

# H<sub>2</sub>O Ops

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THE CAPACITY ISSUE

WINTER 2020

## SOURCE CAPACITY: SETTING STATE ACTION LEVELS FOR 5 PFAS

The State Board of Health (board) is revising the Group A Rule to address concerns about Poly- and Perfluoroalkyl Substances (PFAS) and other contaminants that don't have a maximum contaminant level (MCL).

The draft rule establishes state action levels (SALs) for five PFAS compounds and six organic chemicals. It also sets requirements for monitoring and reporting, follow-up actions, and public notice for contaminants without an MCL.

PFAS are chemicals used worldwide since the 1950s in industrial and consumer products, such as carpeting, apparel, upholstery, food paper wrappings, fire-fighting foams, and metal plating.

Evidence from some, but not all, epidemiological studies in people suggest that exposure to PFAS increases cholesterol levels, reduces birth weight, reduces immune antibody response to childhood vaccines, and may increase rates of some types of cancers, such as kidney and testicular cancer.

The board determined that an SAL is the best way to set a standard for PFAS. An SAL is the concentration of a contaminant or group of contaminants established to protect public health when there is no MCL. If exceeded, an SAL triggers required monitoring and public notification.

Currently, we determine follow-up actions for SALs and other federal unregulated contaminant monitoring

requirements on a case-by-case basis.

### Criteria to select contaminants

The draft rule includes criteria for setting SALs.

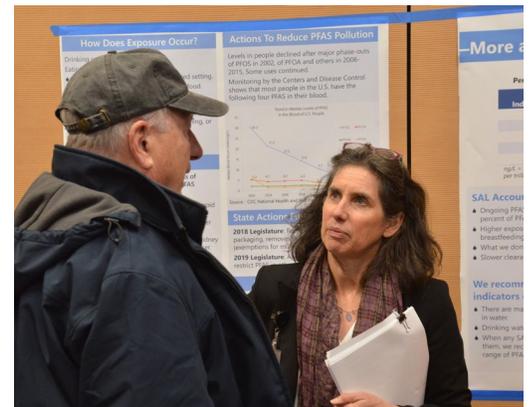
- ◆ Drinking water is a contributor of the contaminant to human exposure.
- ◆ The contaminant is known to occur in public water systems at levels of public health concern and has possible adverse effects on the health of people exposed.
- ◆ A certified lab can measure the concentration of the contaminant accurately at and below the level of public health concern using EPA-approved analytical methods.

If a contaminant meets those criteria, we may develop an SAL based on:

- ◆ Peer-reviewed scientific literature and government publications on the toxicology and human health effects of the contaminant.
- ◆ The most sensitive human biological system, such as reproductive and endocrine systems, for the most sensitive populations, such as pregnant females and young children.

### Monitor, follow-up, public notice

The draft rule would require community and nontransient noncommunity water systems to monitor for PFAS. It would require transient noncommunity water systems to monitor only if we



DOH Toxicologist, Barb Morrissey, talks with an attendee at a PFAS workshop last December.

direct them to do so because they are located near known or suspected sites of PFAS contamination. Monitoring requirements include source approval, initial and ongoing monitoring, and an option for waivers. Requirements for follow-up actions after a confirmed detection include quarterly monitoring.

On-going quarterly monitoring will depend on the level of the contaminant detected in each source. Water systems required to monitor must inform customers about the PFAS detection, health effects of the contaminant, what they are doing to address the issue, and what consumers can do to protect themselves. The timing and content of the public notice will depend on the health risks of the contaminant.

For more information or to comment on this proposed rule, visit our rulemaking webpage at [doh.wa.gov/ODWrulemaking](https://doh.wa.gov/ODWrulemaking). ◆

CAPACITY: A water system's technical, managerial, and financial capability to achieve and maintain compliance with all relevant local, state, and federal plans and regulations. The system has the knowledge, tools, and resources it needs to provide safe, reliable drinking water now and into the future. ◆

## A WORD ON FINANCIAL CAPACITY

Financial capacity is the ability to obtain sufficient funds to develop, construct, operate, maintain, and manage a public water system in full compliance with local, state, and federal requirements on a continuous basis. In short, that means you should run your water system like a business.

