

California

WATER JOURNAL

Fall 2026

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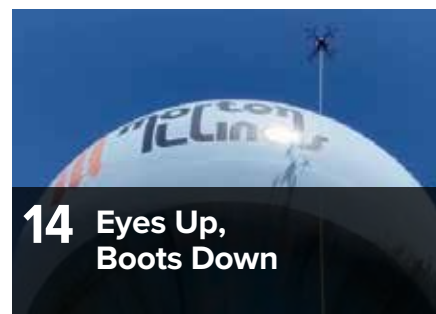
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[Executive Director's Message]

Cal Rural Water EXPO 2027

Cal Rural Water EXPO, May 10–13, 2027.



By Dan DeMoss

Happy fall, and thank the Lord, football is back in season! I hope this fall is a good one for you all. CRWA and all our various programs have had a busy and productive summer season with lots of planning for the remainder of 2026 and 2027 getting put in place. Please see the updates below for the Training and TA programs.

CRWA Annual Conference—The dates are changing to May 10–13. We are still in Tahoe, but there is a change in venue. The location is Bally's Hotel and the Tahoe Blue Convention Center. We will have the courses and meals at Bally's on Tuesday and Thursday, with the vendor's day being spent at the Tahoe Blue Convention Center right across from Bally's. This change will enable the conference to have up to 140 vendors in a modern facility that will provide great amenities for both attendees and vendors. Please mark your calendars and look for regular updates on the conference.

We will be having an ATV raffle along with WaterPac raffle and vendor-sponsored raffle as well. A limited number of raffle tickets will be available for the ATV, and half of those tickets will be available starting April 1, when you can place a pre-order for up to 10 tickets per person from the CRWA office.

CRWA Scholarships—We have one AWE week-long training scholarship and two Apprenticeship Program scholarships available for applicants who meet the criteria. Applications for these scholarships open October 1, 2026.

CRWA Workforce Development Training—The 2027 training calendar will be out in December 2026. We will be scheduling AWE week-long classes, Cross Connection tester courses, and certification review classes throughout the state. If you have a training facility in your system and would like to host a training event, please

contact CRWA's Training Coordinator, Ashley Foltz, to discuss putting on a scheduled training at your facility for the 2027 training year.

Technical Assistance Services—These have been expanded for our rural communities that meet eligibility requirements. Please see the CRWA website for the expanded services provided by our Circuit Riders and Wastewater Techs.

Please be sure to reach out for assistance, especially in the areas of project funding and operational compliance. Our staff is well-versed and ready to provide assistance. [CWJ](#)

Dan DeMoss is the Executive Director of the California Rural Water Association.

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the 2027 CRWA Scholarship Program

The California Rural Water Association is pleased to present the Annual Scholarship Program for the year 2027. This scholarship program includes:

- One \$1,100 award towards any AWE course(s) provided by CRWA including lodging and a food stipend.
- Two \$3,000 awards towards the CRWA Apprenticeship Program.

We are accepting applications from **October 1, 2026 through March 1, 2027**. To apply, simply download the application from our website, www.calruralwater.org/expo/, and submit your complete application packet using one of the methods below.

By e-mail: candicej@calruralwater.org

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THE ANNUAL CRWA SCHOLARSHIP PROGRAM

Sponsored by California Rural Water Association

The California Rural Water Association is pleased to bring the Annual Scholarship Program for the year 2027. This scholarship includes three possible awards. You can apply for both the AWE and Apprenticeship award; however, only one can be won. If applying for both, please indicate “first choice” and “second choice” on top of each application.

- One \$1,100 award towards any AWE course(s) provided by CRWA, including lodging and a food stipend.
- Two \$3,000 awards towards the CRWA Apprenticeship Program.

The scholarships are predicated on the idea that, as part of the CRWA family, we should be doing as much as we possibly can to fulfill the water needs of California’s rural communities.

For the AWE Scholarship, anyone with an association with CRWA can apply, and applications are being accepted from **October 1, 2026, through March 1, 2027.** These scholarships will be awarded at our EXPO Annual Banquet to be held on Tuesday, May 11, 2027, at Bally’s Lake Tahoe Casino and Resort.

For the CRWA Apprenticeship Scholarships, any **Member System** Manager/Supervisor may nominate a qualified employee. The Manager/Supervisor shall submit the application and required documentation by **March 1, 2027.** These scholarships will be awarded at our Expo Annual Banquet to be held on Tuesday, May 11, 2027, at Bally’s Lake Tahoe Casino & Resort.

All winners will have their conference registration and lodging paid for by CRWA.

Applicants will be evaluated on the basis of association with the CRWA family, the required paragraph, submission of a full application and documentation, and overall quality and appearance of the application.

Your application may be emailed to Candice Jackson at candicej@calruralwater.org, sent by fax to (916) 553-4904, or sent by mail to CRWA, 1234 North Market Boulevard, Sacramento, CA 95834.

Thank you in advance for your interest and application.

CRWA Board of Directors



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THE AWE SCHOLARSHIP

Sponsored by California Rural Water Association

What is AWE?

CRWA's Academy of Water Education (AWE) has been the core of our training program for many years. During the 36-hour in-person training course, students will receive a thorough introduction into the water and wastewater fields. Each course combines hands-on and formal training instructed by experienced industry leaders. A brief overview of courses available is provided below. For more information and a complete course schedule, please visit our website www.calruralwater.org.

Water Treatment O&M	This course is designed as an introductory course for Water Treatment and satisfies the 36-hour (3-unit) Specialized Training Requirement for the Grade 2 Water Treatment exam. Upon successful completion, students will be able to define/identify water treatment concepts, calculate square feet, volume, conversion of flows, pounds formula, mg/L, flow and head, explain the difference between coagulation and flocculation, and explain the purpose of disinfection and factors that influence disinfection.
Water Distribution O&M	This course is designed as an introductory course for Water Distribution and satisfies the 36-hour (3-unit) Specialized Training Requirement for the Grade 2 Water Treatment exam. Upon successful completion, students will be able to define/identify topics such as pipe maintenance and pipe features, reducing agents, trihalomethanes, breakpoint chlorination, and distribution system construction and design.
Backflow Tester Certification	This course focuses on: cross-connection control program regulations, plumbing codes, hydraulics and hazards of backflow, presentation of backflow incidents, tester safety training, approved test procedures and diagnosis of possible failures when testing various backflow assemblies, and use of a test simulator to create a variety of failure conditions. A hands-on practical exam and short quiz are conducted on the last day of class.

What is included?

The AWE scholarship includes attendance fees, lodging, and a food stipend for the attendee. Courses are held at the CRWA Pat Williams AWE Training Center located in Sacramento, CA.

Who can apply?

Applications are accepted from individuals interested in a career in water and wastewater operations.

THE CRWA APPRENTICESHIP SCHOLARSHIP

Sponsored by California Rural Water Association

About the CRWA Apprenticeship Program

CRWA Water/Wastewater Specialist apprenticeship program focuses on providing a pathway for employed workers with utilities (incumbent workers) to upgrade and enhance their Technical, Managerial, and Financial understanding and skills in the operation and management of their local utilities. The program is an approved Department of Labor (DOL) Federally Registered Apprenticeship Program. This program consists of 307 hours of formal training combined with 4,000 hours of on-the-job experience in the defined work processes as they are stated in the apprenticeship program application packet.

This two-year program is designed to provide qualifications for multiple certifications in operations and safety while providing financial education and a pathway for a utility management certification as well. The water/wastewater specialist program also provides pathways for a 2-year associate's degree in water and wastewater operations.

