



## Legislature Finds Funding for Drinking Water Program

By Dave Leland

THE 1993 Legislative Assembly was difficult for legislators, state agencies, constituency groups and recipients of state services as efforts to deal with Measure 5 general fund reallocations took center stage. Funding of the Drinking Water Program was an issue, and in the end, was maintained for the 1993-95 biennium with several key changes in funding sources.

First and foremost was elimination of all general funds used in the Program and replacement with lottery funds. Second was a water industry-led effort to restore a state cross connection control program supported by tester and inspector fees (see story, page 7).

The Drinking Water Program will have the same number of positions (24.5) for '93-95 as at present and a total funding level about 95% of that in '91-93. We also will be able to maintain our important local program resources in county health departments. We are hopeful there may be some increases in the annual primacy grants from EPA during 1993-95, however, the federal budget outlook is no better than our state situation.

We want to take this opportunity to thank all in the water supply industry for your support of the Drinking Water Program during the legislative session. In particular, we recognize the many people representing water utilities and organizations who made personal appearances before legislative committees and those who worked behind the scenes to support the Program and its budget request. Without that support, it is highly unlikely the lottery funds would have been appropriated. The state program would then have been in jeopardy of losing primacy for the federal drinking water program or, for that matter, of maintaining operations at any significant level.

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David E. Leland, P.E., is manager of the Drinking Water Section

## Oregon Water Systems Implement New Standards

PUBLIC water systems in Oregon are working hard to meet new standards established under the federal Safe Drinking Water Act (SDWA). We in the Drinking Water Program recognize the compliance efforts of the many system managers and operators state-wide; it is this local effort that is largely responsible for Oregon's nationwide reputation for continuous improvements in drinking water quality. This article presents a brief overview of the status of implementation of the new standards, the impact so far on public water systems and a forecast of impacts of upcoming new requirements. The federal standards themselves are not described here; please refer to the recent special edition **PIPELINE** which summarized them.

### Types of Public Water Systems

There are currently about 3,500 public systems identified in Oregon, including:

- 946 community systems - cities, districts, mobile home parks, subdivisions
- 309 nontransient noncommunity systems - schools, places of employment
- 1,514 transient noncommunity systems - parks, campgrounds, stores, restaurants, etc.
- 780 state regulated systems - too small to fall under the federal act (4-14 connections, 10-24 people served)

These systems collectively use 3,800 groundwater sources (wells and springs) and 400 surface sources (streams and lakes). Most Oregon water systems are small; the 300 largest community systems together serve 95% of the over two million people supplied by all Oregon community systems. The drinking water stan-

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# Water Fund: \$14 Million for System Improvements

**By Dave Phelps**

The Water Fund, created by the 1993 legislature and financed by \$14,000,000 in Lottery money is expected to begin offering loans and grants to make improvements in drinking water systems by 1994.

Oregon Economic Development Department will administer the Water Fund. OEDD has begun writing rules and is preparing a handbook with guidelines and application forms. Applications for a loan or grant may be possible by early next year to allow time to complete rule adoption.

Here is a short preview of what the Water Fund will offer:

*Who is eligible for a loan or grant?*

Municipalities such as cities, districts, ports and counties.

*What kind of projects can be funded?*

Projects to construct or improve

*Dave Phelps is coordinator of the Drinking Water Funding Program for the Drinking Water Section*

drinking water systems, primarily to meet the standards of the Safe Drinking Water Act. The Fund is also available for wastewater system improvements.

*Is money available for technical assistance?*

Yes, funding for technical assistance is available to complete preliminary planning; legal, fiscal and economic investigations; reports; and studies to determine economic and engineering feasibility of a water project for communities with populations of 5,000 or less.

*What special conditions must be met?*

The applicant:

- 1) will need to show that it has the capacity to repay the loan.
- 2) will be required to install water meters on all service connections to any distribution lines financed by the Fund and to adopt a plan for installation of water meters on all service connections throughout the

system not later than two years after completion of the project.

