



WATER TAP

WASHINGTON'S DRINKING WATER NEWSLETTER

Stevens Public Utility District's Water Conservation Landscaping Project

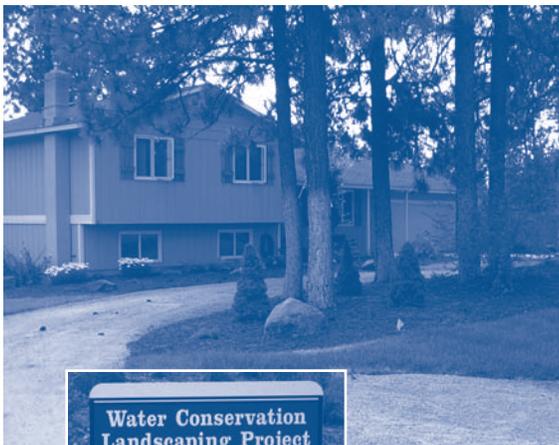
By Charisse Willis, Special Projects Coordinator, Stevens PUD

A 1,000 square foot lawn requires 10,000 gallons of water per summer to maintain a "green" look, according to a 1996 U.S. News and World Report. In the United States, lawns cover 30 million to 50 million acres of land.

In the fall of 2005, the Stevens Public Utility District (PUD) set out on a new adventure to help customers of its largest water system conserve water. The Suncrest Water System serves about 1,800 homes and is located in the southwestern portion of Stevens County, near Spokane. Of the PUD's 17 water systems, Suncrest uses the most water per customer because of large one-acre lots and very dry, sandy soil.

After advertising the landscaping project in its annual Consumer Confidence Report, and using advice from a landscaper, the PUD chose three customers with yards it felt were good candidates for landscaping or re-landscaping. One is a new home with a non-landscaped yard. The other two are 20 to 30-year-old homes with established yards.

The PUD entered into an agreement with the three homeowners and the landscaping company to equally share the costs of the projects. The average cost was \$16,200 per project. The homeowners agreed to hold annual open houses to help promote water efficient landscaping, and to maintain the landscaping for at least three years. If a homeowner defaults on the agreement, they must reimburse the PUD and landscaper for their costs in the project.



Close to 50 homeowners visited one or more of the landscaped homes during the first open house this past September. By installing water-wise plants and drip-style sprinkler systems, these three customers will save money by reducing the water used on their lawns and flower gardens. It is too soon to know the actual amount of water conserved at each property.

The landscaper installed a sprinkler system with a moisture sensor on it so it would not over-water a lawn.



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Celebrate Drinking Water Week May 6-12.

For information visit <http://www.awwa.org/Advocacy/dww/index.cfm>

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THE DIRECTOR'S COLUMN

BY DENISE ADDOTTA CLIFFORD



As I write this column on a frosty day in January, the temperatures are in the teens, and it strikes me yet again how well Washington's water systems cope with nature's trials. Power outages, floods, freezing temperatures, high

winds – managing these challenges is just part of the great work you do to keep safe drinking water flowing to your customers.

Speaking of keeping the water flowing, our new Water Use Efficiency Rule took effect on January 22. This means municipal water suppliers are now key partners in solving a complex and growing challenge: preserving the state's water for today and the future.

Once it seemed we had so much water we'd never run out. Now we know that's not true. Under the Municipal Water Supply-Efficiency Requirements Act of 2003, better known as the Municipal Water Law, the Legislature gave water systems certainty and flexibility over their water rights in exchange for making sure the water is used efficiently.

For most water systems, this will mean changes in the way you do business – and we stand ready to

help. Over the next few months, we'll be developing an implementation plan and preparing guidance documents to help you succeed. (See page 7 for more details.)

A couple of other news items of interest:

EPA has agreed to extend the grant that allows us to provide low cost training to operators of small water systems for an additional year. The funding lasts only through December 2007, so don't wait too long to get those CEUs!

We've received State Board of Health approval to revise rules that will affect laboratories analyzing drinking water samples. One of the proposed changes would ensure systems get high-risk sample results as soon as they are analyzed so that you, and we, can respond more rapidly.

By the time you read this, spring will be nearly here. Enjoy the turning of the seasons, and I'll be in touch again when the warm weather returns.

Denise A. Clifford



The Ground Water Rule – “Finally!”

The U.S. Environmental Protection Agency finalized the long-time-coming Ground Water Rule on October 11, 2006. EPA designed the rule to protect groundwater sources from viral and bacterial contamination.

If you've been holding your breath since the original proposal in 2000, you can exhale now. No need to hold your breath again any time soon, because the Office of Drinking Water is taking the time necessary to evaluate how the rule will affect water systems before taking any action.

The rule affects many requirements including sanitary surveys, source monitoring, treatment and public notification. But relax – the rule's first compliance date is December 1, 2009.



Clarifying L&I's new driller, pump and irrigation license requirement

A new law requires well drillers, pump and irrigation contractors, public water system contractors and others working on these systems to get a new combination plumbing and electrical license from the Department of Labor and Industries (L&I).

The Department of Health (DOH) discussed the law, which went into effect June 7, 2006, in the December **Water Tap**. We also sent a letter to all certified water works operators in late December, outlining how the rule could affect them. We advised them that they had until December 31, 2006, to apply for the new license without having to pass an exam.

We understand the new rule does not apply to people working on a water system they own (including employees of the system owner). We also believe the new license only applies to work performed on pumps and facilities directly tied to pump operation. This limits the impact on many systems. However, it may be an issue for contract operators.

