

Protecting Public Health by Assuring Safe Drinking Water

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DRINKING WATER PROGRAM UPDATE

by Dave Leland

The end of summer brought new developments in a number of areas. The 2003 Legislature ended a record-length session, finally establishing a state budget for 2003-05. EPA proposed two new drinking water regulations unprecedented in scope and complexity (see article on page 2). The Department of Human Services drinking water program secured new EPA funding for training and certification of operators of small groundwater systems (see article on page 1). Finally, the Department and water supplier organizations began preparations for a Task Force effort this fall and winter to examine the workload of the drinking water program and to recommend future funding levels and funding sources for the drinking water program.

As we collectively work together for safe drinking water during challenging times, it is important to celebrate our successes. In 1992, we identified 165 Oregon public water systems using unfiltered surface water sources that required improvements to meet the 1989 EPA Surface Water Treatment Rule. These water suppliers needed to install adequate filtration and disinfection treatment, develop alternate groundwater sources, or connect to other water systems. During this past summer, the last few of the water suppliers in this group completed construction of needed improvements. We believe that this effort represents the largest single public health benefit to date in the effort to assure safe drinking water in Oregon. Not coincidentally, the last of 15 recognized community waterborne disease outbreaks in Oregon since 1974 occurred in 1992.

We also said farewell to an unusually large number of drinking water professionals across Oregon who retired, and we thank them for their work and wish them well. In the drinking water program, long-term staffers Mike Patterson and Dave Phelps both opted to retire.

Vacancies create opportunities as well. The lifting of the statewide hiring freeze allowed us to fill our vacancies and bring the program to its full compliment of 33 FTE. We welcome Andy Baker, public health engineer, Dewey Darold, environmental health specialist; Carrie Trachsel,

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SMALL GROUNDWATER OPERATOR CERTIFICATION

by Ron Hall

Community and non-transient, non-community systems serving less than 150 connections and having a groundwater source have been required to have a certified operator since late 2001. This is a special Small Groundwater Operator (SGWO) certification, separate and distinct from the Water Distribution (WD) and Water Treatment (WT) certification that we've been using since 1987.

Those systems which are not yet in compliance received a letter in September advising of their non-compliant status and giving directions as to how to comply.

To summarize, all that is required for the SGWO certification is attendance at our 6 hour Small Water System Training Course (see the schedule for upcoming classes) and submittal of the SGWO application form (available on our web site) along with a copy of the Certificate from the class. The certification is good for approximately 3 years, expiring July 31 of each third year. A system can also come into compliance by contracting with a certified operator.

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Security Advisory System – are you a partner?

If you are a water supplier and have not yet registered for the Oregon State Police Advisory System, be sure to contact Diane Weis of our office for a registration form (503-731-4010). The Advisory System allows law enforcement agencies (and us) to quickly contact you via email to keep you informed about any security threats and advisories related to drinking water. But you have to do your part and register to be part of this statewide system. Register today!

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EPA PROPOSES TWO MAJOR NEW DRINKING WATER RULES

As part of the August 11 Federal Register (68 FR 47639), EPA proposed the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). This 157-page rule will be open for public comment through January 9, 2004. As part of the August 18 Federal Register (68 FR 49547), EPA proposed the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR). This 134-page rule will be open for comment through January 16, 2004. The following is a brief summary prepared by the Association of State Drinking Water Administrators of both of these proposed EPA drinking water rules.

Long Term 2 Enhanced Surface Water Treatment Rule

The LT2ESWTR will apply to all systems that use surface water or ground water under the direct influence of surface water. EPA is proposing the LT2ESWTR to reduce disease incidence associated with *Cryptosporidium* and other pathogenic microorganisms in drinking water. The LT2ESWTR will supplement existing regulations by targeting additional *Cryptosporidium* treatment requirements to higher risk systems. This proposed regulation also contains provisions to mitigate risks from uncovered finished water storage facilities and to ensure that systems maintain microbial protection as they take steps to reduce the formation of disinfection byproducts.

Cryptosporidium Treatment

Under the LT2ESWTR, systems initially conduct source water monitoring for *Cryptosporidium* to determine their treatment requirements. Filtered systems will be classified in one of four risk bins based on their monitoring results. EPA projects that the majority of systems will be classified in the lowest risk bin, which carries no additional treatment requirements.

