



Maine Center for Disease  
Control and Prevention

An Office of the  
Department of Health and Human Services

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# Service

# Connection

THE DRINKING WATER PROGRAM NEWSLETTER  
"Working Together for Safe Drinking Water"

Volume 17 Issue 1  
Spring 2009

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## Great Salt Bay Sanitary District Installs UV

Denise Douin, Field Inspector



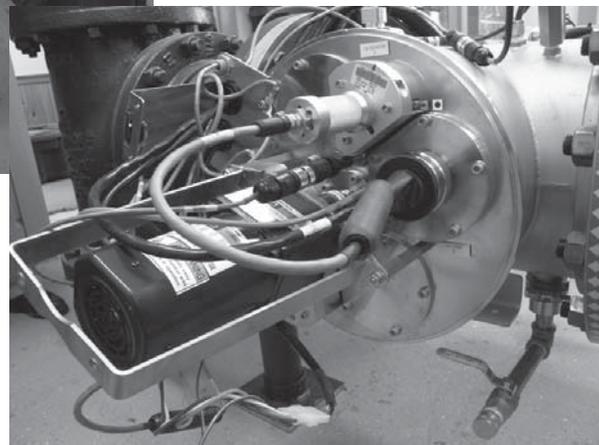
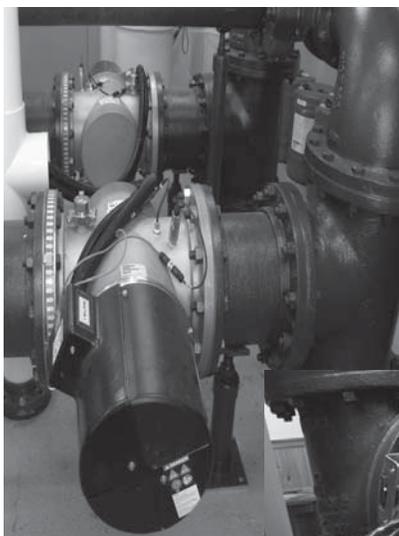
The Great Salt Bay Sanitary District (GSBSD) is the first surface water system in the state to install an ultraviolet (UV) disinfection system to enhance the treatment process at their Little Pond pump station. Little Pond is a pristine, seventy-seven acre pond. The district owns and controls 95% of the watershed property.

In 2006, the District violated the Disinfection By-Product (DBP) Rule because of high levels of haloacetic acids. The District faced the threat of losing their filtration waiver. With a lot of hard work and cooperation, the District worked with the DWP and found an existing law (the Seattle Amendment), which applied to GSBSD due to the pristine nature of the untreated source water. This law allowed the District to install UV to resolve the DBP's and allowed the filtration waiver to remain intact.

Project construction began in September 2008. Construction included installation of two medium pressure ultraviolet units.

The UV system went on-line on January 14th, 2009. A new monitoring and treatment station was built for storing and applying water treatment chemicals including sodium silicates, fluoride, ammonia sulfate, and sodium hypochlorite. The system has been operating very well and the District is very pleased with the results thus far.

The District is still waiting for sample results to see how the UV has impacted their DBP levels. The installation of UV also included public health benefits with added protection against Cryptosporidium and Giardia. At the same time it has placed GSBSD in a good position to meet the upcoming Long Term 2 Enhanced Surface Water Treatment Rule requirements.



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## Director's Corner

With the recent signing of the American Recovery and Reinvestment Act (ARRA) by President Obama, the Drinking Water Program is prepared to receive approximately \$19.5 million in additional funds for the Drinking Water State Revolving Fund (DWSRF). These funds will be used to invest in our drinking water infrastructure and to stimulate the economy.

The 2003 Needs Survey conducted by the Environmental Protection Agency estimated that Maine has a 20 year capital improvement need of approximately \$900 million (\$45 million per year). This includes the cost of replacing aging infrastructure, installing new sources to keep up with growth and meeting existing regulations. The cost of future regulations is not included in this estimate.

