Oregon Drinking Water News
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Drinking Water Program, Oregon Health Division

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1996 SAFE DRINKING WATER ACT-UPDATE ON IMPLEMENTATION IN OREGON

By Dave Leland

The Safe Drinking Water Act Amendments of 1996 were signed into law by President Clinton on August 6, 1996. Many of the implementation aspects of the 1996 SDWA will be shaped by EPA guidance and rules yet to be developed. The general impacts of the Act on public water suppliers and the Oregon Health Division Drinking Water Program (the state program) are summarized below:

1. Existing standards and rules are unchanged. Water suppliers must continue to work on improving water systems to meet existing standards.

2. The pace of developing future standards is going to be more measured and the effort will focus on a smaller number of high priority contaminants, particularly microbial contaminants. The mandate for EPA to set 25 new contaminant standards every three years is replaced with direction for EPA to consider five new contaminants for regulation every five years.

3. The new law authorizes new funding for water system construction projects through a new Drinking Water State Revolving Fund (DWSRF). Oregon's allotment is $18.92 million for FY 1997, the first year of the funding program that extends through 2003.

4. The new law contains many new assignments and authorities for the state programs, to be funded from each state's individual DWSRF allotment. These are called "state set-asides", and can be used to create new programs or to upgrade or expand current programs as needed.

Implementing the 1996 SDWA in Oregon - Guiding Principles

Implementing the new provisions of the 1996 Act, while maintaining the current statewide drinking water quality improvement effort, represents a major challenge to both water suppliers and the state program. The state program proposes the following principles to guide implementation of the 1996 Act in Oregon:

1. Maintain a clear focus on public health protection - everything done needs to contribute directly to safer drinking water for Oregonians. This includes addressing contaminants already present in drinking water supplies and maintaining and protecting already high quality drinking water sources.

2. Maintain and even continue to improve program efficiencies in all areas. We should set clear priorities and objectives for all program elements, keep the focus on water quality improvement and protection, and make use of existing effective programs at other agencies and organizations that are performing or could perform complimentary work. The goal should be to achieve safe drinking water through a balanced approach of expanding funding for water system construction and improvement while improving on efforts to protect water sources and build water system capabilities.

3. Continue to build on the very effective partnerships and team approaches to safe drinking water among state and local agencies and water supply organizations that have characterized the effort to date. Examples include current work with the Oregon Economic Development Department on water system construction funding and work with the Department of Environmental Quality on wellhead protection.

The Drinking Water State Revolving Fund

Program capacity dictates the setting of priorities for implementing the new Act. The highest priority is securing the DWSRF FY 97 Capitalization Grant for Oregon. The primary purpose of this fund is to make loans to water systems for construction projects to improve public health and to meet safe drinking water

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standards. The first step in this process is to secure legislative authorization to apply for the grant. After this, work must begin not only on design of the DWSRF program itself using EPA guidance, but also on completing a major grant application process. The Oregon Economic Development Department (OEDD) has stepped forward to be the administrator of the DWSRF funding program in Oregon for water system construction projects. The Department of Environmental Quality has offered to serve as a technical resource and share its experience with the Wastewater State Revolving Fund.

State Program Set-Asides

Second, the state program and its partners must study and understand the "state set-aside" programs that are authorized for funding under Oregon's DWSRF grant allotment, and determine whether to implement these, when to implement them, and at what level of effort. The program has, for example, asked the Department of Environmental Quality to be a major partner for source water protection efforts authorized in the Act. State set-asides are listed below, organized into three major categories:

Program Administration:
- Administration of the Drinking Water State Revolving Fund
- Additional public water supply regulatory program work to maintain Primacy for federal drinking water standards

Source Water Protection:
- Delineate and assess source water protection areas
- Establish and implement wellhead protection programs
- Loans to water systems for source protection land acquisition, and other voluntary efforts
- Administer or provide technical assistance related to source water protection

Increase Capability of Water Systems to Provide Safe Drinking Water:
- Technical assistance to smaller water systems
- Develop and implement a statewide capability development strategy to improve the technical, managerial, and financial capabilities of public water systems
- Technical/financial assistance to water systems under capability development strategy
- Operator certification

DWSRF funds can be used for all or parts of the above purposes, with maximum amounts specified in the Act. A total of up to 31% of the state DWSRF allotment can be directed to these set-asides.

Drinking Water Advisory Committee

The Health Division Drinking Water Program has turned to the Drinking Water Advisory Committee to provide critical policy guidance and advice on implementation efforts. The DWAC will meet monthly through at least February to develop a detailed implementation plan for the state set-aside programs. The program and the committee have invited, and continue to invite, other interested parties and stakeholders to participate in and give input to the implementation process. At the December meeting, the DWAC considered the status and needs of the Health Division drinking water regulatory program.