Systems classified in higher risk bins must provide 1 to 2.5-log additional reduction of *Cryptosporidium* levels. The regulation specifies a range of treatment and management strategies, collectively termed the “microbial toolbox,” that systems may select from to meet their additional treatment requirements. All unfiltered systems must provide at least 2 or 3-log inactivation of *Cryptosporidium*, depending on the results of their monitoring.

Monitoring

Cryptosporidium monitoring by large systems (serving at least 10,000 people) will begin six months after the LT2ESWTR is finalized and will last for a duration of two years. Small systems (serving less than 10,000 people) are on a delayed schedule and will start monitoring when the

(Continued on page 3)

Stage 2 Disinfection By-products Rule

This regulation will apply to all systems that add a disinfectant other than ultraviolet light or provide water that has been treated with a disinfectant other than ultraviolet light. This includes water systems that bulk purchase water from another water system (consecutive systems). EPA is proposing the Stage 2 DBPR to reduce disease incidence associated with the disinfection byproducts that form when public water supply systems add disinfectants. The Stage 2 DBPR will supplement existing regulations by requiring water systems to meet maximum contaminant levels (MCLs) for total trihalomethanes (TTHM) and haloacetic acids (HAA5) at each monitoring site in the distribution system. The proposal also contains a risk-targeting approach to better identify monitoring sites where customers are exposed to high levels of disinfection byproducts (DBPs). This proposed regulation will reduce DBP exposure and provide more equitable health protection, and will result in lower cancer and reproductive and developmental risks.

Initial Distribution System Evaluation (IDSE)

Under the Stage 2 DBPR, systems will be required to conduct an IDSE, which is an evaluation of their distribution system to identify the locations with high disinfection byproduct concentrations. These locations will then be used by the systems as the sampling sites for Stage 2 DBPR compliance monitoring. Monitoring under the IDSE will be in addition to routine monitoring under the Stage 1 DBPR and IDSE results will not be used for determining compliance.

Under the IDSE, water systems must take a specified number of TTHM and HAA5 samples over the course of one year and evaluate the results to ensure that optimal monitoring locations are used under the Stage 2 DBPR. The number of samples required and the timing of sampling is dependent on the size and type of water system (large surface water systems begin monitoring as soon as six months after rule promulgation). Consecutive systems are required to perform an IDSE at the same time as the system(s) that provide their water.

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Long Term 2 Enhanced Surface Water Treatment Rule

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required large system monitoring is finished (two and a half years after rule promulgation). To reduce monitoring costs, small filtered systems will initially conduct one year of monitoring for *E. coli*, which is less expensive to analyze than *Cryptosporidium*. These systems will be required to monitor for *Cryptosporidium* for one year only if their *E. coli* results exceed specified triggering concentrations. Systems may grandfather equivalent previously collected data in lieu of conducting new monitoring, and systems are not required to monitor if they provide the maximum level of treatment required under the rule.

All systems must conduct a second round of monitoring beginning six years after the initial bin classification.

Other Requirements

The LT2ESWTR proposal also contains disinfection profiling requirements to ensure that systems maintain protection against microbial pathogens as they take steps to reduce the formation of DBPs. These requirements are needed because EPA is concurrently developing the Stage 2 DBPR that will establish standards for certain DBPs. Disinfection profiling involves systems assessing the level of disinfection they currently provide and then determining the impact that a proposed change in their disinfection practice would have on this level.

Additionally, the proposed LT2ESWTR has requirements that address risk in uncovered finished water storage facilities, which are subject to contamination if not properly managed or treated.

Stage 2 Disinfection Byproducts Rule

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EPA is also proposing that a water system be allowed to perform a site-specific study in lieu of an IDSE, provided the study will produce the necessary information to enable the system to identify Stage 2 DBPR sample locations. Waivers will also be available for small systems and systems with low Stage 1 DBPR results.

EPA is proposing that Stage 2 DBPR monitoring (and therefore IDSE monitoring) for consecutive systems be based upon the population served instead of the number of treatment plants or interconnections. EPA provides rationale for this approach and is requesting comment as to

whether all DBP monitoring should be population-based rather than plant-based.

