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www.oregon.gov/DHS/ph/dwp/

December 2007 Storm Puts Emergency Preparedness to the Test

by Evan Hofeld

The first part of December 2007 tested the preparedness of public utilities in dealing with a major storm event. Beginning Saturday, Dec. 1, heavy rains, high winds and flooding led to long-term power outages and downed communications that severely hampered Oregon's drinking water systems to adequately treat silt-laden source waters. During the storm, water systems reported raw water **turbidities as high as 1,200 NTU**. Other systems reported slides that took out major transmission lines and, in one case, left a district completely without a source of water. With wind gusts as high as 100 mph (a **105-mph wind gust** was recorded at Cape Mears in Tillamook County on Dec. 2), many systems reported having to rely on backup generators

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Oversight of Very Small Non-EPA Public Water Systems Begins

by Joe Carlson

The Legislature, in June 2007, approved significant new capacity for the Drinking Water Program (DWP). One tangible result is additional funding for the counties to oversee the very small non-EPA public water systems that serve 4–14 connections, or 10–24 people. Due to limited program capacity in the past, there has been no oversight of these very small public water systems for some years, and no effort to identify them. DWP recently sent letters to the almost 900 currently known non-EPA public water systems to inform them of their responsibilities and to refer their questions to the appropriate local health department. The text of this letter follows:

"The State of Oregon has determined that [Water System] is a public water system subject to regulation under OAR Chapter 333. The Office of Environmental Public Health, Drinking Water Program is the agency overseeing public water systems. We have attached an information sheet to aid you in meeting your public health responsibilities through providing safe drinking water. Safe drinking water simply means: water that is sufficiently free from biological, chemical, and physical impurities such that individuals will not be exposed to disease or harmful physiological effects. Periodic water quality testing is required to ensure safe drinking water. The testing frequency is as follows:

• Collect one coliform bacteria sample from a location within the distribution system every calendar quarter (if using surface water, sample once per month)

Continued on page 5

Storm puts Preparedness to the Test — continued from cover

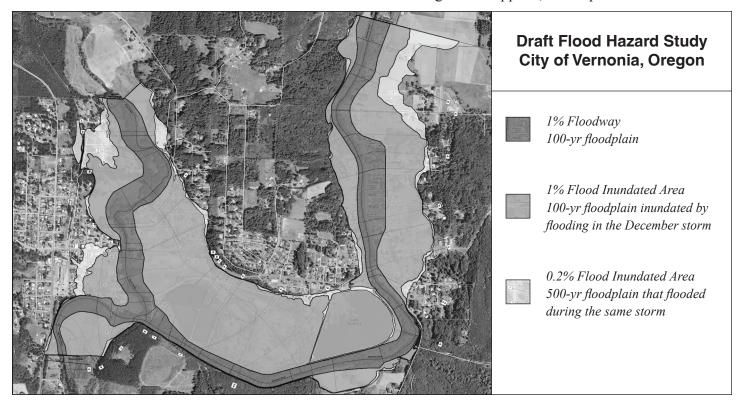


Flooded residence in Woodburn.

for several days due to downed trees, which greatly hampered post-storm activities. **Six water systems** had to issue boil-water alerts due to loss of pressure in their distribution systems (caused by broken water lines) and treatment facilities lacking backup power. With phone lines down and the loss of several cell-phone relay towers, alerting the public to potential problems proved in many cases to be extremely difficult. Although emergency response plans were in place, such events test their effectiveness and provide a valuable opportunity for improvement.

This event also **tested Drinking Water Program and county personnel** in responding to a natural disaster. The Oregon Public Health Emergency Preparedness Program (PHEP), in a joint effort with the Conference of Local Health Officials (CLHO), develops plans and procedures to better prepare the state of Oregon for public health emergencies, and manages the Oregon Public Health Division Agency Operations Center (AOC). This program works to improve public health preparedness by ensuring coordination among tribal, local, state and federal agencies, including health care partners before, during and after public health emergencies.