Water systems should manage their finances to ensure they have enough funds for future needs as well as daily ones. However, many small water systems in Washington struggle with aging and failing infrastructure because their owners and operators did not run them like businesses. When you have enough money, you are better able to ensure safe and reliable drinking water now and in the future.

### 5 steps to financial capacity

1. Develop a six-year operating budget with enough income to pay for all regular maintenance and operations. Don't forget to factor in inflation by multiplying each year's line-item costs by a 2 to 5 percent inflation factor.
2. Look at your rates. Use your six-year operating budget to decide whether to raise your rates to cover projected costs.
3. Create an operating cash reserve with enough funds to pay for 30 to 45 days of water system costs. A cash reserve will enable you to continue paying your bills even if there is a lag in income.
4. Create an emergency reserve you can use to respond to a local emergency (vandalism, pump failure). It should always have enough funds to replace the most vulnerable part of the water system.
5. Create a reserve for capital improvements and equipment replacement.

These funds will help ensure that aging equipment and infrastructure don't become a financial burden for your water system.

Asset management supports financial stability, especially as it relates to step 5. In your capital improvement plan, develop a list of equipment and infrastructure you will have to replace within the next six years.

We have a free excel worksheet\* to help you create your asset inventory, and calculate necessary rate increases for when the asset needs replacement.

You may also consider assessing fees or applying for loans as part of your financial plan to pay for capital improvements. Grant money is limited, and mostly available based on financial affordability.

### Benefits of financial capacity

**Predictable funding for capital improvements.** Having available funding and a plan for capital improvements will keep your water system running smoothly and efficiently.

**Improved system efficiency.** Financially healthy water systems have well-maintained and regularly replaced equipment that runs better. This saves water, electricity, and wear and tear, which increases asset life. These systems also are less likely to suffer water outages or poor water quality.

**Cost savings.** Deferred repair or replacement costs are often much higher when you let equipment age and fail.

**Eligibility for loans.** Most loan programs require water systems to demonstrate sound finances. If you spend time up front improving financial health, you are more likely to receive loans.

**Grant dollars are very limited.** Water systems need to show they are doing



their fair share before we consider them for grants. Grant funding usually goes to communities where the average monthly water rate with the loan will exceed 2.0 percent of the median household income for the service area. Not all systems that qualify for subsidy will receive it. There is a set amount available and we award it based on the risk category of the public health risk the project will address.

**Emergency response.** Water systems must have adequate cash reserves available to pay the costs associated with emergencies, such as providing bottled water to customers and returning to normal operations.

**Peace of mind.** When water systems have enough funds to pay for daily maintenance and operations, capital improvements, and unforeseen emergencies, their operators, board members, and customers do not have to worry or struggle to find means of payment.

### Resources

\*Asset Inventory Worksheet at [doh.wa.gov/Portals/1/Documents/4200/AssetInventoryWorksheet.xls](https://doh.wa.gov/Portals/1/Documents/4200/AssetInventoryWorksheet.xls).

*Drinking Water State Revolving Fund Program 2019 Construction Loan Guidelines* (331-196) at [doh.wa.gov/ODWPubs](https://doh.wa.gov/ODWPubs). 

## DRINKING WATER WEEK AWARD NOMINATIONS NOW OPEN!

Do you know a water system champion or an outstanding water works operator? Nominate them for a Drinking Water Week (DWW) award! **We're collecting nominations through February 14.** Awards are given out during National Drinking Water Week, May 3-9, 2020. Anyone who works within the drinking water industry is eligible.

Learn more about DWW and available categories on our DWW webpage at [doh.wa.gov/DWWeek](https://doh.wa.gov/DWWeek).

Fill out a nomination form at [fortress.wa.gov/doh/opinio/s?s=13971](https://fortress.wa.gov/doh/opinio/s?s=13971). 



## THE WHIDBEY ISLAND WATER SYSTEMS ASSOCIATION: FILLING A NEED

BY JIM PATTON

Strangers arriving on Whidbey Island typically take the availability of clean drinking water for granted. After all, our island corner of the Great American Northwest has a reputation for cloudy skies and plentiful rain.

