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Division of Environmental Health
Drinking Water Program
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Important Information

For Water System Operators and Owners

Northern Flows

Drinking Water Program Directory

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Northern Flows

Alaska's Drinking Water Program Newsletter
Issue 25•Spring 2006

Message from the Manager

Well, March has come and gone like a "lamb", peaceful, sunny days, calm, and mostly "seasonally normal" for Alaska temperatures. Soon the spring rains will arrive, break-up will happen quickly, and our busy preparing-for-summer season will begin. During this time of year, we are also very busy reminding public water systems (PWS) of their routine monitoring and reporting requirements. We will be sending out new monitoring schedules and reminder letters regarding everything from new regulatory requirements to getting your Consumer Confidence Report in on time. If you are a public water system owner and/or manager you may feel inundated with these notices and reminders, but we ask that you take special care to review every notice we send you. Some of these notices may be simple reminders that are intended to let you know what is needed to stay in compliance with current and new regulations, but sometimes the notices are informing you that the water system is already out of compliance with existing regulations. If you receive a warning letter or Notice of Violation from the Department please do not overlook the importance of this notice or fail to respond by the deadlines noted in the notice. Remember that these requirements are set forth by the Alaska Drinking Water Regulations and Safe Drinking Water Act in order to help protect public health, a goal we all share. However, please be reminded that failure to respond to a Notice of Violation can also lead to Administrative (financial) Penalties, and the longer you delay, the higher the penalties can be. If you need help understanding your letter or notice, or what the regulatory requirements are and how they affect your system, please call us so that we can assist you.

PWS owners, operators, utility managers, consulting engineers, technical assistance providers, and drinking water and water quality professionals may want to plan to attend the Alaska Water Wastewater Management Association (AWWMA) Conference. This year's conference is in Anchorage, Alaska, May 9-11, 2006. It is not too late to register, so take this opportunity to reserve your place at this popular and informative event. For registration information go to the AWWMA Website at: http://www.awwma.org

Now, for a quick overview of drinking water regulatory issues. Primacy applications for the Radionuclides Rule, Variances and Exemptions Rule, Arsenic Rule, Filter Backwash and Recycling Rule, updated Analytical Methods, and new sanitary survey inspector requirements were submitted to EPA Region 10 in late December 2005, and became effective in our Alaska Administrative Code (state regulations) January 11, 2006. The State of Alaska is on schedule to adopt by reference the Long Term 1 Enhanced Surface Water Treatment Rule (LT1 ESWTR) by late March 2006. This Rule should become effective in Alaska by May 2006. We received few written comments in respect to this Rule, and plan to respond to the comments soon. Along with the adoption by reference of the LT1 ESWTR, the Drinking Water Regulations, 18 AAC 80, will be amended to include a master meter requirement for water systems and a requirement for ADEC-certified labs to use the electronic data reporting system (EDRS) format to submit PWS compliance monitoring data directly to the state.

Testing and modifications to the Alaska enhanced sanitary survey (ESS) form continue. This form is a modified, condensed, and Alaska-friendly version of EPA's ESS form. Five sanitary survey training workshops covering use of the new form and the new regulatory requirements for sanitary survey inspectors were completed in March 2006. Additional workshops may be offered in the future, depending upon need and request. For more information about these new sanitary survey inspector requirements and any future sanitary survey training workshops, please contact James Weise at (907) 269-7647 or Vanessa Wike at (907) 269-7696. It is still planned that

Continued on page 2

This Issue

Regulations Corner *by Karen Leis*

Thanks to those of you who took your time to look over the last set of proposed regulations, DW 2005-1. In this packet we adopted the federal LT1 Rule by reference, added electronic reporting for laboratories and sanitary survey inspections, added a requirement for a master meter for community and non-transient non-community public water systems, and fixed up a few other things. We have prepared the Responsiveness Summary for the LT1 package, and the whole packet has been sent to the Commissioner's Office for adoption. After adoption they will be reviewed by the Department of Law, and next filed with the Lt. Governor's office for 30 days, and then become effective.

We will breathe a short sigh of relief, and then jump right into our next proposed regulations package, DW 2006-1. At this time we plan to take a careful look at Article 3 (standards, monitoring, variances and exemptions), Article 6 (surface water treatment) and Article 12 (administrative penalties). Over time, as new rules come into effect, and as we have more experience in working with the regulations, we sometimes think of new and better ways of explaining what it is we plan to do, and how we plan to do it. We hope to have a clearer version of these articles out for your review within the next couple of months.