Drinking Water SRF Users Group

A DWSRF Users Group, made up of DWAC members and eligible DWSRF applicants, will be formed by the Division. The group will meet during February and March, 1997, to work with the Oregon Economic Development Department on details of the DWSRF implementation, including determining loan terms and conditions, and development of loan program rules. A draft DWSRF grant application schedule has been prepared with an emphasis on balance between early availability of funds for water system construction and provision of adequate time for proper program design, stakeholder participation, and opportunity for public review and comment. This draft schedule would have funds available to Oregon water suppliers by late summer or early fall, 1997.

Advisory Committee Meeting Schedule

The DWAC meetings will be held at the Tualatin Valley Water District offices in Beaverton, from 10:00 AM to 2:00 PM. Dates and topics to be discussed are listed below:

January 9, 1997
Staff report on source water protection set-asides
Update on draft DWSRF program rules

February 4, 1997
Staff report on capability development set-asides
Update on draft DWSRF program rules

Contact Diane Weis (503) 731-4010 for additional information. Meetings are open to the public.

Dave Leland, P.E., is Manager of the Drinking Water Program

LEAD AND COPPER RULE CORROSION CONTROL TREATMENT RECOMMENDATIONS

By Kurt D. Putnam

The Lead and Copper Rule requires water systems which exceed the action level for lead and/or copper (0.015 mg/l and 1.3 mg/l respectively at the 90th percentile) to follow a sequence of steps to determine whether corrosion control treatment is needed.

The first step requires the system to collect water quality parameter samples from source entry points and distribution points. The parameters include pH, temperature, alkalinity, calcium and conductivity and are used to determine if corrosion control treatment is necessary and, if so, which method would be the most appropriate. Both pH and temperature must be taken in the field when the samples are collected. If the water system does not have a reliable pH meter(papers and chemical kits are not allowed) then a lab should be consulted. The lab can take field pH and temperature measurements at the same time they collect the samples for alkalinity, calcium and conductivity which must be performed in the lab. Since pH is the most critical parameter and the measurement must be extremely accurate, pH meters should be calibrated with at least two standards and several measurements should be taken over time.

The second step requires source lead and copper testing. Each source must be tested to determine if lead and/or copper is present in the source water directly. It is extremely unlikely that this may occur, but if it does, the water system may have to install source treatment such as ion exchange, reverse osmosis, lime softening or coagulation/filtration if the Health Division deems it necessary to help reduce lead/copper levels at the users' tap.

The third step requires water systems which exceed the lead action level to distribute public education materials to their users. The notice must include EPA's mandatory language on lead health effects and the steps users can take to protect themselves in addition to any pertinent water system information. This information can be found in Oregon Administrative Rules Chapter 333-061-0034(5) or as a hand-out available from the Health Division or county health department. In addition the water system may be required to submit public service announcements to local newspapers, TV or radio stations and community facilities and organizations, if appropriate. If the water system exceeded only the copper action level, then public education is not required.

The fourth step requires water systems to research the possible options available to them to reduce lead and copper exposure to their users and submit a letter of recommendation to the Health Division. Large and medium size systems (3300 population) must submit at a minimum a Desktop Evaluation prepared by a qualified engineering firm or consultant. Small systems must submit a letter of recommendation. These are due within six months of exceeding an action level. The research should include the evaluation of chemical treatment methods including feasibility, costs, safety, and operation and maintenance issues for systems whose water is considered corrosive and other non-chemical approaches if the water is considered non-corrosive. It is important to remember that the final solution must be agreed upon by the water system and the Health Division, jointly. Plan review is required for installation of corrosion control treatment facilities and plans must be approved by the Division prior to installation. The plan review fee is $50.

If you have not completed all the pertinent steps listed above, you need to do so now. Letters of recommendation were due for the majority of water systems by July 1, 1996. If your water system has exceeded a lead and/or copper action level you need to formalize a letter of recommendation and submit it to the Health Division as soon as possible.

For further information and guidance contact Kurt Putnam at (503)731-4317 with the Oregon Health Division Drinking Water Program.

Kurt Putnam, RS, is Environmental Health Specialist of the Drinking Water Program

MANAGEMENT PRACTICES FOR THE DISPOSAL OF CHLORINATED WATER

[Ed. Note: This article is reprinted from a fact sheet produced by the Department of Environmental Quality. DEQ regulates discharges to the waters of the State of Oregon under the Clean Water Act.]