The 1993 Legislature faced a difficult challenge in making decisions about where to spend Oregon Lottery money. Requests for Lottery dollars were more than three times anticipated revenues. However, it was clear during the session that the Legislature supported some type of water system construction funding program. The Drinking Water Section is pleased to have an additional and very flexible construction funding source available to Oregon's drinking water systems.

If you have questions about the Fund, you can call Betty Pongracz, Assistant Manager, Economic Development Department, Salem, 378-3732, ext. 366; or Dave Phelps, Funding Coordinator, Drinking Water Section, Portland, 731-4010.

## Phase V Rule Hearings Set

Three public hearings on the Health Division's proposed Phase V rule amendments for public water systems have been scheduled. The amendments to the federal Safe Drinking Water Act set standards for five inorganic chemicals and 18 synthetic organic chemicals. They apply to all community and nontransient, noncommunity systems. Other additions and corrections to existing rules are also part of this proposal.

- Oct. 19** 1pm **Pendleton**, Blue Mountain Community College, 2411 NW Carden #148
- Oct. 21** 10am **Medford**, Justice Center, 100 S. Oakdale (at 8th) #106/107
- Oct. 16** 10am **Portland**, State Office Building, 800 N.E. Oregon St. #140

Interested persons may comment on the proposed rules orally or in writing at the hearing. Written comments will be accepted through Oct. 30 and should be sent to the Drinking Water Section, Oregon Health Division, P.O. Box 14450, Portland 97214-0450. For copies of the proposed rules, call 731-4317.

## DEQ Schedules Groundwater Meeting

A Community Involvement meeting designed to help personnel of public water systems develop programs in groundwater protection and education has been scheduled for early December by the Oregon Department of Environmental Quality. Conceived by the Groundwater

Protection Advisory Committee of the Strategic Water Management Group, the meeting will offer presentations by organizations with successful programs and opportunity for discussion among participants with regard to putting together their own plan. Contact Rick Kepler, DEQ, Portland at 229-6804.

**Legislature Finds Funding** *(Continued from page 1)*

That is the good news; now the bad. The '93-95 budget does not restore the 10% staff cut we took in July 1992. It also does not allow for any inflation, so we will continue very carefully to control Program costs and prioritize our work. At the same time, we are faced (for the first time ever) with simultaneous implementation responsibilities for three major federal drinking water regulations: Surface Water Treatment, Lead and Copper, and Phase II/V. In short, our staff and the local county health departments are stretched very thin, just as you and your staff (if any) are. We are swamped with managing huge volumes of new test results, responding to contaminant detections, tracking water system compliance schedules, reporting to EPA and attempting to answer questions on the new rules. As we continue to try to meet federally mandated implementation schedules, less staff time is available for technical assistance and consultation in areas unrelated to this effort. Try to be understanding if we seem to be somewhat less responsive on general water issues or are more difficult to contact. We will all do the best we can.

The second bad news issue is the outlook on lottery funding. Our reading of the legislative discussions about the Drinking Water Program budget is that lottery funding is considered short-term, that is, for 1993-95 only. This is because lottery funds are intended to support economic development projects, not on-going state agency programs. In addition, competition for lottery funds will be even more intense in the 1995 legislative session if the sales tax proposal is not successful; additional general fund reductions of 30% for state agencies is forecast under Measure 5.

**D**URING the biennium, we must decide collectively how to fund the Drinking Water Program and at what level. This is critical, because a minimum commitment of state-generated funds is required to qualify for the annual EPA primacy grant; this is now 25% (one state dollar for every three federal dollars) and there are discussions of raising the required match to 50% or higher. Matching funds can consist of state general revenues, lottery funds or fees collected from water systems. In 93-95, lottery funds will cover the required state match. The EPA grants in 93-95 will be at least 50% of the total Oregon Drinking Water Program operating budget and a higher percentage if the grants are increased.

