



WATER TAP

WASHINGTON'S DRINKING WATER NEWSLETTER

Will you be ready when the creek rises?

If you're a betting person, you know the odds are fairly high that a flood will happen somewhere in Washington this fall or winter. Is your water system prepared to meet the challenges flooding will bring?

Floods pose a significant threat to water systems. Floodwater often contains contaminants that could end up at customers' taps if source water or any part of the water distribution system floods.

One of the most important assets you can have during a disaster is a contact list. Do you have existing relationships with other water systems, emergency management personnel, local health jurisdictions, and emergency suppliers? Do you know how you'll reach each other and the Office of Drinking Water? Building those relationships before disaster strikes will make a big difference when the inevitable happens.

You also need to think about how you'd communicate with customers during a flood. Is your customer contact information up to date? While the weather is still nice, why not ask them how they want to be informed in an emergency? It's good preparation and good customer service.

If a flood is predicted for your area, be sure to have enough coliform sample bottles to sample each well and the distribution system daily for at least a week. And, if you routinely disinfect your water system with chlorine, increase the chlorine level. This will not guarantee your drinking water will remain safe, but it will make it easier to monitor chlorine residuals. A drop in the chlorine residual may mean contaminated water has entered your system.

Steps to take before the rains arrive

Backup sources: Check your backup water sources to ensure they are ready when needed. Although you must physically disconnect emergency wells from the water system, you should be able to turn them on and flush them periodically. Regular maintenance increases the odds that it will take no more than a physical connection and water quality tests to get your emergency well running. During an emergency, precious time can be lost in startup delays. Repair services are in peak demand during emergencies and difficult to obtain.

Backup equipment: Periodically check any equipment you might need in an emergency. This includes generators, chlorinators and filtration systems. Keep instructions for startup

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THE DIRECTOR'S COLUMN

BY DENISE ADDOTTA CLIFFORD



Small water systems: Not for the faint of heart

It's no secret that many small water systems face challenges. Owners and operators tell us the cost of regulatory compliance is daunting because their relatively

small customer base must bear the cost of sampling, operator expenses, and fees.

Besides regulatory and routine operating costs, there are less obvious costs associated with the reliable delivery of safe drinking water: funding reserve accounts for planned replacement (pipes that finally wear out) and the inevitable emergency (a pump that unexpectedly breaks down).

The financial struggle can become more complicated if utility boards don't understand their responsibility to ensure safe and reliable drinking water to all their customers. In fact, some boards don't see themselves as having customers, so they fail to generate the funds they need to maintain and improve their water systems.

I've even had homeowners tell me, "We paid for our water when we bought our home." I struggle with the notion that some homeowners are willing to pay big bucks for cable TV, but they won't invest in maintaining their water system. We can live without cable TV, but we can't live without safe drinking water. It's the single most critical component of public health.

As a regulatory agency, we see extreme cases of success and failure, as well as many systems that fall somewhere in the middle.

One spectacular success is tiny Kamilche Point Community Club in Mason County. I recently attended one of their board meetings, and I have rarely seen such a well-organized small system. They have just 23 connections, yet they've already installed meters to help them reduce leakage and conserve water. They're doing a fantastic job of improving and managing their water system.

I asked what motivates them to keep their water system in good order and why they're willing to pay higher rates to maintain it. Their reply: Because we care about the health of our community, because we care about each other.

Sadly, there are some small systems on the other end of the spectrum, such as Bar Development in Eastern Washington. For years, the owners of this system have failed to do much of anything to provide safe and reliable drinking water to the 26 single-family homes connected to it.

We tried several times through the state's receivership process to arrange for another water system to serve Bar Development. Now it appears the system may need to be shut down, leaving this small community with no water service at all.

Earlier this year, the Legislature directed us to study small drinking water systems throughout the state. The study will focus on the challenges these systems and their ratepayers face, particularly systems that need or may soon need significant state resources to resolve threats to public health and safety.

This study is an opportunity for us to take a candid look at the viability of smaller systems and to think about future needs and resources. It will include water systems with fewer than 1,000 connections, even systems that are so small they fall outside the scope of the federal Safe Drinking Water Act.

One question we will consider is whether small communities, subdivisions, and businesses currently supplied by their own water system could benefit from consolidating with another system. We will also look at ways to improve regulatory compliance, health protection over the long term, and sustained economic vitality.

I'd love to hear your thoughts about why some small systems succeed while others fail. What do you see as the keys to success? What are the obstacles that hinder your ability to operate and maintain a viable water system, capable of providing safe drinking water to every customer, year after year?

Drop me a line at denise.clifford@doh.wa.gov

Denise A. Clifford

Small Water Systems Alert

Protecting your water through wastewater treatment

Changes in the rules for large on-site sewage systems (LOSS) may affect some drinking water systems in a positive way. Systems receiving water from a community well also may be served by a community on-site sewage system. Beginning next year, 2007 legislation requires all LOSS owners to get operating permits from Department of Health (DOH).

"We may be contacting you to see if residents on your water system are connected to a community on-site sewage system," says Denise Lahmann, former manager of our Southwest Regional Office. Lahmann is now the engineering supervisor for the Wastewater Management Section (WWMS) in DOH's Office of Shellfish and Water Protection.

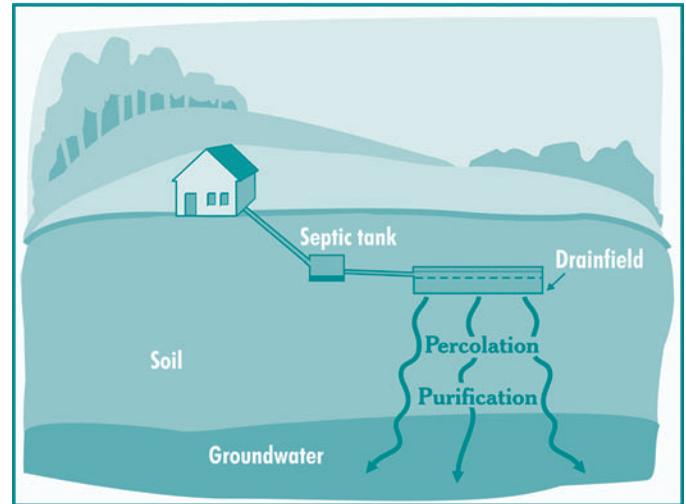
"We are trying to identify on-site systems that don't have current operating permits," says Lahmann. "Many don't, since the existing rule limits permits to systems constructed after July 1984. We need to expand our database and help LOSS owners meet the new law." DOH now reviews and approves on-site designs with flows from 3,500 gallons per day (gpd) to 14,500 gpd.