During the December 2007 storm the AOC was activated to coordinate responses to the many requests for assistance. These requests originate at the local level and are communicated, sometimes by HAM radio, by local county Emergency Mangers to the State Emergency Coordination Center (ECC). The ECC operates 24 hours a day during emergencies and channels requests for assistance to the appropriate agency response centers (e.g., the Oregon Department of Transportation, Department of Environmental Quality or, as in the case of drinking water supplies, the Department of Human





Washed out bridge and transmission line in Marshland.

Services). When activated the AOC has real-time, 24/7 communications capacity among the federal government (CDC), the Oregon Department of Human Services, and every Oregon county health department and hospital. The AOC also has subjectmatter experts present either at the AOC or on call for each of the various public health programs. The subject-matter expert assists in providing information for public dissemination and updates on the status of public water systems. During the December 2007 event, subject-matter experts for drinking water included regional engineers Kari Salis, Debra Lambeth and Evan Hofeld, and Program Manager Dave Leland. Shifts for the event lasted up to 12 hours.

Upon a request from Columbia County, Kari Salis, Kurt Putnam, Evan Hofeld and Pete Farrelly made up three "Strike Teams" deployed to the county to assist not only public water systems, but the many private homeowners whose wells had been inundated by floodwaters. County and state staff distributed test kits and information for disinfecting wells, and shuttled samples to the Oregon State Public Health Laboratory for testing, all free of charge. These shuttles continued throughout the rest of December and into January. About half of the more than 150 private-well tests demonstrated the presence of coliform bacteria and half of these indicated *E. coli*.

After the storm, the Federal Emergency Management Agency (FEMA) conducted "Applicant Briefings" in order to assist individuals responsible for infrastructure systems in seeking emergency relief funds and to distribute Request for Public Assistance (RPA) forms. The briefings were for government agencies, special districts, and certain nonprofit organizations operating in Clatsop, Columbia, Tillamook, Yamhill, Lincoln, Polk and Washington counties, the Confederated Tribes of Siletz and the Confederated Tribes of Grand Ronde. For many, the Applicant Briefings were the first step toward receiving federal financial assistance. FEMA officials conducted site visits to assess damage and determine the needs of several water systems. The picture to the left shows where a bridge had washed out, taking a major transmission line with it.

Additional funding for disaster relief also was available through the Oregon Economic Development Commission (OECD). OECD also helps manage Safe Drinking Water Revolving Loan Funds (SRF). Although SRF funding is not expressly available for emergency projects, the SRF loan application process can be expedited. Expediting the loan application process does not mean, however, that loan monies will be disbursed any faster than normally so for immediate funding needs, OECD or FEMA should be contacted for other options (such as Special Public Works Fund, Community Development Block Grants, etc.).

In the event of a major rain-on-snow event, what can you do to better prepare?

- Review your emergency response plans and put yourself in the shoes of Vernonia responders to see if you are ready for such a disaster.
- Consider communications needs when cell phones, landlines, and power are out for several days (e.g., amateur radio operators or walkie-talkies).
- Consider emergency sources of water (e.g., hauled water using fire trucks, local water haulers, or nearby water systems).

Storm puts preparedness to the test — continued from previous page

- Identify hazards that may impact significant transmission mains, not just major facilities like tanks and treatment plants (e.g., steep slopes, 500-year flood plains, earthquake hazard areas). Looping and redundancy can greatly improve your water system's ability to meet fire suppression and domestic consumption needs.
- Consider how you would alert the public to a water contamination event with phone lines and power down (e.g., have generic boilwater advisories pre-printed for hand delivery (photocopiers don't work without power); identify a community bulletin board on which to post warnings or curtailment instructions; identify sites where people can fill containers with hauled-in water; have a permanent sign with various warning colors displayed (similar to fire hazard signs); etc.).
- Identify partners (local water systems or businesses) in your area where you can share stockpiles of extra pipe, fittings, pumper trucks or portable generators for use during emergencies. Be sure to work out which partner has priority for using these items should the emergency be widespread enough to affect more than one partner.
- Recognize the needs and safety of staff and plan for backup or relief workers if possible. Many water system operators worked long days and nights after the storm to ensure repairs to their systems were made as soon as possible.