Most visitors would be surprised to learn that at the beginning of World War II, the U.S. Navy recognized that the uncertainty of an indefinite supply of fresh water drawn from wells on Whidbey Island would jeopardize the viability of a large naval air station. The Navy's solution was to draw water from the Skagit River on the mainland and pipe it to their new facility.

That pipe, filled with surface water, still supplies almost half of our island's population. But everyone else (more than 40,000 people) must depend on groundwater stored in a myriad of aquifers, often hundreds of feet below the surface.

Water from aquifers carries dissolved minerals and tannins from long-buried organic growth and, sometimes, clinically hostile elements like arsenic. Groundwater system owners and managers must take special care to remove those unwanted "passengers" and, even more importantly, to prevent surface bacteria from entering their storage tanks and distribution plumbing.

Moreover, those owners and managers must be just as conscious as the Navy was about the uncertainty of their sources, especially when their aquifer sources lay close to the edges of our island. Experience has proven that the Salish Sea surrounding Whidbey Island relentlessly tries to force its way into those underground pockets. Careful monitoring and active groundwater conservation are wise practices when

the indefinite supply is uncertain and saltwater intrusion is a constant threat.

Fortunately, our national, state, and county officials are well aware of problems with depending on groundwater; and, over time, they put laws and regulations into place to guide groundwater system owners and managers. Washington has been active in watershed planning since 1977, and a series of laws, regulations, and plans culminated locally in the establishment of a Water Resources Advisory Committee in 2000.

Reporting directly to Island County commissioners, this committee recommended establishing an organization dedicated to educating the owners and managers of groundwater systems about those laws, regulations, and plans. Volunteers from among those already responsible for managing and operating groundwater systems on Whidbey Island stepped up and formed the nonprofit Whidbey Island Water Systems Association (WIWSA).

An elected board of directors—all actively managing and operating local groundwater systems—manages the WIWSA. Members include representatives from large and small groundwater systems that collectively serve more than 6,000 individual water connections. The board enjoys a close working relationship with the Office of Drinking Water (ODW). WIWSA's principal effort is to bridge the knowledge gap between the body of laws, rules, and plans that govern groundwater systems and the private citizens responsible for supplying clean drinking water to their neighbors.

Over time, the WIWSA board responded to the expressed needs of those who accepted that responsibility by bringing them together with experts who draw, treat, store, and distribute groundwater. They host quarterly members' meetings featuring detailed presentations on relevant aspects of managing and operating small groundwater systems. ODW staff attend to answer questions about laws and rules. WIWSA also draws heavily on Island County Health Department staff with special expertise in the availability and accessibility of groundwater on Whidbey Island.

Looking to the future, the WIWSA board partners with the Pacific Northwest Section of the national American Water Works Association (AWWA) and will host AWWA's mobile "Training in a Box" workshops on Whidbey Island. Also recognizing that the next generation on Whidbey Island will need skilled waterworks operators, WIWSA sponsors a scholarship program that should contribute to satisfying that need.

It seems WIWSA arrived on Whidbey Island at the right time, and the responses it gets from local residents indicate that it is moving in the right direction. 💧



## 2020 CHANGES FOR LEAD AND COPPER TAP SAMPLING

If we assigned your water system to annual or triennial lead and copper tap sampling, you must collect those samples between June and September. While we accepted samples collected outside of these months for compliance in the past, this year we will align with EPA recommended monitoring practice.

Systems that collect annual or triennial samples outside of the June-

September monitoring period will incur a monitoring and reporting violation; and we will require them to collect lead and copper samples between June and September the following year. Water systems that operate outside of these months, such as schools and ski resorts, may be eligible for an alternate monitoring period.

This change does not affect water systems assigned to a sampling frequency of six months. For more information on lead and copper monitoring, see *Lead and Copper monitoring guidance for public water system operators* (DOH 331-111) at [doh.wa.gov/odwpubs](https://doh.wa.gov/odwpubs). 💧

## DISTRIBUTION CAPACITY

Ensure the quality of water you deliver to customers by using the multiple barrier approach to safe and reliable drinking water. The multiple barrier approach uses a series of technical and managerial barriers to prevent contamination of the drinking water source and distribution system.