To maintain drinking water distribution systems and fire hydrants, and to ensure the quality of the drinking water being distributed, many activities are conducted that result in the discharge of chlorinated and super-chlorinated water. These activities include fire hydrant flushing, water line pressure testing and maintenance, hydrostatic testing, water line flushing, leakage from water reservoirs, flushing of reservoirs and tanks, and other distribution system discharges (from pressure relief valves, air/vacuum release valves, reservoir and tank overflows, and sampling activities).
Unfortunately, chlorine is toxic to aquatic life even in

low concentrations. This fact sheet was developed to provide you with information on management practices that will minimize the impact of chlorinated water discharges.

Super-Chlorinated Water
(defined as greater than 3 mg/l total residual chlorine)

Regardless of volume, super-chlorinated water must not be discharged to surface waters or storm sewers. Non-discharge alternatives must be used; these include sanitary sewer disposal (either by connecting to a sanitary sewer or by hauling to a sewage treatment plant) and land disposal or irrigation.

Chlorinated Water
(defined as containing up to 3 mg/l total residual chlorine)

The following Best Management Practices apply to chlorinated water discharges that exceed 500 gallons per event and reservoirs that leak excessively (i.e., greater than the typical design rate of 0.1% of the volume of the reservoir per day). Activities that result in discharges under these rates are not subject to the management practices specified below. Discharges of chlorinated water from emergency activities such as firefighting are also exempt from these practices.

- Wherever practicable, chlorinated water should be disposed so it does not enter storm sewers or surface waters. Non-discharge alternatives such as land disposal or irrigation and sanitary sewer disposal should be evaluated before considering a direct discharge to surface waters or a storm sewer.

- When non-discharge options are not feasible, chlorinated water may be discharged to a storm sewer if the travel time in the storm sewer system before the water enters a stream is sufficient to allow the dissipation of chlorine.

- When non-discharge options are not feasible and the travel time in the storm sewer system is either insufficient or unknown, the chlorinated water should be de-chlorinated prior to discharging to surface waters or a storm sewer.

- When non-discharge options are not available, the chlorinated water may be collected in a closed vessel or an open-air detention facility and held for sufficient time to allow the chlorine to dissi pate before discharging to a storm sewer or sur face waters. The discharge rate should be controlled so that it is no greater than the expected discharge rate from the operation that yielded the water.

CITY OF WALDPORT IMPROVES FILTER PLANT OPERATIONS

By Mike Grimm

Historically, the water treatment plant serving the City of Waldport had not produced water that met minimum drinking water quality standards. Monitoring of turbidity was essentially not done and often chemical coagulants needed for the treatment process were not added. The Health Division spent considerable amounts of time reviewing proper operation practices and monitoring techniques with the plant staff, but any gains were short-lived as there was no regular operator dedicated to running the plant (most of the time, the operators were managing a hard-to-operate wastewater treatment plant). OHD staff conducted a Comprehensive Performance Evaluation (CPE) of the plant in 1993 identifying key deficiencies such as the lack of operator time, inadequate flocculation/coagulation control, slowing down the plant flow, the lack of filter-to-waste and raw water by-pass (no way to keep untreatable water out of the plant) capabilities, and poor instrumentation which all contributed to the status of non-compliance for the City. Subsequently, the City was issued a Notice of Violation and Remedial Order to correct the operations of the existing plant and/or improve the treatment process with a new plant. OHD believed that much could be done to provide safe drinking water simply by committing more operator time to the plant. The City hired a new operator to run the plant March 1994 and then systematically went about correcting the deficiencies listed in the CPE as well as those identified by an engineering consultant hired by the City. The results have been encouraging. Prior to 1994, the 95th percentile finished water turbidity levels (standard of 0.5 NTU) were usually over 1 NTU and sometimes as high as 2 NTU. Since early 1996, when the last of the immediate changes were made, the 95th percentile finished water turbidity levels have been around 0.25 NTU. The City is still working toward long range goals of new and additional treatment units, but for now the City's filter plant is meeting the minimum treatment standards for treated surface water.

Mike Grimm, PE, is regional manager of the Field Services Unit for the Drinking Water Program

IDANHA GETS FILTER PLANT

By Scott Curry

Construction is substantially complete on the City of Idanha's new water treatment plant. This represents the culmination of nearly 5 years of efforts by the City to obtain funding, engineering, and construction services for this vitally needed project.

The City of Idanha is located just east of Detroit on the North Santiam River, and its 110 service connections serve a population of about 300. The declining timber industry severely affected the community, to the point that 66% of the population was classified as low-to-moderate income. This helped the City to qualify for funding from the Community Development Block Grant Program, which is federally funded and administered by the State. Funding was also obtained from the Forest Service and Rural Development (formerly Farmers Home Administration).