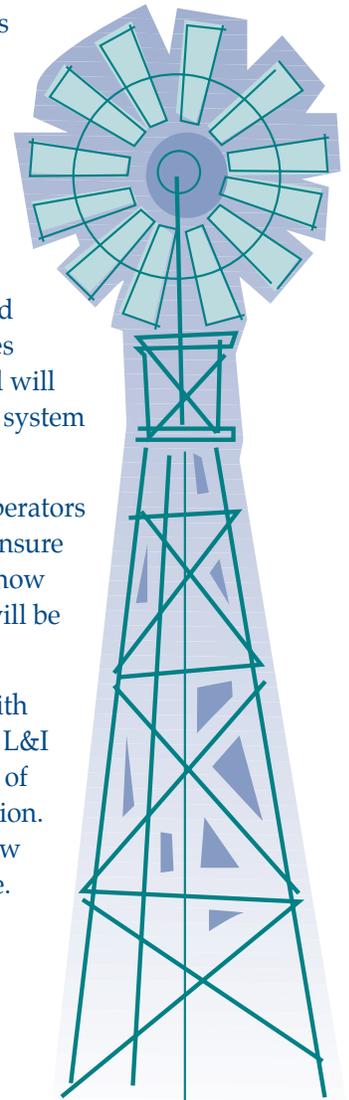
DOH rules hold "purveyors," including system owners and operators, responsible for delivering safe and reliable drinking water. As such, owners and operators should work as a team.

Any time a system owner hires a specialty plumber to work on the pump, or a contractor to work on other system components, he or she should involve the system operator. The operator can minimize customer service problems by ensuring the hired help follows proper procedures while servicing the pump, and will properly disinfect and test the system when the work is completed.

DOH recommends contract operators work with system owners to ensure their contracts clearly specify how these shared responsibilities will be carried out.

DOH will continue to work with system owners, operators and L&I to identify and clarify impacts of the new rule on system operation. We will provide updates as new information becomes available.

For more information on the new rule, call Roger Chick at L&I, (360) 292-5825, or e-mail outreach@lni.wa.gov



2007 Operator Certification Examination Schedule

To take this exam, you must submit an application packet by the deadlines listed below. Applicants will receive a confirmation letter four to six weeks before the exam date. Dates, times and locations are subject to change due to site availability.

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.wa.gov/ehp/dw/our_main_pages/opcertification.htm

Exam Location & Date	Exam Location & Date	Exam Location & Date	Application Deadlines	Retake Application Deadlines
Bellingham Olympia Port Angeles Seattle Spokane Vancouver Yakima	Mount Vernon Olympia Seattle Wenatchee	Pasco		
June 5, 2007	June 6, 2007	June 7, 2007	March 7, 2007	April 4, 2007
October 2, 2007	October 3, 2007	October 4, 2007	July 5, 2007	August 6, 2007

Leak Facts

- A 1/8 inch hole in a metal pipe, at 40 psi, leaks 2,500 gallons of water in 24 hours.
- A leak the size of a pinhead can waste 360,000 gallons per year, enough to fill 12,000 bathtubs to the overflow mark.
- A leaking toilet can use 90,000 gallons of water in 30 days.
- A dripping faucet or hose bib can lose up to 180 gallons a month or 2,160 gallons per year.
- About 1 in every 20 pools has a leak.
- About 1 in every 318 homes or buildings has a leak.
- A typical toilet leak at today's rate can add \$500 to a single water bill.
- One trip through a car wash uses 150 gallons of drinking water.
- Collecting water for gardening from the faucet while waiting for hot water saves about 250 gallons of water a month.
- Using a broom to clean the sidewalk instead of a hose saves 150 gallons of water.

Source: American Leak Detection and Water Online.

Managing Water Loss

To help water systems manage their limited drinking water resources, **Water Tap** is presenting a three-part series. In September, we introduced Joe Godwin of American Leak Detection. In the first two parts of the series, Godwin explained the difference between leaks and non-revenue water loss, and told us how to manage water loss by using a water audit.



In our final interview, Godwin says leaks are the hardest form of water loss to control and manage. He says a leak detection survey is the best way to detect and repair the elusive leak.

Minimizing leaks benefits water systems and their customers. You'll improve operational efficiency, reduce the potential for contamination, and extend the life of your facility, and customers will enjoy safer, more reliable drinking water.

Water Tap (WT): What is a leak detection survey?

Godwin: A leak detection survey is an objective test of system performance from a functional standpoint. It involves using a listening device to find leaks in a water distribution system.

WT: What do you listen for?

Godwin: A signature sound or noise that you've become accustomed to. You hear a lot of noises on the line so it takes a trained ear to distinguish between a leak and other sounds such as electronic humming, birds singing, road noises or the wind. Some sound the same and can get you in trouble. For example, there is a very subtle difference between water traveling toward a leak and water coming out of a leak. This small difference becomes large when you decide to repair the leak where you heard it and discover it's actually someplace else.

Some factors that affect leak sounds are:

- Pipe material.
- Depth of the pipe.
- Amount of pressure in the line.
- Available test points, such as valves, hydrants and meters.
- Size of the leak. Smaller leaks under high pressure make more noise than large leaks under low pressure, and some leaks make no sound at all.
- Usually, the louder the noise, the closer the leak.

WT: When should I do a leak detection survey?

Godwin: If you're like many people, you'll wait until there is a problem, then look for the leak. This results in less careful work because you're under stress and playing catch-up. It can harm customer relations and expose you to liability if a leak gets out of hand. The best approach – the one that saves time and money – is careful, considered and proactive. A plan to survey yearly or every other year is a good one.

To be proactive:

- Listen to your customers. A pressure change or flow interruption could mean a leak.
- Monitor pressure on lines and hydrants.
- Install pressure gauges or meters if you don't already have them.
- Pay attention to reservoir levels.
- Have a long-term plan for repairs and line replacement.
- Look for wet spots, "ultra green" vegetation.
- Walk your system regularly if possible.

WT: How do you find a leak?

Godwin: Have a systematic plan. Once you hear a leak, try to narrow it down. Begin by isolating the system into zones using maps. To create zones you may have to shut off valves. You may have to survey late at night when there is little or no usage, typically 2 a.m. to 4 a.m.

Usually, the closer you are to a leak the louder it will be. But, this can be deceptive depending on the type of pipe you have. Metal pipes conduct sound a block or two away. Plastic and polyurethane lines do not conduct sound so any sound you hear when dealing with these materials is very close.