The new large on-site sewage system rule will require:

- All large on-site sewage systems to have annual operating permits. The current rule requires only LOSS approved after July 1, 1984 to have annual operating permits.
- DOH to expand its oversight of LOSS to systems with a design flow between 14,500 and 100,000 gpd. At present, the Department of Ecology permits those facilities.
- DOH to review the design, construction and operation of LOSS with an eye toward protecting the environment as well as public health. For example, we want to limit nitrate discharge so groundwater used for public water supply doesn't exceed the maximum contaminant level.
- All LOSS (including pre-1984) to protect public health and the environment continuously, using all known and reasonable technologies.

WWMS is working with stakeholders to incorporate these changes into the large on-site sewage systems rule, and stay consistent with the on-site sewage system regulation. WWMS expects to adopt the rule in 2009.

To implement the legislation, it is important for WWMS to locate existing LOSS systems. Some were installed before July 1984, and aren't listed in the LOSS database.



Others have county permits and aren't listed in state records.

Making sure all waste treatment systems work properly is an important part of such environmental efforts as the Puget Sound Action Agenda. As always, our objective for working with on-site sewage systems is to protect the water you serve as drinking water.

"It's likely that small water systems have LOSS or multiple smaller on-site systems, so talking to owners and operators is a common-sense way to start the detective work," says Lahmann. Some water systems will receive mailings. DOH will also work with local health jurisdictions and the Department of Ecology to help narrow the search.

"The Office of Drinking Water is a leader in many areas that the wastewater program will be growing into," Lahmann added. "And the charge to protect public health and the environment in the wastewater world has a close link to water supply protection for water systems. We'll be looking for practical solutions and funding options for systems that need upgrades."

Drinking Water's utility database (Sentry), annual operating permits, compliance monitoring, utility system training, and communications with regulated systems are all models for WWMS.

For more information

Call the Office of Shellfish and Water Protection at (360) 236-3301, e-mail Denise Lahmann at denise.lahmann@doh.wa.gov or visit these Web pages:

- LOSS rule development <<http://www.doh.wa.gov/ehp/ts/ww/loss/loss-rdc.htm>>
- Office of Shellfish and Water Protection <<http://www.doh.wa.gov/ehp/sf/default.htm>>
- LOSS <<http://www.doh.wa.gov/ehp/ts/ww/loss/default.htm>>

Seasonal Water System: Shut-Down Tips and Training



If you operate a seasonal water system, this article is for you! A seasonal water system is one that closes down all or part of the system for a portion of the year.

If your open season is the summer, it's time to think about shutting down for the winter. You'll want to protect the water system from freezing, vandalism, vermin, flooding, heavy rains, and other potential threats.

You can save yourself some headaches and expense by performing a few simple shut-down tasks this fall. Your efforts will pay off next spring because your system will need fewer repairs and less maintenance work prior to re-opening.

As you close down for the season

- **Evaluate the system:** Look for problems needing repair in the off-season. Obtain a final source-meter reading for the system and record it on a start-up shut-down checklist.
- **Drain and repair the storage tank:** Inspect for cracks and repair as needed. Clean and disinfect the tank with a bleach solution.
- **Pressure tanks:** If freezing is a concern, drain your pressure tank(s) when they're not in use. If you are unsure how to do this, contact the manufacturer for instructions. If freezing is not an issue and you decide to leave the pressure tanks full, you must treat the stagnant water inside with a solution of at least 5 ppm of chlorine prior to start-up in the spring.
- **Shut down the water source:** If your system's water source is groundwater, you should turn off the supply for the winter. Be sure to insulate to protect the system components. Use Styrofoam, if possible, because shredded paper or fiberglass insulation may attract vermin. Check for openings that could allow rodents, insects or contaminants to enter, and correct as needed.
- **Shut down treatment:** Turn off power to all treatment systems and safely dispose of unused

chemical solutions and chemical stock such as chlorine. Refer to advice from your chemical supplier as needed.

- **Protect the distribution system:** Don't leave taps open in the off-season, and never add anti-freeze to your water system—it's a health hazard. Operate all valves to ensure they're in good repair.

During your closed season

- Compile your operations and water quality records for the year. Note periods of peak water use, any water quality problems, and unexpected events. Use this information to plan for next year.
- Review your coliform monitoring plan and update it if needed. Ensure that sampling locations are representative of the system.
- This is the time to make any large-scale improvements to your system. Construction other than repair and replacement usually requires Office of Drinking Water (ODW) approval prior to the start of work. Contact your ODW regional engineer for guidance.

Training

Our engineering and coliform program staff developed training for camps, parks, and schools when we started seeing more coliform contamination problems at seasonal water systems. Some began their "open" season with Coliform MCL violations. The class teaches operators of seasonal systems how to properly startup and shut down their water system and how to best protect their facilities during the off-season.

We held the first classes for seasonal systems at locations around the state in 2000. Over the years, a popular and highly-visible group of these systems, Washington State Parks, continued to seek the training. For the past two winters, our northwest regional staff taught the class as part of the annual in-service training for state park rangers. This year, 60 park rangers attended the four-hour training in three different sessions.

The instructors, Steve Deem, Jen Prodzinski, and Carol Stuckey included the following topics in their training. They say the knowledge exchange between ODW and Parks is invaluable.

- A video of the E. coli tragedy in Walkerton, Ontario, and a review of other waterborne disease outbreaks reminds students of the important role each operator plays in protecting public health. For park rangers and water system staff at most seasonal systems, the water system is just one of their many and varied duties, so this reminder is crucial.

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Building our Water Use Efficiency Program One Block at a Time

“Water conservation is a community partnership at its best, and you are leading the country.” This quote is from the Saving Water Partnership’s report to their customers on water efficiency efforts this past year.

Washington continues to be a leader in water efficiency and arguably has the most comprehensive Water Use Efficiency (WUE) program in the nation. You are helping by incorporating the WUE requirements and setting goals to use water wisely. Congratulations!

Now that we’ve made it clear that you must establish at least one goal to help your customers use water more efficiently, here’s what else we’re doing to develop the WUE program.

We will update the WUE Guidebook this fall. There are only a few copies left, and we plan to release the next edition before the end of the year.

We hired an assistant, Jimmy Weber, to review WUE annual performance reports and help answer your questions about WUE requirements.

We completed our internal plan for the WUE program. It describes our communication and compliance strategies and our plan to build a database where anyone can see all the WUE annual performance reports you submit to us. We also created two new publications to help you meet the leakage standard and set goals for your customers.