### Multiple Distribution System Barriers

This approach assumes that if you have multiple barriers to prevent contamination and one fails, the other barriers still protect your customers.

**Hydraulic barrier** ensures adequate water pressure during all normal and emergency operating conditions. The

hydraulic barrier relies on adequate pumping, control of friction losses, and accounting for system elevations.

**Water quality barrier** maintains water quality in the distribution system.

**Physical barrier** prevents external contamination from entering the drinking water supply. This barrier includes the pipes, tanks, and components that physically separate the water supply from contact with external substances.

Among the most important aspects

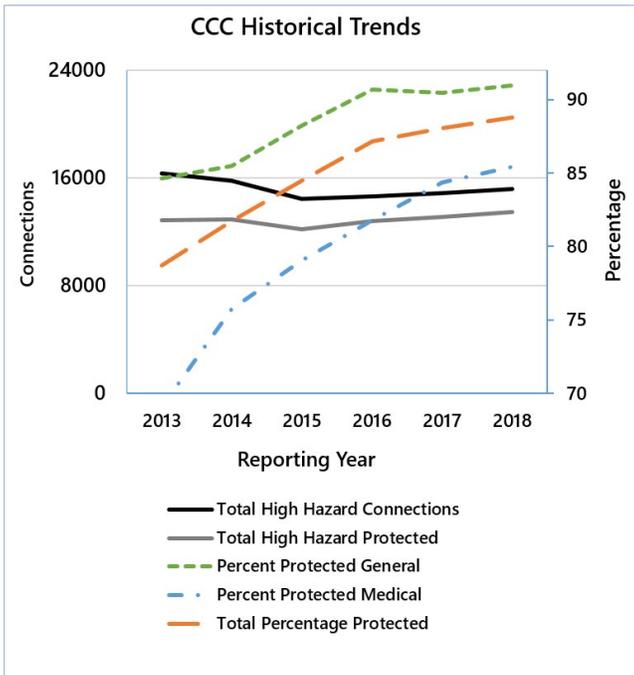
of the physical barrier are sufficient cross-connection control (CCC) practices. We ask our largest water systems to report their CCC activities each year through our online reporting application.

### Historical CCC Trends

In 2014, we began limited compliance activities; a strong technical assistance program; and increased training opportunities for our staff, certified operators, and decision makers. Since then, compliance with CCC rules continues to trend upward. More than 100 new cross-connection control specialists were certified, and our protection rates from system connections posing a high-hazard risk improved more than 10 percent.

There is still a lot to do; and we have seen strong and consistent progress in distribution capacity and CCC rule compliance.

You can find publications on these topics at [doh.wa.gov/odwpubs](http://doh.wa.gov/odwpubs). For information about how you can evaluate your distribution system, please contact one of our regional offices. 💧



## SOURCE CAPACITY

Water is a precious, limited resource. In the Pacific Northwest, drinking water for our growing population competes with other users that include agriculture, industry, recreation, and maintaining adequate stream flow for fish. By working with public water systems to implement water-use efficiency programs, we strive to ensure safe and reliable drinking water supplies for current and future needs.

Water systems can help prevent potential health and sanitation risks to their customers by effectively planning and implementing water-use efficiency (WUE) measures. This means fewer emergencies when water supplies are scarce, especially during summer months when it rains less and user demands are high.

Any Group A community water system that serves at least 15 residential service connections is a designated "municipal water supplier" and must comply with the Water Use Efficiency Rule (whether

Four Years of WUE System Data					
Year	Total Produced	Authorized Consumption	Loss	Total Connections	Population
2015	350,709,688,413	319,331,186,658	8.95%	2,522,425	6,257,094
2016	349,565,203,973	316,401,635,597	9.49%	2,538,085	6,302,268
2017	355,680,452,235	322,000,933,363	9.47%	2,557,470	6,324,331
2018	364,858,043,534	333,816,653,669	8.51%	2,554,831	6,318,062

publicly or privately owned). The rule says municipal water suppliers must:

- Publicly establish water-saving goals for their customers.
- Evaluate or implement specific water-saving measures to achieve customer-based goals.
- Develop a WUE planning program to support the established goals.
- Install meters on all customer connections.
- Achieve a standard of no more than 10 percent water loss.
- Report annually on progress towards achieving these goals.