Use common sense. If you know you have a leak, check your hunches first. If you have no idea where the leak is, start by listening to easily accessible pieces of the distribution system (such as fire hydrants).

Walk the system. Look for wet spots, ground disturbance. If there has been a wet spot there for as long as you can remember, don't rule it out.

Keep maps that show the location of valves, line location and size, connections, and other places leaks can occur.

WT: My system needs a leak detection survey. Where do I start?

Godwin: Are you going to do the survey yourself? It takes a trained ear to be successful. So, if you don't have the skills or experience, you should probably hire a leak detection specialist.

Are you planning to excavate and do the repairs yourself? If so, do you have the resources and expertise to complete the job? You may be held liable if the job is done incorrectly. So, if you feel uncomfortable, you should probably hire a contractor.

If you have many leaks, you may need to schedule the repairs in your capital improvement program.

If you decide to do the survey yourself, follow these steps:

1. Do a preliminary survey to determine obvious leaks and water losses through malfunctioning pumps, valves, meters and other appurtenances.
2. Measure water flows by isolating distribution into zones, then listening for leaks, testing pressures, throttling valves, and watching tank levels and meters to determine leakage.
3. Pinpoint leaks with listening devices. This can be as simple as using a screwdriver to listen for vibrations, to using electronic listening devices.
4. Use maps to record the location of any leaks you find.
5. Repair the leaks.
6. Record repairs, cause of leaks, amount of water lost and the date of repair.



An integral part of a leak detection survey involves testing many points on the system, such as hydrants.

WT: Do you have any other advice for water systems?

Godwin: Leak detection is a combination of art and science. You try to find the leak, but some things are out of your control. Eventually you are going to have to say "dig here." You'll need to learn to manage expectations because you won't be right all the time. After all is said and done, the benefits of managing water loss will far outweigh the risk.

WT: Where can I get help?

Goodwin: Call the Office of Drinking Water at (800) 521-0323 or:

- Southwest Regional Office (360) 236-3030
- Northwest Regional Office (253) 395-6750
- Eastern Regional Office (509) 456-3115

Evergreen Rural Water of Washington
<http://erwow.org/>

American Water Works Association
<http://www.awwa.org/waterwiser/>

National Drinking Water Clearing House
http://www.ndwc.wvu.edu/ndwc/ndwc_index.htm

Do you have a leak?

Clues:

- Water use jumps suddenly
- Customers report low pressure
- Customers complain about dirty water
- Electricity bill goes up without explanation
- A higher than usual volume of unexplained water loss

Suspects:

- Aging infrastructure
 - Poor installation and workmanship
 - Corrosion
 - Lack of maintenance
 - External factors, such as earthquakes
-
-

A \$1 Million reservoir maintenance error

Every potable water reservoir must have a safe way to discharge excess water if flow into the reservoir does not stop automatically. The capacity of the overflow system must equal or exceed the full volume of the system supplying the reservoir. There also must be a way to isolate the reservoir from the rest of the water system so operators can safely drain the water for maintenance or repair.

Consider the tragic experience an operator at one Washington water district had while preparing for scheduled cleaning on a 3.7 million gallon water tank.

The operator drew the water level down so only three or four feet of water remained in the reservoir. The district's normal procedure is to pump the water into the sanitary or storm sewer system. However, the operator decided to pump most of the water onto the ground above an embankment. Doing so saturated the soil, causing the embankment to fail. The landslide that followed cost the district about \$1 million to reconstruct the hillside and repair damage to nearby property.

The moral of this story is NOT to avoid maintaining your reservoirs. On the contrary, you know reservoirs are very important to the successful operation of a safe, reliable drinking water system, and they require your care and attention.

Reservoir maintenance

The American Water Works Association advises operators to inspect potable water reservoirs on a scheduled basis, preferably on a three-year cycle. It is not appropriate to wait until the vent-screen corrodes and permits birds to enter the drinking water system, or for sediment to build up until it is released into the distribution system. You definitely shouldn't wait for the coating system to fail, or the physical condition to deteriorate until structural integrity is in question and the life expectancy of the tank is reduced.

Reservoir design

There is no substitute for an appropriate geotechnical design and proper construction. When considering a new reservoir design, or evaluating existing reservoirs, pay attention to the pathway water will take when you drain the reservoir under deliberate and controlled circumstances, or the reservoir overflows in an uncontrolled manner – perhaps for an extended time at a high rate of flow.



The \$1 million fix to a "simple" mistake that occurred when an operator took a shortcut during reservoir maintenance.



Areas of interest should include:

- Proper design and construction of the reservoir foundation for the seismic and specific soil conditions found at the site.
- Proper design, construction and maintenance of the reservoir overflow and drain outlet(s), to prevent erosion at the actual outlet. Techniques include installing a concrete apron, head wall, and energy dispersers such as riprap (large rock).
- Proper design, construction, maintenance, and periodic inspection of any earth embankment intended to hold back water (including situations with infrequent use).
- Proper design and coordination with the local building official, stormwater authority, or the Department of Ecology, concerning the pathway for discharged potable water leaving the reservoir site.
- Following written procedures established for each individual reservoir.

For more information

For general design requirements and considerations for reservoir overflows and drains, see the following publications on the Office of Drinking Water Web site at <http://www4.doh.wa.gov/dw/publications/publications.cfm>

- **Water System Design Manual** (331-123) – See chapter 9 for guidance on designing systems capable of discharging flow without risk of erosion.
- **Group A Public Water Systems: Chapter 246-290 WAC** (331-010).

Reminder

Consumer Confidence Report due by July 1, 2007



It's time to prepare your 2006 Consumer Confidence Report (CCR). Drinking water rules require all Group A community water systems to provide a CCR to their customers and the Office of Drinking Water (ODW) by July 1 each year.

It is important to remember that your water system's 2006 CCR must include only results from samples collected between January 1 and

December 31 of 2006. A certification form, also due to ODW, verifies that you have prepared and distributed your annual Consumer Confidence Report.

