



Maine Center for Disease
Control and Prevention

An Office of the
Department of Health and Human Services

John E. Baldacci, Governor

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Service Connection

THE DRINKING WATER PROGRAM NEWSLETTER

“Working Together for Safe Drinking Water”

Volume 18 Issue 3
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Getting Your Seasonal Water System Ready For Winter

Larry Girvan, Field Inspector & SRF Project Manager



When the temperature falls below 32 Fahrenheit, water freezes and can expand up to 11 percent. Unfortunately, here in Maine, freezing temperatures can be expected sooner, rather than later, and it is time to consider closing the water systems at our summer cottages and seasonal water supplies for the long, cold winter season.

Depending on the design and complexity of your water system, this activity could be as simple as turning off the water supply, opening a water outlet at the highest point in the system and then opening an outlet at the lowest point, to drain the water from the internal piping.

If all piping is designed to drain to a lowest point, this action should take care of the internal piping in a small simple system. If not, it may be necessary to connect a compressed air source to the piping at the highest possible point and continue to release air into the system, until there is no water seeping from the lowest outlet point. Such practice should remove enough water from the internal piping to allow expansion of any remaining water, without damaging the piping.

If introduction of air is necessary, it is important that enough air pressure is introduced to the system, to move the water from the piping. For small piping, 50 pounds per square inch of air pressure should be sufficient to do the job without the potential to damage pipes.

There may, of course, be appliances or devices that need to be drained, as well. Items that need to be drained may include, but are not

limited to, hot water heaters, furnaces, dishwashers, toilets, piping to refrigerators with ice machines, back flow prevention devices, and water meters. If the hot water heater is to be drained, make sure the power is turned off to the heater before beginning the draining process.

External piping that is not buried below the frost line can also be blown out with air or allowed to drain. Note: If piping is taken apart and left exposed, tape screens over the ends to keep rodents and insects from crawling into the pipes. If necessary, the well pump piping may be lifted a few inches off the pit-less adapter inside the well casing, to allow water to drain back to the well.

The final step in preparing your facility for an extended cold period is to introduce an environmentally friendly antifreeze into the toilet bowls and sink traps. This practice serves to protect the traps and bowls from breaking when water freezes and it also keeps sewer gases from backing into the buildings.

Closing your system for the winter may be time consuming in some systems, but it will provide the owner with peace of mind, knowing that at spring start up, repairs to the system should be minimal.

If you went through the process to safely winterize your facility, please be sure that prior to reopening the water system, it is shock chlorinated. The shock process is described in detail at the following Drinking Water Program link: <http://www.maine.gov/dhhs/eng/water/resources/wakeupyourwatersystem.htm>.

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Caring.. Responsive.. Well-Managed.. We are DHHS.

Director's Corner

Taking Advantage of Opportunities That Come Our Way

The cool rainy summer of 2009 has been replaced by the warm, sunny and dry summer of 2010. It appears demand for water is up all across the state. This is generally good for the bottom line for water utilities. The improved weather conditions have also been an economic improvement for most of the 1700+ water systems in Maine that are not "water utilities."

Each year brings with it different opportunities and challenges. Opportunities bring us closer to reaching goals and challenges arise that hold us back. As with any business, we all need to take advantage of opportunities that are placed before us.

Just as each Maine summer seems to be unique, each season of our lives comes with opportunities to make improvements. If we fail to make improvements when the opportunity presents itself, the fix in the future often becomes more elusive, or, we miss out on future opportunities because we still haven't made the first course adjustment.

A few of the opportunities before us include:

Increases in the federal grant for the Drinking Water State Revolving Fund – In 2010, we received \$13.5 million in federal funds and in 2011, we anticipate receiving around \$12.5 million in federal funds. Historically, our federal grants averaged \$8 million. This greater than 50 percent increase is providing us with the opportunity to work on priorities that we previously could not afford. Additionally, this increased money has an emphasis on "green" infrastructure projects and small systems affordability.

Drinking Water State Revolving Fund State Match – Over the past 14 years, the DWP provided \$168 million in loans to public water systems. This has been achieved by the State of Maine tax payers providing \$24.6 million in State Match and the federal government providing \$141.7 million in grants. With our loan portfolio now exceeding \$100 million, we are now able to consider other sources of State Match, such as direct borrowing. Each alternative has its pros and cons.