The following materials—and more—are on the WUE Web page at <<http://www.doh.wa.gov/ehp/dw/programs/wue.htm>>

- An executive summary of the WUE program plan
- **Setting Goals to Use Water Efficiently** (331-402)
- **Reduce Leaks: Using water audits and leak detection surveys** (331-388)

The Partnership for Water Conservation is holding a training event November 12 to help you meet your goals for reducing leaks within your distribution system. It will be in Renton and offer continuing education units. Don’t miss this opportunity to learn from international water loss experts, members of AWWA’s Water Loss Control Committee, leak detection companies and manufacturers, and local water systems that achieved success reducing leaks. For information, call (206) 957-2199 or visit the Web site at <<http://www.partners4water.org/>>

Contacts

Mike Dixel, WUE lead, call (360) 236-3154 or e-mail michael.dixel@doh.wa.gov

Jimmy Weber, WUE assistant, call (360) 236-3097 or e-mail jimmy.weber@doh.wa.gov



Flood planning... (Continued from Page 1)

and operation readily available, particularly for complex equipment such as water treatment systems.

Generators: Don’t assume you can easily get generators during an emergency. Even if you can purchase or borrow a generator, it is not simple to connect it to an existing water system. An electrician must wire a generator to a water system.

Recovery: When a water system is in the midst of a crisis, it’s difficult to think about preparing for recovery. But mistakes made early on can cause headaches later, particularly when attempting to get funding. Take time now to learn about emergency funding sources and the restrictions that accompany them.

For your information

Here are links to resources that will help you prepare for the next flood:

Office of Drinking Water fact sheets are online at <<https://fortress.wa.gov/doh/eh/dw/publications/publications.cfm>>

- **Flood advice for drinking water systems (331-300)**
- **Emergency drinking water sources (331-317)**

FEMA Public Assistance Grant Program:
<<http://www.fema.gov/government/grant/pa/index.shtm>>



Especially for Small Systems

WATER Power Tools

We are very excited to offer small water systems a free CD to help you manage your system. WATER Power Tools™ (WPT™) by GeoAnalytica, Inc. is a collection of more than 200 programs, reports, and calculators that run on your computer. Once installed, operators, managers, and support staff can begin using its programs and reports. No special training is required to begin using the software.

The CD contains three major sections:

The **Resource Management** section includes “Water Mechanics,” using a step-by-step process for analyzing your system’s water sources and uses. The programs in Water Mechanics can instantly assess system efficiencies and evaluate the impact of changes, such as adding a new housing development. The Resource Management section also includes a comprehensive Consumer Confidence Report (CCR) program to help you develop your CCR, inventory tracking programs, employee management tools, a strategic planning guide, and other related programs.

The **Technical Reference** section contains chemical and chlorine dosing calculators so you can instantly compute dosing quantities. This part of the program can record your dosing activities and includes a collection of sizing calculators for tanks, flumes, pipes, and open channels; a conversion calculator; pump and energy calculations; and many other tools to generate reports.

The **Financial Capacity** section has programs for calculating amortization, a water cost analysis worksheet, water rate development and water rate implementation programs, depreciation schedules, asset management schedules, and a sophisticated impact fee analysis feature.

As you can see, WATER Power Tools™ has a wide range of tools for operators. The software allows you to take control of data you already collect and use it to better understand your system, manage your resources, and plan for the future.

You can order this new tool by visiting our publication Web site at <http://www4.doh.wa.gov/dw/publications/publications.cfm> Select “By type,” then “CD.” We have a limited supply, so order early to ensure you get your free copy.

Circuit riders from Evergreen Rural Water will also have CDs to hand out as they provide your system with technical assistance. Call (800) 272-5981 to ask about this program. We received funding for this tool from the U.S. Environmental Protection Agency.



Check Up Program for Small Systems

The U.S. Environmental Protection Agency has a new, easy-to-use asset management tool for small drinking water and wastewater utilities. The **Check Up Program for Small Systems (CUPSS)** provides a simple, comprehensive approach based on EPA's highly successful Simple Tools for Effective Performance (STEP) Guide series. It complements WATER Power Tools, mentioned on page 6.

Use CUPSS to help you develop:

- A record of your assets
- A schedule of required tasks
- An understanding of your financial situation
- A tailored asset management plan

First come, first served

We have copies of CUPSS to give away on a "first come, first served" basis to small public water systems. You can order CUPSS from our online publications database at <https://fortress.wa.gov/doh/eh/dw/publications/publications.cfm> or by calling (800) 521-0323.

Of course you can also download a copy of the CUPSS application or request a copy of the

installation CD on EPA's Web site at <http://epa.gov/cupss/> You can also register as a CUPSS user to receive updates and notification of training opportunities.

Visit EPA online

EPA's CUPSS Web site is for users, trainers and all others involved with small drinking water or wastewater utilities. It includes the following topics:

- **Basic Information**—Learn how CUPSS works and what it can do for you.
- **Frequent Questions**—Find out if CUPSS is right for you, and get quick answers about the CUPSS application and training.
- **Case Studies**—Read experiences from small drinking water and wastewater utilities as they take on the challenge of asset management.
- **Resources**—Find documentation, useful Web sites, and promotional material to help CUPSS users or trainers.
- **Training Events**—Find training events in your area and sign up for upcoming EPA Web casts.
- **CUPSS Glossary**—Search for common CUPSS terms.

To find out more about CUPSS, visit EPA online at <http://epa.gov/cupss/>

Free training opportunity for small water system operators

Our latest training tool is a free nine-hour CD course titled, **Basics course: For small public drinking water systems**. We designed this training to provide you with a foundation for running a small water system serving fewer than 3,300 people. The CD comes with a manual to help as you work your way through its six lessons.

Taken alone, some of the material in this course wouldn't be relevant for waterworks certification or growth requirements. However, because most topics are relevant to system operations, you will receive 0.9 continuing education units (CEU) if you take the entire course and follow the procedures for completing distance education. To learn about the distance education procedures or to get submittal forms, visit Washington Certification Services online at <http://wacertservices.org/> or call (800) 562-0858, ext 2.

You can order a copy of the training CD, **Basics Course: For small public drinking water systems (331-407)**, through our publications database at <https://fortress.wa.gov/doh/eh/dw/publications/publications.cfm> or by calling (800) 521-0323.

There's an old saying, "The only thing that is constant is change." That applies to the content of this course, too. Water rules and our publications always change. This CD provides the most current information available in April 2008. To help ensure you have up-to-date information, sign up for our publication Listserv at http://www.doh.wa.gov/ehp/dw/our_main_pages/public.htm

Lab Corner

The correct way to complete lab reports for disinfection byproducts

Water systems add chlorine to drinking water to kill or inactivate harmful organisms that cause diseases. This process is called disinfection. However, chlorine is very active and reacts with naturally occurring substances to form compounds known as disinfection byproducts (DBPs). The most common DBPs are trihalomethanes (THMs) and haloacetic acids (HAAs).

When a water system provides a sample to a laboratory with a request for DBP testing, the lab will run a Total THM test panel and an HAA5 test panel. Filling out the lab slips correctly makes data entry more efficient and ensures the water system gets credit for meeting monitoring requirements.