If you sell water to a Group A community water system, you must give that system the source information and sample results it needs to include in its CCR. The due date for water sellers to supply this information is April 1, 2007.

If you buy your water from another system, you need to get their source information and 2006 sampling results in time to prepare your CCR. Make sure you get the information in time to distribute and submit your CCR by July 1, 2007.

For help preparing your CCR

Call the U.S. Environmental Protection Agency at (800) 426-4791 or visit the Web site at <http://www.epa.gov/safewater/ccr/index.html> Click on "Tools for systems," where you'll find CCRiWriter, a software application to help water system owners and operators quickly create their consumer confidence reports.

Evergreen Rural Water of Washington has a free online computer template to guide you through the report at <http://www.erwow.org/consumerconfidence.html> You can also order a CD-ROM (\$20 for members and \$30 for nonmembers) by calling (800) 272-5981 or writing to PO Box 2300, Shelton, WA 98584.

Call the American Water Works Association at (800) 366-0107, write to 6666 W. Quincy Ave., Denver, CO 80235, or visit the Web site at <http://www.drinktap.org/consumerdnn/Home/YourWaterUtility/ConsumerConfidenceReports/tabid/79/Default.aspx>

For more information

Visit ODW online at http://www.doh.wa.gov/ehp/dw/our_main_pages/consumer.htm or call your ODW regional office:

Eastern Region – (509) 456-3115

Northwest Region – (253) 395-6750

Southwest Region – (360) 236-3030

The Water Use Efficiency Rule goes into effect

The Water Use Efficiency Rule is an important step in conserving water for the environment and meeting the needs of future generations. The new rule makes Washington one of the only states requiring water systems to actively conserve water.

The rule applies to Group A systems with 15 or more residential connections or non-community water systems that use water in a residential manner.

These water systems will now need to develop goals for using water more efficiently, meet strict leakage standards of no more than 10 percent, install service meters by 2017 to accurately account for water usage and leakage, and report on their progress in achieving these goals.

The benefits for a water system with a successful water use efficiency program include:

- Reducing the demand on water system infrastructure
- Having more water for additional service connections
- Saving on filtration and treatment costs
- Saving on energy costs
- Preserving the resource
- Being viewed as environmentally conscious
- Lowering wastewater treatment costs

Office of Drinking Water staff will be very busy this year putting the tools in place to implement this rule. Priority will be given to items needed within the first couple of years, such as developing guidance documents to help staff and water system personnel comply with this rule. We will provide information and training to water systems and affected stakeholders.

The Office of Drinking Water worked with water systems, environmental groups, and other stakeholders for more than three years to complete this rule. The rule went into effect January 22 of this year.

For more information, call Mike Dixel, Water Resources Policy Lead, at (360) 236-3154 or e-mail michael.dixel@doh.wa.gov

Information is also online at http://www.doh.wa.gov/ehp/dw/municipal_water/water_use_efficiency_rule.htm

Performance Based Training - A Success Story

Performance Based Training (PBT) is a six-session course for operators of rapid-rate sand-filtration plants. The course was designed to maximize public health protection from microbial contamination found in surface water. Focusing on particle removal and disinfection performance measures, participants learn techniques to improve or optimize their plant's performance.

The course combines classroom sessions with hands-on training. Participants learn how to improve plant performance by developing, conducting, and analyzing special studies on their own plants, and using effluent turbidity to measure performance. The operators present the results of their studies at each session.



Accurate and precise jar testing is key in the PBT process. Ric Saavedra, left, and Victor Richards check a jar to see how the chemicals are working in the flocculation and sedimentation basins.

Eight water systems in the southwest region recently completed the course. It was taught by Process Applications, Inc., a consulting firm specializing in water-treatment plant optimization. Office of Drinking Water staff served as facilitators.

One participant was Ric Saavedra, manager and treatment plant supervisor of the Longview Regional Water Treatment Plant in the City of Longview. **Water Tap** decided to interview Saavedra as a way of letting other systems know what they could gain by participating in future PBT courses.

Water Tap (WT): Tell us about the Longview Treatment Plant

Saavedra: The plant was designed and constructed in 1940. It was upgraded after the Mount St Helens' eruption in 1980 and the tremendous amount of

solids loading on the facility. Our water source is the Cowlitz River at Longview. We have grit removal operations, three sedimentation and flocculation basins and eight sand filters. We are capable of producing 15 million gallons per day. Our raw-water turbidity ranges from 20 to over 2,000 nephelometric turbidity units (NTUs). We reached 2,000 NTUs after flooding this winter. It was the highest level since Mount St. Helens blew.

WT: Why did you decide to participate in PBT?

Saavedra: I really support training for my staff. I believe the more training our operators get, the better they can run our facility.

WT: Was the training beneficial?

Saavedra: Yes. Operators tend to be mechanically inclined but PBT raises the bar by teaching them how to look at things differently. They develop a problem-solving mentality. This enabled them to maximize the efficiency of our water system while using the same tools they'd always used.

Water Tap (WT): What did you learn?

Saavedra: I found out we could afford to improve our plant performance. Prior to PBT, plant turbidities averaged .3 NTU, the regulatory level. I didn't think we could afford the time or money it would take to improve. The training taught us how to look at our processes more clearly. Through the computer software we were able to graph results and present visual representations of our processes. We learned to use spreadsheets to see if a new process would work or not. As a result, we realized we could optimize without significant cost. Our current turbidity is well below the standard, at .1 NTU.

WT: Did PBT change the way you operate your treatment plant?

Saavedra: Yes. It created a whole new mindset. It helped us evaluate how well the system was working, and develop ways to improve.

WT: Would you recommend the training to others?

Saavedra: Actually, I think it should be mandatory. It really does get the operator thinking on another plane. Operators, at times, do the same thing day in and day out. They can get complacent, and small-system operators are too busy to think about doing

(Continued on Page 16)



Especially for Small Systems

EPA extends the small water-system operator training program

The U.S. Environmental Protection Agency (EPA) agreed to extend the Office of Drinking Water's (ODW) training program for small water-system operators. This allows us to spend the remainder of our grant dollars, while providing quality training through December 2007.

