Northern Flows

Fall Alaska's Drinking Water Program Newsletter

Issue 35 • Fall 2008

The Long Term 2 Enhanced Surface Water Treatment Rule (LT2) By Cindy Christian

The Long Term 2 Enhanced Surface Water Treatment Rule (LT2) builds on the Enhanced Surface Water Treatment Rule and the LT1 Rule by strengthening the multiple barrier approach to treating for microbial contaminants, especially *Cryptosporidium*. *Cryptosporidium* is a pathogenic protozoan that can cause extreme gastrointestinal illness (cryptosporidious), especially in immunocompromised people, young children, and older people. Symptoms of cryptosporidiosis include diarrhea, vomiting, and dehydration. In 1993, there was a massive waterborne disease outbreak due to *Cryptosporidium* in the Milwaukee public water system. Over 400,000 people got sick and over 100 people died from this outbreak. There have been numerous documented cases of waterborne disease outbreaks attributed to *Cryptosporidium* in the United States and Canada since 1993. The LT2 Rule is designed to protect against *Cryptosporidium* contamination of the drinking water supply and to match water treatment to the level of contamination. One of the major requirements of the LT2 Rule is that all public water systems (PWS) that use surface water as a source, must determine the microbiological quality of their source water. This means that all surface water sources must be tested for either *Cryptosporidium* or *E. coli*. Initial source water testing under the LT2 Rule is based on the number of people served by the PWS and each system was assigned a schedule number by the EPA.

If you are this kind of system:	You are on schedule:
System serving 100,000 or more people	1
System serving 50,000 to 99,999 people	2
System serving 10,000 to 49,999 people	3
System serving fewer than 10,000 people (small systems)	4

The higher the population served, the sooner the system has to comply with LT2. Schedule 1, 2 and 3 systems should have already started their *E.coli* monitoring. Most Alaskan systems serve fewer than 10,000 persons and are on Schedule 4. Schedule 4 systems that filter must begin their initial source water monitoring for *E. coli* in October 2008 and must monitor at least once every two weeks for 12 months. Small unfiltered systems, small filtered systems that exceed the *E. coli* trigger levels, and systems who either choose to conduct *Cryptosporidium* or do not conduct *E. coli monitoring,* must begin *Cryptosporidium* monitoring no later than April 1, 2010. The EPA should have been notified by the system owner by July 1, 2008 if a system was to conduct *Cryptosporidium* monitoring. Typically, systems would only choose this option if they have reason to believe that they will not be able to meet the *E. coli* trigger levels. Testing for *Cryptosporidium* is much more expensive and the samples are harder to get to the lab within the required holding times because we have no labs certified for *Cryptosporidium* analysis in the State.

Small unfiltered systems do not have the option of doing *E. coli* monitoring. They must begin monitoring for *Cryptosporidium* no later than April 1, 2010. These systems will be required to collect two samples per month for 12 months or one sample per month for 24 months. We currently have eight systems in Alaska that avoid filtration: Adak, Unalaska, Kodiak, Seldovia, Cordova, Juneau, Ketchikan, and Sitka.

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Message from the Manager *By James Weise*

The autumn season is upon us. The days are shorter, cooler, wetter and the fall colors are spectacular. If you look at the nearby mountains, you will see that many are capped with fresh snow. Unfortunately, looking out of my office window, I notice that the snowline on the Chugach Mountains is over half the way down the slopes. I might as well get ready for early and possibly heavy snowfall this season.

Continuing with our new approach to the newsletter, you will notice that this newsletter focuses on the Long Term 2 (LT2) Enhanced Surface Water Treatment Rule.

Our proposed Drinking Water Regulations revision package, DW 2008-1, will soon be ready for the Lt. Governor's office. Unfortunately, this regulations package primarily containing the federal PWS nomenclature and clarification of the Owner and Operator requirements has taken longer to finalize than expected. Although we only received 14 written comments for the proposed Drinking Water Regulations revision package, DW 2008-1, most of them were in response to proposed

changes in the engineering section. A responsiveness summary has been prepared for the written comments received and will be sent to those who sent written comments. Our next Drinking Water Regulations revision package, DW 2008-2, which will focus on fee increases and some new fees, is in progress.