It is important for the lab and the system to record this sample as a distribution sample. Follow the instructions on the lab slip below.

The lab report slips need to show the source code for a distribution sample as "92."

Space For Lab Letter Head

TTHM TEST PANEL
(Total Trihalomethanes by EPA Methods 524.2 or 502.2)

Distribution System - Report of Analysis

TRIHALOMETHANE ANALYSIS Water System ID Number: _____ Source: <u>92 (Distribution samples)</u> Sample Type: _____ <input type="checkbox"/> RC - Routine/Compliance (satisfies monitoring requirements) <input type="checkbox"/> C - Confirmation (confirmation of chemical result) <input type="checkbox"/> I - Investigative (does not satisfy monitoring requirements) <input type="checkbox"/> O - Other (specify) _____	System Group Type: (Circle one) A B Other: (Specify) _____ System Name: _____ County: _____ Date Received: (MM/DD/YY) ___/___/___ Date Analyzed: (MM/DD/YY) ___/___/___ Date Reported: (MM/DD/YY) ___/___/___ COMMENTS: _____ Send Report to: _____ Bill to: (Client Name) _____
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(DOH #)	(0027)	(0028)	(0029)	(0030)	(0031)
ANALYTE	Chloroform (ug/L)	Bromo-chloromethane (ug/L)	Dibromo-chloromethane (ug/L)	Bromoform (ug/L)	TTHMs (ug/L)
SRL (ug/L)	0.5	0.5	0.5	0.5	0.5
Trigger Level (ug/L)	--	--	--	--	60
MCL (ug/L)	--	--	--	--	80
Analytical Method (Analyst Initials)					

Sample # <small>(3 digit DOH Lab # + 5 digit identifier)</small>	Date Collected	Sample Location

NOTES:
SRL (State Reporting Level): indicates the minimum reporting level required by the Washington Department of Health (DOH).

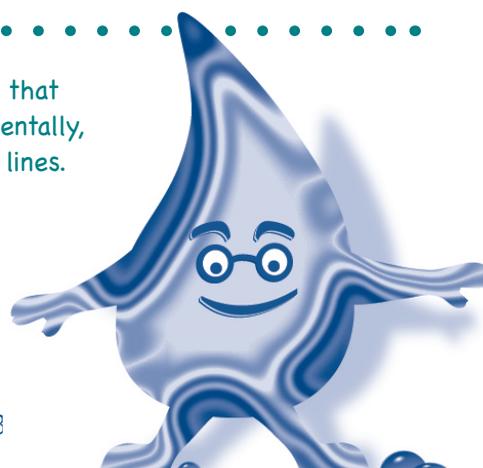
After the lab determines the trihalomethanes, the lab slip must show the TOTAL under a field coded as DOH # 0031.

Dear Dr. Drip,

We run a consecutive system receiving water through an intertie from a system that chlorinates. How do we find out what the DBPs are at the intertie source? Incidentally, we chlorinate, too, so we must do our own testing farther down the distribution lines.

Dear Consecutive System,

Run the DBP from the intertie source as an investigative sample. Investigative samples are not counted toward routine monitoring compliance requirements. You still have to mark the TTHM and HAA lab report slips as source 92. But, you can use the location box to indicate the intertie source (such as SO4). Mark this sample "SPI" (special purpose investigation) to distinguish it from your routine DE monitoring samples. ~ Doctor Drip



Rulemaking

Up-to-date information on the following Office of Drinking Water rulemaking activities is on our Web site at <http://www.doh.wa.gov/ehp/dw/our_main_pages/regula.htm>

- Water Use Efficiency—Goal-Setting Correction
- Federal Groundwater Rule
- Drinking Water Laboratory Data Reporting Rule
- Group B Public Water Supplies
- Stage 2—Disinfectants and Disinfection Byproducts Rule

For more information, call Theresa Phillips, lead rules coordinator, at (360) 236-3147.

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Group A Public Water Supplies Chapter 246-290 WAC

The Office of Drinking Water updated the publication, **Group A Public Water Supplies: Chapter 246-290 WAC (DOH 331-010)**. Due to the high cost of printing and mailing this large publication, it is available in electronic format only.

You can download the publication from our Web site now or order as many **free** CDs as you need online at <<https://fortress.wa.gov/doh/eh/dw/publications/>> If you don't have access to the Internet, call us at (800) 521-0323.

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Web Link to Policies

The Office of Drinking Water is posting policies and procedures online at <<http://www.doh.wa.gov/ehp/dw/ODW-policy.htm>>

Polices describe how we implement a law or rule. Water system requirements are not in our policies. They are in rule and law.

We created a Listserv that will send notices to interested parties about new and revised policies. If you want to receive e-mail copies of our new and revised policies, sign up at <<http://listserv.wa.gov/cgi-bin/wa?A0=WA-DRINKINGWATERPOLICIES>>

We are evaluating our policies and procedures. Some are old and not available in electronic format. If you have questions about a policy, please call Michelle K Austin, policy and regulation coordinator, at (360) 236-3165 or e-mail michelle.austin@doh.wa.gov

Disinfection Byproducts (DBP) - Avoid Violations

Stage 1 DBP Rule Requirements Still in Effect

If your water system is a community or non-transient non-community system that uses continuous chlorination or ozonation in any part of the drinking water treatment process, you must continue to monitor for disinfection byproducts according to existing Stage 1 DBP Rule requirements. Any U.S. Environmental Protection Agency (EPA) waivers granted for the Stage 2 DBP Rule do not alter or waive Stage 1 DBP Rule requirements.

For more information, please see the fact sheet, **Transition from Stage 1 to Stage 2 Disinfection Byproducts Rule Monitoring (DOH 331-377)**, online at <http://www.doh.wa.gov/ehp/dw/Publications/phase_2dbp.htm> To determine your system-specific Stage 1 DBP Rule monitoring requirements, refer to your DBP Monitoring Plan or the DBP Monitoring Table on your Water Quality Monitoring Report.

If you have questions, please call your Office of Drinking Water regional office.

Stage 2 DBP Rule Submittal Requirements Past Due

Did you submit an Initial Distribution System Evaluation (IDSE) standard monitoring plan or a 40/30 certification to EPA? If you are one of the following, these materials were due to EPA on April 1, 2008:

- A community water system using continuous chlorination or ozonation in any part of the drinking water treatment process.
- A community water system receiving this treated water through a non-emergency intertie.

Systems that didn't send them are now in violation. EPA will contact violating systems soon.

If you serve fewer than 500 people and did not receive a Very Small System Waiver, please contact EPA immediately. If you received a Very Small System Waiver, you do not have to meet any additional Stage 2 DBP Rule requirements related to the IDSE. Remember, Stage 1 DBP Rule requirements still apply. EPA is implementing the Stage 2 DBP Rule until we adopt it. We plan to adopt the rule by January 2010.