There are plans for another regulations package, DW 2006-2, which includes the long awaited clarification of the PWS naming scheme which changes all the Class A, B, and C terminology to community water systems, non-transient non-community water systems, transient water systems, and non-public (state regulated) water systems. Since we will be touching most sections of the regulations at that time, we will also clarify the "owner or operator" language for consistency throughout the regulations, and some other spots where you have asked for clearer language.

Finally, the in proposed regulations package DW 2007-1, we plan to adopt two EPA drinking water rules, the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) and Stage 2 Disinfectants and Disinfection By-products Rule (Stage 2) by reference. These rules were just published in the Federal Register in January 2006. The State of Alaska, a state with primacy, has up to 24 months to get these rules into their regulations and file a revision of their primacy application or request a 24 month extension period for rule adoption with the US EPA. We will also be revising some of the security provisions of the regulations in the proposed DW 2007-1 package.

Remember, it is never too late to request your own free electronic copy of the Code of Federal Regulations (CFRs). To request a copy, please send an email to me at the address at the end of this article. I am currently distributing the last published version of the CFRs dated July 1, 2005. Many of the commercial copy businesses can take an electronic file now, so you may be able to get it printed (remember to ask for double sided printing) for less than it would cost you for your printer's ink and paper. My commercial printer reduced the size of the margins and got the CFR booklet to half a sheet size, 5 ½ by 8 ½ inches, without shrinking the type. I like the CFRs in the new size which makes it easier to use.

You may email Karen at:
karen_leis@dec.state.ak.us

Message from the Manager Cont'd . *by James Weise*

the Alaska ESS form, both electronic and hard copy versions, will become the statewide accepted form in April 2006; however, depending on comments and information received from the training workshops, this statewide implementation date may be extended.

Starting the New Year off in a positive direction, the Drinking Water Program added three new staff; Sharon Kosmalski, Environmental Engineering Assistant, in the Wasilla office joined the program January 16, 2006, and Christopher Clark, Environmental Engineering Assistant, and Julia Pieper, Administrative Clerk, in the Anchorage office joined the program April 3, 2006. Unfortunately, Suzan Hill, Coordinator for the Drinking Water Protection group, resigned from the program on March 10, 2006. Suzan was responsible for the management, oversight, and timely completion of the source water assessments for Alaska's PWS. Suzan and her family are returning to the Seattle, Washington area. "Thank you" Suzan for your good work. Also Sara Rygh, Environmental Engineering Assistant, in the Anchorage office is leaving the program effective April 13, 2006. Thank you Sarah for your good work.

Let's have a great spring and plan our summer.

James R. Weise

James Weise
Manager
Drinking Water Program

Good Luck Bill Evans *by Shawn Sorenson (SEARHC)*

Bill Evans is a Remote Maintenance Worker (RMW) with the Southeast Alaska Regional Health Corporation (SEARHC). Bill started working for SEARHC in December 2002 and is planning to retire April 2006. During this time, Bill has been personally responsible for increasing the number of trained and certified operators within the Southeast Alaska Region and increasing their overall level of competency. He has provided hands-on training to operators on virtually every water and wastewater topic and tailored training sessions to meet specific community and system needs.

Does your public water system work with an RMW?
A trainer, a mentor, a very handy person to get to know.
They can teach you a lot!

Bill has made himself available to operators and City staff for emergency site visits, technical phone calls, training, or any other assistance 24-7 since he was hired. He has even cut vacations short (or not gone at all) to assist an operator with system problems.

Some of his major accomplishments include:

111 field trips to communities (of which, more than 30 were emergency visits),

over 300 days spent in the field, and

nearly 500 hours of on-site CEU training provided to operators.

Bill will be missed when he retires. He is a can-do person who truly cares about his customers and the residents of the communities he serves. I've never met a person who consistently puts other people's needs ahead of his own the way Bill has and it's been an absolutes pleasure to work with him.

Dear Doctor Drip:

My water is Chlorinated, is that bad for me?

Most PWS use some form of chlorine to disinfect the water to keep the water safe from biological (microbial) contaminants. Even though chlorine is an excellent disinfectant, it reacts with organic material in the source water to produce a group of chlorinated organic compounds called **Disinfection Byproducts (DBPs)**. Usually, the levels of DBPs are higher in treated water from sources with high organic matter content, such as rivers, lakes, and tundra ponds, and lowest when the source is groundwater. DBP levels vary, depending on water quality and treatment conditions.

