

In The Main

Special Issue for Transient
Non-community Systems

EPA Proposes Revisions to Total Coliform Rule

Excerpts from the Arkansas Drinking Water Update - Summer 2010

On June 17, 2010, U.S. Environmental Protection Agency (US EPA) Administrator Lisa Jackson signed proposed revisions to the Total Coliform Rule (RTCR). The regulation, issued in 1989, is the only microbial regulation that applies to all public water systems. The proposed rule would become effective in 2013.

The RTCR was developed based on an Agreement in Principle prepared by an advisory committee representing 15 stakeholder organizations. The committee signed the agreement in 2008 and US EPA committed to developing the proposed rule in conformance with the agreement.

Triggered Assessments

The RTCR eliminates the maximum contaminant level (MCL) associated with total coliform. However, it uses the old total coliform MCL criteria as the trigger under the proposed rule for a system to conduct an assessment and

take corrective action. Failure to conduct the assessment or the corrective action constitutes a treatment technique violation.

Two levels of assessment are established. A Level 1 assessment is triggered when a system has two or more total coliform positive samples in a month when fewer than 40 samples are collected.

A Level 2 assessment is triggered by an *E.coli* MCL, the failure to collect repeat samples following an *E.coli* positive sample, or if two Level 1 assessments are triggered within a rolling 12-month period.

The assessments are meant to identify sanitary defects and it will be up to states to define the forms and criteria for a Level 1 and Level 2 assessment. The RTCR does list the minimum elements that both assessments must evaluate and those include the following:

- Sample site inadequacies
- Sampling protocol

See "RTCR" on page 2

Groundwater Rule Requirements

By Yvette DePeiza and Frank Niles

In 2009, MassDEP adopted a new federal Safe Drinking Water Act regulation, the Ground Water Rule (GWR). The rule is intended to increase public health protection against potential viral contamination in public water systems (PWSs), regardless of size or type of system, that are using groundwater sources (wells). More than 1,400 Massachusetts PWSs had to comply with the rule by December 1, 2009. Under routine Total Coliform Rule bacteria monitoring, all PWSs that do not remove or kill 99.99% of viruses through state-approved treatment processes are required to test their source water wells for *E. coli* or enterococci (a fecal indicator) every time the PWS receives notification of a positive total coliform sample. The fecal coliform indicator for TNC is *E.coli*.

If the source well sample is positive, the PWSs must consult with MassDEP and initiate Tier 1 (acute health

concern) public notification within 24 hours. This is a federal rule and federal public notification requirement. "Boil orders", "do not drink orders", or "do not use orders" may be associated with the public notification. The PWS must then take an additional five samples at the source. If any of the additional five samples are fecal indicator positive, the PWS is required to provide emergency disinfection or alternative source water until one or more of the following corrective actions is completed:

- The source of contamination is identified and eliminated.
- A deficiency in the water system operation or construction that could lead to fecal contamination has been corrected.
- An alternative source of water is provided.

See "Requirements" on page 2

- 4-log treatment for virus inactivation (disinfection) and/or removal (filtration) is installed and demonstrated.

On the other hand, if all five follow-up samples are negative, the public notice and associated requirements are terminated. Please note that the Tier 1 public notice is **required** after the **first** positive source (well) sample. This is a new practice for PWSs which may result in consumer questions. MassDEP has prepared standard public notice language to assist water systems, boards of health, and consumers. The Ground Water Rule Public Notice information is located at <http://www.mass.gov/dep/water/drinking/systems.htm#pubnot> (then scroll to Ground Water Rule). If MassDEP determines that the well is contaminated, the source of contamination must be eliminated or the deficiency in design must be corrected. If not, the PWS must install or increase treatment.

In event of an emergency, please contact MassDEP. The 24/7 emergency contact telephone number is 888-304-1133. If you have questions on the GWR, please contact Frank Niles at 617-574-6871 or Frank.Niles@state.ma.us. Please look online for GWR information at <http://www.mass.gov/dep/water/drinking/gwr.htm>. 



