

Water Tap

Washington's Drinking Water Newsletter

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Winter 2019

Sync: Washington's infrastructure program

By Janet Cherry, PE, Drinking Water State Revolving Fund Supervisor

THE 2017 LEGISLATURE DIRECTED the Public Works Board and the departments of Commerce, Ecology, and Health to form an interagency systems improvement team (House Bill 1677). Sync's task is to identify, implement, and report to achieve efficiency, minimize costs, and maximize value across drinking water, wastewater, and stormwater infrastructure programs. Since its inception, Sync sought input from local, state, and federal stakeholders working across the state. They identified three priority areas:

1. Expand technical assistance capability.
2. Improve funding program process.
3. Improve system-wide infrastructure.

Sync developed 14 key activities to address these priority areas.

- 1. Tech Teams:** Increase availability and frequency of tech team meetings to build local technical, financial, and managerial capacity and provide guidance on funding resources.
- 2. Value Planning:** Promote value planning in infrastructure project development to build local expertise. Effective value planning increases stakeholder feedback and the development of the right project for the community. You can review a draft Introductory Guide to Value Planning on the Sync webpage.*
- 3. Asset Management:** Build local capacity to use asset management effectively. Successful asset management reduces the overall cost of ownership, increases

the lifespan of the system, and prioritizes capital improvements.

- 4. Regional Governance and Resource Efficiency:** Provide technical tools and expertise to facilitate explorations of regional governance. Tools include interlocal agreements that provide administrative and systems efficiencies, and case studies that detail how to initiate a regional approach.
- 5. Decision Package Requests for Coordinated Technical Assistance:** Align agency budget requests for technical assistance staff and resources. Additional staff will focus on building local technical capacity across the preceding four areas.
- 6. Electronic Resource Portal:** Create a repository for technical resources. Sync improves existing funding portals, such as Fund Finder, as the foundation of a program directory. This will help stakeholders access funding opportunities.
- 7. Affordability and Hardship:** Sync developed a process to share underwriting and continues to explore the development of a universal hardship determination model.
- 8. Applications:** Simplify and streamline funding program applications to create a base of common questions that increase stakeholder efficiency, and support competitive application processes.
- 9. Cofunding Process:** Organize a consistent process for coordinating and packaging investments. This will help Sync leverage federal dollars and bring projects

to full funding, particularly if projects involves multiple systems.

- 10. Income Surveys:** Update currently available income survey guidance and coordinate with organizations on alternative data and metrics.
- 11. Secure the Public Works Assistance Account:** Request a phased return of all diverted Public Works Assistance Account tax revenues for local infrastructure projects prior to 2023.
- 12. Support to the Legislature:** Coordinate resources and best practice guidance to provide expertise to legislators making infrastructure-related funding decisions.
- 13. Alternative Finance:** Create consistent state funding opportunities and resources for stakeholders without access to reasonable rates in the private credit market.
- 14. Workforce Development:** Sync will explore options to raise the visibility of infrastructure-related careers. This includes partnerships with institutions of higher learning, and studying gaps in the workforce.

Each key activity will address the designated outcomes of HB 1677 and Sync's objectives. Ultimately, Sync will identify and develop the human and technical capacity of state programs to implement the identified key activities. 💧

**To learn more about Sync, please visit the [Sync webpage \(commerce.wa.gov/building-infrastructure/sync-systems-improvement-team\)](https://commerce.wa.gov/building-infrastructure/sync-systems-improvement-team).*

Director's column

MEETINGS TO ALL!

Allow me to take this opportunity to thank all of the incredible people in our industry. I have worked with you on drinking water issues for nearly 20 years. I also worked close to 7 years in the environmental industry, protecting aquifers and drinking water supplies.

Recently, while talking with a family member about work, I quickly realized that I have never worked at a time when there were more momentous issues all happening at the same time. The list is incredible.

- ◆ National focus on water quality issues—lead and perfluorinated compounds (PFAS) driving attention to our efforts to provide safe and reliable water.
- ◆ Rule development associated with these things. PFAS regulation at the state level.
- ◆ National focus on our failing infrastructure.
- ◆ We're pushing for national attention on our aging workforce—the silver tsunami, as Deputy Director Chris McCord calls it. Many of the core leaders in the industry are leaving, while new ones step up!
- ◆ Challenges to our understanding of water right implementation:
 - ◆ Changes to the Hirst decision.
 - ◆ Court determinations that examine implementation.
 - ◆ Coordinating local, state, and tribal needs to address water demands.