In 2018, we had 2,196 systems designated as municipal water suppliers. More than 97 percent of them submitted WUE annual reports by the July 1 dead-

line. Along with improvements in reporting compliance, we've seen improved metering compliance and a reduction in apparent water losses.

By using water efficiently, water systems help to protect against temporary water service interruptions during peak usage, long-term or repeated water disruptions due to limited water supply, and contamination of the water supply due to leaky pipes.

WUE also promotes good stewardship of the state's water resources, ensures efficient operation and management of water systems, reduces energy use, and saves money.

For more information, please visit our webpage at [doh.wa.gov/WUE](http://doh.wa.gov/WUE). 💧

# OPERATORS: OUR MOST IMPORTANT CAPACITY

BY DEBORAH DIGGINS, WATERWORKS PROFESSIONAL GROWTH PROGRAM MANAGER, WASHINGTON CERTIFICATION SERVICES, GREEN RIVER COLLEGE

There are 3,500 to 4,200 active drinking water operators in Washington. They are the most important capacity—representing the ability to operate water systems and deliver safe, reliable water to our communities. Last year, slightly more than 10 percent of them lost their certification. Why? Nearly 310 failed to meet their professional growth requirement. Another 90 met their professional growth requirement, but failed to pay their renewal fee.

These inactivated operators had to pay an application fee, re-test as new applicants, and submit documentation of all education and experience required for their level of certification. This process could take several weeks.

Here are some lessons learned from previous professional growth and renewal periods. We hope they help you keep your certification active.

## Meet Your Professional Growth Deadline

Your professional growth deadline depends on your original certification date, meaning the day you got your first certification from DOH. We recommend that you start working on your professional growth requirements right away. Many operators wait until the end of a professional growth period only to find few offerings and trouble scheduling.

Remember, your professional growth report must reflect training or exams you completed before your deadline. Submit classroom training, college credits, and distance education forms right after completion. Attending training early allows time for sponsors to submit rosters and for Washington Certification Services to process CEUs for thousands of operators. It also leaves time to correct possible errors.

## Pay renewal fees on time

We collect certification renewal fees from early November until the last day of February. Although that seems like a broad window, please don't wait. Again, many operators put this on the back burner and get burned by late fees or worse. In 2019, 130 operators had to pay a late fee. Don't let that happen to you. For 2020 renewals, if you don't pay by January 21, you will have to pay a \$35 late

Original Certification Date	Must meet professional growth requirement between
Before 1/1/2016	1/1/2019 and 12/31/2021 and in each three-year reporting period thereafter.
Between 1/1/2016 and 12/31/2018	Your original certification date and 12/31/2021 and in each three-year reporting period thereafter.
Between 1/1/2019 and 12/31/2021	Your original certification date and 12/31/2024 and in each three-year reporting period thereafter.

fee. And, if you don't pay by the last day in February, you lose your certification.

## Keep Contact Information Current

An incorrect mail or email address is one of the easiest ways to lose track of your status. The Department of Health and Washington Certification Services send many notifications to operators about renewal and professional growth deadlines. You must maintain current, valid mail and email addresses in our system to receive those notifications. Personal email is our main source of communication. Visit [wacertservices.org](http://wacertservices.org) right away to make sure we have your correct personal email. After that, check your computer settings to make sure our notifications go to your inbox and not your junk or spam folder. Use the [online submittal form](#) to update any information. It only takes a minute.

## Keep Your Professional Growth Report Current

All operators must ensure training reported in their professional growth report is accurate and current. Remember, errors happen. For example, training sponsors can forget to send rosters, mail can get mixed up, ones can look like twos, and so on. View your [professional growth transcripts](#) periodically.

## Take 3 Steps at Every Training

To ensure your professional growth transcript reflects your hard-earned CEUs, follow these steps at every training:

1. **Always sign in with your legal name and correct waterworks certification number.** If you list only your name on the roster, the

training won't make it onto your professional growth transcript.