As usual and unfortunately, workforce changes continue within the Drinking Water Program. Margaret Hansen, Administrative Clerk in the Anchorage office, left the Drinking Water Program in July to work in the DEC Environmental Health Lab, and Doug Zellmer, Environmental Program Specialist in the Anchorage office, left the Drinking Water Program in mid October for Oklahoma. We wish Margaret and Doug well in their new adventures and say "thank you" for their good work with the DEC Drinking Water Program.

Have a great fall, enjoy the short-lived fall colors and get ready for winter.

James R. Weise

James Weise
Manager
Drinking Water Program

ARWA

Alaska Rural Water Association's 10th Annual Water Professionals Training Conference

November 3-6, 2008 at the Anchorage Downtown Marriot

To register, visit their website at:

http://www.arwa.org/conf_10hr.html

The Long Term 2 Enhanced Surface Water Treatment Rule (LT2) cont. By Cindy Christian

All systems will be required to conduct a second round of source water monitoring approximately six years after the first round of monitoring ends. This will help determine if there has been a significant change in source water quality that would affect treatment requirements.

Filtered systems are not required to conduct source water monitoring under the LT2 Rule if the system will provide a total of at least 5.5-log of treatment (maximum treatment) for *Cryptosporidium* by October 14, 2014. Filtration verification will be part of the engineering plan review process and will require extensive testing of the proposed filtration system. We do not believe that most of our systems will be able to meet the maximum treatment requirements and that this will be a very expensive option. If your system is planning to declare maximum treatment, we strongly suggest that you schedule a meeting with the DW Program engineer assigned to your system. They will be able to discuss the applicable requirements and your options in the microbial toolbox for meeting the maximum treatment criteria. If you do intend to declare maximum treatment, the EPA form should be filled out and sent to Wendy Marshall at EPA Region 10.

Schedule 4 systems were supposed to have their sampling schedules to EPA by July 1, 2008. If your system has not submitted a schedule, a sampling location worksheet and schematic to EPA, you will need to do so as soon as possible. The sampling schedule must indicate which days you are going to be sampling. Because of our unique geographic challenges, systems should pay special attention to when flights are available to get samples to the lab. In general, Tuesday or Wednesday would be the best day of the week to pick for sampling events because of lab schedules and if sampling is missed on that day, the system would have the two days on either end to sample. If the system misses the sampling date specified on their sampling plan, they will have to provide an explanation in writing as to why the sample was not taken on that date.

Systems must collect source water samples for each plant that treats surface water or Ground Water under the Direct Influence of Surface Water (GWUDISW). The sample must be collected before filtration and before the addition of any chemicals, like coagulants, disinfectants, oxidants or corrosion control chemicals. It should also be collected prior to any filter backwash water being added. Ideally, systems should collect their samples from the raw water tap, if one is available. There are currently 9 labs certified for the *E. coli* enumeration test in Alaska. A list of these labs is available at our website: → (http://www.dec.state.ak.us/eh/lab/certmicrolabs.aspx)

Samples must be analyzed within 30 hours after collection so the sample must be sent to the lab right away. Lab results must be sent to the EPA until the State of Alaska Drinking Water Program receives primacy for the rule. You must send your results to the EPA within 10 days after the end of the month in which sampling took place. This is exactly like the operator report requirements. Your selected DEC-certified lab will be sending the results to the State. Some labs are including EPA reporting with the sample price. Please check with your lab to see what their reporting policy is.

What will happen if a system does not do *E. coli* testing?

The number one impact to the system will be higher costs. *E. coli* testing costs approximately $100 per sample. The total for one year of testing will be about $2600. If filtered systems do not do *E. coli* monitoring, they will be required to do *Cryptosporidium* monitoring. *Cryptosporidium* testing costs approximately $500 per sample. A total of 24 samples will be required. Total costs for *Cryptosporidium* monitoring will be about $12,000. This is over 200% more expensive than *E. coli* monitoring. If a system does not do either *E. coli* or *Cryptosporidium* monitoring, they will be placed into the highest bin classification. This will mean that the system may be required to install maximum treatment. This will require major upgrades to most treatment plants and additional long-term monitoring. Again, this will be a very expensive option for the system. We believe that most systems will be able to meet the *E. coli* levels and that this is the most cost effective option. Please contact your local Drinking Water Program Environmental Program Specialist if you have questions or need help with filling out a sampling plan.