As a reminder, in addition to small water-system operators, EPA allows back-up operators, local health jurisdictions, qualified sanitary surveyors, and water board or commission members to attend any of our training courses. All classes have a \$50 registration fee.

EPA considers Washington a success in administering this federal grant. By the end of 2006, we had provided 122,347 classroom hours to 12,111 participants. Many states chose not to apply for training grants. Others applied, but haven't spent most of what they received. Washington is one of only a few states that plans to use the entire grant.

We attribute our success to a very successful partnership between ODW and our three contracted trainers: Rural Community Assistance Corporation, Evergreen Rural Water of Washington (ERWoW), and the Washington Environmental Training Center (WETRC).

We will continue to fund registration for three major conferences offered this year by ERWoW and WETRC. Free registration is limited to the first 160 who qualify.

Each participating trainer will advertise the courses we sponsor. Quarterly course information is a regular feature in **Water Tap**. A complete training schedule is updated periodically online at http://www.doh.wa.gov/ehp/dw/our_main_pages/training.htm

Continuing Education Units

Certified water works operators who repeat the same course in a different professional growth reporting period can apply one-half of the CEU earned toward the professional growth requirement. No CEU is allowed for courses repeated during the same reporting period.

For information about the professional growth requirement, please call WETRC at (800) 562-0858. You may now view and print your professional growth report online by visiting WETRC at <http://www.greenriver.edu/wetrc/>

ODW welcomes your comments on courses you've attended, or suggestions for new courses. Please call Ronni Woolrich at (360) 236-3092 or e-mail ronni.woolrich@doh.wa.gov

2007 Courses

- Water Distribution Manager Certification Exam Review
- Water Treatment Plant Operator Exam Review
- Water Quality Emergencies, the First 24 Hours
- Water Sampling Basics
- Electrical Troubleshooting
- Basic Electric
- Managing a Public Water System
- Pump Basics and Troubleshooting
- Basic Laboratory Skills for Water Treatment Plant Operators
- Chlorine Testing for Small Systems
- Process Instrumentation Verification
- Sampling and Distribution System Monitoring
- Stage 2 Disinfection By-Product Rule Training
- Cross Connection Control and Backflow Basics
- Sanitary Surveys
- Basic Water Works
- Distribution Line Installation and Maintenance
- Asbestos Cement Pipe Handling Procedures
- When, Why and How of the New Groundwater Rule
- Confined Space Entry
- Competent Person Cave-In Protection
- Water System Operations—Changing Regulations
- Introduction to Water Sources
- Water Hydraulics
- Drinking Water Regulations Overview
- Interpreting Water Maps and Drawings
- Emergency Planning
- Fire Hydrant Installation, Testing, Operation, and Repair
- Process Control Instrumentation
- Pump Operation and Maintenance
- Water and Sewer Underground Utility Locating

Training and Education Calendar: March - June 2007

<u>Date</u>	<u>Topics</u>	<u>Location</u>	<u>Contact</u>	<u>Phone #</u>	<u>Cost/CEU</u>
March 17	BAT Certification Class	Auburn	WETRC	1-800-562-0858	\$195/NA
March 19-22	2007 WOW Spring Conference	Ocean Shores	WETRC	1-800-562-0858	TBA†
March 19-23	BAT Certification Class	Spokane	WETRC	1-800-562-0858	\$645/3.7
March 20	Seasonal Water System Start-Up	Pasco	ERWOW	1-800-272-5981	Free/0.5
March 21	Seasonal Water System Start-Up	Liberty Lake	ERWOW	1-800-272-5981	Free/0.5
March 22	Seasonal Water System Start-Up	Omak	ERWOW	1-800-272-5981	Free/0.5
March 24	BAT Certification Exam	Spokane	WETRC	1-800-562-0858	\$195/NA
March 24	BAT Certification Exam	Vancouver	WETRC	1-800-562-0858	\$195/NA
April 2-6	BAT Certification Class	Auburn	WETRC	1-800-562-0858	\$645/3.7
April 2-18	BAT Certification Class	Vancouver	WETRC	1-800-562-0858	\$645/3.7
April 4	Confined Space Entry	Spokane	WETRC	1-800-562-0858	\$50/\$140/0.7*
April 5-6	Competent Person Cave-In Protection	Spokane	WETRC	1-800-562-0858	\$50/\$210/1.4*
April 7	BAT Certification Exam	Auburn	WETRC	1-800-562-0858	\$195/NA
April 9-13	BAT Certification Class	Spokane	WETRC	1-800-562-0858	\$645/3.7
April 10	Asbestos Cement Pipe Work Practice Procedures	Auburn	WETRC	1-800-562-0858	\$155/0.7
April 10	Automatic Control Valves	Bremerton	ERWOW	1-800-272-5981	Free/0.7
April 11	Weapons of Mass Destruction Awareness Training	Auburn	WETRC	1-800-562-0858	\$75/0.5
April 12-13	Advanced CCC: Risk Assess & Hazard Analysis	Auburn	WETRC	1-800-562-0858	\$175/1.4
April 14	BAT Certification Exam	Spokane	WETRC	1-800-562-0858	\$195/NA
April 16-18	Water Works Basics	Auburn	WETRC	1-800-562-0858	\$285/2.1*
April 19	Backflow Incident Investigation & Response	Auburn	WETRC	1-800-562-0858	\$115/0.7
April 21	BAT Certification Exam	Vancouver	WETRC	1-800-562-0858	\$195/NA
April 23-25	Pump Operation & Maintenance	Spokane	WETRC	1-800-562-0858	\$50/\$275/2.1*
April 30-May 16	BAT Certification Class	Vancouver	WETRC	1-800-562-0858	\$645/3.7
May 1-2	Advanced BAT, Troubleshooting & Repair	Spokane	WETRC	1-800-562-0858	\$285/1.4
May 3	Water Distribution Specialist Cert Exam Review	Auburn	WETRC	1-500-562-0858	\$50/0.7*
May 3	Confined Space Entry	Auburn	WETRC	1-800-562-0858	\$50/\$140/0.7*
May 7	Asbestos Cement Pipe Work Practice Procedures	Spokane	WETRC	1-800-562-0858	\$155/0.7
May 7-9	Water Distribution Certification Exam Review	Auburn	WETRC	1-800-562-0858	\$50/\$285/2.1*
May 8	Weapons of Mass Destruction Awareness Training	Spokane	WETRC	1-800-562-0858	\$75/0.5
May 8-9	Advanced BAT, Troubleshooting & Repair	Auburn	WETRC	1-800-562-0858	\$285/1.4
May 10	BTO/WTPO OIT and Level 1 Cert Exam Review	Auburn	WETRC	1-800-562-0858	\$50/0.7*
May 11	Water Distribution Specialist Cert Exam Review	Spokane	WETRC	1-800-562-0858	\$50/0.7*
May 14-16	Cross Connection Control Basics & Exam Review	Auburn	WETRC	1-800-562-0858	\$50/\$275/2.1*
May 14-18	BAT Certification Class	Auburn	WETRC	1-800-562-0858	\$645/3.7
May 18	BTO/WTPO OIT and Level 1 Cert Exam Review	Spokane	WETRC	1-800-562-0858	\$50/0.7*
May 19	BAT Certification Exam	Spokane	WETRC	1-800-562-0858	\$195/NA
May 19	BAT Certification Exam	Auburn	WETRC	1-800-562-0858	\$195/NA
June 1	BAT Professional Growth Exam	Spokane	WETRC	1-800-562-0858	\$110/NA
June 18-22	BAT Certification Exam	Auburn	WETRC	1-800-562-0858	\$645/3.7
June 18-22	BAT Certification Exam	Spokane	WETRC	1-800-562-0858	\$645/3.7
June 23	BAT Certification Exam	Spokane	WETRC	1-800-562-0858	\$195/NA
June 23	BAT Certification Exam	Spokane	WETRC	1-800-562-0858	\$195/NA