Revised Total Coliform Rule – The Total Coliform Rule applies to all public water systems so we will be working with the smallest to the largest water systems to make adjustments based upon these new regulations. The rule is currently in the proposed stage, but we hope to use this opportunity to evaluate all facets of risks of microbiological contamination in the distribution system.

New Governor and New Legislature – While we don't know who will be the next Governor or what the makeup of the Legislature will be, we know we will have opportunities to educate policy makers about the important role public water systems play in protecting public health.

Please don't miss out on the opportunities that come your way. As always, we are here to help you meet your public health obligations by providing you with technical assistance and guidance through the federal and state regulations.

Yours for safe drinking water,

Roger



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THE DRINKING WATER PROGRAM NEWSLETTER

The Department of Health and Human Services (DHHS) does not discriminate on the basis of disability, race, color, creed, gender, sexual orientation, age, or national origin, in admission to, access to, or operations of its programs, services, or activities, or its hiring or employment practices. This notice is provided as required by Title II of the Americans with Disabilities Act of 1990 and in accordance with the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973, as amended, the Age Discrimination Act of 1975 and the Maine Human Rights Act. Questions, concerns, complaints, or requests for additional information regarding the ADA may be forwarded to DHHS's ADA Compliance/EEO Coordinator, State House Station #11, Augusta, Maine 04333, (207) 287-4289 (V), (207) 287-2000 (TTY). Individuals who need auxiliary aids for effective communication in program and services of DHHS are invited to make their needs and preferences known to the ADA Compliance/EEO Coordinator. This notice is available in alternate formats.

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Erika J. Bonenfant, Editor
Drinking Water Program
Division of Environmental Health
Maine Center for Disease Control and Prevention
Department of Health and Human Services
11 State House Station, 286 Water Street, 3rd Floor
Augusta, Maine 04333-0011
TEL: (207) 287-5681 TTY: (800) 606-0215
FAX: (207) 287-4172
E-mail: erika.bonenfant@maine.gov
Web Address: <http://www.medwp.com>





NEW PROGRAM MAKES FUNDING AVAILABLE TO HELP VERY SMALL SYSTEMS

A new SRF program available this year, called the "Very Small System Compliance Loan Program," is targeted specifically at Very Small Systems. This fund allows qualifying water systems to receive up to \$50,000 loans for infrastructure projects that are needed to achieve compliance with a current or future standard of the Safe Drinking Water Act, excluding the Total Coliform Rule. **The loan term will be set at 100 percent principal forgiveness (grant).** A total of \$500,000 has been budgeted for 2010.

Which water systems are eligible? Eligible water systems include all community systems (except those regulated by the Public Utilities Commission) with a population of 100 or less, and all not-for-profit, non-transient, non-community water systems. Examples include: mobile home parks, apartment buildings, nursing homes, and schools. Projects cannot be the result of a failure to maintain an existing treatment system.



An Arsenic Removal Treatment System

The loans will need to meet all requirements for a standard construction loan including contract document, environmental review, capacity review, Davis-Bacon wage rates and other applicable requirements.

How can I get more information? Contact Norm Lamie at (207) 287-2647 or e-mail norm.lamie@maine.gov.

Tracking Tool Shows Maine has High Quality Water Fluoridation Programs

Jennifer Donnell, Security & Fluoridation Specialist



In June 2010, 65 Maine Public Water Systems reported the adjusted fluoride levels in their Monthly Operating Report. Forty six of these systems had levels between the desired range of 1.0mg/L and 1.4mg/L. Ten systems were off by just a bit, and the remaining nine systems had data missing. How did we get these numbers? The Water Fluoridation Reporting System (WFRS), a data collection tool operated by the US CDC, can generate that data in less than 1 minute. This tool enables the Maine Drinking Water Program to access fluoride data easily and efficiently with just a few clicks. What do these numbers actually mean? They mean that water operators are doing a fantastic job of adjusting the naturally occurring fluoride levels upwards to the optimum level of 1.2mg/L and that Monthly Operating Reports (MORs) are coming in on time. The month of June is just one month, and so far in 2010, the diligence of the water operators is clearly evident. In 2009, 42 water systems had excellent fluoride levels, day after day, month after month, all 12 months—a true testament to the hard work and diligence of Maine's Water Operators. DWP and the Oral Health Program have reviewed and recorded the adjusted fluoride levels reported on MORs for many years. The consistent quality of operations is a dental health benefit to the communities served by these systems. The WFRS program allows review of fluoride data from water systems across the United States. The benefits of having a database such as WFRS is that when it comes to illustrating sound operations, this is a fantastic tool that gives credit where it is due, to the water operator.