Commonwealth of Massachusetts
Deval L. Patrick, Governor
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Executive Office of Energy & Environmental Affairs
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Department of Environmental Protection
Kenneth L. Kimmell, Commissioner

Bureau of Resource Protection
Ann Lowery, Deputy Asst. Commissioner

Drinking Water Program
David Y. Terry, Program Director

Marie Tennant - Designer/Editor 617-292-5885
Marie.Tennant@state.ma.us

Department of Environmental Protection
One Winter St. - Boston, MA 02108

www.mass.gov/dep

- Sample processing
- Unusual events affecting distribution system water quality
- Distribution system maintenance and operation changes that could affect distributed water quality, including water storage
- Source and treatment considerations that could affect water quality

Level 1 assessments are to be conducted by the water system. Level 2 assessments must be conducted by the state or by a party approved by the state. If a water system conducts a Level 2 assessment, it must have staff with the certifications or qualifications established by the state. Both types of assessments must be submitted to the state within 30 days of the triggering event. Any corrective action identified in the assessments must be completed by the time the assessment is submitted or in conformance with a schedule determined by the state in consultation with the system.

Monitoring

The monitoring requirements on small systems and seasonal systems have increased to at least monthly in most instances. The systems that have consistently good results will have reduced monitoring requirements; however, higher risk systems will have increased monitoring requirements. If a routine sample is positive for total coliform the number of repeat samples required in the RTCR has been reduced to three, where four are required under the current TCR.

A system on quarterly monitoring must return to monthly monitoring if samples collected during quarterly monitoring result in an *E.coli* MCL violation; if it triggers a Level 2 assessment, two Level 1 assessments, or has two monitoring violations within a rolling 12 month period; or if it has a coliform treatment technique violation.

Of note is a new category for an *E.coli* MCL violation. If a system fails to collect all required repeat samples following an *E.coli* positive routine sample, it will result in the PWS having to perform a Tier 1 public notice.

More information can be found at: http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm or you may contact your regional MassDEP office (Springfield 413-784-1100; Worcester 508-792-7650; Wilmington 978-694-3200; Lakeville 508-946-2700) or the Boston Office at 617-292-5770. 

Source Sampling Taps and the GWR

By Yvette DePeiza and Frank Niles

Massachusetts Regulation 310 CMR 22.26 (3) (e) implements the federal Ground Water Rule (GWR) in Massachusetts. The intent of the GWR is to protect the public from bacterial contamination in drinking water.

Public water systems (PWS) must follow their set monitoring schedules for bacteria. If bacterial contamination is detected, then triggered monitoring is required [310 CMR 22.26(3) (a)]. Any groundwater source sample required under triggered monitoring must be collected *prior* to any treatment of the

groundwater source i.e., a source sample tap.

All bacterial monitoring requires a dedicated groundwater source sampling tap. The integrity of this tap must not be compromised and the tap must be used for source water sample collection only.

After a detect, a system may shock-chlorinate a well as a short-term corrective action. However, continuous injection of chlorine/disinfectant directly into a well is not compliant with the GWR, particularly in the case of triggered monitoring. Such an arrangement is counter to the intent of the GWR and is not allowed.



If you have any questions about the GWR or triggered monitoring, contact Frank Niles at 617-574-6871 or at Frank.Niles@state.ma.us.

Virus Removal Credit for Membrane Systems

Is your system looking for 4-log treatment options for compliance with the GWR?

By Frank Niles

Under the provisions of the Groundwater Rule (GWR), 310 CMR 22.26, compliance may be achieved by: (a) successfully conducting triggered or required source water fecal indicator compliance monitoring or b) providing MassDEP-approved 4-logs of treatment for viruses. For systems providing 4-logs of treatment, a portion of that treatment can be provided with membrane filters that MassDEP has approved as capable of removing viruses. The use of these membrane filters will reduce the level of disinfectant used by the system; thus, providing a barrier against viruses as well as a reduction in disinfection by-products in the treatment process. For a list of approved new technologies, please see: <http://www.mass.gov/dep/water/drinking/systems.htm#newtech>. For detailed information on the MassDEP approved membranes and conditions of approval, please contact the appropriate staff.