- ◆ Funding challenges.
- ◆ Looking for regional solutions for consolidations supporting small communities.

I am proud and humbled by the way staff at the state and local levels, utilities, and communities are stepping up to meet these challenges!

We are managing changes in our structure at the state and reducing our footprint. Our Southwest Regional Office is moving—again. They completed a move to a new spot on our campus less than a year ago; and now, they are moving to consolidate parts of Environmental Public Health on the second floor of TC3 here in Tumwater. The affected teams have been incredible in their efforts to pull together and make it all happen.

Even as we work through this momentous time, we continue supporting utilities and working with others to ensure safe and reliable drinking water. Thanks to all of you in this industry who uphold that mission. I look forward to continuing to work with you in the coming year. ◆



Mike



ODW Director Mike Means

Tips for obtaining more approved connections

By Jeff Johnson, PE; and Russell E. Mau, PhD, PE; Eastern Regional Office

WATER SYSTEMS ADDING NEW customers should keep an eye on the number of DOH-approved connections they have left. The process for obtaining approval for additional approved connections can be lengthy, and it is wise to start early. You can find the current number of existing and approved connections for your water system on your Water Facilities Inventory (WFI) Form.

In some cases, to obtain additional approved connections, you will need to complete or update your Water System Plan. This is especially true if your water system needs to add physical capacity elements, such as a new well, storage reservoir, or booster pump station, or if the water system will be expanding beyond the current service area. Obtaining approval for a Water System Plan can take up to a year and possibly longer, so we recommend starting the process early.

In other cases, you may be able to use an engineered capacity analysis instead of a new or updated planning document to gain additional approved connections. This situation usually applies to water systems that want to add customers within an existing service area.

For example, if a community wants to infill a neighborhood where there are some vacant lots with water main already in the street in front of them, it could have a professional engineer conduct a capacity analysis. If the results show the water system has the source, storage, water rights, and hydraulic capacity to serve additional connections, DOH can approve them.

It is always important for public water systems to track water production and usage data. You will find data from source meters and service meters particularly important when seeking approval for new connections. In fact, in many cases, it is unlikely that we will approve additional

connections without recent production and usage data.

In summary, if your water system may be adding additional service connections in the future, you should:

- ◆ Keep track of your system's number of existing and approved connections.
- ◆ Talk to your DOH regional engineer and regional planner if you think you will use up your extra approved connections in the next couple of years.
- ◆ Be prepared to do a new or updated Water System Plan or capacity analysis. An engineer licensed in Washington must complete and submit both types of documents.
- ◆ Read your source and service meters on a regular basis to track trends in water production and usage.

Resources

You can find your WFI on our [Sentry Internet \(fortress.wa.gov/doh/eh/portal/odw/si/Intro.aspx\)](https://fortress.wa.gov/doh/eh/portal/odw/si/Intro.aspx) ◆

Lead in drinking water in schools

By Anne-Marie Charles, Lead in Drinking Water in Schools Program Coordinator

EVEN VERY LOW LEVELS of lead in a child's blood can affect IQ, ability to pay attention, and academic achievement. To reduce children's overall exposure to lead, the Governor's Directive on Lead, 16-06 directs the state Department of Health (DOH) to test drinking water in public elementary schools.

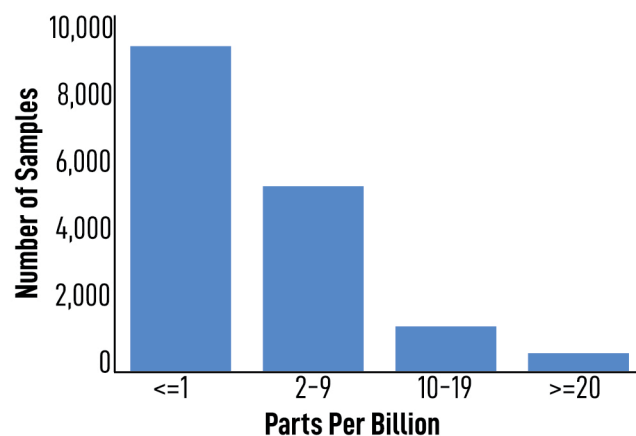
The free and voluntary Lead in Drinking Water in Schools Program targets schools with the youngest children, the oldest buildings, and schools that have not tested in three years. The Office of Environmental Public Health Sciences Built Environment Section manages the program with three highly trained environmental specialists and a program coordinator.