We will begin discussions of future funding and the scope of work for the Program at the next Drinking Water Advisory Committee meeting September 23. We must be ready with a workable budget proposal well in advance of the 1995 legislative session. We solicit any and all

ideas you may have. The next two years promise to be hectic and challenging as we continue to grapple collectively with the new drinking water standards.

**New Standards** *(Continued from page 1)*

dards, however, affect all 3,500 systems statewide to some extent.

**Oregon Adopts New Standards**

The number of contaminants regulated under the Safe Drinking Water Act is increasing rapidly under the mandates of the statute itself and deadlines imposed on the U.S. Environmental Protection Agency (EPA) by the courts. From 1979 to 1985, standards were set by EPA under the act for 23 contaminants. Under the 1986 amendments to the SDWA, contaminants regulated increased to 83 and 25 more are added every three years. EPA has fallen behind schedule in adopting these new rules. Even so, 111 contaminants in drinking water will be regulated by 1995.

**O**REGON is one of about ten states that has adopted the new standards on schedule so far. We place a high priority on rule adoption for several reasons. First, our Oregon drinking water statute requires that we set standards no less stringent than EPA standards (ORS 448). Second, adopting federal rules at the state level is a requirement for maintaining primacy for the federal program. Third, the Drinking Water Advisory Committee has set a high priority on implementing new standards. Finally, because water systems must meet the federal standards on time whether or not state rules are adopted, on-schedule adoption of rules reduces confusion among systems, the state and county programs, and EPA about reporting of test results, implementation issues and enforcement. At the same time, Oregon Program staff have actively commented on the content of federal rules during their development in an attempt to minimize their complexity and rigidity, although admittedly with mixed results so far (see the article on the SDWA Forum with Senator Hatfield, page 5).

Oregon assumed primacy for the SDWA in 1986 and adopted rules for the first 23 contaminants. Since the 1986 SDWA amendments were passed, Oregon has adopted final rules on the lead materials ban, fluoride, public notice, volatile organic chemicals (VOCs), total coliform, surface water treatment (SWTR), Phase II, *Continued on page 4*

**New Standards** *(Continued from page 3)*

and lead/copper. Final rules on Phase V will be adopted by December, 1993.

### **Implementing the Standards**

Work by water systems to meet the original 23 standards is largely complete. Nearly 100 community systems completed major projects to improve drinking water quality from 1978-92 and spent more than \$63M. Most of these projects were installing filtration for surface water sources to meet the original standards for turbidity, disinfection treatment or new sources to meet the coliform bacteria standard. A few communities had to install treatment or new sources to meet standards for chemicals such as arsenic, nitrate, radionuclides and trihalomethanes.

Water system managers and operators are now working to meet new standards under the SDWA amendments for chemical limits, surface water treatment and coliform bacteria.

### **Increased Chemical Testing in Progress**

Initial testing for volatile organic chemicals (VOCs) by about 1,200 community and nontransient noncommunity systems was completed in 1991. About 50 systems detected at least one VOC and about 25 detections were confirmed, leading to more detailed followup investigations by the Program and by DEQ. A dozen systems abandoned contaminated water sources, developed new sources, merged with neighboring systems or installed treatment to eliminate VOC exposure.

INITIAL testing for lead and copper at customer taps has been completed by 89 large- and medium-sized systems. About 1,100 small systems (serving fewer than 300 people) are beginning testing now. To date, about 25% of systems testing exceed action levels for lead and/or copper and will have to improve or install corrosion control treatment to reduce the levels. Testing for 38 Phase II contaminants began for about 400 larger water systems in January 1993. Additional testing for 23 Phase V contaminants was required of systems serving over 150 connections. Difficulties with laboratory analytical methods delayed testing somewhat and may still present some problems during the first year. The Program is receiving test results now; very few detections of organic chemicals have been noted so far but Monmouth found high levels of asbestos. Testing costs are enormous; a combined single test for all Phase II and V contaminants (except dioxin and asbestos) is about \$2,000.