Typically, we receive \$20 to \$30 million worth of requests per year for our DWSRF. However, we recently solicited requests for projects associated with the economic stimulus money and received over \$90 million worth of requests.

Why the big increase?

Although we don't know all the reasons a couple theories are:

1. Water systems know that on a typical year we only have around \$12 million. Early estimates of the drinking water portion of the stimulus package ranged from \$10 to \$50 million, though the actual amount was not decided until well after the application deadline.
2. The economic stimulus money offered a rare opportunity for many water systems to get additional subsidies, including grants.

So, although the annual need may be not as high as \$90

million, the actual need is likely as high or higher than the EPA estimate.

A typical DWSRF loan (2.5 percent interest over 20 years) saves borrowers approximately \$220,000 in interest for every million dollars borrowed. Those who receive a zero interest loan save approximately \$540,000 in interest payments for every million dollars borrowed. We anticipate providing zero interest and grant to most loans, resulting in millions of dollars in savings to water system rate payers.

This increased work load will be challenging for everyone. However, we are grateful for and up to the challenge.

Yours for safe drinking water,

Roger



## Service Connection

THE DRINKING WATER PROGRAM NEWSLETTER

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## Test Changes at the Maine CDC's State Lab

### Test Code for 2009 and Cyanide Monitoring Changes

The Maine CDC's Health and Environmental Testing Lab has combined two inorganic tests into one in an effort to consolidate shipping, handling, and quality control. This change affects the inorganic tests TE2 and TE3. These tests are for inorganic contaminants required to be monitored by state and federal regulation.

The new TE6 test combines the old TE2 and TE3 tests and will cost \$240.00. Previously, each TE2 cost \$154.00 and each TE3 cost \$154.00. As part of this change, Uranium has been added to the TE6 while Cyanide and nitrate/nitrite have been removed.

Starting this year, the Drinking Water Program will issue waivers so only systems vulnerable to cyanide contamination will have to monitor. Please note, waivers for cyanide will only be issued after initial monitoring for a new system has been completed *and* if there are no known potential contamination sites in the area.

Cyanide has a different preservation method from all the other inorganics and will now be run separately. If your system is required to monitor for cyanide, the new test will cost \$66.00.

If you have any questions about these changes please call your Compliance Officer or Carlton Gardner.



### New Preservation Methods for Cyanide, VOC and THM Samples

Sample collection methods for volatile organic contaminants, trihalomethanes and cyanide have changed. These changes are to be sure samples are preserved properly.

Designated water operators and samplers need to read the sampling inserts provided with the sample bottles very closely. Please call the lab or the DWP if you have questions about the instructions.

## 2008 Consumer Confidence Report

Scott Whitney, Compliance Officer

**Reminder:** All community water systems must prepare and deliver a Consumer Confidence Report (CCR) to their customers by July 1st. Community water systems are defined as public water systems that serve at least 15 service connections or are used by at least 25 year-round residents.

To comply with the regulations, community water systems must:

- **Before July 1, 2009:**  
Distribute a copy of your CCR to all persons served by the water system and send a copy of your CCR to the Drinking Water Program (DWP).
- **Before October 1, 2009:**  
Send a Certification Form to the DWP confirming that the CCR has been distributed and the information is correct. (Although it is more efficient if you send a copy of the CCR and Certification to DWP Compliance staff at the same time by July 1, 2009).

For a detailed description of the CCR Rule requirements, you can check out the DWP's web site at [www.medwp.com](http://www.medwp.com). If you need help preparing your CCR, contact your compliance officer.

## Chlorine Residuals: Free, Total or Combined?

Jennifer Grant, Compliance Officer



When it comes to monitoring the chlorine residual for your water system, what type of system you have (Groundwater or Surface water) can dictate what your system should be monitoring.

### Surface Water:

40 CFR 141 has specific requirements for surface water systems. The Surface Water Treatment Rule (SWTR) requirements include achieving the proper "CT" using **free** chlorine or another chemical disinfectant such as ozone, chlorine dioxide, or even chloramines; maintaining at least a 0.2 mg/L **free** chlorine residual entering the distribution system (leaving the treatment plant and prior to the first customer); and maintaining a trace (0.001 mg/L or greater) of **total or combined** chlorine residual in all parts of the distribution system.