So far, they have sampled fixtures in 350 of 380 schools that signed up for testing.

During a sampling event, program staff collect samples from every fixture used to provide water for drinking or food preparation. Water should sit in the pipes unused for at least 8 hours but not more than 18 hours. So, sampling occurs on a normal school day early in the morning before the building opens and before any water is used—or on a Saturday. To ensure the samples represent water consumed most days of the week, no sampling occurs on Mondays or the day following a holiday.

Results and Recommendations

The Washington State Public Health Lab in Shoreline analyzes the water samples and sends the results to the program. Schools receive the results from the program along with recommendations based on lead concentration and guidance for communicating with parents and employees.



Schools can get funding to replace fixtures through the Office of the Superintendent of Public Instruction (OSPI).

Of all the samples taken, results show that about:

54 percent have lead concentrations below 1 part per billion (ppb).

33 percent have 2 to 9 ppb. At this level, schools should:

- ◆ Implement flushing program.
- ◆ Clean aerators regularly.

6 percent have 10 to 19 ppb. At this level, schools should:

- ◆ Replace or remove fixture.
- ◆ Implement flushing program.
- ◆ Clean aerators regularly.
- ◆ Install filter.
- ◆ Convert to hand wash only station.

4 percent are above 20 ppb. This is the DOH action level. At this level, schools should:

- ◆ Take fixture out of service.
- ◆ Take flush sample to determine source.
- ◆ Replace fixture.

Innovation

The program is new and constantly improving to ensure the best use of resources. For example, when the program started data was collected manually. Now they use Survey123, which allows them to create, share, and analyze survey data on web or mobile devices, even when disconnected from the Internet.

The transition improved the accuracy, standardization, and efficiency of our field data collection. The report-generator feature allows program staff to export results instantly. It saves a lot of time and resources by generating formatted letters they can use to communicate results and recommendations to schools and the public. ◆



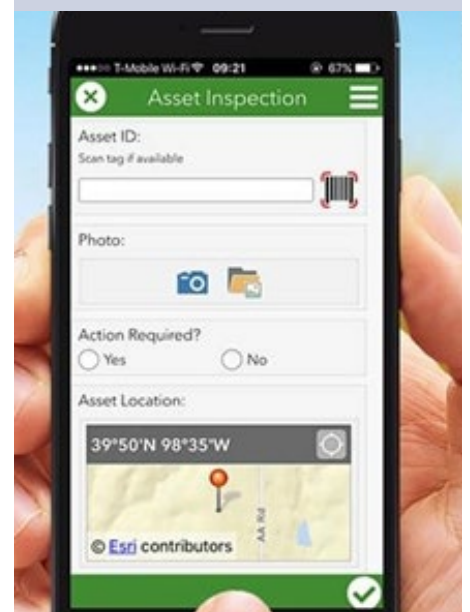
Refer a school

The Lead in Drinking Water in Schools Program

ASCHOOL CAN REACH OUT to the Lead in Drinking Water in Schools Program if it has the youngest children, the oldest buildings, hasn't tested in three years, or its students are exposed to lead in drinking water at school. Contact Anne-Marie Charles, program coordinator, at 360-236-3248 or anne-marie.charles@doh.wa.gov.

All testing is free to the school and funding for fixture replacement is available through the OSPI. We conduct follow up testing when lead levels exceed 20 ppb.

Don't wait too long. Unless the Legislative budget includes additional funding, the program will end in June 2019. ◆



Vandalism response and prevention

By Brietta Carter, PE, Northwest Regional Office

IT'S NOT UNCOMMON to see graffiti and other evidence of trespassing at remote storage tank locations. Sometimes trespassing is harmless; teenagers having fun with no intention of harming others. But what if you find the access hatch open, the lock cut, the air vent missing, float switch controls dropped to the bottom of the tank, and white pellets on top of and near the tank? Can you assume it's reckless teenagers having fun? Or, do you assume the worst intentions?