Locational Running Annual Average

Under the Stage 2 DBPR, compliance with the maximum contaminant levels for TTHMs and HAA5s will be calculated for each monitoring location in the distribution system. This approach, referred to as the locational running annual average (LRAA), differs from current requirements that determine compliance by calculating the running annual average (RAA) of samples from all monitoring locations across the system.

Compliance Schedule

EPA is proposing a phased approach to implementing DBP compliance standards Stage 2 DBPR. Stage 2A DBP MCLs would be applicable starting three years after rule promulgation and would be in effect until systems complete their IDSE and identify optimal monitoring sites. Once the sites have been identified, Stage 2B DBP MCLs would be effective.

Under Stage 2A, water systems would need to comply with MCLs of 0.120 mg/L for TTHMs and 0.100 mg/L for HAA5s as LRAAs using the Stage 1 DBPR compliance monitoring sites. In addition, during this time period, all systems must continue to comply with the Stage 1 DBPR MCLs of 0.080 mg/L for TTHMs and 0.060 mg/L for HAA5s as RAAs.

Under Stage 2B, all systems, including consecutive systems, must comply with MCLs of 0.080 mg/L for TTHMs and 0.060 mg/L for HAA5s as LRAAs using sampling sites identified under the IDSE.

Other Requirements

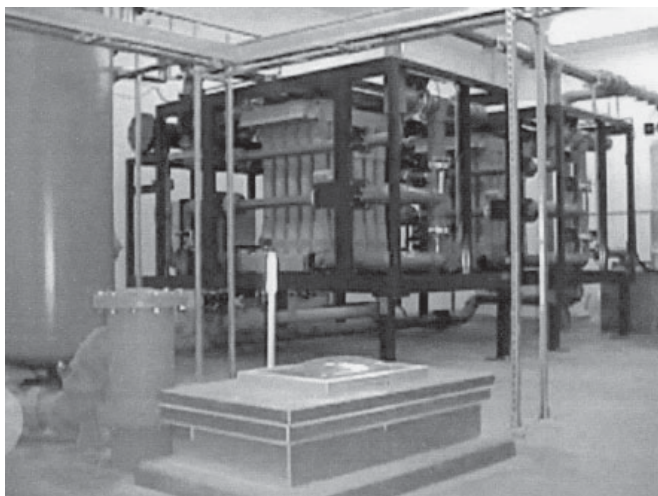
The Stage 2 DBPR would also require systems to determine if they are experiencing short term peaks in DBP levels referred to as "significant excursions." Systems experiencing significant excursions would be required to review their operational practices and work with their state to determine actions that may be taken to prevent future excursions.

MANZANITA AND WHEELER NO LONGER RELY ON UNFILTERED SURFACE WATER SOURCES!

by Kari Salis

Wheeler and Manzanita are bordering towns in coastal Tillamook County. Each had been using unfiltered, chlorinated surface water sources for many years. When the Surface Water Treatment rule came about in 1991, both systems were ordered to filter or seek new sources. At first a regional approach was attempted, to solve drinking water compliance issues of many surrounding towns with one system. After several votes against regionalization, each City had to deal with the issue on their own.

Manzanita, serving an average population of over 3000, many of whom are vacationers and weekenders, chose to build a filter plant. The Anderson Creek sources are now filtered through a membrane filter using microfiltration. The water is also treated with soda ash to control corrosion, and generates sodium hypochlorite on-site for a disinfectant. The City will use both the treated surface water as well as the water from nearby Wheeler as their main sources.



Wheeler, a town of 450 people, with several retirement homes, was able to locate an area where the groundwater supply appeared promising, so they drilled two wells. The wells are located near the Nehalem River and have a capacity of about 1500 total gallons per minute. The City also had to construct a new reservoir and transmission line from the wells to the distribution system. Now that Wheeler had returned to compliance, all Community water systems in Oregon now meet the treatment requirements of the Surface Water Treatment rule!