### **Surface Water Treatment Needs Are Large**

The surface water treatment rule requires filtration and

disinfection treatment of nearly all surface sources. As a result, about 50 communities must install filtration at a total cost of at least \$20M. The Program issued administrative orders to them and recently extended the orders until June, 1994. Nearly all the communities have a clear plan for installing filtration and are moving ahead as quickly as funding allows. Portland, Bend and Baker City were able to meet the criteria to remain unfiltered but spent substantial funds to improve disinfection and contact time. In addition, nearly 100 noncommunity systems must install filtration or develop alternate ground-water sources.

The rule also establishes strict new operating standards for existing filtration treatment plants. Program staff have nearly completed detailed on-site reviews of about 100 plants statewide to establish treatment credits for filtration and disinfection. About 30 plants failed to achieve minimum treatment levels and will have to upgrade operations or make improvements to facilities.

THE rule also requires water systems with ground-water sources that may be influenced by surface water to conduct testing to demonstrate the degree, if any, of influence. Program staff recently identified and notified about 120 communities that must complete the demonstration process between now and June 1994. Surface water influenced systems must then determine how to provide levels of treatment equivalent to filtration and disinfection.

### **Coliform Bacteria Standard More Difficult to Meet**

Under new coliform testing procedures and analytical methods, more frequent detections are occurring. Generally speaking, systems with shallow wells and springs are encountering more problems for which disinfection is being installed. State and county staff have responded to a number of detections of fecal coliform and *E. coli* where short-term boil water notices were issued. In addition, several larger communities with extensive distribution systems are finding that a disinfectant residual is needed in the system to meet the new coliform standard.

### **Future Standards May Have Large Impacts**

Regulations now in development at EPA may have even larger impacts on Oregon water systems. The groundwater disinfection rule will require most to practice disinfection treatment to protect against virus contamination. Nearly 80% of Oregon groundwater systems do not now have such treatment. EPA is considering a new standard for radon in drinking water at a level of 300 picocuries per liter. Limited survey data in Oregon from the early 1980s indicates that as many as 50% of groundwater systems could exceed this level and may have to install

treatment. EPA is also in the process of revising the standard for arsenic to as low as 2-5 µg/l (compared to the current level of 50 µg/l) based on evidence of internal cancer risk. Most Oregon groundwater sources could exceed this low level. Rules under development for disinfection by-products could cause many Oregon communities using surface water sources to alter disinfection treatment facilities and/or switch to disinfectants other than chlorine.

### Safe Drinking Water Act May Be Reviewed

Efforts are underway at the national level to review the SDWA and the EPA program now that the very high costs associated with the new standards are beginning to be fully appreciated (see article below). Look for a possible introduction of SDWA legislation in late summer with discussion in the next Congress.

## Sen. Hatfield Vows SDWA Help for Oregon

*Ed. note: this is the text of a press release from the office of Sen. Hatfield following a visit sponsored by Oregon Water Utilities Council, Pacific Northwest Section, American Water Works Association.*

Wilsonville - July 7: Senator Mark O. Hatfield vowed to help communities threatened with massive increases in water bills because of federal Safe Drinking Water Act mandates. About 150 representatives from water districts throughout the state attended the Oregon Water Utilities Council's conference on the Reauthorization of the Safe Drinking Water Act, and voiced their concerns to the Senator and regional Environmental Protection Agency (EPA) representatives. Ninety-five percent of water districts in Oregon are in towns with population below 30,000 people, and it is in these smaller communities where 90 percent of the violations occur.

A 1987 law required the EPA to identify 83 containments and chemicals in drinking water reserves and to set "safe level" standards for local districts by 1989, and to additionally identify 25 new chemicals every three years thereafter. Translated at the local level, cities, counties and municipalities are having to absorb the high costs associated with mandated federal water quality standards.

"It is becoming increasingly clear that the federal Safe Drinking Water Act is not always consistent with the goal of providing safe drinking water. Many of the standards are not based on a reasonable risk to human health, and meeting these federal standards is simply too costly. We need to ensure that there is some degree of flexibility in the 1993 amendments so communities - particularly small ones - can drink safe

water without going bankrupt. The small systems face the biggest safety hazards and the biggest costs," Hatfield said.