Name	Telephone	MassDEP Office
Jim Bumgardner	413-755-2270	Western
Jim Dillon	978-694- 3231	Northeast
Kelly Momberger	508-849-4023	Central
Mike Quink	508-946-2766	Southeast
Scott Sayers	508-946-2780	Southeast
Terry Dayian	508-946- 2765	Southeast
Frank Niles	617-574-6871	Boston

ER Notification Requirements

By Yvette DePeiza

The Massachusetts Drinking Water Regulations, 310 CMR 22.00, include specific notification requirements for reporting emergencies to MassDEP and the local board of health. The regulations identify specific incidents or emergencies that require notification within 2 hours and 24 hours. Section 22.15(9) requires each PWS to notify MassDEP and the local board of health after the occurrence of any of the following incidents or emergencies that result in the consumers of the system receiving water that does not meet required or routine quantity or quality conditions.

Emergencies or incidents requiring notification within 2 hours:

- Loss of water or drop in pressure to less than 20 psi, affecting 50% or more of consumers for a system serving less than 10,000 persons
- Loss of water or drop in pressure to less than 20 psi, affecting 5,000 or more of consumers for a system serving 10,000 or more persons
- Chemical or microbiological contamination of the water supply in exceedence of limits specified by MassDEP’s Office of Research and Standards (ORS) as set forth in ORS’s Memorandum in Treatment Chemicals as Do Not Drink or Use Guidance (available on-line at <http://www.mass.gov/dep/water/laws/regulati.htm#chems>)

Indicator Treatment Chemical	Immediate Action Level
High pH	pH levels > 11
Low pH	pH levels < 4.5
Fluoride	10 mg/L
Free chlorine	25 mg/L
Chlorine dioxide	See http://www.mass.gov/dep/water/laws/ialwtpps.htm

- Discovery of malicious intent or an act of vandalism, which may impact a system component
- Any consumer complaint in which the water may have caused physical injury
- A pattern of unusual customer complaints about the water quality such as taste, odor, etc.
- Any other emergency as determined by MassDEP in writing

Emergencies or incidents requiring notification within 24 hours:

- Loss of water supply from a source
- Loss of water supply due to major component failure
- Damage to power supply equipment or loss of power
- Contamination of water in the distribution system from backflow or cross connection incident
- Collapse of a reservoir, reservoir roof, or pump house structure
- Break in a transmission or distribution line that results in a loss of service to 100 consumers for more than four hours
- Chemical or microbiological contamination of the water supply, including overfeed of drinking water treatment chemicals
- Any other failure of part or all of the water supply system due to equipment failure, human acts (deliberate or accidental), or natural or human made disasters

More information on the Emergency Response Regulations is available at: <http://www.mass.gov/dep/water/drinking/systems.htm#emerresp> . If you have any question about this information, contact Paul Niman at 617-556-1166 or Paul.Niman@state.ma.us. 

Point of Entry/Point of Use Treatment Devices

Do you have a treatment device installed on your faucet or water bubbler that changes the water quality? If so, you may want to read MassDEP’s fact sheet titled “Point of Entry/Point of Use Treatment” (POE/POU). This fact sheet was developed to help public water

systems, boards of health, facility owners, and consumers understand when the installation of a POE/POU treatment device would create a public water system and thereby require MassDEP oversight. The fact sheet also summarizes the minimum requirements for POE/POU installations noted in the Drinking

Water Regulations 310 CMR 22.00. The fact sheet is available on the MassDEP website at: <http://www.mass.gov/dep/water/drinking/poupoe.htm>. Please contact Yvette DePeiza at 617-292-5857 or Yvette.DePeiza@state.ma.us for more information on POE/POU. 

Mercury and Drinking Water

MassDEP's concerns for mercury-containing products at PWSs fall in two general categories: risk of contamination of drinking water and operator workplace hazards. Perhaps the greatest concern for potential drinking water contamination is the use of mercury-containing submersible pump seals, due to their proximity to the source of water.