Last October, a rural public water system serving about 6,000 people issued a **Do Not Drink** advisory to 82 customers after discovering this type of vandalism at one of its storage tanks. None of the customers reported headaches, skin rash, or irritation, nor a detectable odor to the water. However, the system could not identify the white pellets or the vandal's intentions.

The next day, the pellets were identified as biodegradable air gun pellets. Water system staff flushed and sampled the distribution system, detecting total coliform. They used a camera to look inside the vandalized storage tank and found the missing air vent, a candy package, wrenches, branches, and other debris at the bottom. It was clear they had to drain, clean, and disinfect the storage tank. Water system staff lifted the "Do Not Drink" advisory after they collected a set of bacteriological distribution samples with satisfactory results.

A 14-year-old male suspect was charged with burglary and trespassing. He accessed the storage tank while playing air soft on many occasions. The criminal investigation for the vandalism is still open.

The system spent valuable resources responding. Over the course of 11 days, the response required additional personnel and hours to make system repairs, clean the tank, deliver notifications, inspect the system, implement flushing, pick-up, collect, and deliver water quality samples, and more.

How to protect your water system

Frequently inspect facilities and evaluate security measures. In an event like this, think how awkward it would be to tell customers

you cannot be sure how long the access hatch was open. Without direct detection equipment, such as an intrusion alarm or CCTV, you can only be sure it was secure the last time you climbed the tank and inspected it. There are many approaches to delay, deter, and detect security breaches, such as installing a tank ladder security cover, posting "No Trespassing" signs, or installing intrusion alarms. Each utility will have to consider the cost and effectiveness of security measures.

Consider your water system design. Can you isolate a storage tank from the system while maintaining distribution system pressure? Can you collect representative water quality samples from the storage tank? Isolating the storage tank from the system preserves the crime scene and prevents further contamination of the distribution system.

Revisit your emergency response plan. Add or update a response scenario for storage tank vandalism. Set up Twitter or Facebook accounts in advance and

designate a specific person(s) to update it daily. Think about executing a tabletop exercise. It will give you a chance to practice roles and responsibilities in a low stress environment and may avoid wasting time during a real event trying to figure out who does what. The EPA Response Protocol Toolbox for Drinking Water and Wastewater Utilities provides tools for planning and responding to drinking water contamination threats.

Develop a distribution water quality strategy. You can use parameters such as pH, alkalinity, conductivity, chlorine residual (for systems providing disinfection), heterotrophic plate count, oxidation reduction potential, and others to establish seasonal baseline data. Use these data to inform operation and management decisions, guide asset management decisions, and provide baseline water quality data to use for comparison in an emergency contamination situation. 💧



2019 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 may incur a monitoring or reporting

violation. 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 6 months.

For more information on lead and copper monitoring, see Lead and Copper monitoring guidance for public water system operators ([DOH 331-111](#)) or [doh.wa.gov/odwpubs](#). ♦

WaterOperator.org: A water operator blog!

WATEROPERATOR.ORG AGGREGATES the best free resources on the web for small system operators in a user-friendly location. The site is a collaboration between the Rural Community Assistance Partnership (RCAP) and the University of Illinois Urbana-Champaign, with funding from the U. S. Environmental Protection Agency.

The site covers a wide array of topics relevant to drinking water and contains a comprehensive event calendar and operator resource library.

The current discussion focuses on fluoridation, check it out at [wateroperator.org/blog/PostId/1464/an-overview-of-community-drinking-water-fluoridation](#) ♦

America's Water Infrastructure Act of 2018

By Sam Perry, Engineering and Technical Services Section Manager

ON OCTOBER 23, 2018, President Trump signed America's Water Infrastructure Act. While most of this law upgrades water resources or flood control infrastructure, more than 20 sections update the Safe Drinking Water Act or otherwise affect public water systems.

Most of these updates are in the "Title 11–Drinking Water Improvements" portion of the act.

Asset Management: Encourages water system staff to develop asset management plans and supports training and other technical assistance on asset management practices for water systems.

Consumer Confidence Reports: Requires EPA to revise the rules on Consumer Confidence Reports (CCRs) by October 2020, with the goal of improving the readability and accuracy of CCRs. The act also will require community water systems that serve 10,000 or more people to publish at least two CCRs a year. Electronic delivery according to previous EPA guidance remains acceptable.

