilities. The session is based on a workshop series led by EPA over the last 7 years for Tribes and small communities and will provide information on leadership skills and strategies, asset management tools available to utilities, utility rates structures and opportunities for cost savings in running a utility. Examples of effective management strategies used by Tribes will be provided.

Water Loss Control and Non-Revenue Water

Join us for a technical presentation to learn about the AWWA M36 Methodology. The presentation will give a big-picture overview on Non-Revenue Water, why system efficiency has an impact on the overall organization, and how proactively managing it creates success for all stakeholders—technical, political, regulatory, and customers. Our presenter is Steve Cavanaugh, PE from Cavanaugh, an international expert firm and industry leader in this field. Steve serves as Chair of Outreach & Education for the AWWA Water Loss Control Committee and has been a driving force behind the 'water loss movement' across the United States.

THURSDAY SESSIONS

Success Stories

This session will share experience from Tribes, including using infrastructure funding to improve public health, reducing water consumption, supporting operator training and certification, collaborating together.

"Tribes helping Tribes" program

IHS CA will give an overview of their "Tribes helping Tribes" program.

School Sample Tap Project Update

EPA Region 9 is providing analysis of lead in drinking water in schools and other children's facilities on tribal lands in Region 9. This is a voluntary effort that requires the work of tribal governments, schools and water utilities to identify schools, collect samples, and provide education and assistance to reduce exposure. This update will describe the details of the project and the progress that has been made.

Exam Session for Tribal Operator Certification

The ITCA National Tribal Water & Wastewater Operator Certification Program will be offering the operator certification Exam Session at the conference location – Grand Sierra Resort – on Thursday, May 24 from 1:30-5 p.m. Standardized operator certification exams will be proctored to interested eligible tribal operators. Application and exam registration deadline: May 8, 2018.

The Exam Session full announcement, registration form, and tribal certification application forms are available at www.itcaonline.com/tws and can be obtained by calling ITCA at 602/258-4822.

Travel Stipends

Travel stipends will be available, check back here:

<https://www.events.rcac.org/assnfe/ev.asp?ID=1391>

An email will be sent to registrants when more info becomes available.

REGISTRATION FORM

There is no charge to attend the conference, but please register in advance. Register online at www.rcac.org, under Trainings and Events or, fill out the following form. Complete a separate form for each person registering.

Name _____ Title _____

Tribal Agency _____ Operator Certification Number _____

Mailing address _____

City/State/Zip _____

Phone (_____) _____ Fax (_____) _____

E-mail _____ Name preferred on badge _____

In case of emergency, please notify: _____ (_____) _____

check here if you want to be contacted if travel stipends become available.

I prefer vegetarian meals.

Special needs: If you have special needs or dietary requirements addressed by the Americans with Disability Act, please notify RCAC at 916/447-9832 ext. 1009 by May 1, 2015.

Reasonable Accommodation: to receive printed conference materials, contact Mark at mwiseman@rcac.org or (916) 447-9832 ext. 1029

Workshop selection: Please select one session or workshop for each appropriate time slot.

Monday, May 21

3:30 PM–5:00 PM

Plenary Session

5:00 PM–6:30 PM

Networking Reception

Tuesday, May 22

8:30 AM–10:00 AM (pick one)

Drinking Water Lab Sampling

Emergency Response/Water Plan/Line Break

10:30 AM–12:00 PM (pick the other one)

Drinking Water Lab Sampling

Emergency Response/Water Plan/Line Break

1:30 PM–3:00 PM (pick one)

Cross Connection Controls

Groundwater & Wells/WaterOperator.org

Chemical Feed Pump Operation and Maintenance

Distribution System and Operator Exam Topics

Affordable Treatment -Wastewater Lagoons & Ponds

3:30 PM–5:00 PM (pick one)

Cross Connection Controls

Water & Wastewater Utility Management

Common Sanitary Survey Deficiencies & RTCR

Basic Drinking Water Math

Wastewater FOG & Treated Recycled Water

Wednesday, May 23

8:30 AM–10:00 AM (pick one)

Keeping Safe/Worker Safety

Groundwater & Wells/WaterOperator.org

Chemical Feed Pump Operation and Maintenance

Hydrants & Gate Valve Operation & Maintenance

Effective Communication for Small Water Systems

10:30 AM–12:00 PM (pick one)

Common Sanitary Survey Deficiencies & RTCR

Funding Assistance for Water/Wastewater Systems Panel

Water Loss Control and Non-Revenue Water

SDWA 101

Membranes and Alternative Treatment Technologies

1:30 PM–3:00 PM (pick one)

Pumps & Motors Efficiency

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Q&A Panel for Drinking Water & Wastewater

Drought Contingency Planning

Basic Drinking Water Math

Effective Communication for Small Water Systems

Thursday, May 24

8:30 AM–10:30 AM

Infrastructure/Finance/Funding – Case Study/Success Story – School Sample Tap Project Update

11:00 AM–12:00 PM

Closing Remarks & Raffle

1:30 PM–5:00 PM

Exam Session for Tribal Operator Certification

Three ways to register:

1. You can register online at: www.rcac.org, under Trainings and Events

2. You can mail your registration to:
RCAC Attn: Conference Registration
3120 Freeboard Drive, Suite 201
West Sacramento, CA 95691

3. You can fax your registration to:
(916) 372-5636

Remember to select the workshops you would like to attend!

For questions about registration, contact:
RCAC, (916) 447-9832 ext. 1429 or by e-mail
[at registration@rcac.org](mailto:registration@rcac.org).

For questions on course content, contact:
Angela Hengel, RCAC, at 760/809-1275 or by e-mail at ahengel@rcac.org