*Operators of Group A small water systems serving 3,300 people or less will be charged a \$50 registration fee for these classes.

† These classes are free for Operators of Group A small Water Systems serving 3,300 people or less.

Training and Education Calendar: March - June 2007

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>

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.

Backflow assembly tester training moves to new location

Green River Community College (GRCC) recently opened a new Backflow Assembly Tester (BAT) certification and training facility at the college's downtown Auburn Center.

The new downtown facility has several rooms specifically designed to administer BAT certification and professional growth exams. There are three rooms for conducting hands-on examinations, two classrooms, and a wet laboratory for practical instruction or practicing test procedures and backflow assembly diagnostics.

The facility is at the new Transit Center, where the City of Auburn built a hub for the Sounder Commuter Train and several bus routes near the heart of the historic downtown area. Students can enjoy numerous restaurants within walking distance of the training facility.

The Department of Health has contracted with GRCC to administer the BAT Certification Program since 1974. Department of Health is accountable for the state's backflow assembly tester certification and professional growth programs.

Backflow prevention assemblies are a primary method of cross-connection control. As such, certified BATs must run tests when they are installed or repaired, or - for established assemblies - at least once a year.

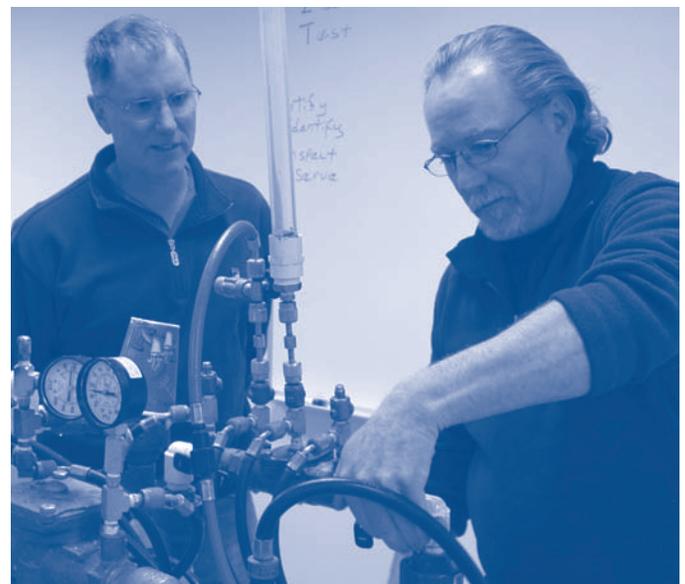
Washington Environmental Training Resource Center's (WETRC) BAT training is self-supporting and receives no state or federal funds. GRCC uses

part-time paid proctors to administer the certification and professional growth exams. WETRC staff and GRCC proctors continually improve their skills through training, specialized meetings, and participation in organizations dedicated to backflow assembly testing, such as the Association of Boards of Certification, the American Backflow Prevention Association, and the American Water Works Association.

For more information

Call WETRC at (800) 562-0858 (toll-free in Washington) or (253) 288-3369.

Visit WETRC online at <http://www.wetrc.com/>



Students practice testing backflow assemblies and diagnosing simulated failures at test stations in the laboratory. *Photo courtesy of Hank Bottroff*

Pandemic influenza is a real possibility



As this issue of **Water Tap** goes to press, the news is full of stories about sick children and schools closing because of the flu. For months prior to this, news reports have shown frightening scenarios about a potential recurrence of the 1918 flu outbreak that killed 20 to 50 million people worldwide. It infected 28 percent of all Americans, and about 675,000 died.

You may wonder why we mention the flu in **Water Tap**. We'll reply with another question: Who will take care of your water system if many of your employees – including the operators – become seriously ill? Influenza usually lasts five to ten days, but can linger as long as three weeks. Illness comes on suddenly and spreads easily from person to person.