Water Operations Specialist	Upon completion of the two-year program, an apprentice will receive: • Backflow tester certification through NCBPA or ABPA • Utility management certification (based on exam qualifications) • OSHA10 certification • Eligible for Grade 2 water treatment and water distribution exam certification • Eligible for Grade 3 water treatment and water distribution exam certification (upon completion of one year's experience as a corresponding grade)
Wastewater Treatment Operations Specialist	Upon completion of the two-year program, an apprentice will receive: • Backflow tester certification through NCBPA or ABPA • Utility management certification (based on exam qualifications) • OSHA10 certification • Eligible for Grade 1 wastewater treatment OIT certification • Eligible for Grade 1 wastewater treatment exam certification (upon completion of one year's experience as an OIT)

What is included?

The apprenticeship scholarship will cover all associated tuition costs. The Apprenticeship Program includes all books and materials, including the backflow certification and utility management tester fees.

Who can apply?

Applications are accepted from a **Member System** Manager/Supervisor nominating a qualified employee interested in a career in water and wastewater operations.



Water System Condition Assessment

Replacing assumptions with field-based evidence

By Mohammad Danishyar, PE



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Water system components, including groundwater wells, treatment facilities, storage tanks, booster pump stations, and pipelines, deteriorate over time due to age, material limitations, and operational wear. A condition assessment is the process of evaluating the physical state and performance of these assets to determine their current condition and estimate remaining useful life.

When condition data is absent, utilities are left to estimate when assets will fail based on age and general assumptions. A structured condition assessment program replaces those assumptions with field-based evidence, enabling more accurate remaining useful life estimates, and better investment decisions for prioritization of capital improvement projects.

This article covers the most common assessment methods for each major water system component, from routine inspections performed by system staff to specialized evaluations requiring professional contractors.

GROUNDWATER WELLS

Groundwater wells are often the primary or sole source of supply for rural and small water systems. Over time, wells deteriorate through casing corrosion, screen encrustation, and biofouling. A visual inspection is performed on the following components:

- Operability and condition of wellhead components: Air release valve, flow control valves, pressure gauge, meter, gravel fill pipe, sounding tube, vent, sample tap
- Discharge piping and connections: Leaks, corrosion, adequacy of support
- Deterioration or deficiencies in well building: Cracks, corrosion, ventilation
- Vertical turbine motor: Noise, vibration, overheating
- Concrete pedestal: Cracks, spalling, settlement
- Well cap (submersible pumps): Seal integrity and watertightness
- Electrical and controls: Overheating, corrosion, fault indicators

Downhole Video Inspection: A waterproof camera is lowered into the well to inspect the casing, screen, and pump column. The inspection covers:

- Casing: Corrosion, structural failure, mineral or biological deposits on surface
- Screen: Slot plugging, incrustation, biofouling, physical damage
- Sediment accumulation at the well bottom

Water Capacity Testing: Well and pump performance are evaluated by measuring water levels and flow rates under pumping conditions and comparing to historical records. A consistent decline in production points to screen clogging, pump deterioration, or aquifer changes and signals the need for further investigation or rehabilitation. Testing criteria include:

- Static water level: Depth to water before pumping begins, recorded at each test to establish a consistent baseline
- Pumping water level: Depth to water during operation, changes with flow rate



- Specific capacity (pumping rate divided by drawdown): Measures overall performance over time
- Well pump performance: Flow rate and discharge pressure measured and compared to the design curve and historical records

Water Quality Testing: Changes in water quality are often among the earliest indicators of a deteriorating well or shifts in aquifer conditions. Testing criteria include:

- Coliform bacteria: A positive result indicates a compromised sanitary seal or influence from nearby surface water sources.
- Iron: Rising levels may suggest iron-related bacteria activity, forming deposits on screen that restrict flow and reduce yield over time.
- Turbidity and sand content: Presence of sediment or sand indicates a deteriorating screen or displaced gravel pack.

When water quality changes coincide with declining pumping capacity or downhole video findings, the combined results provide a clearer picture that guide rehabilitation efforts.

WATER TREATMENT PLANTS

Water treatment plants are subject to deterioration in structures, mechanical equipment, and treatment processes over time. A visual inspection is performed on the following components:

- Treatment building, basins, and tanks: Cracks, spalling, corrosion, leaks
- Chemical feed pumps, mixers, aerators, filters, and piping: Leaks, corrosion, clogging, visible wear

Process Performance Monitoring: Tracks key treatment parameters on a continuous basis to confirm the plant is operating within design intent and meeting water quality requirements. Monitored parameters include turbidity, chlorine residual, pH, chemical feed rates, filter run times and head loss, and plant flow rates. Results are compared to design criteria to identify process deficiencies or performance decline.

Maintenance Records Review: Provides a historical picture of equipment condition that field inspection alone cannot capture. Records typically reviewed include inspection reports, equipment service history, and testing

logs. These records are used to identify chronic problems based on abnormal repair frequency and recurring failures.

STORAGE TANKS

Water storage tanks typically require professional inspection every three to five years, with routine visual checks by system staff in between. A visual inspection is performed on the following components:

- Exterior: Corrosion, deformation, coating failure, foundation cracking, settlement
- Interior (tank drained): Corrosion, coating failure, cracks, deformation, sediment or biological accumulation

In-Service Inspection: Assesses the tank interior while it remains in operation,

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avoiding the cost and disruption of taking it out of service.

Remotely Operated Vehicle (ROV): A camera-equipped remotely operated vehicle is inserted through the roof manway and piloted to cover the floor, shell, and interior fittings.

Dive Inspection: A licensed commercial diver performs a hands-on interior inspection, used when a more detailed assessment is needed than an ROV can provide.

Non-Destructive Testing (NDT): Quantifies tank material condition without removing or damaging components and are performed by certified technicians.

- Ultrasonic thickness testing: Measures steel wall thickness on shell, floor, and roof plates
- Coating thickness measurement: Dry film thickness of interior and exterior coatings

BOOSTER PUMP STATIONS

Unlike buried infrastructure, booster station components are accessible and can be assessed through routine inspection and operational monitoring. Condition assessment covers visual inspection, pump performance testing, and periodic specialized evaluations. A visual inspection is performed on the following components:

- Building deterioration or deficiencies: Corrosion, structural deterioration, ventilation

- Pumps and motors: Leaks, noise, vibration, overheating
- Piping: Leaks at joints and connections, corrosion, adequate support, valve operability, pressure readings
- Electrical and controls: Corrosion, overheating, fault indicators

Pump Performance Testing: Compares current operating conditions to the design curve. Key measurements include flow rate and discharge pressure, and energy consumption.

Specialized Condition Assessment: Provides a deeper picture of equipment condition beyond what routine inspection and performance monitoring can capture.

- Vibration analysis: Bearing wear, shaft misalignment, impeller imbalance, cavitation
- Motor insulation resistance testing: Winding degradation that can lead to motor failure
- Thermographic imaging: Hotspots in electrical panels and motor connections caused by loose or failing components
- Variable frequency drive (VFD) diagnostics: Fault logs and operating parameters to assess drive condition

PIPELINES

Pipelines represent the largest share of infrastructure in most water systems

and are among the most difficult assets to assess due to their burial, length, and variety of materials. Condition assessment relies on visual inspection of accessible components, acoustic leak detection, and inline inspection tools for buried pipelines. A visual inspection is performed on the following components:

- Valve vaults and meter boxes: Corrosion, leaks, valve operability
- Aboveground piping: Corrosion, coating condition, joint and support condition
- Hydrants: Leaks, operability, physical damage
- Surface indicators: Wet spots, sinkholes, unusual vegetation above buried pipelines

Acoustic Leak Detection: A widely used and cost-effective method for assessing pressurized water pipelines. Escaping water generates a sound signal that travels through the pipe wall and surrounding soil. Ground microphones and contact sensors identify active leaks, while correlators pinpoint leak location by measuring the time delay between signals at two points along the pipe. The method is most effective on metallic pipe.