Evan Hofeld is an environmental engineer in the Technical Services Unit of the Drinking Water Program, 971-673-0419 or evan.e.hofeld@state.or.us

For more information, visit these online resources:

For landslide hazard maps, earthquake and Tsunami information

Oregon Department of Geology and Mineral Industries: www.oregon.gov/DOGAMI/index.shtml

For National Insurance Flood Program Maps and FEMA information

Oregon Department of Land Conservation and Development – Natural Hazards Program: www.oregon.gov/LCD/HAZ/index.shtml

For emergency preparedness information

Oregon Drinking Water Program: www.oregon.gov/DHS/ph/dwp/security.shtml

Oregon Public Health Emergency Preparedness Program: www.oregon.gov/DHS/ph/preparedness/index.shtml

Oregon Emergency Management: www.oregon.gov/OMD/OEM/index.shtml

Centers for Disease Control and Prevention – Emergency Preparedness and Response: www.bt.cdc.gov/disasters

For river forecasts and flood stage information

National Oceanic and Atmospheric Administration: www.noaa.gov

National Weather Service: www.nwrfc.noaa.gov

Oversight of small water systems — continued from cover

- Collect one nitrate sample from the entry point to the distribution system every year.
- Submit a copy of the sample result to the following address to get credit for testing. Be sure to include your PWS ID #[Number] on all lab results:

DHS Drinking Water Program PO Box 14350 Portland, OR 97293-0350

If you have any questions please contact [County Name and phone number] and/or visit our Web

site at http://oregon.gov/DHS/ph/dwp/index.shtml. Sometime in the future [County] will be in contact with you to arrange an on-site review of the water source, facilities, operations, and maintenance of the water system."

Joe Carlson is the Interim Unit Manager of the Data Management, Compliance & Enforcement Unit of the Drinking Water Program, 971-673-0470 or joseph.r.carlson@state.or.us

Interested in the Weather?

by Dennis Nelson

As we become increasingly aware of the potential effects of future climate changes, there is a growing need for weather-related data. This is particularly so in the case of the distribution of precipitation. A volunteer-based organization, the Community Collaborative Rain, Hail & Snow Network (CoCoRaHS) was established by the Colorado Climate Center at Colorado State University in 1998 to provide such data.

If you are interested in being a part of this organization, or would just like to know more about it, their Web site is www.cocorahs.org. Click on Oregon on the map to see the distribution of volunteers in the state. As you can see, more volunteers are needed, particularly east of the Cascades. Volunteers are asked

to report rainfall via the Internet on a daily basis (or whenever you can). For details, click on "Join CoCoRaHS." A specific rain gauge is recommended at a cost of approximately \$25.





Typical rain gauge setup.

Check it out and be a part of an important contribution to the understanding of climate change. If you have questions about the details of being a volunteer, call Dennis Nelson of the DWP at 541-726-2587, ext. 21.

Dennis Nelson is a geologist in the Drinking Water Program, 541-726-2587, ext. 21, or dennis.o.nelson@state.or.us

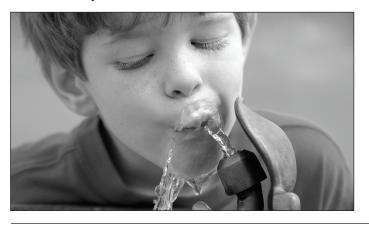
hoto by Henry Reges, CoCoRaHS national coordinator.

Consumer Confidence Reports (CCRs): New Lead Reporting Requirements for the 2008 CCR

by Tom Mitchell

The EPA has added important mandatory language about lead that will need to be incorporated into future CCRs. This change will become effective starting with the 2008 CCR. The 2007 CCRs that are due by July 1, 2008, are not affected by this change.