Kari Salis, PE, is in the Technical Services Unit of the Drinking Water Program / (503) 731-4317 or karyl.l.salis@state.or.us

HECETA WATER DISTRICT INSTALLS FILTRATION PLANT!!

by John Potts

In April, after 37 years as an unfiltered surface water system, the Heceta Water District in Florence completed construction and began operating a 1.2 MGD (million gallons per day) conventional package water treatment plant. The district, which serves approximately 2000 customers, was ordered to install filtration under the Surface Water Treatment Rule (SWTR) in January of 1992. Negotiations with nearby landowners and Lane County as well as litigation in federal court delayed the construction project for many years. Finally, agreements were reached with all parties concerned and construction began in 2002. The construction project consisted of a new raw water transmission line from Clear Lake to the treatment plant, two 0.6 MGD conventional package treatment units, treatment plant building, 0.2 MGD chlorine contact chamber and backwash lagoon.



The \$3 million project was financed from existing district funds, a \$1 million bond and \$1.7 million in Drinking Water State Revolving Loan funds.

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HAVE YOU SAMPLED THE NEW RADIONUCLIDE CONTAMINANTS YET?

by Kari Salis, PE

All Community systems should sample each entry point by December 8, 2003 to avoid quarterly sampling – which will save you over \$1,200!

If you sample each entry point once for Gross-Alpha, Radium-226 & -228, and Uranium between June 2000 and December 8, 2003, this sample will count as initial monitoring. If the sample is not collected by that date, you will have to do 4 consecutive quarters of sampling beginning in 2005. Future sampling frequency will be every 3, 6, or 9 years depending on initial results.

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DRINKING WATER PROGRAM UPDATE

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office specialist to the drinking water program; and Roberto Reyes-Colon, Safe Drinking Water Revolving Loan Fund Coordinator.

The 2003 Legislature considered HB 2255, which originally proposed a water supplier connection fee to match additional available federal EPA funds and increase the drinking water program. The bill was amended in committee to eliminate the fee language and create a Task Force on Drinking Water Program Workload and Funding (see Spring 2003 PIPELINE). The bill expired in Ways and Means at the end of the Legislative session; however, the Department, the League of Oregon Cities, and the Special Districts Association of Oregon remain committed to the Task Force effort. The Task Force will begin meeting in late October, and its work is to conclude by March 1, 2004. We look forward to working with the Task Force to identify the level of effort and funding needed to for the Department to maintain Primacy for implementing the EPA drinking water standards in Oregon, and to have a credible and effective drinking water program. See our website for Task Force meeting announcements, meeting minutes, and information.

Oregon is not the only state lacking the resources to fully carry out current and upcoming federal safe drinking water standards and assure drinking water safety. In July, the Association of State Drinking Water Administrators released the landmark report "Public Health Threatened by Inadequate Resources for State Drinking Water Programs".

This report is based on an unprecedented survey of 50 state drinking water programs, including Oregon. You can view the entire report at www.asdwa.org.

Jean Thorne, Director of the Department of Human Services, visited our public health programs in August. I had the opportunity to brief her on the drinking water program. Director Thorne was struck by the fact that 90% of Oregon public water systems serve fewer than 500 people, recognizing the challenge that presents for the statewide program. After her visit, the Director reflected on the three themes common to all the public health programs: prevention, partnerships, and data. In drinking water, this means that we work with you to prevent illness, we work together as partners in this effort, and we all make sure we all have access to current and accurate data on drinking water quality safety that we need to do our business.

Remember that our collective business is SAFE DRINKING WATER! Keep up the good work!

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SMALL GROUNDWATER OPERATOR CERTIFICATION

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Many systems that received the Notice letter were surprised because they thought their operator was certified by virtue of having taken the class. Remember to submit the application form and class certificate to receive certification.

Systems which took advantage of the initial opportunity to certify their operator via the Grandparenting provision that was offered until August 1, 2002, need to be aware that certification expires July 31, 2004. Renewal notices will go out after the first of the year, and operators can renew by having attended the Small Water Operator Training class some time since their initial certification. Now is the time to think ahead and plan on attending one of the classes between now and then. The class schedule for '04 will be out and on our website in early January.

Any questions?...contact Ron Hall at 503-731-4010.

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TRAINING CALENDAR

CEUs for Water System Operators

Check www.oesac.com for new offerings approved for drinking water.

Cross Connection/Backflow Courses

Backflow Management Inc. (B)

(503) 255-1619

Clackamas Community College (C)

(503) 657-6958 ext. 2388

Backflow Assembly Tester Course

Dec. 8-12 Oregon City (C)

Dec. 13-17 Portland (B)

Backflow Assembly Tester Recertification

Dec. 5 Oregon City (C)

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