Electromagnetic and Ultrasonic Inspection: For large-diameter transmission mains and critical pipelines, inline tools are deployed through existing access points while the pipe remains in service.

- Magnetic flux leakage (MFL): Wall loss and corrosion in steel and ductile iron pipe
- Ultrasonic testing (UT): Remaining wall thickness across long pipe segments

Both methods require specialized contractors and are not applicable to non-metallic materials such as PVC or asbestos cement.

PRACTICAL CONSIDERATIONS

Condition assessment methods vary significantly in their complexity, cost, and required expertise. Some are well within the capabilities of system staff, while others require professional inspectors or specialized equipment that most utilities do not maintain in-house.

Tasks water system staff can typically perform:

- Wellhead and well building visual inspection
- Water quality sampling, water level measurements, and pump operational checks
- Water treatment plant visual inspection and process performance monitoring
- Storage tank exterior visual inspection
- Booster pump station visual inspection and pump performance monitoring
- Aboveground pipeline, valve vault, and meter box inspections
- Pipeline acoustic leak detection (with basic training)

Tasks that require professional contractors:

- Groundwater well downhole video survey
- Groundwater well specific capacity and step-drawdown testing
- Storage tank interior inspection, remotely operated vehicle, dive inspection
- Storage tank ultrasonic steel plate thickness testing
- Pipeline magnetic and ultrasonic inspection
- Pump motors vibration analysis

CONCLUSION

Condition assessment is a continuous process of observation, testing, and documentation across all components of a water system throughout their lifecycle. Assessment methods range from routine visual checks performed by system staff to evaluations requiring professional contractors and specialized tools. The appropriate level of assessment effort depends on asset criticality and consequence of failure. For example, a sole source well, large

transmission main, or a tank serving critical pressure zones require more frequent and rigorous evaluation compared to infrastructure where failure would have limited impact on supply or system pressure. Matching assessment level to asset importance allows utilities to make the most effective use of limited resources.

Routine inspections performed by system staff, combined with periodic evaluations by qualified specialists, give utilities the information needed to prioritize capital investments, extend asset life, and reduce the likelihood of failures. Consistent documentation of findings over time is essential to making that information useful for planning. **CWJ**

Mohammad Danishyar, PE, is an Associate Engineer with California Rural Water Association.



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Eyes Up, Boots Down

How cleaning drones are changing water tank maintenance

By Grace Dahlstrom



By removing both visible growth and non-visible contaminants, drone cleaning extends coating service life by three to five years. All photos courtesy Apellix.

Ask any rural water operator about their elevated storage tank and you'll usually get the same mix of pride and worry. The tank is the most visible asset the system owns—often the tallest structure for miles—and it's also one of the most expensive to maintain. Over time, the exterior collects mold, mildew, and algae that do more than look bad. That biological growth traps moisture against the protective coating, and once a coating starts to fail, corrosion isn't far behind. A premature repaint can run a small system hundreds of thousands of dollars it didn't budget for.

The traditional fix is straightforward and unappealing: rent a lift or erect scaffolding, send a crew up a hundred feet or more, and hope the weather and the wind cooperate. It's slow, costly, and it puts people at height—exactly the kind of dirty, dull, and dangerous work that's getting harder to staff. It's exactly the type of risk OSHA's Fall Prevention campaign is trying to eliminate.

According to OSHA, in 2024, there were 389 fatal falls to a lower level out of 1,034 construction fatalities. There's a different way to approach water tower cleaning now, and it keeps your people on the ground.

A POWER WASHER THAT FLIES

Aerial robotics company Apellix builds tethered drones that carry a pressure-wash wand and spray tips up the side of a tank while the operator stays safely at ground level. The "tethered" part matters: the drone is connected to a truck- or ground-mounted system by a hose for water and surfactants. The operator flies the aircraft to the surface, and onboard flight control holds it steady against the structure while it works—including in up to 20 mph wind that would make rope or lift work miserable.

The pitch for the Apellix power-washing drone is simple. No lift rental. No scaffolding setup and teardown. No crew exposed to fall hazards. And because the

drone can reach awkward geometry, it cleans surfaces that are genuinely hard to access by conventional means.

WHAT IT LOOKED LIKE IN THE FIELD

A case study from Apellix shows how this plays out on a real structure. In September 2021, the company used a previous model of the tethered Power Wash drone to clean an elevated water tower 115 feet tall—a globe 80 feet in diameter and 35 feet tall, sitting on a stem 80 feet tall and 40 feet across. The crew ran a head-to-head comparison on the same tower: the drone cleaned one half, and a traditional crew working from a 135-foot lift cleaned the other.

The drone finished its half in about 2.5 hours. The lift crew took roughly 5 hours to do theirs. Both halves were cleaned to the SSPC-SP1 solvent-cleaning standard, spraying and rinsing at around 8 gallons per minute and 3,000 PSI at the



pump head. By removing both visible growth and the non-visible contaminants that quietly degrade a coating, Apellix estimated the cleaning extended the coating's service life by three to five years.

That's where the economics get interesting for a small system. Using the project's own figures—a tower that cost roughly \$750,000 to coat, amortized over a 30-year life—every year of coating life is worth about \$25,000. Pushing the next repaint out by four years pencils out to roughly \$100,000 in deferred cost. Even discounting heavily for site-specific conditions, the math is the kind that gets a board's attention, and it reframes routine washing as coating-preservation rather than cosmetics.

ENHANCED FLIGHT CONTROL AND AUTOMATION

It's worth clarifying that the 2021 case study above used an early Apellix model, and the technology has moved well beyond it. The current lineup, the B2 and the Blue, reflect several years of additional development. Today's systems deliver up to 4,000 PSI and up to 11 gallons per minute, reach working heights of around 195 feet, and still stay within the FAA's 55-pound weight limit for unmanned aircraft.

The bigger changes are in control and safety. Newer units add an updated autopilot and refined precision flight control for steadier operation against a surface, front distance-hold to maintain a consistent standoff while cleaning, and left/right collision avoidance to prevent contact with the structure. Apellix has also improved water resistance, so the aircraft tolerates the wet, spray-heavy environment it works in. In 2026 the company introduced AI-assisted capabilities across its platforms, continuing the move toward more autonomous, repeatable cleaning passes.

PRACTICAL NOTES FOR CALIFORNIA SYSTEMS

A few things are worth flagging for operators weighing this. Commercial drone work in the U.S. falls under FAA Part 107, so whoever flies—your own certified staff or a contractor—needs to take the two-hour FAA Part 107 online test. If your system is a public agency, procurement rules increasingly

favor drones that are NDAA-compliant and made in the U.S.; Apellix builds to those standards in Jacksonville, Florida, and its cleaning drone is certified by the U.S. Department of Defense, which can simplify the approval conversation for public entities.

None of this eliminates good asset-management practice. You still need an inspection program, a sense of where each tank sits in its coating life, and a realistic maintenance schedule. What the technology changes is the cost and risk of acting on that schedule. Washing a tank no longer has to mean a lift, a scaffold, and a crew at height, and for



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Apellix builds tethered drones that carry a pressure-wash wand and spray tips up the side of a tank.



Today's Apellix systems deliver up to 4,000 PSI and up to 11 gallons per minute, reaching working heights of around 195 feet.

a small system trying to stretch a coating and protect its people at the same time, that's a meaningful shift. **CWJ**

To learn more or arrange a demonstration, contact Apellix at info@apellix.com, (904) 647-4511, or apellix.com.