Drinking Water State Revolving Fund (DWSRF): Several updates to the DWSRF program regarding support for disadvantaged communities and continued use of American iron and steel. Probably the

biggest change is an authorized increase in capitalization of the DWSRF program from \$1.174 billion in federal fiscal year (FFY) 2019, to \$1.95 billion FFY 2021. While the act authorizes these funds, Congress must still appropriate them in upcoming years.

Emergency Response and Resiliency: Section 2005 authorizes \$4 million in grants for planning and implementing projects to increase resiliency from natural hazards. This section also supports EPA grants to states for underserved communities to resolve contamination of groundwater used for drinking water. Section 2013 requires community water systems serving more than 3,300 people to assess risks from malevolent acts and natural hazards. Community water systems must submit certification showing they completed these vulnerability assessments by:

- ♦ **March 31, 2020**, if they serve **100,000 or more** people.
- ♦ **December 31, 2020**, if they serve **50,000 to 99,999** people.
- ♦ **June 30, 2021**, if they serve **3,301 to 49,999** people.

Lead: Authorizes \$25 million per year to support schools and childcare centers to test for and identify sources of lead in

drinking water, and \$5 million per year for monitoring and replacing drinking water fountains. It also requires EPA to develop a cost estimate for replacing lead service lines in the next Drinking Water Infrastructure Needs Survey and Assessment, commonly called the Needs Assessment. Fortunately, lead service lines are rare in Washington. The next Needs Assessment should start late this year and continue through 2020.

Source Water Protection: Requires state emergency response agencies to notify community water systems under the Emergency Preparedness and Community Right-to-Know Act when a chemical spill or other release may affect them.

Unregulated Contaminants: Expands the universe of water systems covered under future versions of the Unregulated Contaminant Monitoring Rule (UCMR). Current and previous versions of the UCMR (UCMR1 to UCMR4) required all water systems serving more than 10,000 people to monitor. Future versions of the UCMR will require all systems serving 3,300 or more people to monitor, if Congress appropriates adequate funding. EPA will continue to pay sampling costs for systems serving fewer than 10,000 people. ♦

The ins, outs, and whys of coliform sampling

By the Coliform Team

Every Group A public water system must collect coliform samples. Most have monthly requirements. Whatever your system's monitoring schedule, here are important details about coliform sample collection.

Sample Collector

Drinking water regulations do not specifically state who must collect samples.

For systems with a certified operator, the certified operator in responsible charge (OIRC) is the ideal sample collector. If the OIRC is not the sample collector, they must designate a person. The OIRC and the collector together should regularly review the water system's written sample-collection procedures and its coliform monitoring plan.

For TNC systems with no certified operator, the water system owner selects the sample collector. Both the owner and collector should regularly review the sampling method and coliform monitoring plan.

Examples of sample collectors

- ◆ OIRC.
- ◆ Certified or noncertified operator working for the OIRC's company.
- ◆ Small community water system resident.
- ◆ Contracted laboratory staff.
- ◆ Contracted third-party individual or company.
- ◆ Business owner or TNC staff member.
- ◆ Maintenance personnel.

Sample Locations

Drinking water rules require every water system to have a written coliform monitoring plan (CMP). The CMP includes sample collection schedules and preselected locations for collecting routine and repeat compliance samples. Sample collector(s) must follow the CMP.

Routine sites must be within the distribution system; and must represent water in distribution. The collector must not collect routine samples at a well, well house, or other distribution system entry-point.

At a minimum, every pressure zone that serves 100 or more connections should have at least one routine site. Ideally every pressure zone would have at least one routine site.

Routine and repeat sample sites can be:

- ◆ Dedicated sample stations (this is ideal).
 - ◆ Hose bibs (not frost-free).
 - ◆ Faucets (fixed, not swivel, without a hot/cold mixing handle).
- Do not select drinking fountains, janitor or mop sinks, or fire hydrants as compliance sample sites. Also avoid hose bibs and faucets:
- ◆ At buildings with point-of-entry or point-of-use treatment.
 - ◆ With attachments that cannot be removed for sample collection.
 - ◆ That leak or spray.
 - ◆ Surrounded by vegetation.

- ◆ So close to the ground that splashing up from the ground can hit the tap.

Sample Collection

Every water system should have a written standard operating procedure (SOP) on collecting coliform samples at each type of sample site used in the system. Sample collectors should know and follow the SOP for each sample collected.