How are other States getting their 20% state match for the Drinking Water State Revolving Fund?

Norm Lamie, Chief Engineer

A survey was completed in May 2010 by the Maine Drinking Water Program with assistance from the Association of State Drinking Water Administrators (ASDWA). A questionnaire was distributed to 50 Drinking Water Program Administrators asking them to identify methods used by their state to provide the 20% SRF match. With 24 states responding (response rate of 49%), the results to the question “What source of funds has been traditionally used by your state to provide the SRF match” are as follows:

General Fund Appropriation	30%
General Obligation Bond retired outside DWSRF Funds	20%
Revenue Bond retired from DWSRF Interest Funds	37%
All Other	13%

In addition to this survey, we also analyzed the data reported to EPA from all 50 states for the period of 1997 to 2009. The data reflects most states using general fund appropriations as their match source. The historical source of state match funds for all fifty states from 1997 to 2009 has been as follows:

General Fund Appropriation	66%
General Obligation Bond retired outside DWSRF Funds	12%
Revenue Bond retired from DWSRF Interest Funds	21%
All Other	1%

It should be noted that responses varied by region. For example, Region 7 (Kansas, Nebraska, Minnesota, and Missouri) relies 80% on bonds retired from DWSRF interest earnings. Alternatively, Region 1 (New England) relies 78% on General Fund Appropriations. Maine is the exception in the New England States having relied 99% on General Obligation Bonds to provide the match requirement.



REMINDER: All Projects with a Cost of over \$10,000

must have design plans stamped from a Professional Engineer (PE). This applies to all projects, whether or not they are funded through the DWSRF and for all public water system types (Community, NTNC, or Transient).

The Service Connection is going Digital!

The *Service Connection* is transitioning to an electronic newsletter! To receive the *Service Connection* via email, send an email to:

erika.bonenfant@maine.gov

and include:

- ◆ Your name,
- ◆ Your Public Water System or Organization Affiliation
- ◆ Any additional email addresses you'd also like to add to receive the Newsletter.



Risk Management, Resiliency, and Emergency Preparedness

Marion Long, Gradient Planning

Sara Lippert, Capacity Development & Security Coordinator



Events occurring in 2010 reinforce the need to identify, assess, and mitigate risks. During our energetic spring storms, a water treatment plant in Southern Maine was seriously impacted by floods. In addition to addressing such a risk in your emergency preparedness plan, it is critical to consider the impacts of extreme weather events and climate change into your design and construction projects.

There have also been a couple of cases where water systems in Maine have reported that their SCADA system had been penetrated by an outside party. Upon investigation, it was determined not to be the case. However, water systems outside of Maine have not been

as fortunate. This fact clearly demonstrates the need to better understand the risks associated with SCADA systems and implement the necessary risk mitigation measures.

As our world changes, our risks change and it is important to regularly identify, assess, and mitigate them. To learn more, be sure to attend the **November 9th Conference on Risk Management, Resiliency, and Emergency Preparedness at the Muskie School of Public Service at the University of Southern Maine.** Register by contacting mlong@gradientplanning.com.

Water Operator Board News

Teresa Trott, Licensing Officer



Water Operator License Renewals are due 12/31/2010. Check your licenses for the expiration date!

Training Contact Hour (TCH)

requirements are based on the highest level of license a person holds.

- 6 for VSWS
- 12 for Class I
- 18 for Class II
- 24 for Class III or IV

Check the DWP training calendar on the Water Operator Board section of the DWP website for classes. The website also contains a list of TCH credits for Operators on file with the Board. This list may be incomplete, given record keeping began in January 2010. The Board credits attendance as Training providers submit them to the Board. Classes reported after October 2010 may not show up on renewal forms.

Direct Entry Examination Option No Longer Available

Beginning in October 2010, the Water Operator Board will no longer offer the direct entry option examinations. ABC, the examination provider, discontinued this examination option due to only a few states using it. Review of exam statistics indicate that the passing grade would have to be raised to assure comparable knowledge assessment to the sequential format. Please review any exam applications on file and use only the new applications available after October 1st, 2010 on the website.

For more Water Operator News and Information, visit the Water Operator Board section of the DWP website at: <http://www.maine.gov/dhhs/eng/water/licensing/operators/waterops.htm> or go to www.medwp.com and click on "Licensing" and "Board of Water System Operators." For questions regarding Water Operator Licensing, contact Terry Trott at 287-7485 or by email at Teresa.Trott@maine.gov.