#### *Prior to the First Customer (for CT calculations):*

**Free** chlorine residual is critical in ensuring adequate and effective disinfection. Any system using chlorine (in any form) to calculate their CT inactivation should be monitoring a **free** chlorine residual at the plant (or wherever CT is calculated). This **free** chlorine residual should be no less than 0.2 mg/L.

#### *In the Distribution System:*

Once the water leaves the treatment plant and enters the distribution system, **total or combined** readings should be taken whenever total coliform samples are taken. These samples are required as

both part of the Surface Water Treatment Rule, which requires a trace of **total** chlorine (0.001 mg/L or greater) in the distribution system at all locations, as well as the Disinfectants/Disinfection Byproducts Rule. Monitoring **free** chlorine residual out in the distribution system is a good operational practice, but is not required for compliance for Surface Water systems.

### Ground Water:

When it comes to ground water systems, the CFR does not have any specific disinfectant residual requirements. The "State of Maine Rules Relating to Drinking Water" allow the Maine Drinking Water Program to dictate a chlorine residual level if a water system fails to meet the requirements of the Total Coliform Rule.

Small groundwater systems that are required to disinfect must have at least a 10 minute contact time and maintain a **free** chlorine residual of 0.2 to 0.7 mg/L in their system. The reason for requiring the higher **free** residual for groundwater systems is to ensure they are actually achieving an acceptable level of CT without requiring them to go through the actual CT calculations and take additional residual measurements. Large groundwater systems should contact the DWP to discuss specific disinfection requirements

If you have specific questions regarding your system, please contact your Compliance Officer.

## Chapter 587, DEP Flow and Level Rules System Design Capacity for Pilot Sites

Andy Tolman, Assistant Director



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After more than seven years of negotiation and discussion, Chapter 587, a set of rules intended to manage lake levels and stream flows in Maine, was adopted and confirmed in 2007. These rules include provision for the Department of Environmental Protection (DEP), the Maine CDC Drinking Water Program (DWP) and the Office of Public Advocate to work with existing surface water Public Water Systems (PWS) to rationalize their withdrawals, protect public health, safety and aquatic habitat.

The DWP's role is primarily in determining System Design Capacity for these systems. We worked with a group of PWS to design a data collection process, and requested data from surface water systems last spring. Nearly all have provided us with the information, and we have selected, in consultation with DEP, four pilot systems to de-bug the process. We have visited York Water District, Kennebunk, Kennebunkport and Wells Water District, and two AquaMaine systems: Bucksport and Camden-Rockland.

Three of the systems have large seasonal water demand

peaks, which result in changes in lake level and stream flow. Bucksport shares its source with the Verso Paper Mill, and their combined withdrawals require an inter-basin transfer from a neighboring watershed. We anticipate that all four systems will require a Water Withdrawal Certificate. As a step towards that goal, we have issued the systems a System Design Capacity letter, stating our understanding of the investment the System has made in withdrawal and treatment capacity at the site. This annual flow rate will be used to assess the potential impact on aquatic habitat when developing the Certificate.

We will work with DEP and the Public Advocate to assess systems' financial and technical ability to manage levels and flows while serving their customers. All the systems have invested in efficient processes and have comparatively low water losses, which will help in the process.

The DWP will be developing System Design Capacity for the remaining surface systems over the spring and summer. For many systems, there will not be a requirement for any further assessment.

## Operator Licensing News and Updates

Teresa Trott, Licensing Officer

### 2009 Exam Dates

June 23 - Augusta  
June 25 - Portland  
October 27 - Augusta  
October 29 - Presque Isle

\*Applications must be postmarked the first Saturday of the month before the exam date. For example, May 2nd for the June exam and September 5th for the October exams.

Please remember to mark if you would like the sequential (100 question) or direct entry exam on your application. Sequential and direct entry exams are the same for the first 100 questions. Direct entry exams have additional questions from each of the preceding exam levels. Class II has 120 questions, Class III has 150 questions, and Class IV has 180 questions.