2. **Track your training.** You must maintain your own records. Errors happen, so please keep accurate records of the title, course ID number, sponsor, date, and location of each training. WCS does not track beyond meeting your professional growth requirement. You should keep track of all your training records yourself because you can use some training to meet education requirements for new certifications.

3. **Check your professional growth report.** Make sure your training was entered correctly. Sponsors should submit rosters within 30 days. If your professional growth report isn't updated within 45 days after training, please call Washington Certification Services at 253-288-3372 or the training sponsor to make sure there wasn't an error. Again, **YOU must make sure your record shows required training and exams before your professional growth deadline.**

## Resources

Contact Washington Certification Services at 253-288-3372 or visit [wacertservices.org](http://wacertservices.org) and select Waterworks Operators at the top of the page for links to:

- ◆ Waterworks Operator Renewal and Validation Cards.
- ◆ View Your Professional Growth Report.
- ◆ View Approved Classroom Training.
- ◆ Update Contact Information. ◆

## DID YOU KNOW?

- ◆ You will not get credit for repeated distance education courses.
- ◆ You will get only ½ credit for repeat training and college courses from previous reporting periods.
- ◆ You can get full credit for annual events and conferences, if they have new agendas and material each year.
- ◆ You cannot appeal a late renewal fee, an inactivated certification, or a failure to meet the professional growth requirement that happened because you failed to provide current, valid email and home addresses.

## COORDINATED BACKFLOW TESTING: A LESSON IN LEADERSHIP

A few years ago, Jeff Coleman was the utility manager for the City of Longview and a backflow and cross-connection control instructor for Washington Environmental Training Resource Center (WETRC). At that time, Longview did not have a platform where testers could input the test results for backflow assemblies.

"We were receiving many different varieties of forms, and the information we needed was in different locations on each form," says Coleman. "It was very time consuming to transfer the information to our database. We needed to streamline the data entry process."

So, Coleman and his colleagues began to develop and implement a required test report form for backflow assembly testers (BATs) to use while testing within the City of Longview. By October 1, 2016, they notified all of the BATs testing within Longview that the city would require them to use the new test report form effective January 1, 2017.

Shortly after requiring the new test report, two things happened. First, a testing company called Coleman to say that BATs are not responsible for some of the information the city required. Coleman explained that Washington state rules require testers to submit the information requested—approved orientation, USC approved assembly, proper air gap for RP, and so on. He also sent the company a copy of the rule to show exactly what the state expects.

Second, a City of Ridgefield employee called to say they followed Longview's lead in requiring a unified form. She explained that she was getting some backlash from testers in Clark County, who said they weren't

required to put the items on the test report forms. Coleman spoke to her for quite some time; explaining what a cross connection specialist (CCS) and a BAT are required to do. He also sent her copies of the rules that list everything the state requires. She could then explain to her boss that the requirements are valid.

A few days later, things took off. Some BATs held a meeting in southwest Washington and the City of Ridgefield attended. Afterward the employee called Coleman to explain that it was a very aggressive and heated discussion. The testers felt Ridgefield was asking them for more than was required. During the discussion, Coleman asked whether the city would be interested in bringing the situation to other municipalities within the area and the employee agreed.

Coleman contacted Clark County PUD and the cities of Vancouver, Camas, Washougal, Ridgefield, Battle Ground, and Kalama. "We all got together, discussed the situation, and agreed that we can require the items asked on the form," said Coleman. The discussion ran deeper than just the test report form, but also built better relationships with testers within the region.

"We decided to continue to meet and discuss this situation, create another meeting time and bring in information and training for everyone to be on the same page," he said. "We also used these collaboration meetings to discuss other issues that might be challenging for the cities."

Several months later, the City of Olympia hired Coleman as the drinking water operations supervisor where he wasted no time inquiring whether anyone in the South Puget

Sound area was doing anything similar to the Clark County group. They weren't, so he started scheduling time with the managers or supervisors at nearby Lacey, Tumwater, Chehalis, Centralia, and Shelton. Everyone was very interested and welcomed the idea to brainstorm ideas with each other.

They started their first meeting, in spring 2018, with a discussion of everything, including training, equipment, staff sizes, policies and procedures, and challenges. One of the items that came out was working with BATs in the area, so the group decided to invite testers within the South Sound area to a meet and greet so they could explain the roles of the CCS and BAT.