• Starting with the 2008 report, the following statement about the lead in drinking water and its effects on children is required — regardless of lead levels occurring in any samples: "If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. {NAME OF WATER *UTILITY*} *is responsible for providing high quality* drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead." A system may write its own statement in consultation with the Drinking Water Program. If this is done, it must be pre-approved by the program prior to distribution. Additional facts on lead in drinking water may be included in the CCR.



CCR Certification Form — Don't forget to send it

A form certifying that the CCR was distributed to customers must be sent to the Drinking Water Program annually (available on the Drinking Water Web site at www.oregon.gov/DHS/ph/dwp, or by contacting the program). In addition to certifying that the CCR was sent to customers, it also certifies that the information it contained was correct and consistent with the compliance monitoring data previously submitted to the Drinking Water Program. It is due no later than Oct. 1 annually.

However, in order to prevent the possibility of forgetting to send the certification, it is suggested that, once the CCR has been distributed to customers, the certification form be sent to the Drinking Water Program along with the copy of the CCR (due to the program by July 1 annually). Not submitting the certification form by Oct. 1 may result in a violation, even if the CCR was submitted to the program on time.

Two more notes on the certification form and CCR: 1) ensure that all the information required on the certification form is supplied, including the *calendar* year of the CCR, the date the CCR was certified (don't confuse this with operator certification dates), and the date the CCR was distributed to customers (this is important to assure that you receive proper credit for the CCR as well as credit for submitting the certification form); and 2) the CCRs must be directly distributed to customers, which means either mailing it, distributing it door-to-door, or using some other means of handing a copy to every customer, so that every household receives one. Just posting it in a central location does not fulfill this requirement.

Resources for creating a CCR

Refer to the Summer 2006 and Winter 2006 issues of the Pipeline (available on the Drinking Water Web site) for articles and resources regarding creating a CCR.

Tom Mitchell is in the Protection, Planning & Certification Unit of the Drinking Water Program, 971-673-0417 or thomas.j.mitchell@state.or.us

Source Water Protection Coming to a County Near You ...

by Dennis Nelson

The Drinking Water Program, in cooperation with the DEQ, County Environmental Health Departments and local government agencies, is holding source water protection workshops in Oregon counties.

These workshops are designed to provide information to community and other water systems regarding using land-use planning practices to achieve drinking water protection goals. In addition to helping communities add a measure of certainty to the long-term viability of community water systems, we want to show how the incorporation of land-use tools into drinking water protection also provides answers to many questions that face communities today.

More information and an example of an agenda and presentations from an earlier workshop can be viewed at www.oregon.gov/DHS/ph/dwp/SWP06Nov shtml

Previous workshops have been held in:

- Lane County (Eugene) in November 2006, and
- Marion County (Salem) in November 2007.

An upcoming workshop will be held in:

• Benton County (Corvallis) in May 2008.

We hope to offer workshops in Hood River, Linn and Clackamas counties between October 2008 and October 2009. Invitation letters will be sent to all community water systems in those counties as they are scheduled.

Dennis Nelson is a geologist in the Drinking Water Program, 541-726-2587, ext. 21, or dennis o.nelson@state.or.us



Drinking Water Protection Bulletins

The respective drinking water protection-related programs in the Department of Human Services and Department of Environmental Quality provide semiannual newsletters to communities in Oregon to help them develop drinking water protection strategies. The newsletters give these communities tools they can use to address specific issues related to their specific drinking water sources.

Each issue describes resources available to communities as well as examples where communities in Oregon have worked with stakeholders, identified site-specific strategies and overcome challenges to minimize the risk of contamination of their drinking water source(s). The target audiences for these bulletins are local government officials and water system personnel.

Two issues have been published thus far and are available to read and/or download from the DHS Drinking Water Program Web site at www.oregon. gov/DHS/ph/dwp/dwpb.shtml. We prefer to send the issues as electronic PDF files to our mailing list, which currently exceeds 1,000 individuals. If you are interested in being added to our electronic mailing list, please e-mail dennis.o.nelson@state.or.us.