MassDEP has developed a Best Management Practice (BMP) guidance document that provides information



Mercury spill at a PWS from a pump seal
(1997 Section Meeting, AWWA, Boise ID)

regarding the identification and proper removal and disposal of mercury-containing products, mercury-free replacement alternatives, mercury recyclers, how to clean up mercury spills, and mercury spill kit vendors. The BMP document is available on MassDEP's web site at <http://www.mass.gov/dep/water/drinking/leadtothe.htm#mercury>. You may also find additional information regarding the results of the MassDEP 2007 PWS questionnaire on mercury at drinking water facilities at this location.

For more information on the Drinking Water Program's mercury reduction initiative, please contact Joe Cerutti at 617-292-5859 or Joseph.Cerutti@state.ma.us or Kenneth Pelletier at 617-348-4014 or Kenneth.Pelletier@state.ma.us.

Emergency Bulk Water

Got a drinking water emergency? Need to have bulk water delivered to your system? Be prepared. Make sure you have a bulk water delivery arrangement included in your Emergency Response Plan. And while you are at it have a look at MassDEP's Drinking Water Program Policy #92-07; *Bulk Water Suppliers Sampling Requirements and Transport Responsibility*. It can be found on the web at: <http://www.mass.gov/dep/water/laws/policies.htm#dwpol>.

This policy addresses the use of trucked bulk drinking water deliveries to PWSs in emergencies. A policy revision resulted in the creation of the *Security Guidelines for the Inspection of Emergency Bulk Water Deliveries* that includes a Bulk Water Delivery Inspection Form. MassDEP has also developed a fact sheet titled *Procedures for Emergency Tank Truck Bulk Water Hauling*. The security guidelines, fact sheet, list of available bulk water haulers, and list of DPH approved bulk tanker washing locations is on MassDEP's website at: <http://www.mass.gov/dep/water/drinking/systems.htm#emerresp>.



Guides for Owners and Operators of Small Systems

MassDEP has produced a booklet titled "A Business Owner's Guide to Complying with Massachusetts State Drinking Water Rules," which discusses such subjects as: what is a TNC system, where to find assistance, what to test for, sampling schedules, etc. It can be found on the web at: <http://www.mass.gov/dep/water/drinking/tncguide.htm>, or call any of the MassDEP offices for a color hard copy of the booklet.

There is a booklet on NEIWPCC's website that is meant to educate gas station owners and operators of the responsibilities associated with having an onsite transient non-community public drinking water well. The booklet (PDF version) and Power Point slides for "Protecting the Drinking Water You Provide - A Guide for Owners and Operators of Gas Stations" can now be found at: <http://www.neiwpcc.org/tncguide.asp>. Please feel free to pass this information along.

Boil Orders and Other Public Health Orders

By Yvette DePeiza

As you can see from the graph below, transient non-community systems (TNC) represent approximately 27% of the total number of boil orders issued in the Commonwealth. Therefore it is very important for TNC systems to know about these public health orders.

There are 3 types of public health orders issued by MassDEP: Boil Water Order, Do Not Drink Order, and Do Not Use Order. During any of these orders, bottled water or water from an alternative approved MassDEP source may be used during the period of concern.

Boil Orders are issued by MassDEP to the public water system (PWS) to notify consumers to boil the water or use water from another approved source. This occurs when a PWS exceeds or has the potential to exceed the standard for total coliform bacteria or a fecal indicator. During this type of situation there is no other identified public health risk due to inhalation, skin irritation, or flammability.

Do Not Drink Orders are issued by MassDEP when there is a suspected

or known synthetic organic compound (SOC), inorganic compound (IOC), volatile organic compound (VOC), or radiological contamination in the drinking water. Continued drinking or other human consumption uses of the water would or could pose an immediate threat to health. During this type of situation there is no identified public health risk due to inhalation, skin irritation, or flammability.

Do Not Use Orders are issued by MassDEP when there is or may be an unknown chemical, radiological, or other unknown contamination and there may be a risk from inhalation, skin irritation, or flammability. A Do Not Use Order may also be issued for a known chemical or radiological contamination that exceeds an immediate health and/or safety risk, e.g., gasoline in the water.

What happens when sample results or a situation indicates the need for a public health order?