During that meeting, in February 2019 at the Council Chambers of Olympia City Hall, the cities told the testers that they wanted to build communication with the testers and improve the way they interacted with one another. "We discussed what we need on the report forms and what that information does for us," said Coleman. "We also asked what we could do to help them. All the testers that were present were very happy for the meeting and looking forward to better communication.

"I learned through this situation that it is better to bring in those effected, even if it may not change the outcome," Coleman said. "For instance, in hindsight, it would have been better to have a discussion with the testers before requiring the new test report form, even though we would still require a similar, or the same form. Giving them opportunity to voice their opinions and thoughts may have helped minimize challenges." 💧

## HIGH 5: GARY SALES

BY NORTHWEST REGIONAL OFFICE STAFF

How often do you encounter an email tagline such as this?

"In the San Juan area, water system operators know the volume of their jobs."  
(0.785 x D<sup>2</sup> x L x 7.48)

Likely, seldom, unless you worked with Gary Sales, a certified operator and former manager for the San Juan County State Parks water systems. In all aspects of the job, Gary's character has been evident. Gary always:

- ◆ Goes beyond minimum requirements.
- ◆ Pays amazing attention to detail.
- ◆ Is curious and full of thoughtful questions.

- ◆ Challenges ODW staff in a positive way.
- ◆ Brings good humor. Along with navigating the waters of Puget Sound, Gary:
  - ◆ Operated complex surface water treatment, and simple groundwater systems.
  - ◆ Trained and mentored junior State Parks staff.
  - ◆ Developed model seasonal system start-up procedures.
  - ◆ Dealt with water outages and vandalism.

Gary is a pleasure to work with even when dealing with a difficult technical challenge at a water system. Whatever the topic, if an interaction with Gary is part of your day, you can feel confident the exchange will be enjoyable and learning will occur in both directions.

Thank you Gary and a High 5 to you! 💧



## SECURING TECHNICAL CAPACITY

Even the best-designed and constructed water system won't operate at full capacity without enough qualified personnel to manage the processes. Some considerations for staffing are the number and type of tasks performed, the skill level required for those tasks, prior training, and certification.

**Decision makers:** Consider the size and complexity of the system when determining the quantity and qualifications of staff members needed to protect public health. Even the smallest and simplest public water system should have **at least two trained and appropriately certified operators**, so safe operations continue if an operator becomes ill, needs to attend to family matters, takes leave, or participates in training and professional development opportunities.

Finding appropriately trained and certified staff can be difficult for some water systems. Most small communities struggle to find and retain operators with the skills and qualifications needed to operate their water systems properly.

**Develop a staffing plan:** Decision makers at public water systems should work with experienced certified waterworks operators to develop a plan that includes:

- ◆ The water system's legal obligation to remain fully staffed, maintain facilities, and be prepared for emergencies. Describe the corrective actions for failing to do so.
- ◆ The organization or people responsible for operating the proposed facility, their required qualifications, and responsibilities.
- ◆ The source of certified operators. Contact us for advice on finding a qualified certified operator or getting an existing system representative certified at the required level.
- ◆ A statement that a certified operator is available to respond to emergencies every day of operation including weekends and holidays.
- ◆ A description of the training program for new operators and the criteria for adding new operators.
- ◆ A detailed description of back-up staffing if one or more existing operators can't perform tasks.

- ◆ Identification of continuing education needs.
- ◆ An evaluation of the number of staff required for safe and reliable operations. This evaluation must consider:
  - ◆ **System Layout:** A compact system with centrally located controls will require a much smaller staff than a system spread over a larger area.
  - ◆ **System Complexity:** Filtration processes usually require significantly more operational oversight than simpler systems. Rapid-rate filtration plants are sensitive to changes in raw water quality and depend on precise chemical-feed processes to function effectively. A significant shift in water quality, or even a short interruption in chemical feed, can cause the filtration process to suddenly perform poorly and place public health at risk.
  - ◆ **Location:** Small systems, especially those in remote locations, may have difficulty attracting and retaining highly certified operators. It is important that these systems provide system-specific training programs to ensure new operators are trained, qualified, and readily available.
  - ◆ **Automation:** Design engineers should consult with us early in the design process to determine the conditions when remote monitoring may be appropriate. Automation can improve process control and ensure smooth operations when water systems are unattended, but it cannot replace a well-trained professional to oversee operations and respond to an equipment failure. A well-trained operator is essential to protect consumers.
  - ◆ **Water Quality:** Consider the vulnerability of the water source to changes when assessing staffing needs.
  - ◆ **System Size:** Large systems have more equipment and instrumentation than small systems, so they need more staff time just to keep things in good working condition.