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Price Increases at the Health & Environmental Testing Laboratory (HETL)

Fees for some tests at HETL have increased, effective August 1st, 2010. The State Health and Environmental Testing Lab implemented a fee increase for the first time in 2 years, to cover their increased costs incurred for testing.



Some of the new prices include:

Test	Old Price	New Price
Nitrate	\$16	\$20
Fluoride	\$16	\$20
Total Coliform Bacteria	\$16	\$20
4 Rechecks-Total Coliform Bacteria (Remember: The Groundwater Rule requires a source water sample from each active well)	\$64	\$80 plus \$20 for each source sample
5 the Following Month-Total Coliform Bacteria	\$80	\$100
Arsenic	\$16	\$20
VOC (Volatile Organics Screen)	\$150	\$160
HAA5 (Haloacetic Acids)	\$140	\$150
THM (Trihalomethane)	\$90	\$100

The new Public Water Test Guide can be found at: http://www.maine.gov/dhhs/etl/public_test_guide.doc. A list of certified laboratories is available on DWP's webpage (www.medwp.com), by clicking on the "Laboratory Certification" link to the right or by going directly to: http://www.maine.gov/dhhs/eng/water/dwp_services/labcert/labcert.htm.



Quarterly Sampling Reminder

There has been some confusion as to the definition of a "Quarter" if a water system is required to sample within a specific quarter (Quarter 1, 2, 3, 4). A Sampling Quarter is the same as a Calendar Quarter. If you are required to sample within a specific Quarter, the sample must be taken within the specific Calendar Quarter.

For your reference, Quarters are defined in the table below:

Sampling Quarter	Dates
1st Quarter	January 1 - March 31
2nd Quarter	April 1 - June 30
3rd Quarter	July 1 - September 30
4th Quarter	October 1 - December 31



ENFORCEMENT CORNER

The Maine Attorney's General Office filed a motion for criminal contempt of court at the Washington County District Court against a restaurant in the Downeast Region of Maine. Because this public water system failed to meet the terms of the Court Order to return to compliance with drinking water requirements, the Assistant Attorney General is planning to ask the Court at hearing to impose a jail sentence against the owner, not to exceed 30 days.



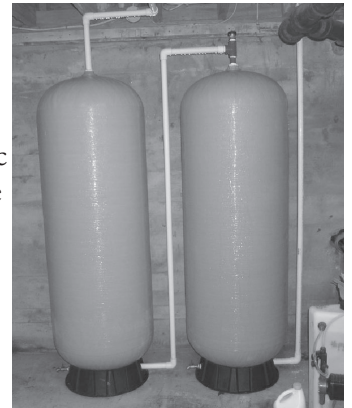
Contact Tanks vs. Pressure (Bladder) Tanks

Nate Saunders, Field Inspection Team Manager

In order to effectively disinfect drinking water with a chemical disinfectant like chlorine, the chemical must be added at the proper dosage and then given “contact time” to ensure that bacteria and viruses are killed before the water is consumed. Because killing bacteria and viruses is the goal of disinfection, having the correct amount of contact time is important. For the purposes of this article, the amount of contact time required is specific to each water system: contact your Drinking Water Program field inspector or compliance officer for details. The point to focus on is that a pressure tank that uses a bladder to maintain pressure **cannot** be considered a contact tank.

A contact tank is a flow through tank with a separate inlet and outlet, commonly with an inlet at one end of the tank and an outlet at the other. A bladder tank is a tank that is simply connected with one pipe to a water line; water does not flow through from one end of the bladder tank to another. Although water does enter the bladder tank, water does not flow through the tank with the predictability needed to provide the designed and necessary contact time.

Consider a chlorinated water system with a well capable of supplying 10 gallons per minute and the system has no contact tank, only a bladder tank. If the water system is turned on so that the demand on the system is 10 gallons per minute and the well is pumping at 10 gallons per minute, then all of the water will pass right by the bladder tank to the users, never entering the bladder tank. In this case, a bladder tank is not providing any contact time at all. Variations on these conditions will result in only part of the flow entering the bladder tank, with the other portion passing by the bladder tank without receiving the necessary contact time. If a flow-through contact tank is installed in this system, in addition to the bladder tank, water will flow through the contact tank from one end to the other, taking a designed amount of time for the flow to occur (“contact time”), and therefore providing the contact time necessary to kill pathogens. When designing water systems that use a chemical disinfectant, non-flow-through tanks, such as pressure bladder tanks, cannot be considered contact tanks. If you have any questions about contact tanks vs. pressure tanks, contact your Field Inspector or Compliance Officer at 287-2070.