Granted, we aren't facing a major outbreak now. But public health experts believe an influenza pandemic is inevitable. A flu pandemic is the rapid spread of a new type of flu virus from one country to another. People will not be immune to the new virus and there will be no existing vaccine to fight it. That means it will spread easily, and it could cause serious illness and death.

The question is not if, but when — and the time to prepare is now.

Flu Basics



Flu viruses live in the nose and throat of infected people. The virus spreads in small droplets through the air when an infected person coughs or sneezes. You catch the flu by breathing in the droplets or touching a surface where flu virus landed and then touching your eyes, nose or mouth. Symptoms usually start with a sudden fever, chills, tiredness, headache and muscle aches, and progress to a dry cough, sore throat and stuffy nose.

What to expect during a pandemic



Because so many people will be sick at the same time during a pandemic, it could threaten your ability to continue operating your water system. In addition, basic supplies may be limited,

basic services may be very limited for extended periods, and schools and businesses may be closed.

Develop an emergency plan



To reduce the impact of a pandemic on your operations, begin planning now. Use the following information as a starting point. The most important part of pandemic planning is to work with your employees, local public health agency and other employers to develop cooperative plans to maintain your operations and keep your employees safe. See the list of resources at the end of the article for more detailed guidance.

- Work with community planners to integrate your plan into local and state planning.
- Plan for operations with a reduced workforce.
- Work with your suppliers.
- Develop a sick leave policy that doesn't penalize employees with flu-like symptoms for staying home.
- Identify possible exposure and health risks to your employees.
- Minimize exposure to fellow employees or the public.
- Identify essential positions and cross-train or develop ways to function in the absence of these positions.
- Stockpile items such as soap, tissue, hand sanitizer and other cleaning supplies.

Protecting employees during a pandemic

- Encourage sick employees to stay home.
- Encourage employees to wash their hands frequently with soap and water or hand sanitizer. They should also avoid touching their noses, mouths and eyes.
- Provide customers and the public with tissues, trash receptacles, and a place to wash or disinfect their hands.
- Encourage employees to cover their coughs and sneezes with a tissue, or to cough and sneeze into their elbows.

- Discourage employees from using other employees' phones, desks, offices or other equipment.
- Employees should avoid shaking hands and wash their hands after contact with others.
- Keep work surfaces, telephones, computers and other frequently touched office equipment clean.
- Minimize meetings. Use e-mail, phones and text messages to communicate with each other.

What you can do at home

- Have enough food and water for each person for a week or more.
- Keep at least a week's supply of the medicines you take regularly.
- Stock medicines and other items to relieve flu symptoms, such as ibuprofen and acetaminophen, cold packs, blankets, humidifiers, and extra water and fruit juices.
- Have a supply of soap, shampoo, toothpaste, toilet paper and cleaning products.
- Have activities for yourself and your children, such as books, crafts, board games, art supplies and other things to do. Include things that do not require electricity.
- Keep cash. Banks may be closed and cash machines may not always work.
- Stock pet supplies. Remember food, water and litter.
- Have a cell phone or regular phone with a cord.
- Have large trash bags on hand. Garbage service may be disrupted.

For more information:



Washington State Department of Health
**Preparing for Pandemic Influenza:
 A personal and family guide** http://www.doh.wa.gov/panflu/family_brochure.htm

Occupational Safety and Health Administration
Guidance on preparing workplaces for an influenza pandemic <http://www.osha.gov/Publications/OSHA3327pandemic.pdf>

Homeland Security **Pandemic Influenza preparedness, response and recovery** <http://www.pandemicflu.gov/plan/pdf/CIKRpandemicInfluenzaGuide.pdf>

Department of Health and Human Services: One-stop access to U.S. government avian and pandemic flu information is online at <http://www.pandemicflu.gov/>

Worried about bird flu?

Avian influenza infects birds. Sometimes it can also infect other animals or people. An outbreak of H5N1, the lethal strain of avian influenza virus, is occurring in Asia, Africa and Europe.

Although avian flu is highly contagious to birds, it does not spread easily among humans. Nearly all of the people infected have been in very close contact with infected birds. Still, many people are worried. For example, Cornell University's Lab of Ornithology receives about 80 calls a week from people concerned about avian influenza.

Avian flu unlikely to spread through water

In a January news release, Cornell says avian flu viruses don't survive well outside of a host. Its researchers tried to address concerns in the wastewater treatment industry that, if a human outbreak occurred, contaminated feces passing through the plant could infect plant workers and spread elsewhere through drinking water.

The researchers found that H5N1 is unlikely to survive either drinking water or wastewater treatment processes. Using a closely related virus (H5N2), the researchers concluded that water treatments, including chlorination, ultraviolet radiation and bacterial digesters would eliminate the virus.



Additional information is online at http://www.news.cornell.edu/Chronicle/features/avian_flu/avian_flu.shtml

- New & Revised Publications -



Water Use Efficiency Rule: Overview of Changes Made to the Final Rule Language (331-356). New! 2-page fact sheet covers key changes and clarifications from the proposed rule to the final rule.

Cross-connection control rules and definitions (331-355). New! 16 pages containing extracts from the Group A drinking water rules.

Third Party Qualified Sanitary Surveyors (331-353). New! 2-page fact sheet explains the roles and responsibilities of third party qualified sanitary surveyors.

Preventive Maintenance Program: Guide for Small Public Water Systems Using Ground Water (331-351). New! 68-page guide provides a schedule of routine operation and maintenance tasks for small drinking water systems using ground water.

When arsenic is detected in drinking water (331-166). Revised. 2-page fact sheet with guidance and customer messages water systems must use when they detect arsenic in drinking water.

Sanitary Surveys of Drinking Water Systems (331-197). Revised. 2-page fact sheet explains the purpose of sanitary surveys, who conducts them, the process and fees.

Lead and Copper Sampling Procedure (331-227). Revised. Brochure discusses how to collect water samples for laboratory testing, containers, timing, sampling points and methods, forms, and procedures.