Dennis Nelson is a geologist in the Drinking Water Program, 541-726-2587, ext. 21, or dennis o.nelson@state.or.us

Welcome New Staff

Gregg Baird began work as a regional sanitarian in the Technical Services Unit - Region 1 of the Drinking Water Program on March 19. Gregg is a registered environmental health specialist in Oregon who came to the Drinking Water Program from the Clackamas County Environmental Health Department where he worked as a drinking water specialist for three years. He also was a member of the Drinking Water Advisory Committee representing CLEHS.

Anthony J. (Tony) Fields began working March 15 in the Portland office as the new public water systems security coordinator. Before accepting the water security position, he was employed as the director of environmental health for the Cass County Health Department, located in Logansport, Indiana, where he also served as bio-terrorism liaison and as a member of the County Emergency Response Team. Tony has a B.S. in natural resource environmental protection from Ball State University and is a registered environmental health specialist (REHS) with a wide range of experience in environmental public health programs. Tony is well-trained in the National Incident Command System and has more than 20 years of security and law enforcement experience, including service in hazardous materials management and as a military police officer while on active duty in the Marine Corps.

Carrie Gentry began work as a regional engineer assistant in the Technical Services Unit - Region 1 of the Drinking Water program on March 17. Carrie is registered as an engineering intern in Oregon, and she has rejoined the Technical Services Unit having worked there from 1997 to 2000.

Evan Hofeld also has rejoined the Technical Services Unit - Region 1 of the Drinking Water Program as a regional engineer on Oct. 31, 2007. Evan is a registered professional civil engineer in Oregon, and came back to the Drinking Water Program from the Portland Water Bureau where he worked as a senior engineering associate for a year. He worked for the Drinking Water Program from 2002 to 2006.

David Lew transferred as a research analyst 3 to the Drinking Water Program, Data Management, Compliance and Enforcement Unit (DCME), on March 1. Before this, he was with the Oregon Public Health Division (PHD), Lead Poisoning Prevention Program, as their data and surveillance coordinator, and also was a member of the Oregon Interagency Chemical Terrorism Workgroup involved in emergency preparedness activities that included developing early event detection and surveillance capabilities. He remains the Health Alert Network (HAN) coordinator for the PHD, Office of Environmental Public Health. David has a B.S. degree from U.C.L.A., an M.A. degree from California State University, Long Beach, and completed other graduate work at Oregon State University.



Carol Malka began work as an office specialist in the Drinking Water Program in March 2008 and provides office support for the Drinking Water Program work units. Carol comes from the Oregon State Public Health Laboratory where she provided office support for the emergency preparedness team.

James Nusrala began work as a regional engineer in the Technical Services Unit -Region 1 of the Drinking Water Program on May 1. James is a registered professional civil engineer in Oregon, and came from the Oregon Department of Environmental Quality where he was a water quality specialist and permitting specialist for four years.

Betsy Parry began work as a natural resource specialist in the Technical Services Unit - Region 2 of the Drinking Water Program on March 31. Betsy has worked in state agencies in Alaska (Alaska Department of Fish and Game, Habitat Division) and Oregon (Wetlands Program within DSL, the Coastal Program within DLCD, and SeaGrant extension at OSU). Her background is in biology and natural resource planning. Betsy has strong networking skills and experience in public processes, including public hearings and community outreach.

Sharon Ross began working for the Drinking Water Program, Data Management, Compliance, and Enforcement Unit, in May 2008 as a research analyst 1 in the Portland office. Her responsibilities include working with public water system data by entering microbiological data, and various chemical analyte data into the Safe Drinking Water Information System (SDWIS) database.

Michelle Van Kleeck began working for the Drinking Water Program, Data Management, Compliance, and Enforcement Unit, in February 2008 as a research analyst 1 in the Portland office. Her responsibilities include managing public water system data as the laboratory data quality coordinator. Her experience includes research and development, manufacturing, and quality control/quality assurance in the biotechnology industry. Michelle graduated from San Jose State University with a B.S. in biology.