You may choose to take a sequential exam if you have successfully completed the preceding exam levels. Direct entry exams are available to anyone.

Find exam applications on the DWP website: [www.medwp.com](http://www.medwp.com).



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### Maine Cross Connection Rules Update - In Progress

Nate Saunders, Field Inspection Team Manager



In the fall of 2007, the Drinking Water Program started revising the Maine Cross Connection Rules, which were last revised in 2001. The DWP assembled a workgroup to give input on suggested changes to the rules.

This group met in the spring of 2008, and most recently this January. The comments resulting from each of the meetings have been important and excellent.

The main purpose of the rule change is to clearly describe the “containment” of cross connection hazards vs. “fixture isolation,” and clarify which state rules or code covers each. The Maine Cross Connection Rules regulate the containment of cross connection hazards while The “containment” of cross connection hazards

protects a supplier’s water system from being contaminated by a facility with internal cross connections.

The Maine State Internal Plumbing Code regulates fixture isolation. “Fixture isolation” of cross connection hazards prevents a water system within a facility from being contaminated by cross connections.

After incorporating the input from the two workgroup meetings, the Drinking Water Program is ready to submit “proposed” rules into the rule making process. As part of the process, a public hearing is planned for May 20 at the Key Bank Building in Augusta to discuss the proposed rules.

If you have questions about this process or would like to review the proposed rule changes, please contact Nate Saunders. Special thanks go out to Dana Tuttle and the Plumber’s Examining Board for assisting with this rule change effort.

## What in the world are MRDLs?

Dan Piasecki, Compliance Officer

### Really, what in the world are MRDLs?

MRDL stands for Maximum Residual Disinfectant Level. MRDLs are just like Maximum Contaminant Levels (MCLs) except they are the upper limits for disinfectants instead of contaminants.

### Why do we care?

MRDLs were established to protect against adverse health effects caused by exposure to high levels of chlorine, chloramines, and chlorine dioxide. You need to care because you are required to regularly monitor the disinfectant levels and report the results.

### How do we monitor for MRDLs?

Water systems that add a chemical disinfectant **must** measure the disinfectant residual at the same time and location that they collect a bacteria sample for compliance. The disinfectant residual should be tested whenever water systems take routine bacteria samples, rechecks, and “five the following month” samples. This monitoring is different from testing the residual at the entry point.

### How do we report results?

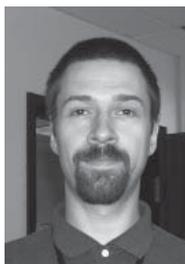
MRDLs can be reported several different ways: on the right hand side of the new small system water system chlorination report form, on the bottom of MOR-002, or on the upper right of MOR-006. For systems that collect more than one sample per month, the total number of samples along with the average residual for the month should be recorded.

*Example:* a water system that collected three bacteria samples in a month had the following residuals: 0.1 mg/L, 0.4 mg/L, and 0.4 mg/L. This system should report the number of samples as 3 and the MRDL as 0.3 mg/L.

Each time a coliform sample is collected, the chlorine residual should also be recorded on the sample collection form and/or the chain of custody.

### How do we know we are in compliance?

For water systems that use free chlorine or chloramines in their distribution, the MRDL is 4.0 mg/L. Compliance is based on a running annual average of the results.



## Watch for SOC Waiver Applications

Does your Required Annual Testing Sheet indicate herbicide and pesticide monitoring? Did your SOC waiver expire in 2008? If so, you should watch your mail for a Waiver Application in March.

Every three years, community and non-community water systems must apply for a waiver from testing of Synthetic Organic Contaminates (SOC's). The SOC's include herbicides and pesticides.

This waiver can save your system over \$1,100.00 in monitoring costs. Systems that fail to submit a SOC Waiver Application will be required to monitor. The DWP will issue partial waivers if there is limited SOC land use in the area.

Information provided on the forms is verified through contacts at other state agencies, geographic information systems and during sanitary survey inspections. When required, most systems complete SOC monitoring in the fall.

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