If you have questions, please call Wendy Marshall at EPA in Seattle at (206) 553-1890 or (800) 424-4372.

Certification Services Web page

Visit the Washington Certification Services' Web page at <<http://www.wacertservices.org/>>

Waterworks Operators will find a wealth of information about the professional growth requirement.

View your professional growth report

Monitor your progress on meeting the professional growth requirement. Make sure the training you take is on your transcript. Check your reporting period dates and your completion status. View training you completed in previous reporting periods.

View options for meeting the requirement

Did you know you have options? You do. Check the list and decide which one works best for you.

Find out if your training will meet the state Department of Health's relevancy criteria

Review the definition of relevancy. Read the updated fact sheet, *Relevancy of Training for Certified Waterworks Operators (331-186)*, for examples of relevant training, and training that is not relevant.

Learn how the training you take gets submitted to Certification Services

When training is pre-approved, most training sponsors submit the completion information for you. In some cases, such as out-of-state training or approved distance education, operators must submit an evaluation request. Learn your responsibilities and how your training is posted to your transcript. Read more about the procedures, print submittal forms, and check important deadlines.

Review special procedures for distance education courses

DOH must approve all distance education courses in advance, so check to see if the course you want to take is on the approved list. Review the special procedures for completing distance education. Print the forms and instructions you will need to have your exam monitored and submit your course completion paperwork.

Backflow Assembly Testers (BAT) will find everything they need to know about how to get certified and stay certified.

If you want to apply for a BAT certification or professional growth examination

Read a brochure packed with information about each type of exam. Review the most current application procedures and print an application form. Search the list of scheduled exams by date or location to find one that works best for you.

If you need extra practice before you take the BAT written exam

Follow the links in this new section. The Association of Boards of Certification (ABC) now has sample exam questions available. They are examples of types of questions you will find on the standardized ABC written exam given in Washington.

If you are a certified BAT that wants to provide testing services to the public

Add your name to the public list of certified BATs who authorized disclosure of their contact information.

If you are looking for a certified BAT to test an assembly

Search the public list to find a certified BAT available to test assemblies in your county.

If you need to verify that an individual holds a valid BAT certification in Washington State

Enter the BAT certification number or the person's name to find out immediately.

If you are an employer of a BAT

This new section discusses confidential information related to BAT exams and applicants. Gain a clear understanding of the difference between registering for a training course and applying for a BAT exam. Review application and payment procedures for BAT exams.

Training Course Sponsors can find answers to these questions and more.

- What are my responsibilities as a course sponsor?
- How can I make sure the classroom training I develop will help waterworks operators meet the professional growth requirement?
- What are the deadlines for submitting requests for course evaluation and continuing education unit assignment?
- Is there a different evaluation process for distance education?

If you can't find what you're looking for on the Certification Services Web page

Call Washington Certification Services at Green River Community College at (800) 562-0858 ext. 2 in Washington, or (253) 288-3369 ext. 2.

What waterworks operators, backflow assembly testers, utilities and training sponsors are saying about the Certification Services Web page:

"It is so helpful to have this much information on one Web page."

"This site is user-friendly and simple to navigate – and it looks great too!"

"Everything we need is in one place with very thorough explanations."

"You have made it so easy to keep track of my continuing education units."

New & Revised Publications

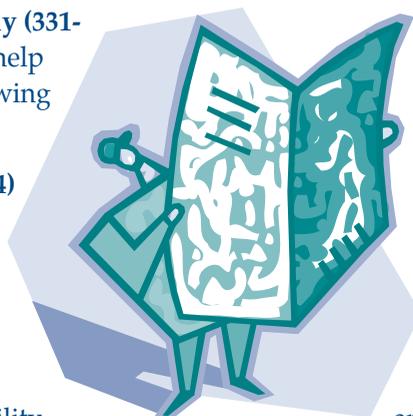
Setting Goals to Use Water Efficiently (331-402) – New! A six-page document to help you set goals to help manage the growing demand for water.

Calibrating turbidity meters (331-404)
New! Two-page fact sheet explains how to check the accuracy of a turbidimeter.

Financial viability for small water systems (331-405) – New! Four pages explain how to achieve financial viability. Financial viability 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.

Is my drinking water fluoridated? (331-409) – New!
Two pages of answers to questions to help you and your dentist develop a fluoride treatment plan.

Public disclosure of water system plans (331-410)
New! Two pages of answers to questions about how the



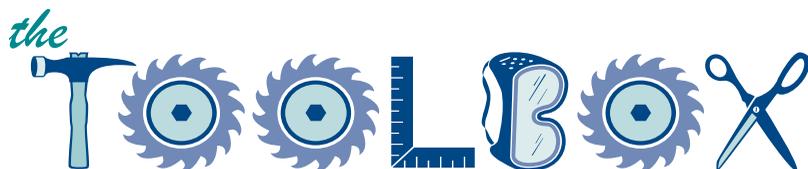
Office of Drinking Water handles requests for public records related to water system plans.

Relevancy of Training for Certified Waterworks Operators (331-186) – Revised.
Two-page fact sheet defines “relevant training” waterworks operators can use to meet their professional growth requirement.

Water System Capacity (331-283)
Revised. Two pages of questions and answers on water system capacity. Explains water system capacity, the benefits of reaching full capacity, and how to get there.

For copies of Office of Drinking Water publications, call (800) 521-0323 or visit the Web site at <https://fortress.wa.gov/doh/eh/dw/publications/publications.cfm>

Use our Listserv to get e-mail copies of new and revised publications. Sign up at <http://listserv.wa.gov/cgi-bin/wa?SUBED1=wa-drinkingwaterpub&A=1>



Effective Utility Management: A primer for water and wastewater utilities

Six national water and wastewater associations joined the U.S. Environmental Protection Agency to help utilities respond to current and future challenges. In this publication, the participants distill their experience into a customized, incremental approach that is relevant to the day-to-day challenges utilities face. Check it out at <http://www.watereum.org/pdf/2008-06EUMprimer.pdf>

Water and wastewater agency response network (WARN)

Water and wastewater systems throughout Washington State are teaming up to create a mutual aid network. WARN is the statewide program to coordinate this resource sharing effort. It will enhance each utility's ability to respond to natural disasters and acts of terrorism. We will develop a Washington WARN Web site. In the meantime, check out what our neighboring states have done to promote the WARN program:

Oregon: <http://www.orwarn.org/>

Idaho: <http://www.idwarn.org/>

California: <http://www.calwarn.org/>

National: <http://www.nationalwarn.org/>

Training and Education Calendar: September - December 2008

Date	Topics	Location	Contact	Phone #	Cost/CEU
Sept. 15	Interpreting Utility Maps and Drawings	Yakima	ERWOW	1-800-272-5981	\$75/\$85/0.5
Sept. 15	Package Filter Plant Operation	Olympia	ERWOW	1-800-272-5981	\$105/\$140/0.7
Sept. 15-16	Wastewater Treatment Plant Operator Exam Review	Moses Lake	ERWOW	1-800-272-5981	\$200/\$250/1.4
Sept. 16	Water Quality Complnts: Response, Investig & Recovery	Yakima	WETRC	1-800-562-0858	\$140/0.8
Sept. 16-17	Wastewater Cert Exam Review (Treatment)	Auburn	WETRC	1-800-562-0858	\$235/1.4
Sept. 16-18	BAT Refresher Course	Auburn	WETRC	1-800-562-0858	\$340/2.1
Sept. 16-18	BAT Refresher Course	Spokane Valley	WETRC	1-800-562-0858	\$340/2.1
Sept. 16-18	Water Treatment Plant Operator Exam Review	Olympia	ERWOW	1-800-272-5981	\$200/\$250/2.1
Sept. 17-19	Cross Connection Control Basics and Exam Review	Yakima	WETRC	1-800-562-0858	\$295/2.1
Sept. 17-19	Water Distribution Certification Exam Review	Everett	WETRC	1-800-562-0858	\$295/2.1
Sept. 22	Interpreting Utility Maps and Drawings	Vancouver	ERWOW	1-800-272-5981	\$75/\$85/0.5
Sept. 22	Water Distribution Specialist Certification Exam Review	Spokane Valley	WETRC	1-800-562-0858	\$125/0.7
Sept. 22	Review the WAC	Olympia	ERWOW	1-800-272-5981	\$90/\$120/0.6
Sept. 22-23	Advanced BAT, Troubleshooting & Repair	Auburn	WETRC	1-800-562-0858	\$295/1.4
Sept. 23	Water Distribution Specialist Certification Exam Review	Auburn	WETRC	1-800-562-0858	\$125/0.7
Sept. 23-25	Cross Connection Control Specialist Exam Review	Liberty Lake	ERWOW	1-800-272-5981	\$200/\$250/2.1
Sept. 23-25	Water Distribution Manager Certification Exam Review	Olympia	ERWOW	1-800-272-5981	\$200/\$250/2.2
Sept. 24	Asbestos/Cement Pipe Work Practice Procedures	Spokane Valley	WETRC	1-800-562-0858	\$160/0.7
Sept. 25	Automatic Control Valves, Cla-Val Service Training	Lacey	WETRC	1-800-562-0858	\$110/0.7
Sept. 25-26	Fire Hydrants: Installation, Testing, Operation & Repair	Spokane	WETRC	1-800-562-0858	\$255/1.4
Sept. 25-26	Water Hydraulics	Everett	ERWOW	1-800-272-5981	TBA
Sept. 29-30	Wastewater Treatment Plant Operator Exam Review	Olympia	ERWOW	1-800-272-5981	\$200/\$250/1.4
Sept. 29-30	Wastewater Certification Exam Review (Treatment)	Spokane Valley	WETRC	1-800-562-0858	\$235/1.4
Sept. 30	WTPO Level 3 Exam Review	Richland	ERWOW	1-800-272-5981	\$105/\$140/0.7
Oct. 1	Preparing for a Sanitary Survey	Liberty Lake	ERWOW	1-800-272-5981	\$95/\$105/0.7
Oct. 2	Asbestos Cement Pipe Handling Procedures	Moses Lake	ERWOW	1-800-272-5981	\$105/\$115/0.7
Oct. 2	Automatic Control Valves, Cla-Val Service Training	Spokane Valley	WETRC	1-800-562-0858	\$110/0.7
Oct. 2	BAT Professional Growth 1-Day Review	Tri-Cities	ERWOW	1-800-272-5981	\$105/\$140/0.7
Oct. 2-3	Advanced CCC: Risk Assessment & Hazard Analysis	Auburn	WETRC	1-800-562-0858	\$185/1.4
Oct. 3	Review the WAC	Liberty Lake	ERWOW	1-800-272-5981	\$90/\$120/0.6
Oct. 6-10	BAT Certification Course	Auburn	WETRC	1-800-562-0858	\$655/3.7
Oct. 7-9	Pumps and Pumping in Water and Wastewater Facilities	Everett	WETRC	1-800-562-0858	\$295/2.1
Oct. 8	Automation and Process Optimization	Lacey	WETRC	1-800-562-0858	\$145/0.7
Oct. 10	Confined Space Entry	Everett	WETRC	1-800-562-0858	\$149/0.7
Oct. 10	Incident Command System & NIMS Training	Spokane Valley	WETRC	1-800-562-0858	\$140/0.8
Oct. 13	Simp Nutrient Monit & Ultraviolet Common Sense Disinf	Liberty Lake	ERWOW	1-800-272-5981	TBA
Oct. 14	Confined Space Entry	Spanaway	ERWOW	1-800-272-5981	\$85/\$105/0.7
Oct. 14-16	BAT Refresher Course	Auburn	WETRC	1-800-562-0858	\$340/2.1
Oct. 14-16	BAT Refresher Course	Spokane Valley	WETRC	1-800-562-0858	\$340/2.1
Oct. 15	Basics Course for Small Public Water Systems	Liberty Lake	ERWOW	1-800-272-5981	\$105/\$140/0.7
Oct. 15	Simp Nutrient Monit & Ultraviolet Common Sense Disinf	Moses Lake	ERWOW	1-800-272-5981	TBA
Oct. 15-16	BAT Professional Growth 2 Day Review	Spanaway	ERWOW	1-800-272-5981	\$210/\$280/1.5
Oct. 16	Preparing for a Sanitary Survey	Yakima	ERWOW	1-800-272-5981	\$95/\$105/0.7
Oct. 17	Basics Course for Small Public Water Systems	Ellensburg	ERWOW	1-800-272-5981	\$105/\$140/0.7
Oct. 17	Simp Nutrient Monit & Ultraviolet Common Sense Disinf	Everett	ERWOW	1-800-272-5981	TBA
Oct. 21	Asbestos/Cement Pipe Work Practice Procedures	Auburn	WETRC	1-800-562-0858	\$160/0.7
Oct. 21,23,28,30	Water Quality & CCC Refresher (Evenings 6:00-8:45 PM)	Vancouver	WETRC	1-800-562-0858	\$150/1.0
Oct. 22	Incident Command System & NIMS Training	Everett	WETRC	1-800-562-0858	\$140/0.8
Oct. 23-24	Competent Person for Cave-In Protection	Everett	WETRC	1-800-562-0858	\$239/1.4
Oct. 29-31	Water & Wastewater Disinfection	Spokane Valley	WETRC	1-800-562-0858	\$295/2.1
Oct. 30	Confined Space Entry	Spokane	ERWOW	1-800-272-5981	\$85/\$105/0.7
Nov. 3	Simp Microscope App & True Confess of a Wastewater Op	Liberty Lake	ERWOW	1-800-272-5981	TBA
Nov. 4	Asbestos Cement Pipe Handling Procedures	Vancouver	ERWOW	1-800-272-5981	\$105/\$115/0.7