According to several EPA articles: "While disinfectants are effective in controlling many microorganisms, they react with natural organic and inorganic matter in source water and distribution systems to form DBPs. Results from toxicology **studies have shown several DBPs to be carcinogenic** in laboratory animals. Other DBPs have also been shown to cause **adverse reproductive or developmental effects** in laboratory animals. Several epidemiology studies have suggested a weak association between certain cancers (e.g., bladder) or reproductive and developmental effects, and exposure to chlorinated surface water."

So although we need to disinfect our water to protect us from acute microbial contaminants, we need to make sure we add the correct amount of disinfectant to do the job of killing the microbes (*E. coli and viruses*) without leaving behind a different chronic risk to our health. It is a tough balancing act between adding too little chlorine (resulting in more microbial contaminants and fewer DBPs), and too much chlorine (resulting in dead microbes and higher levels of DBPs).

This is a new area of our newsletter; we hope you will use and enjoy it. Doctor Drip encourages you to send in any questions you have and he will try and get the answers back to you in the next newsletter. You can submit your questions in writing to: The Drinking Water Program, 555 Cordova Street, Anchorage, Alaska 99501; or email them to the editor of Northern Flows: kathaleen_kastens@dec.state.ak.us, or call in at (907) 269-7639. We look forward to hearing from you.

What's Wrong with this Picture? *by Scott Forgue*

ANSWER: "If you've completed a sanitary survey and haven't found a cross connection, you haven't looked closely enough." That statement really struck a chord with me when I recently heard it. Cross connections or potential cross connections are found during many (probably not all!) sanitary surveys. They range from hose connections lacking vacuum breakers or backflow preventers to service lines feeding high hazard connections lacking a reduced pressure zone (RPZ) backflow preventer.

The boiler water feed line in the picture is an interesting situation. The person installing this line placed a dual check valve in the proper location to protect the potable water feed line. However, this effort was effectively defeated by the installation of a bypass line!

Also, the vent at the bottom of the valve should have a discharge line to conduct water to a safe location. Discharging at shoulder level to the top of the boiler could result in damage to equipment or personal injury.

Please forward any photographs you would like to have featured in future articles to Scott Forgue at scott_forgue@dec.state.ak.us. Let me know if you would like credit. ~

More information on identifying cross-connections and establishing a cross-connection control program can be found in EPA's *Cross Connection Manual*, which may be downloaded from the EPA website at http://www.epa.gov/safewater/crossconnection.html or a copy may be viewed at your local ADEC office.

Get to Know the Soldotna Staff *by Susan Bulkow*

The photo to the right shows the Drinking Water Program Staff in the Soldotna office. In the back row, from left to right, is David Litchfield, Environmental Program Specialist III; Scott Forgue, Environmental Engineer I; and Eric Burg, Environmental Program Technician. In the front row, left to right, is Lori Moiles, Administrative Clerk II and Susan Bulkow, Environmental Program Manager I. Collectively, they have 46 years of experience with the Alaska Drinking Water Program, with a shared interest in public health protection and program support.

The Soldotna area office provides Drinking Water Program assistance to the Kenai Peninsula Borough area. You may reach them at (907) 262-5210, or write to them at: ADEC, Drinking Water Program, 43335 Kalifornsky Beach Road, Ste. 11, Soldotna, Alaska 99669. ~

Answer: Temperatures of these boilers seldom exceed 180^0 F and pressures are typically below 25 psi. The temperature of the water returning from the circulation loop should not drop below 35^{0}F.

What's in a PWS Data Dump? *by Jeanine Oakland*

As we wait for the snow to melt and spring to come our way, many of our thoughts (or at least my thoughts) are drifting to the summer months ahead. The summer months also bring the sanitary survey season, and for Community Water Systems (CWS) the due date (July 1st) for their Consumer Confidence Reports (CCR). In order to prepare for the fun ahead, we wanted to take this opportunity to address some of the frequently asked questions on the hundreds of PWS data dumps provided each year to water system owners and operators, and technical service providers. A data dump is a summary report of the water system's data as entered in our state database (SDWIS/State). These reports are generally requested to help write the CCR or to prepare for a sanitary survey. A typical data dump includes water system inventory information, sampling schedules, sample results, and a list of violations. In this insert we have taken three sections (inventory page, sample results, and violations page) of the data dump to highlight important areas that should be carefully reviewed. Please keep in mind these are examples of a data dump and **NOT** a complete report. These examples are intended to give an idea of the information available in a PWS data dump. ~

Check out the example of a Data Dump in the insert of this issue!