For systems with continuous disinfection treatment, measure the residual disinfectant concentration at the same time and location of each collected coliform sample. Record the measured residual on the lab form submitted with the sample.

Each coliform sample must reach a certified lab for analysis within 30 hours of sample collection time. Ask the lab about its hours of operation, drop off options, and other lab-specific details.

For More Information

[Eastern Region](#)

Joseph Perkins 509-329-2100

[Southwest Region](#)

Charese Gainor 360-236-3030

[Northwest Region](#)

Ingrid Salmon or Carol Stuckey 253-395-6775

Also, see doh.wa.gov/odwpubs:

[Preparing a Coliform Monitoring Plan \(331-036\)](#)

[The Coliform Distribution System Sampling Procedure \(331-225\)](#). ◆

Study finds water fluoridation saves money

Adding fluoride to community water supplies may do more than help prevent children from getting cavities; it may save money on dental bills.

That's the conclusion of a 2018 study published in [BMC Oral Health](#).^{*} The authors looked into the outcome among Medicaid-eligible children in Juneau, Alaska, after the city stopped fluoridating its water supply. Researchers compared results from 2003 and 2012, which was five years after the end of fluoridation.

The study found that without access to community water fluoridation, not only

did patients up to age 18 get more cavities, but the amount of money paid for their dental care rose in a range from 28 percent to 111 percent. Youngest children were most affected—in other words, those born after Juneau stopped fluoridating its water.

The authors concluded that while about 75 percent of Americans have access to fluoridated water, the study's results indicate potential costs—both to health and to the pocketbook—when fluoride levels aren't optimal.

^{*}bmcoralhealth.biomedcentral.com/articles/10.1186/s12903-018-0684-2. ◆



Rules, regulators, and requirements...how we learn from each other

By Nina Helping

When I left the lab community for a job at the Department of Health (DOH) four years ago, I wasn't sure how I felt about playing a "regulating" role. Since then, I have learned that we are collaborating with our water system and laboratory partners to ensure the people of Washington have safe and reliable drinking water.

To help us do that, we write rules or adopt federal standards that clarify what we need from our partners and what our partners need from us. The goal is to guarantee that the quality of everyone's drinking water is held to the highest standard.

It has been almost a year since we adopted the Lab Rule in May 2018, and we have learned a lot from our laboratory and water system partners.

Hold Times and Hold Temperatures

After collecting samples, it is important to deliver them to the lab as soon as possible. All samples have hold time criteria you cannot exceed and in some cases, reduced temperatures are the only way to preserve samples.

Samples that have temperature restrictions

If samplers bring a sample to the lab on the day they collect it, they must show proof of cooling the sample in route. If samplers bring a sample into the lab the day after they collect it, they must refrigerate (or cool) the sample and deliver it to the lab at the appropriate holding temperature. If a sample collected the prior day is not at the correct holding temperature when delivered to the lab, the data must be qualified as an estimate and cannot be used for compliance purposes.

Investigative Samples

Investigative samples are not used for compliance purposes and the results only go to the water systems. However, occasionally when a system drills a new well, it will mark a sample "investigative" with the intent of supplying that sample result to us for new source approval in the future. If you plan to do that, be sure to verify that the

lab is certified to run analysis on drinking water. If not, you can't use the results for new source approval.

DOH and System Notifications

We now require labs to notify us and water systems for:

- ◆ ***E. coli*-present routine, repeat, Groundwater Rule, or triggered source water monitoring, and assessment source water monitoring results:** the lab will make no less than three attempts to notify us and the public water system by phone, fax, or email as soon as possible after it determines sample results, but no later than the close of business.
- ◆ **Total coliform-present routine, repeat, Groundwater Rule, or triggered source water monitoring, and assessment source water monitoring results:** the lab will make one attempt to contact us and the public water system by phone (voicemail is acceptable), fax, or email as soon as possible after it determines sample results, but no later than close of business on the next business day. For labs that operate seven days a week or observe regular holidays, the rule does not consider weekends and holidays business days.
- ◆ **Routine or confirmation sample results for nitrate or nitrite that exceed MCL** (chapters 246-290 and 246-291 WAC) or routine or confirmation sample results for inorganic, organic, or radiological contaminants that **exceed four times the contaminant's primary MCL** (chapters 246-290 and 246-291 WAC): the lab will make one attempt to notify us and the public water system by phone, fax, or email as soon as possible after quality control staff verifies sample results, but no later than the close of business.