Grace Dahlstrom is Chief of Staff at Apellix



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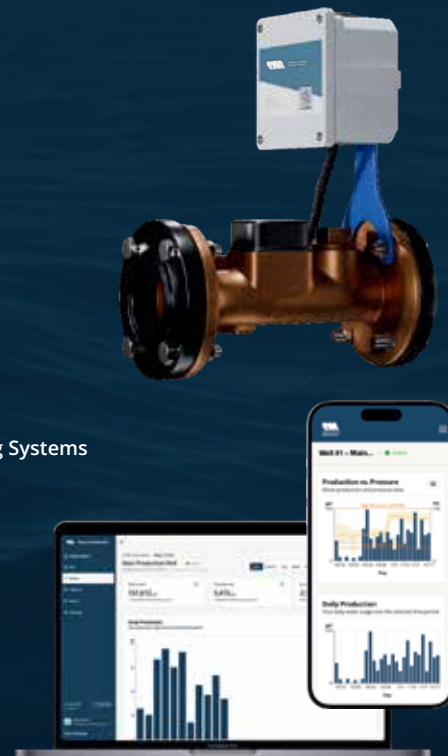
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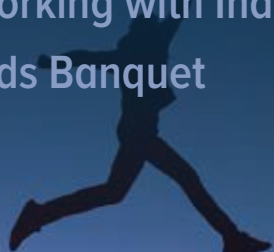
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Tank Maintenance Asset Management Programs for Water Utilities

Structured approach emphasizes proactive, long-term planning

By Keith M. Jones



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Water storage tanks are among a utility's most critical—and most visible—assets. They provide essential storage capacity, maintain system pressure, support fire protection, and help ensure reliable water service during periods of peak demand or emergency conditions. Despite their importance, tanks can be challenging to manage. Major rehabilitation projects are costly, technically specialized, and often deferred when competing priorities arise.

In response, many utilities are adopting structured tank maintenance asset management programs that emphasize proactive, long-term planning. Rather than reacting to coating failures, corrosion, structural deterioration, or water-quality concerns, these programs establish a systematic approach to inspecting, maintaining, repairing, and rehabilitating tanks throughout their service life.

The process typically begins with a comprehensive evaluation of existing water storage facilities. This includes reviewing each tank's condition, age, construction type, coating systems, operational role, safety features, and maintenance history. Depending on the system, assessments may involve exterior observations, interior inspections, structural and coating evaluations, corrosion

analysis, and reviews of ladders, hatches, vents, overflow piping, access systems, and other appurtenances.

Findings from these evaluations are used to develop a tailored asset management plan. Such plans identify deficiencies, establish maintenance priorities, recommend corrective actions, and outline schedules for inspections, repairs, coating work, and major rehabilitation. The goal is to address minor issues before they escalate into costly emergencies while coordinating larger projects to minimize operational disruption.

One of the primary benefits of a structured maintenance program is improved financial predictability. Tank rehabilitation projects can place significant strain on annual capital budgets. By organizing required work over a defined timeframe, utilities can transition from unpredictable capital expenditures to more consistent and manageable financial planning. This approach supports better coordination between operations, engineering, and finance teams, and reduces the likelihood that critical maintenance will be deferred.

Programs may include routine inspections, preventive maintenance, safety upgrades,

corrosion control, coating repairs, structural rehabilitation, cleaning and disinfection, regulatory coordination, and emergency response support. The scope of services is typically tailored to the condition of the assets and the operational and financial needs of the utility.

Another advantage is streamlined project management. Rather than coordinating multiple contractors and specialists independently, utilities can work with a single provider to oversee inspections, engineering, coatings, safety compliance, and rehabilitation activities. Firms such as USG Water Solutions offer integrated services that centralize responsibility and simplify administration, allowing utility staff to remain focused on daily operations.

Importantly, tank maintenance extends beyond aesthetics. Deteriorated coatings and exposed steel can lead to corrosion, metal loss, structural damage, and water-quality concerns. Safety deficiencies involving ladders, platforms, hatches, vents, or fall-protection systems can also pose risks to personnel and contractors. Addressing these issues proactively helps protect both infrastructure and public health.



Well-implemented tank maintenance asset management programs can help utilities:

- Extend the service life of water storage tanks
- Reduce the risk of unexpected failures and emergency repairs
- Maintain protective coating systems before widespread deterioration occurs
- Identify structural, operational, sanitary, and safety deficiencies
- Improve long-term capital and operating budget predictability
- Coordinate maintenance around system demands and operational constraints
- Preserve water quality and protect public health
- Maintain accurate documentation of inspections, repairs, and asset conditions
- Support informed, defensible decision-making
- Establish clear accountability for ongoing tank maintenance

Ultimately, these programs shift tank maintenance from a reactive, project-based expense to a strategic asset management practice. Utilities gain a clearer understanding of asset condition, a prioritized roadmap for future work, and a more reliable framework for protecting long-term investments.

While individual providers may vary in approach, the underlying concept remains

consistent: proactive planning, coordinated execution, and sustained attention to asset conditions can significantly improve the performance, safety, and longevity of water storage infrastructure. **CWJ**

Keith M. Jones, USG Water Solutions, is a 38-year veteran of the drinking water industry, a Certified Utility Manager, and T3 D3 Operator in California.

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Planning a Successful Meter Changeout

Lessons from Palomar Mountain Water on protecting revenue and modernizing operations

By Jason M. Flynt



Palomar Mountain Overlook. Photo by Joanna Gilkeson/USFWS via Wikimedia Commons.

When Palomar Mountain Mutual Water Company began planning to replace its 225 manually read meters, Renee Forero-Cook, the general manager, was not simply looking for new technology. Like many operators of small water systems across California, Renee was trying to solve practical problems with limited staff and limited resources. The problems: improving billing accuracy, rapid leak detection, reducing or eliminating staff time spent reading meters, and making better operational decisions—issues that are all too familiar to most water system operators.

Palomar's experience is a great case study in meter changeout planning, which equates to success for both the utility and customer. A meter replacement project is not simply about changing out hardware; it is about protecting the financial and operational health of the system.

How does a meter protect the financial well-being of a system? Great question. Every water system has one asset that measures its billable product: the water meter. Treatment plants, storage tanks, wells, pumps, and distribution systems are essential infrastructure, but every gallon a utility produces and delivers becomes revenue only if it is measured accurately. In

that sense, the water meter functions as a water system's cash register.

As meters age, their accuracy can decline, particularly at lower flow rates. The result is a slow but steady loss of billable water over time. Much like a frog in a boiling pot; if you turn the heat up slowly enough, the frog doesn't notice until it's too late. The change is so subtle that operators never see a remarkable loss. It just happens gradually, one gallon at a time across dozens or hundreds of service connections, reducing the revenue available for maintenance, emergency repairs, capital improvements, and long-term infrastructure investment.

For Palomar Mountain, improving meter accuracy was about more than automating meter reads. It was about protecting the revenue that supports the entire water system while giving a two-person staff better information to manage it.

START WITH A PILOT

A full system meter changeout can be unsettling for both operators and their board members, especially for those who have had a bad experience in the past. One way to "test

drive" an operating system or new technology is to run a product pilot or demo of the new hardware and/or software. Rather than committing to a blind full-system changeout of all meters at once, Palomar Mountain began with a demo of three advanced metering infrastructure (AMI) cellular connected ultrasonic meters from Resource Monitor.