Hatfield listened to panels on funding and standards, as well as comments from small- and mid-sized cities like Milton-Freewater, The Dalles, Tillamook, Monmouth, Corvallis and Neskowin. Each is having problems affording the mandates of the Safe Drinking Water Act. While some support placing a two or three year moratorium on drinking water regulations, others told Senator Hatfield that they have invested a great deal of work and funds to get their cities on track and support greater flexibility in the law. State agencies, including the Health Division drinking water program and the Oregon Economic Development Department community development program also offered comments.

Senator Hatfield shared a draft version of legislation that is being circulated within the Senate Environment and Public Works Committee which will reauthorize the Act. The Senator will use the information he received at the conference, as well as input based on the draft legislation, in the Senate's Safe Drinking Water Act reauthorization debate.

Send comments and suggestions to the Senator's office at 711 Hart Senate Office Bldg., Washington D.C. 20510.

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Please send requests for article topics or manuscripts of your articles to John Gram, editor (503 / 731-4010).

This issue's contributors include Chris Hughes, Dave Leland, Patrick Meyer and Dave Phelps of Oregon Health Division. (10-94/191539)

## Legislators Restore State Cross Connection Program

The cross connection control program was reinstated to the state Drinking Water Program by the 1993 legislature, thanks to the water industry and efforts led by the Oregon Cross Connection Inspectors Regional Subcommittee, Pacific Northwest Section-American Water Works Association. Key features of the bill (SB 782) were

- 1) specifically to authorize the Health Division to certify inspectors and testers, and
- 2) to charge a fee for certification to cover the costs of the program.

Readers may recall that the state-level cross connection program was eliminated in July 1992 as part of a 10% staff cut to meet the Governor's *glidepath* targets in preparation for Measure 5 reductions in the 1993 legislative session. Since then, PNWS-AWWA has operated a voluntary certification program recognized by the Division.

We are beginning to look at issues involved in restarting the state program. The first task is to adopt rules on the fee structure so that certification renewal in January

1994 can be carried out by the state. The basic certification fee is expected to be about \$35 per year. We will also propose an examination fee to cover costs. Based on the current number certified, total program revenue will be about \$63,000 for two years and will support a staff position of about one-half time. The fee rule will be included with our adoption of the federal rule on Phase V contaminants to be discussed at hearings in October.

The second major issue is to decide how to use most effectively these limited resources to support local cross connection programs and to improve compliance state-wide with cross connection control requirements. We will work with representatives of the Oregon inspectors subcommittee to define roles and responsibilities for cross connection activities among the state program, local programs, water supply organizations and educational institutions. This will enable us to define the scope and priorities for state program work.

We expect to assume fully our role in cross connection control by January 1.

## New Turbidity and CT Forms Are Required but Easier to Use

*By Patrick Meyer*

A new report form for turbidity and contact time (CT) is here. The form is an attempt to make turbidity and CT reporting for systems that use surface water as easy as can be and to simplify data entry on our end. Please discard any and all turbidity report forms that do not have 'rev 6/93' or 'rev 8/93' at bottom left.

### Five Questions

The form has a five question summary on the bottom that must be completed. We will return forms that do not have the summary filled out.

The summary asks five simple questions; all answers are yes or no:

1. Are 95% of your turbidity readings below the maximum

contaminant level (MCL)? The MCL is 1 NTU for slow sand and diatomaceous earth filters, 0.5 NTU for all other filters.

Slow sand filters and approved cartridge filters need do only one reading a day.

2. Are all your turbidity readings below 5 NTU?
3. Did you meet the needed CT value every day? The CT for your system will vary with the temperature and pH of your water, the chlorine residual at the first user, and the storage capacity and retention time of your distribution system.
4. Was the chlorine residual at least .2 mg/l (.2 ppm) when the water entered the distribution system?
5. Were you able to measure a chlorine residual at least 95% of

the time you either took a coliform bacteria sample or tested the water for a residual in the distribution system?