Data Qualifiers

DOH requires labs to use data qualifiers when appropriate. We have a limited number of data qualifiers in our database and rule. If a lab uses a qualifier not listed at right, it must add a definition of the

qualifier to the "Lab Comments" section of the lab report it submits to DOH and the water system.

Templates

The rule now requires every lab to follow the templates listed in the [Laboratory Reporting Guidance \(331-530\)](#). The report's header and analyte list must be in the same order and sequence as the templates in the guidance. It is important to note that not all labs use the DOH-required state templates to send water system results. These templates are for DOH data entry ease and uniformity. We don't require labs to send them to water systems. However, the templates are an important guide for water systems because they show the analytes we require labs to submit for each panel.

Special notations:

- ◆ **Coliform Slips:** Please make sure the person who receives the sample at the lab initials who in the date/time received box.
- ◆ **Pesticide Panel:** We will remove 0253 Fluoranthene from the required-analyte pesticide panel.

Benefits of sampling as early in the compliance period as possible

1. If needed, the water system has time to take a confirmation sample.
2. The water system will have time to take an additional sample in case something happens to the sample on the way to the lab or after the water system delivers the sample to the lab.
3. Gives the lab time to produce quality analytical data and mail it to DOH.
4. Allows the delivery of the mail and the manual entry of the samples into our database.
5. Gives DOH enough time to verify the water systems "flagged" for monitoring violations. ◆

Data Qualifier	Used When
B	The target analyte detected in the method blank exceeds the lab's established MRL or SDRL, whichever is lower.
J	The result is an estimated concentration.
NDDS	The analyte is not detected in duplicate sample.
U	The radiochemistry analyte is not detected at or above the lab's established MDA.



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♻️ Printed on recycled paper.

An *E. coli* cautionary tale

By Joseph Perkins, Eastern Region Coliform Program Manager

I WAS RELATIVELY NEW at the Office of Drinking Water when coworkers introduced me to “Fecal Friday.” It’s the idea that if you’re going to have a water system problem, it will happen late Friday afternoon. Ominously, the phone rang.

Jason Williams, certified operator for the Peshastin Water Department, was calling to report that his distribution system tested *E. coli*-present. We discussed steps he would take if repeat samples confirmed his findings. We went over his coliform monitoring plan, which identifies locations of routine, repeat, and investigative samples, and a framework for *E. coli* response. Then we ran through questions Jason needed to answer.

◆ **How will you deliver the health advisory?**

Jason planned to deliver the advisory door-to-door, and post to the city’s website and social media. He would also call the local radio station and use reverse 9-1-1.

◆ **Does your system serve sensitive populations and how will you notify them?** Jason looked at his Water Facilities Inventory and saw the system serves a school and day care. He decided he would contact the local health jurisdiction to find out if there were other sensitive populations and request help contacting them.

◆ **Do you have a set of talking points to answer questions from your customers?** Jason knew he could find many communication tools on our drinking Water Emergencies webpage, and he could get help from our communications office if needed.

◆ **Will you be available to conduct a special purpose investigation (SPI) within two business days?** Jason would be available Monday. After the phone call, I sent an email to document what we covered and provide needed public notification resources.

Saturday came and so did the bad news! One repeat sample and a Source 1 sample confirmed *E. coli* and triggered Jason to deliver the pre-printed health advisory. He did work ahead of time because he knew he would have

only 24 hours to notify his community. Jason called our emergency hotline (877-481-4901) to report the results and schedule the SPI.

The SPI started by looking over the water system records. Then, with Jason, we inspected the wells, reservoir, and other equipment to identify how contaminants entered the system. We found no pathway.

With the SPI complete and no sanitary defects identified, we advised Jason to shut off Source 1 to prevent recontamination, and then shock-chlorinate and flush the system. When finished, Jason collected two sets of five samples, all satisfactory. With that good news, he lifted the advisory. The system hired an engineer to design and install a disinfection system to protect Source 1 against viruses and *E. coli* bacteria, as required by the Groundwater Rule.

With the health advisory lifted, and a plan to protect Source 1, Jason’s water system returned to normal. It was a grueling weekend for the staff; and although it may have been terrifying at first, the water system and its customers were in good hands. ◆