Training and Education Calendar: September - December 2008

Date	Topics	Location	Contact	Phone #	Cost/CEU
Nov. 5	Automation and Process Optimization	Richland	WETRC	1-800-562-0858	\$145/0.7
Nov. 5	Basics Course for Small Public Water Systems	Everett	ERWOW	1-800-272-5981	\$105/\$140/0.7
Nov. 5-6	BAT Professional Growth 2 Day Review	Kenmore	ERWOW	1-800-272-5981	\$210/\$280/1.5
Nov. 5	Simp Microscope App & True Confess of a Wastewater Op	Moses Lake	ERWOW	1-800-272-5981	TBA
Nov. 6	Automatic Control Valves, Cla-Val Service Training	Everett	WETRC	1-800-562-0858	\$110/0.7
Nov. 7	BAT Professional Growth 1 Day Review	Kenmore	ERWOW	1-800-272-5981	\$105/\$140/0.7
Nov. 7	Basics Course for Small Public Water Systems	Yelm	ERWOW	1-800-272-5981	\$105/\$140/0.7
Nov. 7	Confined Space Entry	Auburn	WETRC	1-800-562-0858	\$149/0.7
Nov. 7	Simp Microscope App & True Confess of a Wastewater Op	Shelton	ERWOW	1-800-272-5981	TBA
Nov. 10-14	BAT Certification Course	Auburn	WETRC	1-800-562-0858	\$655/3.7
Nov. 10-14	BAT Certification Course	Spokane Valley	WETRC	1-800-562-0858	\$655/3.7
Nov. 12	Preparing for a Sanitary Survey	Everett	ERWOW	1-800-272-5981	\$95/\$105/0.7
Nov. 12	Tracking and Eliminating Water Loss	Renton	PWC	1-206-957-2199	TBA
Nov. 13	GPS & GIS Applications for Utilities	Colville	ERWOW	1-800-272-5981	Free/0.6
Nov. 18	Asbestos Cement Pipe Handling Procedures	Kenmore	ERWOW	1-800-272-5981	\$105/\$115/0.7
Nov. 18	GPS & GIS Applications for Utilities	Omak	ERWOW	1-800-272-5981	Free/0.6
Nov. 18-20	BAT Refresher Course	Auburn	WETRC	1-800-562-0858	\$340/2.1
Nov. 18-20	BAT Refresher Course	Spokane Valley	WETRC	1-800-562-0858	\$340/2.1
Nov. 20	Preparing for a Sanitary Survey	Yelm	ERWOW	1-800-272-5981	\$95/\$105/0.7
Nov. 20	Reverse Osmosis Workshop for Operators	Anacortes	Greg Peterka	1-360-848-4446	\$50/0.5
Nov. 20-21	Competent Person for Cave-In Protection	Auburn	WETRC	1-800-562-0858	\$239/1.4
Dec. 1-2	Advanced BAT, Troubleshooting & Repair	Auburn	WETRC	1-800-562-0858	\$295/1.4
Dec. 1-2	Advanced CCC: Risk Assessment & Hazard Analysis	Everett	WETRC	1-800-562-0858	\$185/1.4
Dec. 2	Confined Space Entry	Vancouver	ERWOW	1-800-272-5981	\$85/\$105/0.7
Dec. 2	Refreshing Your Emergency Response Plan	Tri-Cities	ERWOW	1-800-272-5981	\$75/\$100/0.5
Dec. 2-4	Pumps and Pumping in Water and Wastewater Facilities	Auburn	WETRC	1-800-562-0858	\$295/2.1
Dec. 3-5	Water Works Basics	Mt. Vernon	WETRC	1-800-562-0858	\$295/2.1
Dec. 8-10	Water Works Basics	Auburn	WETRC	1-800-562-0858	\$295/2.1
Dec. 8-12	BAT Certification Course	Spokane Valley	WETRC	1-800-562-0858	\$655/3.7
Dec. 8-12	BAT Certification Course	Auburn	WETRC	1-800-562-0858	\$655/3.7
Dec. 9	Advanced Control Valve Training	Issaquah	ERWOW	1-800-272-5981	\$50/0.7
Dec. 9	Refreshing Your Emergency Response Plan	Port Angeles	ERWOW	1-800-272-5981	\$75/\$100/0.5
Dec. 10-12	Wastewater Treatment Plant Operation basics	Auburn	WETRC	1-800-562-0858	\$295/2.1
Dec. 16	BAT Professional Growth 1 Day Review	Kelso	ERWOW	1-800-562-0858	\$105/\$140
Dec. 16-18	BAT Refresher Course	Auburn	WETRC	1-800-562-0858	\$340/2.1
Dec. 16-18	BAT Refresher Course	Spokane Valley	WETRC	1-800-562-0858	\$340/2.1
Dec. 17-18	BAT Professional Growth 2 Day Review	Shelton	ERWOW	1-800-272-5981	\$210/\$280/1.5
Dec. 18	Incident Command System & NIMS Training	Vancouver	WETRC	1-800-562-0858	\$140/0.8

Our training calendar is updated quarterly; please visit the additional training links for current information.

For information about distance learning activities, call WETRC at (800) 562-0858

Additional Training Links:

AWWA King County Subsection Web site—<http://www.kcawwa.org/>

ERWOW Web site—<http://www.erwow.org/>

WETRC Web site—<http://www.wetrc.org/>

AWWA Pacific Northwest Section Web site—<http://www.pnws-awwa.org/>

EPA Electronic Workshops Web site—<http://www.epa.gov/safewater/dwa/electronic.html> (No CEU assigned to these courses.)

Partnership for Water Conservation—<http://www.partners4water.org>

For the complete Training Calendar, visit the Drinking Water Homepage and click on Training - <http://www.doh.wa.gov/ehp/dw>

NOTE: Links to external resources are provided as a public service, and do not imply endorsement by the Washington State Department of Health.

2009 Operator Certification Exam Schedule

Exact dates, times and locations are subject to change because of site availability. Applicants will receive a letter four to six weeks before the exam date.