The First Barrier (Drinking Water Protection) By Charley Palmer

Protecting your source of drinking water from potential contamination is the first step in a multi-barrier approach to maintaining clean and safe drinking water.

Current Events

Source Water Assessments

Drinking Water Protection staff continues to work on completing Source Water Assessments (SWA) for new Community Water System (CWS) and Non-Transient Non-Community (NTNC) public water systems (formerly known as Class A systems). URS Corporation, under contract with the Drinking Water Program, continues to work on completing SWAs for Transient Non-Community (TNC) public water systems (formerly known as Class B systems). For more details regarding which systems these include, please refer to Issue 33 of *Northern Flows*. As of September 1, 2008, URS had delineated Drinking Water Protection Areas (DWPAs) for all of the 226 NTNC and TNC systems. As part of the contract, URS will field-verify the data used for the vulnerability assessment component of the SWA for at least 24 PWSs. These systems were randomly selected from those that are located on or near the road system and include systems that well location information was not verified through the initial contact or the initial contact was not successful due to out-of-date contact information. Drinking Water Protection staff also continues to perform field-verification whenever possible for *all* regulated systems across the state, usually in conjunction with workshops and other travel opportunities.

2008-2010 SOC/OOC Monitoring Waiver applications

Many of you continue to ask Drinking Water Program staff about the status of SOC/OOC Monitoring Waiver applications for the 2008-2010 compliance period. The new application is not available at this time. The general reason is that it is associated with our new regulations package which is put through a rigorous review process before it can be finalized. Please refer to the *Message from the Manager* section of this issue for more details on the current status of the updated regulations package. Unfortunately,

we still do not have a firm date but we are hopeful that the new application will be available soon. Please continue to check our website: ——→ and future issues of *Northern Flows* for updates. If you would like to be contacted once the SOC/OOC Monitoring Waiver application is available, please contact Chris Miller at: Toll-free # 1-866-956-7656, or Direct # (907) 269-7549, or E-Mail: chris.miller@alaska.gov.

http://www.dec.state.ak.us/eh/dw/

What are you doing to protect your drinking water source? Let us know.

Is this information or are you buried under piles of work related to your public water system? We understand. This is why the Drinking Water Protection group has developed a method for reporting protection activities that you are actively pursuing to help us build a database. The basic idea is that this database will allow us to account for protection activities already in place and help those systems lacking in protection efforts with identifying ways that they can (or already do) participate. We are hopeful that this will be another tool to help jumpstart taking control of your protection efforts by documenting, implementing and maintaining them. Remember, protection is inexpensive relative to increased treatment costs or complete loss of your current drinking water source due to contamination.

We are enthusiastic that our protection development and reporting tools can be very useful if you take the time to look them over. As an agency, we can only do so much in the way of protecting your public water system from contamination. Therefore, the responsibility is on you and your local community to take charge and lead the effort to maintain a clean drinking water source. It is important to remember that you are not alone and that sometimes tapping into your local community for help will surprise you. Many citizens are very concerned about maintaining clean drinking water but are unsure how they can participate or who to contact. So, make yourself available to your community and

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The First Barrier (Drinking Water Protection) cont.

By Charley Palmer

enlist them in helping protect your source of drinking water.

The following tools are just a sample of what's already available:

- Source Water Assessment

This report assesses the vulnerability of your system to particular types of potential contamination sources. It also identifies existing and potential sources of contamination that are in your Drinking Water Protection Area (the area from which your public water system receives recharge or water input).

The Executive Summary for the SWA is also available to you and your community on-line at: ⟶ http://map.dec.state.ak.us/eh/dww/index.jsp;

- Wellhead Protection Management CD-ROM (see Issue 34 for more details):

This CD-ROM takes you through a step-by-step process to develop a Drinking Water Protection Plan.

Please take a moment to review these tools and do not hesitate to call the Drinking Water Protection group, Chris Miller or Charley Palmer, with questions. You can contact Charley Palmer at: Toll-free # 1-866-956-7656, or Direct # (907) 269-0292, or E-Mail: charley.palmer@alaska.gov

Northern Flows

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