The pilot meters were placed where the data would be most useful. Within the first week, one of the meters alerted Renee of continuous flow of approximately 500 gallons per hour at a local community building. Under the utility's annual (yes, annual) manual-reading schedule, that leak might not have been detected until the next billing cycle, when it would have yielded an unusually high water bill that required a tremendous amount of attention, but only after the damage had been done.

Instead of a 360,000-gallon-per-month leak that equated to an unpayable bill, the data showed the flow pattern as it occurred in near real time. Renee estimates that the information saved the utility's two-person crew approximately 20 hours trying to investigate and locate an unknown leak and an untold amount of money for the customer.



The pilot/demo became the *proof of concept* that higher quality data delivered more often is not only useful and convenient but vital. The value extended beyond detecting a single potentially very expensive leak to actually saving the customer and the staff time and money.

During the pilot/demo, staff had time to become comfortable with the software, understand the alerts, review the billing integration export procedure, and prove up the compatibility of installation before a full system deployment. The board also saw real, measurable operational benefits rather than relying solely on projections.

A pilot is not simply a test of whether connected metering technology works; it is an opportunity to determine how new equipment and technology will fit into a utility's actual operations. Compatibility with staff, installation, billing software, and system components can be tested prior to an expensive purchase or commitment.

PLAN AROUND THE CREW

In many systems, the same staff responsible for treatment, distribution, customer service, emergencies, and routine maintenance are often expected to complete a meter changeout project. Palomar Mountain built

its installation schedule around what staff could realistically sustain after the pilot/demo experience of three actual meter replacements. Palomar usually schedules only four or five meter swaps per day, even when the replacements may appear to be easy. Being realistic and leaving room for the things that can slow or derail a project is important. Every system is subject to unforeseen challenges: people (both customers and staff), Mother Nature, emergencies, machinery and equipment failures, and any number of daily surprises. Setting realistic expectations and planning for the transition and process will yield the best result.

Difficult meter replacements should be identified and scheduled separately, while meter banks with similar configurations can be grouped to improve efficiency and keep the average install time down. Logistics are another factor that Palomar Mountain considered prior to a full system changeout. The lack of a forklift, for example, means shipments must arrive by liftgate and be broken down by hand into manageable quantities. Storage and some form of transport to the meter locations is another obvious concern. Four or five meters for the daily swaps didn't take up too much room in a service truck, and staff could still

respond to their normal required duties with little interruption.

In the water industry, implementation support matters almost as much as the equipment itself. Coordinating deliveries, configuring software ahead of time, training staff, and quickly resolving issues help keep a project moving. Consider the support, training and response from a vendor during the pilot/demo. Your experience with a vendor or manufacturer prior to the commitment of a large purchase can tell you a lot about what to expect "after the sale."

PRESERVE THE DATA

Each outgoing meter in a full system swap carries a final reading that likely doesn't correspond with the last day of a billing cycle, so having a plan and process for collecting and storing previous meter data is important. The final "old" meter reading, serial number, address, etc., need a place to be stored at the time of a swap, and thinking through how a system can efficiently and effectively store that data should be a concern.

Palomar Mountain records the old meter's serial number and final read at the time of replacement with a photograph of the register whenever possible. They also retain removed



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meters until the billing cycle closes so a disputed reading can be checked against the physical device.

Unique billing identifiers may also be stored as part of the process for locations or customers that are not identified by a conventional address. Palomar Mountain was able to maintain unique identification information from each meter so that each export aligns with the utility's existing customer records. Take away: think through what may be unique to your system and have a plan for how that information will sync with existing processes or records.

Also, while meter swaps are occurring, meter location info can be refined and stored. GPS is now accurate to within a couple of feet in most areas, and logging the install of a meter with data that allows staff to greatly reduce the area they may have to search for a "lost" meter should be considered. Palomar Mountain is taking that process one step further by using a survey-grade GNSS receiver while mapping its system in ArcGIS so that future crews can locate meters and related assets with greater accuracy.

DON'T REINVENT THE WHEEL

A change in metering equipment and technology should not require an operator or staff to abandon things that are working for their system. Palomar Mountain had previously consolidated decades of handwritten records and spreadsheets into a database, eventually moving from Microsoft Access to Azure SQL. Its usage history extends back to 1995. The new metering system was selected and configured to preserve that work rather than displace it.

New usage data is also seamlessly integrated into Palomar's current billing process from the new metering application as well. The current Palomar billing database continues performing the calculations it has always handled, while the connected meters provide more timely and reliable readings. The road map for where data goes from a new app or vendor to existing systems should be proven and tested prior to a large system swap. Reference the meter-as-a-cash-register model mentioned before: the path from the cash register to the bank (or from a bill to a customer) should be clear before committing to a system changeout.

DATA THAT GETS GRANULAR

Interval data also changes the way billing questions are handled. With yearly manual readings, a disputed bill often becomes a debate over a single number. With readings recorded throughout the day, staff can show whether consumption occurred continuously, intermittently, or during a specific period. Palomar can now see 15-minute incremental flow data on any connection, allowing them to drill down to when a customer uses water first thing in the morning.

Palomar Mountain previously received several disputed-usage calls each year in addition to legitimate leak inquiries. Staff sometimes photographed meter registers to preserve evidence. A detailed usage history provides a much clearer basis for those uncomfortable customer conversations.

Regularly reporting meters will also allow Palomar to move from annual billing to monthly billing. Under a manual system, increasing billing frequency would mean sending staff into the field more often. With cellular connected meters, the "reading process" happens multiple times

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a day, instead of once a year, giving them flexibility in generating revenue more often.

CHOOSE A PARTNER, NOT JUST A PRODUCT

Meter accuracy, battery life, communication methods, and warranty terms all matter, but they should not be the only factors considered during a potential meter upgrade project. Water system operators should also look for a partner/vendor that can help them navigate the steps in the process from start to finish, from the source to the bank. A small-scale or partial pilot/demo may be a great way to answer the questions for an operator or manager prior to a full system meter changeout project.

Boards and managers should ask who will help build the road map for an upgrade, configure the software, validate billing data, train operators and office staff, coordinate equipment deliveries, and provide support when problems arise. No water system has the luxury of having a "pause button" when things don't go as planned. Ask questions, contemplate your billing process and all the steps that may be different with a new metering system, and be comfortable

and confident with the answers prior to committing to a major project. The answers to those questions may have a long-lasting impact beyond subtle differences in hardware specifications or pricing between vendors.

CONSIDER FINANCING EARLY

Many small systems already know they need to replace aging meters but figuring out how to pay for them is a major obstacle. Much like the technology and innovation in metering, there are new methods and programs that can facilitate a system upgrade for operators without draining their bank account or adding tremendous debt. Depending on the project and provider, utilities may be able to use phased deployments, lease financing, subscription-based service models, grants, or other payment structures that spread costs out over time while realizing the benefits in revenue and efficiency that actually pay for the upgrade.

A WIN-WIN-WIN SITUATION

As Palomar Mountain continues its deployment, the benefits of higher quality, more regular data are becoming more and more evident. Continuous usage information helps identify leaks, improves billing

confidence, reduces customer disputes, supports regulatory reporting, and provides actual system visibility and information for management and capital planning.

The same visibility that exposes a leak at a single account can also reveal broader water losses and operational issues across the system when similar technology is applied to critical points in a system. "We're going to find out exactly where we're losing water," Renee said. "It's going to let us know. We're not going to be able to deny it anymore."

Modern metering is not simply about collecting more readings, having a metering app, or installing new high-tech equipment. It is about giving operators and managers better information to manage their revenue, infrastructure, staff, equipment, sources, compliance, capital improvement dollars, and customers. [CWJ](#)

Jason M. Flynt is president and co-founder of Resource Monitor, providers of industry-leading technology designed specifically for the unique challenges of rural water management.