Example of Contact Tanks: Note the separate inlet and outlet on the tanks



Example of Pressure Tanks: Note only one pipe serves as both inlet and outlet, no separate outlet

Maine Public Drinking Water Commission Awards DWP Annual Staff Merit Award and Certificates of Appreciation

The 2010 DWP Annual Staff Merit Award was awarded to Dawn Abbott, the DWP’s Enforcement Specialist. This award, given annually by the Maine Public Drinking Water Commission, recognizes an employee of the DWP who has made a significant contribution in the past year to the goals and mission of the program. Nominations are solicited and received from the drinking water “community” in Maine, including the DWP staff, other Maine water industry associations and public water systems. Dawn was recognized for her initiative, dedication and team spirit. Dawn’s tireless efforts to work together with water systems and help them return to compliance with federal and state drinking water regulations has been a true asset to the program.



Dawn Abbott

This year, the Commission recognized two individuals outside of the program who have been repeatedly credited for their consistent contributions to the DWP. The Commission presented a “Certificate of Appreciation” to Andy Begin, recognizing his engineering skills, effective management, good humor and lasting contributions to the DWP. Jason Pushard of the Maine CDC’s Health and Environmental Testing Laboratory, was also presented with a “Certificate of Appreciation” to recognize his outstanding sample management and general quality assurance in support of the DWP.



Department of Health
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Maine CDC

286 Water Street, 3rd Floor

11 State House Station

Augusta, Maine 04333-0011

Dawn Abbott 287-6471
 Wendy Austin 287-5672
 Jessica Bishop 287-5699
 Erika Bonenfant 287-5681
 David Braley 441-5324
 Haig Brochu 592-0954
 Douglas Coombs 592-2084
 Roger Crouse 287-5684
 Jennifer Donnell 287-5295
 Denise Douin 592-2165
 Greg DuMonthier 592-1674
 Jeff Folger 592-0578
 Robin Frost 287-8411
 Carlton Gardner 287-8403
 Larry Girvan 592-7386
 Jennifer Grant 287-3962
 James Jacobsen 287-5695
 Eben Joslyn 557-2255
 Norm Lamie 287-2647
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 Matthew Sica 287-1929
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 Amilyn Stillings 287-6472
 Daniel Thompson 287-2070
 Andrews Tolman 287-6196
 Teresa Trott 287-7485
 Kate Tufts 215-0624
 David Welch 287-3056
 Scott Whitney 287-8487
 Jim Willis 287-5694

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 Receptionist
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 Field Inspector
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 Administrative Support Assistant
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 Field Inspection Team Manager
 Laboratory Certification Officer
 Secretary
 Information Coordinator
 Receptionist
 Assistant Director
 Operator Licensing/Environmental Review Coord
 Field Inspector
 Data Management Specialist
 Compliance Officer
 Office Clerk

dawn.abbott@maine.gov
wendy.austin@maine.gov
jessica.bishop@maine.gov
erika.bonenfant@maine.gov
david.braley@maine.gov
haig.brochu@maine.gov
douglas.coombs@maine.gov
roger.crouse@maine.gov
jennifer.donnell@maine.gov
denise.douin@maine.gov
greg.dumonthier@maine.gov
jeff.folger@maine.gov
robin.frost@maine.gov
carlton.gardner@maine.gov
larry.girvan@maine.gov
jennifer.grant@maine.gov
james.jacobsen@maine.gov
eben.joslyn@maine.gov
norm.lamie@maine.gov
brent.lawson@maine.gov
sara.m.lippert@maine.gov
carla.mcpherson@maine.gov
yvette.meunier@maine.gov
lindy.moceus@maine.gov
martha.nadeau@maine.gov
danielle.obery@maine.gov
tera.pare@maine.gov
daniel.piasecki@maine.gov
nathan.saunders@maine.gov
matthew.sica@maine.gov
fran.simard@maine.gov
amilyn.stillings@maine.gov
daniel.thompson@maine.gov
andrews.l.tolman@maine.gov
teresa.trott@maine.gov
kate.tufts@maine.gov
david.welch@maine.gov
scott.whitney@maine.gov
james.willis@maine.gov

(207) 287-2070 • TTY: (800) 606-0215 • Fax: (207) 287-4172

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