Exam Locations		Exam Dates	Application Deadlines	Retake Application Deadlines
Bellingham	Seattle	February 3, 4, or 5, 2009	November 12, 2008	December 12, 2008
Mount Vernon	Spokane			
Olympia	Vancouver	June 9, 10, or 11, 2009	March 11, 2009	April 10, 2009
Pasco	Wenatchee	October 6, 7, or 8, 2009	July 10, 2009	August 7, 2009
Port Angeles	Yakima			

If you have questions about the examination process, or to order an application packet, call Larry Granish at (800) 525-2536, ext. 1, or e-mail larry.granish@doh.wa.gov. You can also order an application packet online at http://www.doh.gov/ehp/dw/our_main_pages/opcertification.htm

2008 Backflow Assembly Tester Exam Schedule

BAT Certification Examinations		BAT Professional Growth Examinations	
3rd Monday of each month, <i>except holidays</i>		3rd Friday of each month, <i>except holidays</i>	
Auburn and Spokane		Auburn and Spokane	
September 15	October 20	September 19	October 17
November 17	December 15	November 21	December 19
Vancouver		Vancouver	
October 20	November 17	September 19	November 21

For more information on applying for a BAT certification or professional growth exam, visit Washington Certification Services online at <http://www.wacertservices.org> or call Pamela Basquez, Certification Services Support, at (253) 288-3376 or toll-free in Washington (800) 562-0858.

Seasonal shut-down... (Continued from Page 4)

- Procedures and checklists to assist with starting up a water system that has been depressurized, or partially depressurized, for a period of months.
- Procedures describing how to properly shut down a water system at the end of the operating season to best protect the system from contamination during the off season.
- Coliform monitoring requirements, how to respond to unsatisfactory sample results, and reacting to Health Advisory situations that might occur.
- An interactive and lively discussion of "What If?" scenarios.

Since these seasonal water system classes started, the increasing trend of coliform contamination problems has dropped off significantly.

You can download or order a copy of ODW's **Start-up and Shut-down Assistance for Seasonal Non-Community Water Systems (331-314)** online at <https://fortress.wa.gov/doh/eh/dw/publications/publications.cfm> or by calling (800) 521-0323.

If you would like to attend an ODW class for seasonal systems, please call the coliform program at your ODW regional office. If there is enough interest, we will schedule some of these classes for early in 2009.

Eastern region (509) 456-2788
Southwest region (360) 236-3044
Northwest region (253) 395-6775

Records Retention Reminder

If you've ever been confused about how long to keep your water system records, **use this article as a guide.**

Public water system owners and operators must keep the following records for the minimum timeframes listed below. You must store the records at the utility or a nearby location. If the ownership, management, or system operator changes, you must transfer all records to the new responsible party.

- ❑ **Microbial and turbidity analyses: Five years.**
- ❑ **Chemical analysis (IOC, VOC, SOC, etc.):** As long as the system is in operation.
- ❑ **Copies of monitoring plans:** As long as the corresponding monitoring occurs. Keep replaced plans for:
 - Microbial and turbidity analysis: **Five years.**
 - Chemical analyses: **10 years.**
- ❑ **Records of action the system takes to correct a violation:** For **three years** after you take the last action for that violation.
- ❑ **Copies of written reports, summaries, or communications relating to sanitary surveys:** For **10 years** after the state, local health jurisdiction, or contracted third party completes the sanitary survey.
- ❑ **Records concerning a variance or exemption** granted to the system: For **five years** after the variance or exemption expires.
- ❑ **Copies of public notices: Three years.**
- ❑ **Copies of Consumer Confidence Reports: Three years.**
- ❑ **Lead and Copper:** Original records of all sampling data and analyses, reports, surveys, letters, evaluations, and schedules: **12 years.**
- ❑ **Groundwater Rule:** We are in the process of adopting the federal Groundwater Rule. The rule will require systems that must perform compliance monitoring to keep records of:
 - The minimum required disinfectant residual: **10 years.**
 - The lowest daily residual disinfectant concentration: **Five years.**
 - Any failure to maintain the minimum required residual disinfectant concentration (include dates and duration): **Five years.**
 - Compliance requirements and parameters for membrane filtration and alternative treatment: **Five years.**

- Any failure to meet membrane operating, integrity, or alternative treatment operating requirements (include dates and duration): **Five years.**

- ❑ **Enhanced filtration and disinfection for systems using surface water and groundwater under the influence of surface water:** If your system must meet the rule requirement in the first column of this table, you must maintain the records described in the second and third columns.

If you must meet this rule requirement	You must keep these records	For
Individual filter turbidity	Results of individual filter monitoring	Three years
Disinfection profiling	Results of profiling (including raw data and analysis)	Indefinitely
Disinfection benchmarking	Benchmark (including raw data and analysis)	Indefinitely

- ❑ **Stage 2 Disinfection Byproducts Rule:**
 - Initial distribution system evaluation report: **10 years.**
 - Compliance monitoring results: **10 years.**
 - Compliance monitoring plans: As long as the corresponding monitoring occurs. Keep the previous monitoring plan for **10 years.**
- ❑ **Enhanced treatment for cryptosporidium:**
 - Filtered systems: Results of initial and second rounds of source water monitoring for **three years** after bin classification.
 - Unfiltered systems: Results showing the mean Cryptosporidium level for the particular round of monitoring: **Three years.**
 - Letters you used to notify the state that the system meets the criteria and won't conduct source water monitoring: **Three years.**
 - Results of treatment monitoring associated with microbial toolbox options and uncovered finished water reservoirs: **Three years.**

Boil Water for One Minute

We recommend people boil their drinking water for only as long as necessary to fully kill pathogens and guard against microbial contamination. Recent research has convinced us that bringing water to a rolling boil for one minute will address microbiological health concerns at any residential elevation in Washington State.

This recommendation is consistent with public health advice from the U.S. Environmental Protection Agency, Centers for Disease Control and Prevention, and the U.S. Department of Agriculture.

In the past, we recommended boiling the water for three to five minutes. However, it turns out one minute is actually a conservative standard, as heat essentially kills pathogens by the time the water reaches full boil. Boiling water for one minute conserves fuel, which could be in short supply during an emergency, and is considerably less trouble for people affected by the emergency.

We will modify our publications to reflect this change as they come up for review. Our publications are online at <<https://fortress.wa.gov/doh/eh/dw/publications/publications.cfm>>

In This Issue

The following people contributed to the production of this issue of *Water Tap*: Michelle Austin, Peggy Barton, Denise A. Clifford Carolyn Cox, Mike Dexel, Leslie Gates, Larry Granish, Jim Harksen, Jim Hudson, Dick Pedlar, Theresa Phillips, Denise Lahmann, Ethan Moseng, Paula Smith, Carole Stuckey, Amy Swecker, Scott Torpie, Linda Waring, and Kitty Weisman.

The Department of Health Office of Drinking Water publishes *Water Tap* quarterly to provide information to water system owners, waterworks operators and others interested in drinking water.

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