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From Data to Protection

AMI and ServLine working together in Eufaula, Alabama



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Advanced Metering Infrastructure (AMI) is transforming how utilities approach water management. These innovative systems enable utilities to detect leaks more quickly, better understand usage patterns, and operate more efficiently. But while AMI has a lot to offer, it's not without its challenges. Factors such as customer adoption, data management, and phased rollouts can impact how quickly benefits are felt.

To round out AMI's capabilities, programs like ServLine Leak Protection step in to safeguard customers against high water bills caused by leaks and help utilities stay compliant with their financial requirements.

THE PROMISE OF AMI FOR BETTER LEAK MANAGEMENT

AMI is influencing how municipalities and utilities approach leak detection and prevention. By enabling real-time water usage monitoring, these systems detect anomalies, such as leaks, much earlier than traditional meters could. The benefits include conserving water resources,

lowering operational costs, and mitigating unexpected high bills for consumers.

For utilities, the data isn't just about leak detection. AMI offers insights into water use trends, which helps them forecast demand, plan upgrades, and reduce unnecessary costs. It's a practical step toward managing water more sustainably and effectively.

THE REALITIES OF AMI ROLLOUTS

While the potential of AMI is exciting, rollouts come with hurdles that limit its immediate effectiveness. Here are some of the challenges cities and utilities have faced:

• Customer Engagement is Limited

AMI's customer-facing features, such as online portals, are great tools—but they're only helpful if people use them. For older residents or those unfamiliar with tech, navigating those systems can feel like a challenge. This can leave a large portion of the population out of the loop.

• Information Overload

Utilities that adopt AMI must also

manage the influx of vast amounts of data. Without proper systems and workflows, the information can quickly overwhelm both staff and resources, turning benefits into burdens.

• Rollouts Take Time

AMI deployment often occurs gradually, meaning its benefits are not immediately available to all customers. This incremental rollout can lead to inconsistencies in service levels and expectations, as some customers gain access to enhanced features while others must wait.

• Limitations in Leak Prevention

AMI does not prevent leaks from happening. While it reduces their potential severity by flagging them earlier, the system's effectiveness depends on how quickly customers act on the information. Without swift dissemination and action, leaks can still result in significant costs.

ENHANCING AMI WITH SERVLINE LEAK PROTECTION

To address these challenges, utilities can augment AMI with the ServLine Leak



Protection Program. ServLine protects customers from financial hardship caused by unexpected high water bills resulting from a leak, regardless of whether an AMI system notifies them. This ensures that consumers are financially shielded, even in cases where AMI alerts are delayed or overlooked.

Additionally, the ServLine program helps utilities reduce bad debt expense and stay compliant with bond covenants. These covenants often prohibit utilities from "giving away" water, even to assist customers with large bills resulting from leaks. Breaching these agreements can lead to costly fines or penalties. By establishing a program that both protects consumers and adheres to regulatory requirements, ServLine addresses a critical pain point in the implementation of AMI.

EUFULA'S JOURNEY WITH AMI

The Water Works and Sewer Board of the City of Eufaula, Alabama (EWWSB), began offering the ServLine program in 2022. EWWSB began installing AMI in July 2024 as part of its effort to modernize its water system. EWWSB finds that the combination of these programs ensures both technology and customer needs are addressed. As in many cities, adoption of the AMI customer portal has been slow, with only 5% of residents actively using the platform to monitor their water usage

and respond to alerts. ServLine acts as a bridge, offering financial protection for leaks, regardless of the consumer's engagement with AMI data.

"This upgrade to AMI is a big step forward for EWWSB, and while it's helping a small percentage of engaged customers catch leaks earlier, the reality is that leaks can still happen to anyone," said Kevin Heartsill, General Manager, EWWSB. "That's why the ServLine Leak Protection Program has been such a valuable complementary program for us. It provides peace of mind for all our customers, whether they're closely monitoring their water usage or not. Our customers truly appreciate the financial security it offers when unexpected leaks occur."

LEAKS AND SERVLIN CLAIMS ARE STILL HAPPENING

The following EWWSB data illustrates that ServLine claims in the 12 months following AMI rollout exceed those of the 22 months before AMI.

Date Range of Claims	Number of Claims	Value of Claims
Sept. 2022 – July 2024	104	\$27,166.60
Aug. 2024 – Aug. 2025	101	\$30,042.43

This data illustrates that, post-AMI, ServLine continues to deliver vital financial protection to residents, as claim incidences

have increased, accompanied by a slight rise in the average claim amount. However, as EWWSB's customer portal for meter insight is fully deployed and functional, claim values may be reduced because customers have direct access to their usage in real time.

CONCLUSION

Advanced Metering Infrastructure represents a critical step forward in modern water management, offering significant potential for earlier leak detection, resource conservation, and operational efficiency. However, its phased rollout, consumer usage challenges, and inability to eliminate leaks emphasize the need for complementary solutions.

Programs like ServLine fortify the effectiveness of AMI, shielding customers from financial strain and mitigating regulatory compliance risks for utilities. Together, AMI and ServLine exemplify an integrated approach to achieving both technological innovation and community resilience in water management systems. For cities like Eufaula, this combined strategy ensures all bases are covered, creating a more sustainable and customer-centric future. **CWJ**

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More Than a Membership— A Partner in Your Success

We're dedicated to helping California's water and wastewater systems succeed

By Candice Jackson



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What if the solution to your next operational challenge, compliance question, funding opportunity, or training need was already at your fingertips? For members of the California Rural Water Association (CRWA), that's exactly what membership provides. More than an annual investment, CRWA membership is a partnership dedicated to helping California's water and wastewater systems succeed every day. Whether you're a new operator, a seasoned manager, an elected board member, or an entire utility team, your membership opens the door to valuable resources designed to strengthen your system, support your staff, and prepare you for the future.

Many members are surprised to discover just how many benefits are included with their membership. CRWA offers expert Technical Assistance from experienced Circuit Riders who provide on-site support with operations, maintenance, regulatory compliance, leak detection, source water protection, and troubleshooting. Members also have access to professional Engineering Assistance, Compliance Reporting Support, Federal Program and Financing Assistance to help identify grants and low-interest loan opportunities, and specialized programs that assist with long-term planning and system improvements. These services are designed to

save utilities time, reduce costs, and provide expert guidance when it matters most.

Education remains one of CRWA's greatest strengths. Members receive access to an extensive schedule of in-person training, virtual classes, and the annual CRWA Education & Exhibitor Expo, where industry professionals come together to learn about the latest technologies, regulations, and best practices. Through WaterLMS, members can also complete online training at their own pace, while ACR Publications provides trusted certification study guides, technical manuals, safety resources, and educational materials to support operators throughout their careers. Whether you're earning certification hours, preparing for an exam, or expanding your knowledge, CRWA offers learning opportunities for every stage of your professional journey.

Membership extends beyond training and technical support. CRWA members can take advantage of valuable programs such as URIS Insurance Services, the California Rural Water Risk Management (CRWRMA) program, contract services, workforce development opportunities, and access to industry professionals who understand the unique challenges faced by California's water and wastewater systems. Members also receive

timely legislative and regulatory updates, networking opportunities with peers from across the state, and access to experienced staff who are only a phone call away when questions arise.

The greatest benefit of CRWA membership is knowing you are never facing challenges alone. Every call, every training class, every site visit, and every conversation reflects CRWA's commitment to serving its members and protecting California's water resources. If it's been a while since you've explored all that your membership includes, now is the perfect time to reconnect. You may discover services, programs, and educational opportunities that can make a meaningful difference for your utility and your community.