In 1992, the Health Division issued an Administrative Order to the City for operating an unfiltered surface water supply. The City obtained funding for preliminary studies, and finally decided on conventional, rapid sand filtration as the appropriate treatment technology. The City's water source, Rainbow Creek, originates in the Cascade Range and is subject to moderately high turbidity swings. Water is pumped from an improved intake structure into the treatment plant, which consists of one 175 gpm package-type upflow clarifier and multi-media sand filtration. The building has room for an additional, identical unit to be installed in the future if needed. A polymer is used as the primary coagulant, and chlorine is added prior to the water being pumped through a dedicated line to a new 300,000 gallon, bolted steel reservoir. Water flows by gravity into town, where nearly three miles of new distribution lines have been installed. New water meters are also a part of this project, which came to a total cost of $1.3 million.

Scott Curry, PE, is regional engineer for the Field Services Unit of the Drinking Water Program

CROSS CONNECTION UPDATE

By Bonnie Waybright

The current list of approved backflow assemblies is dated November 1996. Call (503)731-4899 to request a copy.

The University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC-FCCCHR) has begun to accept comments and suggestions for the 10th edition of the manual. If you have ideas you would like considered, send them to: Manual Review Committee - 10th Edition, FCCCHR, University of Southern California, KAP-200 University Park, Los Angeles, CA 90089-2531, FAX: (213)740-8399, E-mail: fccchr@usc.edu

Reminders

Backflow Assembly Tester and Cross Connection Inspector certificates expire on June 30, 1997. Now is the time to sign up for classes if you have not already done so! Procrastinators will be assessed a $50 reinstatement fee in addition to the renewal fee if their applications are received by the Health Division after July 31, 1997.

Backflow Assembly Testers

The Tester Recertification includes a hands-on proficiency demonstration of the new test procedures. Most Testers will need to attend a one-day retraining course to learn these procedures before attempting the Tester Recertification. Because of the extra time involved, it is important not to delay taking this class! The month before renewal time is frantic with Testers trying to get into last minute classes, and not all are successful getting in.

Cross Connection Inspectors

Inspectors who want to use 0.5 CEUs related to cross connection control for recertification need to make sure that the training *is related to cross connection control*. Proof of CEUs from a short school, for example, is not sufficient. The sessions that were attended need to be identified so the Health Division can determine if they are related to cross connection control. This is a good time to review your records to see if you have sufficient documentation!

Community Water Systems

The 1996 Annual Summary Report (ASR) for cross connection control is due by February 28, 1997. Water systems that requested time extensions for meeting requirements will be expected to show progress toward compliance. Additional time extensions will be granted to water systems (upon written request to the Health Division) when progress is shown. Requests for additional time extensions may be submitted to the Health Division with the 1996 ASR.

Bonnie Waybright, PE, is Cross Connection Program Coordinator, Drinking Water Program

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SECOND CLASS
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PORTLAND OR

David E. Leland, Manager • 503/731-4010

TRAINING CALENDAR

Oregon Association of Water Utilities
Kevin Olson/(503)873-8353
Jan. 15 OAWU Sponsored Training
Mar. 3-6 Technical & Management Conf.

American Water Works Association
Utilities Services Specialists
Dan DeMoss/(503)363-9038
Feb. 4-6 Pump Operation & Maint.
Feb. 7 Asbestos Cement Pipe Work Practice Procedures
Feb. 13 Disinfection Methods
Feb. 19-21 Chlorination Systems O&M
Mar. 4-6 Water Works Basics
Mar. 10-12 Waterworks Short School
Mar. 12 Measuring pH in Your Drinking Water

Arasmith Consulting Resources
Event Solutions
Victoria Thune/(541)928-5055
Jan. 23-24 GIS & Public Works Software
Jan. 28-30 O&M of Chlorination Systems
Feb. 4-6 O&M of Ponds/Lagoons
Feb. 11-13 O&M of Collection Systems
Feb. 25-27 O&M of Collection Systems

Cross Connection/Backflow Courses
Backflow Management Inc. (B)
800-841-7689
Clackamas Community College (C)
(503) 657-6958 ext. 2364

Backflow Assembly Tester Course
Jan. 27-31 Portland (B)
Mar. 17-21 Newport (C)
Mar. 17-21 Portland (B)

Backflow Assembly Tester Retraining/ Recertification
Feb. 11-12 Portland (B)
Feb. 20-21 Oregon City (C)
Mar. 13-14 Oregon City (C)
Mar. 26-27 Portland (B)

Cross Connection Inspector Course
Feb. 18-21 Portland (B)

Cross Connection Inspector Update
Feb. 13 Portland (B)
Mar. 25 Portland (B)

Water System Training Courses
Oregon Health Division
Mary Ann Meehan/(503)731-4317
Jan.* Linn, Benton and Marion Counties
Feb.* Coos and Curry Counties
Mar.* Jackson and Josephine Counties
*- dates and locations to be announced

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