Also check the box indicating whether you are using a slow sand or approved cartridge filter.

Please mark on the form the times that the plant is not working so you are not tagged with a violation.

### Old Forms?

You no longer need to send the daily production or chlorine residual forms. These forms should be kept and made available to our field engineers when they visit.

If you need copies of the new turbidity and CT reporting form please call the Drinking Water Section, 731-4381.

*Patrick Meyer, RS, MPH, is the data system administrator of the Drinking Water Section*

## You've Got Our Number!

Implementation of the new drinking water standards is generating an ever increasing number of questions from system operators and managers. Both county and state Drinking Water Program staffs are attempting to deal with these questions while continuing to implement the rules, make site visits and conduct training. This page lists current names and phone numbers for both contract county and state technical staff.

Roles of county and state staffs were recently refined. Contract counties are now responsible for all community water systems serving fewer than 3,300 people with groundwater sources as well as all nontransient noncommunity and transient noncommunity systems. Operators and managers of these systems should contact their county health department for assistance on all drinking water issues.

State staff are responsible for all community systems serving over 3,300 people and all smaller community systems that use surface water sources. In counties without drinking water program contracts, state staff are responsible for all water systems. State staff also serve as a technical resource to the counties as needed.

### Contract County Programs

The Drinking Water Program contracts with the following counties to perform much of the program work at the local level.

<b>Baker/Malheur</b>	Ray Huff/Susan Fuller .....	473-5185
<b>Benton</b>	Bob Wilson/Ron Smith .....	757-6841
<b>Clackamas</b>	Jim Buckley/Steve Dahl .....	655-8386 (8384 Dahl)
<b>Columbia</b>	Mark Edington .....	397-1501
<b>Crook</b>	Tyrone Welty .....	447-8155
<b>Curry</b>	Hal Wilson/Mike Meszaros .....	247-7011 x 287
<b>Douglas</b>	Dave Bussen/Gerry Meyer .....	440-3571
<b>Hood River</b>	Scott Fitch .....	386-1115
<b>Jackson</b>	Gary Stevens/J. Manwaring ..	776-7316
<b>Jefferson</b>	Diane Naglee .....	475-4453
<b>Josephine</b>	B.Olson/Bruce Cunningham...	474-5431
<b>Klamath</b>	Bob Baggett/David Ditto .....	883-1122
<b>Lane</b>	Stan Petrusek .....	687-3951
	Harry Youngquist .....	687-3636
<b>Lincoln</b>	Paul Calvert/Amy Chapman ...	265-6611 x 2379
<b>Linn</b>	George Waun/Valerie Aliski .....	967-3821
<b>Malheur/Baker</b>	Ray Huff/Susan Fuller .....	473-5185
<b>Marion</b>	Joe Fowler/Rick Sherman .....	588-5346
<b>Multnomah</b>	Art Bloom/Ken Yee .....	248-3400
<b>Polk</b>	Gene Clemens/J. Callicrate ...	623-9237
<b>Sherman/Wasco</b>	Glenn Pierce/Amy Wagonblast	296-4636
<b>Tillamook</b>	Eric Pippert/Caryn Backman ..	842-3902
<b>Wasco/Sherman</b>	Glenn Pierce/Amy Wagonblast	296-4636
<b>Washington</b>	Bill Ross/Mark Hanson .....	648-8722
<b>Yamhill</b>	Nancy Nunley/Flory Lotspeich	434-7525

### State Program

Technical staff members are frequently in the field assisting water systems. Each day, however, one staff member serves as *phone duty person* in the Portland office and is available to answer questions. Please make use of this person unless you feel you must speak with a specific staff member.

When you call one of our Portland office general numbers below, you will initially speak with a support staff person. If the technical staff member you wish to speak with is not available, you will be given the option of leaving a voice mail message or speaking with the phone duty person. If the duty person is on the phone, the support person will take your name and number and the phone duty person will call you back as soon as possible.