The ADEC Drinking Water Program is updating the State of Alaska's PWS "Capacity Development Strategy".

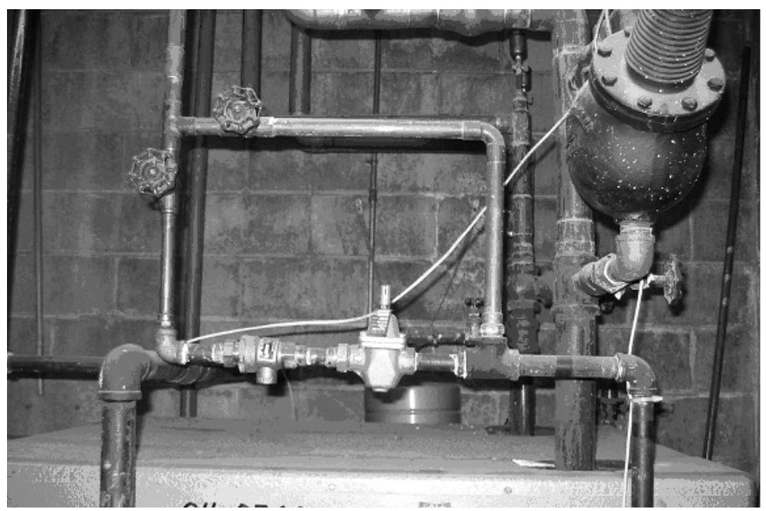
This strategy addresses how the Drinking Water Program will support and promote improvements in the financial, technical, and managerial capacity of drinking water systems. Possible strategy improvements include training for water system managers and incorporating a ranking criteria for water system needs.

If you have ideas you would like to share or are interested in serving on a "Citizens Advisory Board" to help formulate a new Capacity Development Strategy for Alaska PWS, please contact Vanessa Wike in Anchorage at 269-7696 or by email: vanessa _wike@dec.state.ak.us. ~

What's Wrong With This Picture?

by Scott Forgue

The photograph to the right was taken during a routine visit to a public water system serving a campground. "What's wrong with this picture?" (Answer on page 6.)



Long Term 1 Enhanced Surface Water Treatment Rule Update *by Susan Bulkow*

Conventional and Direct Filtration Systems to get new Monthly Operator Report Forms

The following information is applicable to surface water systems and groundwater under the direct influence of surface water (GWUDI) systems, using conventional and direct filtration, and serving less than 10,000 people per day.

In order to assist water system operators in meeting the LT1ESWTR monitoring, reporting and recordkeeping requirements, ADEC will be providing new Monthly Operator Report (MOR) Forms along with instructions on how to complete them. There are two new sets of forms: One is intended for systems that have three (3) or more filters; the other is for systems having fewer than 3 filters. (Under the new rule, systems with fewer than 3 filters may continuously monitor the combined filter effluent (CFE) turbidity in lieu of individual filter effluent (IFE) turbidity, and the new MOR forms have been modified to accommodate for this allowance.)

If you operate a water system using conventional or direct filtration and you have not received new MOR forms by the end of April 2006, or have any questions about how the LT1ESWTR affects the reporting requirements of your water system, please contact your local Drinking Water Program office. The new MOR forms will be posted on the Drinking Water Program's website at: http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html. A summary of the new requirements is provided below:

LT1ESWTR Turbidity Monitoring and Reporting for Conventional and Direct Filtration Systems

Turbidity Reporting Requirement	Monitoring/Recording Frequency	Report to ADEC
Combined Filter Effluent **(CFE)** Turbidity	Every 4 hours*	Record 4 hour CFE turbidity measurements (readings) on Monthly Operator Report (MOR) Forms
CFE 95% Value = 0.3 NTU (95% of all CFE turbidity recordings taken during the month must be less than or equal to 0.3 NTU)	Calculate 95% Value using 4 hour recordings	Report 95% Value on MOR
MCL Value = 1.49 NTU	MCL Value is based on 4 hour recordings	Contact ADEC within 24 hours if MCL exceeded and record on MOR
Individual Filter Effluent **(IFE)** Turbidity	Monitor continuously and record on strip chart or other recording device every 15 minutes**	Contact ADEC within 24 hours and report on MOR if IFE turbidity exceeds 1.0 NTU in 2 consecutive 15 minute recordings