### Create an organizational chart

Although we require operator certifications only for some tasks within a public water system, any staff member may need to perform more than one task or even all of them. You should identify staff for each separate area of responsibility, and put their positions on an organizational chart.

**Supervisors and managers** provide leadership and guidance for the overall operation of a facility. The managers plan the operation and supervisors put the plan into effect.

**Clerks** manage and keep records of a facility's data.

**Laboratory staff** analyze water quality for various parameters operators use to make decisions about plant operation.

**Operations staff** provide the technical skills needed to operate the equipment and processes of a facility, such as treatment plants, distribution system, and cross-connection control.

**Maintenance personnel** provide the skills required to keep the plant equipment in good operating order, and maintain a database on equipment costs and repairs.

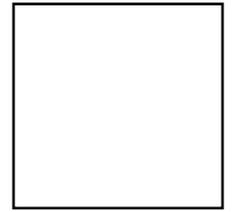
**Buildings and grounds staff** keep the buildings and grounds in good repair.

**Customer service staff** receive customer complaints, prepare public notifications, read meters, serve as the point of contact in emergencies, and work on customer property lines (set meters, shut off or turn on water, investigate complaints).

Public water systems vary in their operational complexity and staffing needs. No matter how simple or complex a water system, the staff must operate it properly to ensure safe and reliable drinking water. ◆



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## WE HAVE A NEW ENFORCEMENT PROCESS

Most of our public water systems have never experienced our enforcement process. Our system owners and operators do a fantastic job meeting all the water quality, monitoring, and reporting requirements—and stay off our “list.” Sometimes we all struggle.

When water systems struggle, we have an extensive technical assistance program to help them get back on track. However, when technical assistance is not enough, and the struggle could affect public health, we use our enforcement process.

We reviewed the Office of Drinking Water’s enforcement activities and found we weren’t meeting EPA-driven timelines. So, we updated our compliance process to meet these deadlines, and remain in good standing with EPA. We started implementing the new procedures in November 2019.

### Enforcement notice to more people

We think water systems will return to compliance sooner, if more people affiliated with the system know there

is a problem sooner. Therefore, we will send all enforcement documents, including violation letters, to the owner, primary contact, and certified operator. The “owner” may include all members of an association, such as a homeowners’ association that owns the system. If not at fault, the operator may only receive an informational copy of a letter addressed to someone else.

### NCV and OCV compare and contrast

Our Notice of Violation (NOV) is now a Notice to Correct Violation (NCV), and our Notice of Correction (NOC) is now an Order to Correct Violation (OCV). We send them both in a manner to ensure delivery and allow for an appeal. NCVs and OCVs both:

- ◆ Become an EPA formal enforcement document when the water system’s appeal opportunity ends.
- ◆ Start as an initial agency order that converts to a final order when the appeal opportunity ends.

An NCV warns that we will categorize the system’s operating permit as “red”

for failure to return-to-compliance and warns that we may issue a civil penalty for continued noncompliance.

An OCV notifies the system that we turned its operating permit red. There may be times this notification comes as a Red Operating Permit Order, which we issue just before or just after we issue an OCV. An OCV also warns that we will issue a civil penalty for continued noncompliance.

### Formal Compliance Agreements

The Bilateral Compliance Agreement (BCA) is now a Formal Compliance Agreement (FCA). An FCA is a contract that specifies the consequences of breach, including civil penalties. Water systems that sign the agreement waive their right to appeal. As such, it is a final agency order and an EPA formal enforcement document.

As an incentive for early cooperation, we may substitute an FCA for an NCV, but not an OCV. ◆