To learn more about your membership benefits, visit calruralwater.org. Explore upcoming training opportunities at calruralwater.org/training, browse educational resources through acrpublishings.com, and continue your professional development online with waterlms.com. Your membership is working for you—make the most of every benefit available. **CWJ**

Candice Jackson is the Events and Membership Services Manager for California Rural Water Association.



Upcoming CRWA Events

START DATE	END DATE	TITLE	CITY	COUNTY
SEPTEMBER				
14-Sep	16-Sep	National Rural Water Association WaterPro Conference	Phoenix, AZ	
23-Sep	24-Sep	Water Treatment Certification Review 1-2	Palmdale	Los Angeles
23-Sep	24-Sep	Water Treatment Certification Review 1-2	Morgan Hill	Santa Clara
30-Sep	1-Oct	Distribution Certification Review 1-2 Hybrid	San Jose	Santa Clara
OCTOBER				
1-Oct		Scholarship Applications Open	N/A	
5-Oct	9-Oct	AWE Backflow Certification/Re-Cert Course	Sacramento	Sacramento
7-Oct		TCR and Sampling Plans	Mojave	Kern
7-Oct	8-Oct	Pumps and Pumping	Paso Robles	San Luis Obispo
14-Oct	15-Oct	Water Treatment Certification Review 1-2 Hybrid	Martinez	Contra Costa
14-Oct	15-Oct	Water Distribution Certification Review 1-2 Hybrid	Tehachapi	Kern
19-Oct	23-Oct	AWE Water Treatment O&M	Sacramento	Sacramento
21-Oct	22-Oct	Water Treatment Certification Review 1-2	Tehachapi	Kern
28-Oct	29-Oct	Wastewater Certification Review 1-2 Hybrid	Stockton	San Joaquin
NOVEMBER				
2-Nov		AB54	Online	
4-Nov	5-Nov	Distribution Certification Review 1-2 Hybrid	Clovis	Fresno
18-Nov	19-Nov	Water Treatment Certification 1-2 Hybrid	Arroyo Grande	San Luis Obispo
19-Nov		Chlorine Disinfection & Water Quality Control	San Jose	Santa Clara
DECEMBER				
2-Dec	3-Dec	Water Treatment Certification Review 1-2 Hybrid	Clovis	Fresno
2-Dec	3-Dec	Distribution Certification Review 1-2 Hybrid	Stallion Springs	Kern
7-Dec	11-Dec	AWE Distribution O&M	Sacramento	Sacramento
9-Dec		Emerging Contaminants	San Jose	Santa Clara
16-Dec	17-Dec	Water Treatment Certification Review 1-2 Hybrid	Morro Bay	San Luis Obispo
JANUARY				
15-Jan		Early Bird Discount for Exhibitor Reg 2027 Expo	N/A	

KEY HIGHLIGHTS

WaterPro 2026: The National Rural Water Association's annual conference will be in Phoenix, Arizona, September 14–16, 2026. Join the rural water community for an excellent opportunity to meet with water professionals across the country. WaterPro is an excellent opportunity to learn about current issues in the 70 concurrent sessions and meet with vendors from across the nation. Don't forget fun! For more information, visit waterproconference.org.

California Rural Water Association 2027 Education and Exhibitor Expo: Exhibitor registration is now open! Contact Candice Jackson at candicej@calruralwater.org or via phone at (916) 283-8502 for more information. The early-bird registration discount ends January 15, 2027.

Scholarship Applications: If you or a member of your staff needs education or certification, this is an excellent opportunity to apply for some free training. Whether you need training for a new hire or an incumbent worker—or maybe it's time to do some succession planning—our Scholarships are an opportunity you don't want to miss. For more details, check out the Scholarship program highlights in this issue.



Snapshots

Over the years, CRWA's Preferred Provider Program has grown from nine agencies at the time of its inception to the current sixteen. The Preferred Providers offer a multitude of services to CRWA member agencies across the state. The program is designed to collectively leverage our members' buying power, providing significant benefit to California's rural systems. It has had continued success in offering discounts on various value-added products and services to members of CRWA since 2009. The table below provides a brief description of the products and services offered by the 2026 Preferred Provider Program members.

120Water	Digital water solutions that protect public health now and in the future by combining cloud-based software, digital sampling kits, and regulatory expertise to help execute water safety, compliance, and wastewater monitoring programs.
American Leak Detection	Accurate, non-destructive detection of hidden water, sewer and gas leaks in residential, commercial, and municipal buildings.
Cannon	Provides electrical engineering services.
CoBank	A national cooperative lender that supports the borrowing needs of U.S. agriculture and rural infrastructure across rural America.
Enersponse	Demand response program for water operators with no minimum pump size requirement. It provides a simple and convenient energy reduction program, which saves customers the utmost energy and money possible through rebates and incentives.
GovCard by Evolv	A zero-cost solution for collecting payments.
Lagerlof, LLP	A full-service law firm located in Pasadena, California, that specializes in the water and municipal law field, particularly in representing special districts and mutual water companies.
NV5	Provides the following services: Operational advice; district engineering services; AB54 system mapping; design of water supply, distribution and treatment systems; wastewater collection and treatment engineering; recycled water engineering; construction management/oversight; regulatory and funding agency assistance; start-up and trouble-shooting services; surveying, staking and mapping; structural engineering; asset management; geotechnical engineering; materials and compaction testing; USDA and state funding assistance; and electrical engineering.
Onterris	Specializes in providing comprehensive analytical chemistry services with a focus on environmental testing. They offer a wide range of services, including soil and water sample analysis, on-site sample collection, regional courier service, and superior customer support.
RealTime Aquifer Services (RAS)	A small business offering consulting, data interpretation and technical field services for the characterization, monitoring, remediation and management of aquifers and groundwater systems, including the performance and optimization of water supply wells.
Resource Monitor	Remote water monitoring that actually works. Purpose-built for small and rural water systems, Resource Monitor pairs drop-in smart meters and retrofit adapters with an operator-friendly platform that detects leaks in hours instead of weeks, eliminates manual meter reads, and exports data directly to your billing system. Ten-year battery life, zero infrastructure required, and a team that actually answers the phone. Plus, your customers get access to a user-friendly portal that shows their individual usage aligned with your system's billing cycle, helping you reduce customer complaints and confusion.
Schneider Electric	A global leader in energy management and industrial automation, helping water and wastewater utilities modernize operations through secure, open, and software-defined automation. Schneider Electric enables utilities to improve reliability, cybersecurity, and operational efficiency while supporting long-term sustainability goals.
SCS Engineers	Aids clients in the use and management of surface and groundwater resources.
ServLine	Insurance that provides coverage for excess water charges and excess sewer charges, which the customer owes the utility for a qualifying leak in the customer's water lines; helps utilities generate a revenue from lost water via leaks.
USG Water Solutions	A fully integrated professional service and contracting firm dedicated to providing sustainable products and services for potable water distribution systems and sewage collection systems, such as rehab and asset management.
Waterly	An affordable, easy-to-use app that offers solutions for data management and asset management. With Waterly Core, you can replace error-prone spreadsheets and clipboards and time-consuming monthly reports with simple data entry and one-click reports. With Waterly Assets, you can take the guesswork out of your asset management with digitized asset hierarchy, work orders and preventative maintenance reminders.

For more information on our service providers, please visit our website at calruralwater.org/membership/members-area/preferred-provider-program or contact CRWA's Resource Development Department at 916.553.4900.