PWS with a reduced CFE monitoring frequency need to contact ADEC to see if the LT1ESWTR will change their CFE monitoring frequency.
****IFE recordings are to be kept on file at plant***

IFE Follow-Up and Reporting

IFE Turbidity Exceedance Triggers	Required Action	Report to ADEC
2 consecutive 15 minute recordings > 1.0 NTU.	Record filter #, turbidity value, date, duration and cause if known.	Contact ADEC within 24 hours and report on MOR .
2 consecutive 15 minute recordings > 1.0 NTU in the same filter 3 months in a row .	Conduct individual filter self assessment (IFSA) within 14 days.	Contact ADEC within 24 hours and report on MOR the date the IFSA was triggered and the date completed.
2 consecutive 15 minute recordings > 2.0 NTU in the same filter two months in a row.	Arrange for a Comprehensive Performance Evaluation (CPE) with ADEC within 30 days, submit report to ADEC within 90 days.	Contact ADEC within 24 hours and report on MOR the date CPE was triggered and the date CPE was arranged with ADEC. CPE must be completed within 120 days of exceedance.

Definitions:
Individual Filter Self-Assessments (IFSA) an evaluation conducted by the water system operator to assess the condition of a filter to determine the reliability of the filter's performance.
Comprehensive Performance Evaluation (CPE) a review and analysis of a treatment plant's performance-based capabilities, including administrative, operation, and maintenance practices that may be adversely impacting a plant's capability to achieve compliance with the Surface Water Treatment Rules. The CPE is completed by ADEC; however, the cost of the CPE is the responsibility of the water system owner.

Long Term 1 Enhanced Surface Water Treatment Rule Cont'd. *by Susan Bulkow*

LT1ESWTR Compliance Tips for Systems Having Conventional or Direct Filtration Systems:

- **Monitoring Equipment -** All conventional and direct filtration systems need to have continuous monitoring equipment online that is capable of recording the individual filter effluent (IFE) turbidity at least every 15 minutes. Small systems with less than 3 filters may continuously monitor the combined filter effluent (CFE) turbidity instead of individual filter effluent IFE turbidity. If your filtration system does not have the required continuous monitoring turbidimeters online, contact the Drinking Water Program staff to determine what interim steps you need to take until the hardware upgrades are complete.
- **Plant Operations -** To best protect public health, and to avoid the need for extensive individual filter assessments and/or a comprehensive performance evaluation, monitor and respond to rising IFE turbidity before it reaches 1.0 NTU.
- **How To's -** More information about performing individual filter self-assessments can be found in *EPA's LT1ESWTR Turbidity Provisions Technical Guidance Manual*, which may be found at the following website:

http://www.epa.gov/safewater/mdbp/pdfs/lt1eswtr/guidance_lt1_ig.pdf

Where Are You?

The Drinking Water Program needs your assistance to update our contact information for your Public Water System. An effective utility management strategy requires up to date contact information for the utility, including; owner, manager, emergency contact and operator. There are many reasons why the Drinking Water Program might need to contact a particular responsible party for a specific system, depending on the nature of the communication. The need for the information to go directly to the appropriate utility staff will help prevent a communication failure.

Please take the time to visit our website at: http://www.dec.state.ak.us/eh/dw/security/security.html to download a PWS contact form, fill it out, and return it to us. The complete instructions are on the form. Your cooperation is both needed and appreciated.

Water systems in the Arctic heat their water directly or indirectly to prevent it from freezing and to enhance the treatment process. Heat may be applied to raw water at one or more points in the system. Typical heat addition points are:

- Raw water prior to the treatment plant.
- Directly after treatment.
- A heat line is placed next to a water line in a utilidor.
- In a reservoir or storage tank.
- In the distribution system loop as water is circulated through the distribution system using a pump.

In a properly operating heating system the following data should be collected and actions taken:

1. Boiler temperature - Daily
2. Water temperature - Daily
3. Circulation loop temperature - Daily
4. Circulation pump pressures - Daily
5. Clean fire box - Annually
6. Replace nozzle - Annually
7. Perform draft and combustion test and tune up boiler - Annually

Question: (Fill in the Blanks) Temperatures of these boilers seldom exceed _____ and pressures are typically below _____. The temperature of the water returning from the circulation loop should not drop below _____.