**Another option is to contact a staff person's voice mail directly. To do this, call our auto-attendant number (731-4821), and when directed by the recording, dial the person's extension listed below.**

**Portland office fax: 731-4077**

**Voice mail** ..... 731-4821 + ext.

**Drinking Water administration: 731-4010**

Dave Leland, Program Manager ..... ext. 757  
Dennis Nelson, Groundwater Coord. .... ext. 763  
Dave Phelps, Funding information ..... ext. 759

**Monitoring data and compliance: 731-4381**

Mary Alvey, Unit Manager ..... ext. 748  
Patrick Meyer, Database Manager ..... ext. 753  
Robin Peterson ..... ext. 758  
Mike Patterson, County contracts ..... ext. 746

**Operator certification: 731-4899**

Georgine Proctor ..... ext. 761

**Field staff: 731-4317**

Chris Hughes, Unit Manager ..... ext. 750  
Tom Charbonneau ..... ext. 749  
Scott Curry ..... ext. 739  
Mike Grimm ..... ext. 765  
Kurt Putnam ..... ext. 740  
Bonnie Waybright ..... ext. 752  
Michael Whiteley ..... ext. 742

**Field staff, Pendleton: 276-8006**

Gary Burnett  
Bob Patterson

**Field staff, Corvallis: 757-4281**

John Potts

~~Lab certification, Public Health Laboratory, Portland: 229-5505~~

Dr. Irene Ronning, Coordinator

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## Training Calendar

### Eastern Region, Pendleton

- Water System Seismic Vulnerability Assessment workshop, Ontario, Howard Johnson, Sept. 9, 9am(MDT), 0.6 CEUs
- OHD/DEQ joint Water/Wastewater System Operator training courses in Eastern Region, November/December. Notices will be sent in October
- Eastern Region AWWA/PNPCA meeting, Milton-Freewater, Dec. 9

Contact Bob Paterson, DWS, Pendleton, 276-8006

### American Water Works Association courses

- Water Works Short School - 14th annual  
 Sept. 15, 16, 17  
 Contact Judy Janssen, Clackamas Community College, 655-1342
- Disinfectants and Disinfection By-products teleconference  
 Oct. 15, 8am-1pm  
 - Clackamas Community College  
 - SW Oregon Community College, Coos Bay  
 - Rogue Community College, Grants Pass  
 - Blue Mountain, Community College, Pendleton  
 \$50 (AWWA member), \$75 (nonmember)  
 Contact Judy Grycko, PNWS, AWWA, 246-5845
- Effective Risk Communication with the Public  
 Nov. 5, Eugene  
 Contact Judy Grycko, 246-5845

### National Rural Water Association

Annual conference, Oct. 25, 26, 27, Portland  
 Contact NRWA, 405 / 252-0629

### Drinking Water Section, OHD

Water system training courses

<i>Month</i>	<i>County</i>
September	Douglas, Lane and Klamath
October	Polk, Yamhill
November	Tillamook, Clatsop and Columbia

Contact Claudia Stiff, 731-4317

### Emerald Empire Subsection, AWWA

Wellhead Protection - Getting Your Program Started  
 Oct. 12, Springfield, 75 participants max., preregistration required  
 Contact Chuck Davis, Springfield Utility Board, 202 S. 18th St., Springfield 97477; 726-2396

**Home-study correspondence courses** for operators of all types of drinking water facilities are offered by California State University, Sacramento. They cover operation and maintenance of wells, water treatment plants, storage facilities and distribution systems. The courses were prepared by persons working in the field in cooperation with the National Environmental Training Assn. for the USEPA. Courses offered:

	<i>Manual</i>	<i>Fee</i>	<i>CEUs</i>
Water Treatment Plant Operation I	\$30	\$30	9
Water Treatment Plant Operation II	30	30	9
Small Water System Operation and Maintenance	20	30	4.5
Water Distribution System Operation and Maintenance	20	30	4.5

Contact Ken Kerri, Office of Water Programs, California State Univ., 6000 J St., Sacramento 95819-6025 or 916-278-6142.