Nancy Vierra began work as an office specialist in the Technical Services Unit - Region 2 of the Drinking Water Program in October 2007. Nancy has more than 30 years experience in business and office support in the areas of publishing, real estate, antique trades and newspaper circulation.



Operator Certification Corner

by Dottie Reynolds

Because of the ever-increasing number of applications for exams, the Department of Human Services has adopted a new rule setting an earlier submittal date for exam applications.

Exam applications must be filed with the department by the following schedule:

Regular exams:

May: March 15 (currently April 1) October: Aug. 15 (currently Sept. 1)

The change will allow the department to better serve the operator in assuring a timely review of the application and allow for the resolution of any requests (phone calls) that may require additional information and/or documentation to complete the application process. The department feels that the earlier submittal of applications will help lower the incidence of incomplete and/or late applications and reduce the imposition of the \$30 late fee.

The department also has adopted a rule change to clarify that the timeliness of all applications is based on a postmark, not a due date. For example, the renewal application currently is due on Dec. 31. The new rule requires the renewal application to be POSTMARKED by Dec. 31.

The department held hearings in January and filed the final rules Feb. 15, 2008. For a copy of the text of these (and other rules), see the last issue of the Pipeline or go to our Web site at www.oregon.gov/ DHS/ph/dwp/ and see the revised rules under Current Topics on the front page.

Dottie Reynolds is the Operator Certification Program Coordinator in the Drinking Water Program, 971-673-0426 or dottie.e.reynolds@state.or.us

Consumer Confidence Reporting and Drinking Water Protection Implementation

by Dennis Nelson

CCRs are due July 1st of this year. Would you like to be able to report to your customers that you are engaged in active protection of their drinking water supply? The Drinking Water Program is in the process of formally recognizing water systems that have made progress in implementing drinking water protection strategies. For some systems this can be as easy as conducting a simple outreach program of education through distributing and/or posting best management strategies for home owners. Your

customers are very conscious of their drinking water quality and would greatly appreciate knowing that you are making strides in ensuring safe drinking water for them and their families in the future. If you are interested in pursuing this, contact Dennis Nelson at the DWP's Springfield office at 541-726-2587 x 21, by email at dennis.o.nelson@state.or.us, or by mail at 444 A Street, Springfield, OR 97477. Be sure to visit Oregon's Drinking Water Protection website hosted by our partner agency DEQ at www.deg.state.or.us/wg/dwp/dwp.htm.

Dennis Nelson is a Geologist in the Drinking Water Program, 541-726-2587 ext. 21 or dennis.o.nelson@state.or.us

Training calendar CEUs for Water System Operators

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

OAWU - 503-873-8353

June 10 Math for Operators Aug. 18-21 Summer Classic XIV

OCT Academy - 866-266-0028

June 9	Water Treatment Technology Review
June 10-11	Water Treatment Mathematics
June 12	Disinfection of Public Water Supplies
June 13	Water Sources/Quality Parameters
June 23-24	Pump Theory
June 25-26	Pump Repair and Maintenance
June 27	Pump Control Systems

Cross Connection/Backflow Courses

Backflow Management Inc. (B) - 503-255-1619

Clackamas Community College (C) - 503-675-6958 ext. 2388

Backflow Assembly Tester Course

June 9-13 Clackamas (C) June 16-20 Portland (B)

Cross Connection Inspector Course

June 2-5 Portland (B)

Water System Training Course

Department of Human Services Marsha Fox, 971-673-0408

June* The Dalles June 19 Coos Bay

July* Eugene and Pendleton

^{*} Dates to be announced



Department of Human Services **Drinking Water Program** Oregon Department PO Box 14450 Portland, OR 97293-0450

Meeting calendar

Drinking Water Advisory Committee Department of Human Services Diane Weis, 971-673-0427

- July 9, 2008
- Oct. 8, 2008

All meetings are held at the Public Utility Commission Office, 550 Capitol St. NE, Salem, OR 97310.

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