Bringing Training Closer to You

CRWA expands hybrid learning

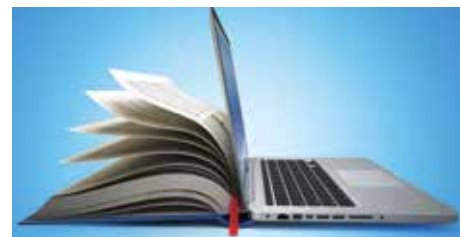
By Ashley Foltz

Continuing education is essential in the water industry, but traveling long distances for training isn't always practical. That's why CRWA has expanded its hybrid training program, making it easier than ever for water and wastewater professionals to access high-quality education.

Today, most of CRWA's training courses are offered in a hybrid format, allowing participants to choose whether to attend in person or remotely. This flexible approach helps reduce travel time and expenses while ensuring operators across California, especially those in rural communities, can continue building their knowledge and maintaining their certifications.

Although the delivery method has evolved, CRWA's commitment to quality training remains the same. Participants still receive instruction from experienced industry professionals, engage in interactive discussions, and gain practical knowledge they can immediately apply in the field.

CRWA's hybrid training program allows more professionals to stay current with industry standards without the challenges of extensive travel. Whether joining from the classroom or logging in from across the state, participants receive the same trusted, high-quality education CRWA has provided for years.



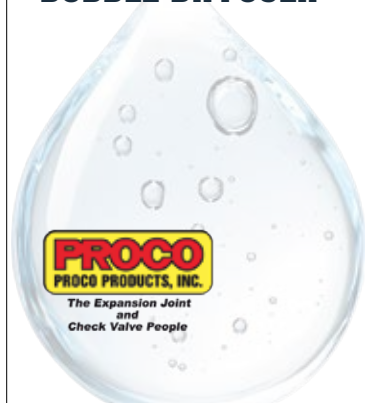
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Visit calruralwater.org to browse our upcoming training schedule and see which courses are available in a hybrid format. We look forward to learning with you! **CWJ**

Ashley Foltz is the Training Coordinator for California Rural Water Association.

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Are Your Volunteers Protected?

Dedicated accident coverage offers peace of mind on and off the job

By Dustin Hardwick



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California's water systems rely on dedicated employees every day. But for small, rural systems that can't afford employees, volunteer labor from folks in their community is often their only option. Whether it's serving on a board, assisting during community events, helping with administrative tasks, or even operating a system, volunteers are often essential to keeping small and rural water systems running efficiently.

But what happens when a volunteer gets hurt? Many water systems assume that because volunteers aren't employees, there is little responsibility beyond basic liability coverage. Unfortunately, the financial and legal consequences of a volunteer injury can be much more complicated.

WORKERS' COMPENSATION DOESN'T ALWAYS FILL THE GAP

Employees are protected by workers' compensation for injuries arising out of and in the course of their employment. Volunteers, however, often fall into a gray area, and systems without employees likely won't have a workers' compensation policy in place.

Without dedicated accident coverage, a volunteer injured while serving your system may face significant out-of-pocket expenses. An injured volunteer may also look to the water system for assistance or compensation, creating difficult conversations and the potential for legal disputes. Providing accident coverage demonstrates that your organization takes the safety and health of everyone serving your company seriously.

UNDERSTANDING THE RISKS

Water systems ask volunteers to perform a wide variety of tasks, and accidents can happen anywhere. This could include:

- Slips, trips, and falls
- Vehicle accidents while traveling for water system business
- Injuries during maintenance activities
- Community event incidents

The financial impact of even a single serious accident can be devastating for an individual and stressful for the organization. A 24-hour accident policy helps provide an additional layer of financial protection by offering benefits for covered accidents like these. Moreover, coverage extends 24 hours a day, seven

days a week, and applies whether the accident occurs on or off the job, virtually anywhere in the world.

VOLUNTEER PROTECTION CAN HELP YOU RECRUIT AND RETAIN VOLUNTEERS

Many small water systems struggle to recruit qualified volunteers and board members. Individuals are increasingly aware of the risks associated with volunteering and may hesitate if they think they might be financially vulnerable after an injury.

Offering accident coverage sends the message that you value their service and have taken steps to help protect them. That commitment can make volunteering more attractive while demonstrating responsible governance to your community.

REDUCING YOUR LIABILITY EXPOSURE

No insurance policy can eliminate every exposure, but accident coverage can reduce the financial hardship that often follows a serious injury.

When an injured volunteer has access to accident benefits, the organization



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demonstrates that it anticipated the risk and took proactive steps to help protect those serving the community. That can help reduce situations where injured individuals feel they have no option other than seeking compensation from the organization.

AN AFFORDABLE LAYER OF PROTECTION

CRWA's insurance partner is now offering a 24-Hour Accident Insurance Program that provides meaningful protection for employees and eligible volunteers. Key features include:

- 24/7 worldwide accident coverage
- Coverage for on-duty and off-duty accidents
- Benefits for accidental death, dismemberment, and paralysis
- Rehabilitation benefits
- Bereavement and trauma counseling

- Home alteration and vehicle modification benefits for qualifying injuries

For many water systems, this is one of the simplest and most cost-effective ways to provide peace of mind both on and off the job.

If your water system is looking for an affordable way to strengthen benefits, provide meaningful protection for volunteers, and demonstrate your commitment to the people who serve your community, consider adding a 24-Hour Accident Insurance Policy. Visit glatfelterbrokerage.com to learn more.

For inquiries and expert guidance pertaining to water insurance coverage and risk management, you are encouraged to contact me, Dustin Hardwick – Managing Agent of URIS/Executive Director of California Rural Water Risk Management Authority, or one of our dedicated licensed specialists with a distinct focus on this sector of insurance. [CWJ](#)

Dustin Hardwick is Deputy Director of California Rural Water Association.

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ACR Publications & WaterLMS

Supporting water professionals through education and training

By Candice Jackson

Education is the foundation of a strong and sustainable water industry, and ACR Publications is proud to provide the resources professionals need to succeed. For years, ACR Publications has delivered trusted educational materials that help water and wastewater operators, utility managers, and industry professionals expand their knowledge, prepare for certification exams, and stay current with changing regulations and best practices. Our mission is to provide practical, high-quality resources that support workforce development and strengthen water systems throughout California

and across the nation. To explore our complete catalog of publications, visit acrpublications.com.

Our extensive catalog includes certification exam preparation manuals, operator training guides, technical reference books, safety and compliance materials, workbooks, and other educational resources designed for professionals at every stage of their careers. Complementing these publications is WaterLMS, our online Learning Management System, which offers flexible, self-paced training that



can be accessed anytime and anywhere. WaterLMS allows individuals and utilities to complete professional development courses, earn continuing education hours, and maintain training records in one convenient platform, making it easier than ever to stay informed and compliant. Learn more about online learning opportunities by visiting waterlms.com.

Together, ACR Publications, WaterLMS, and the California Rural Water Association (CRWA) provide a comprehensive approach to professional education and workforce development.

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While CRWA delivers expert in-person and virtual training, technical assistance, engineering support, compliance assistance, and regulatory guidance, ACR Publications supplies the educational materials that reinforce classroom instruction and on-the-job learning, and WaterLMS extends those opportunities through convenient online training. Whether you're a new operator preparing for certification, a seasoned professional seeking continuing education, or a utility

investing in employee development, these resources work hand in hand to help you build knowledge, maintain compliance, and provide safe, reliable service to the communities you serve.

To learn more about all of the services available through CRWA, visit calruralwater.org. You can also explore CRWA's training opportunities at calruralwater.org/training, browse ACR Publications at acrpublications.com,

and access online courses through waterlms.com. **CWJ**

Candice Jackson is the ACR Publications Administrator and Events and Membership Services Manager for California Rural Water Association.

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