WSARP helps local governments maintain safe and reliable drinking water systems (331-268). Revised. 4-page booklet on grants used to help municipal water systems

acquire and rehabilitate public water systems that have water quality problems or have been allowed to deteriorate to the point that public health is an issue.

Summary of the Water Use Efficiency Rule (331-302). Revised. 2-page fact sheet contains background and key elements of the new rule.

Water Use Efficiency Rule: Planning Requirements (331-303). Revised. 2-page fact sheet on the new planning requirements - data collection and reporting; demand forecasting; and evaluation of leakage, rates, and water use efficiency measures.

Water Use Efficiency Rule: Distribution Leakage Standard (331-304). Revised. 2-page fact sheet on the benefits of reducing leaks, the leakage standard, and the reporting and compliance requirements.

Water Use Efficiency Rule: Goal Setting and Performance Requirements (331-305). Revised. 2-page fact sheet discusses requirements for a public process to set water-use efficiency goals, and an annual performance report to customers and the Department of Health.

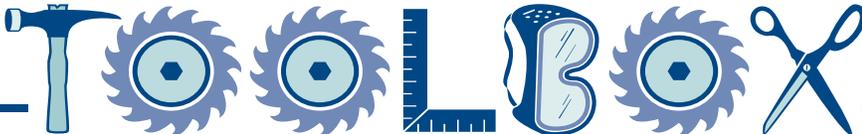
Water Use Efficiency Rule: Metering Requirements (331-306). Revised. 2-page fact sheet says meters provide the data necessary to determine leakage, assist in managing an important resource, and enhance planning activities.

Water Use Efficiency Rule: Implementation Schedule (331-340). Revised. 2-page fact sheet lists the new requirements and schedules for water systems serving fewer than 1,000 connections and 1,000 or more connections.

For copies of Office of Drinking Water publications, call (800) 521-0323 or visit the Web site at <http://www4.doh.wa.gov/dw/publications/publications.cfm>

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

the



System Partnership Solutions to Improve Public Health Protection, Volume II

Focusing on system capacity challenges and partnership solutions, this 10-page U.S. Environmental Protection Agency booklet uses case studies to show how partnerships can help small systems enhance their ability to provide safe and affordable drinking water. Check it out at http://www.epa.gov/safewater/smallsys/pdfs/casestudies_smallsystems-capacitydev_systempartnershipsolutions.pdf

Serving you better

Because publications are becoming more expensive to print and distribute, we are looking at different ways to provide information to you. However, before we do, we'd like to hear from you.

Please complete this survey online before April 16, 2007 at http://www.doh.wa.gov/ehp/dw/survey_wt.htm
If you don't have access to the Internet, mail the completed survey to the address at the bottom of the page.

Water Tap

Water Tap is available online. We are considering making printed copies available only to those who do not have access to the Internet. We would e-mail it to you.

1. Do you have e-mail access?

- Yes No

2. If we e-mailed Water Tap to you, it would come as a PDF. Would you be able to download and print it?

- Yes No I don't know

Document Formats and Distribution Methods

If you needed a large document, and we no longer provided free printed copies of large documents, would you:

3. Pay a fee (to cover printing costs only) for larger documents if that option is available through Department of Health?

- Yes No

4. Order a free CD version of larger publications?

- Yes No

5. Download and print your own copies of larger documents from the Internet?

- Yes No

6. Which of these three options would you prefer (choose 1)?

- # 3 - pay a fee # 4 - order a CD # 5 - download your own copy None

7. We would like to know more about you. Please check all that apply:

- | | |
|--|--|
| <input type="checkbox"/> Group A system serving up to 3,300 people | <input type="checkbox"/> Group A system serving more than 3,300 people |
| <input type="checkbox"/> Group B system | <input type="checkbox"/> Public water system operator |
| <input type="checkbox"/> Contract operator | <input type="checkbox"/> SMA |
| <input type="checkbox"/> Water system owner | <input type="checkbox"/> Local health jurisdiction |
| <input type="checkbox"/> Water board or commission member | <input type="checkbox"/> Other: _____ |

Our Listserv will automatically send you an e-mail with links to new and revised publications about once a month. To sign up, go to <http://www.doh.wa.gov/ehp/dw> The link is in the right column.

8. Your comments:

Thank you for taking the time to complete and return this survey. Your input is important to us.

Send the completed survey to: Department of Health, Office of Drinking Water, Training and Outreach Section, PO Box 47822, Olympia, WA 98504-7822

Training Success... (Continued from Page 8)

things differently. PBT presented new tools for assessing plant processes and got them thinking, getting organized and doing things differently.

WT: Did PBT raise issues you hadn't considered before? What specifically?

Saavedra: Yes. We looked at how the plant flow was being distributed out of the sedimentation basins. Each basin was putting out different water quality even though they were receiving the same input.

WT: Did PBT improve your understanding of your water treatment plant?

Saavedra: Yes, it did. We had not taken the time to see how minor changes affected the facility and this gave us the opportunity to do that.

WT: Is there anything else you'd like to share with readers?

Saavedra: Have an open mind; it will help in the end. Remember, you're not alone. Many systems are looking at PBT. We, here at the Longview facility, are more than happy to assist any way we can.

For more information, please call Stephen Baker at (360) 236-3138 or e-mail stephen.baker@doh.wa.gov

In This Issue

The following people contributed to the production of this issue of *the Water Tap*: Sara Brallier, Fred Delvecchio, Denise Garrett-Berry, Hank Bottroff, Sheryl Brandt, Mike Dexel, Donna Freier, Leslie Gates, Joe Godwin, Larry Granish, Gael Kantz, Donna Lynch, Ric Saavedra, Rich Sarver, Judy Sides, Paula Smith, Amy Swecker, Scott Torpie, Teresa Walker, Linda Waring (Editor), Charisse Willis and Ronni Woolrich.

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

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Plan to attend Drinking Water Seminars in late October.
See the next issue of *Water Tap* for dates and locations.

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