- You inform MassDEP and your local board of health (BOH) within 2 hours of learning of the problem. These numbers should

be in your Emergency Response Plan (ERP) that you were required to develop.

- MassDEP consults with you and determines the appropriate course of action in accordance with Federal and State Drinking Water regulations. Your BOH may participate in discussions with you and MassDEP. MassDEP verbally notifies you of the issue and the required actions, and issues a written order to your facility within 24 hours or as soon as possible. The order always includes the actions consumers should take with the drinking water and steps you must take to protect the public health, monitor the situation, and correct the problem. MassDEP keeps the Massachusetts Department of Public Health (MDPH) and US Environmental Protection Agency (EPA) informed throughout the situation. Refer to: <http://www.mass.gov/dep/water/drinking/boilordr.htm>.
- MassDEP lists all current public health orders on its webpage at: http://db.state.ma.us/dep/boil_order/search.asp. If the

Year	2005	2006	2007	2008	2009	2010
Total # of all PWS	1725	1733	1742	1731	1725	1738
Total # of TNCs	948	953	955	944	930	944
# of Boil orders for all PWS	11	13	14	19	29	14
# of Boil orders for TNCs	3	3	2	3	11	5
# of Other Orders for all PWS (Do Not Drink and Do Not Use)	3	2	3	3	2	2
# of Other Orders for TNC	1	0	1	3	0	0

order is issued on a normal business day the information is on the web within 24 hours. If the order is issued on a weekend or a holiday the information is on the webpage within 24 hours of the first business day following the issuance of the order.

How are your consumers notified of a MassDEP public health order or advisory?

You are required to issue a MassDEP-approved notice as soon as possible but no later than two hours of receipt of the MassDEP notification of the situation or receipt of the written order, whichever occurs first, by the following means:

- Broadcast media (radio, television, newspaper)
- Posting the notice - For most TNCs posting delivery will be the preferred method
- Hand delivery - Hand delivery is also another preferred method for TNCs
- Any other method approved by MassDEP such as reverse 911

To expedite the consumer notification process, MassDEP has pre-approved template notices available for use at: <http://www.mass.gov/dep/water/drinking/systems.htm#pubnot>.

What instructions should a food establishment follow during a drinking water order?

MDPH has specific guidance for food establishments. Restaurants and other food establishments must follow the *MDPH Guidance for Emergency Action Planning for Retail Food Establishments*. This information is available on the MDPH website at: http://www.mass.gov/?pageID=eohhs2terminal&L=6&L0=Home&L1=Provider&L2=Guidance+for+Businesses&L3=Food+Safety&L4=Retail+Food&L5=Policies+and+Guidelines&sid=Eeohhs2&b=terminalcontent&f=dph_environmental_foodsafety_p_emergency_plans&csid=Eeohhs2. All questions on food establishment requirements should be referred to the MDPH Food Protection Program at 617-983-6700.

How can you be prepared to handle a drinking water public health order?

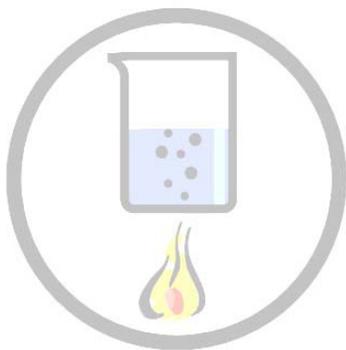
You and your staff should be familiar with the ERP you were required to develop. For more information on ERP visit: <http://www.mass.gov/dep/water/drinking/emgrspn.htm>. At a minimum, keep your ERP contact information up-to-date so that all parties can be kept informed when a public health order is necessary. Here are a few steps that will go a long way

to help you address emergencies and other public health orders:

- Before an order or emergency occurs – You should work with your BOH and other local officials to make them familiar with your system’s ERP. If your facility cannot shut down during a drinking water emergency, your plan must address all of the steps you will take to continue to protect public health. All staff must be regularly trained on your ERP. Follow all applicable MassDEP regulations, policies, and guidance to maintain a fully compliant system.
- During an order – Contact MassDEP and your BOH, and follow your up-to-date ERP and the MassDEP Order.
- After a situation – You should complete and file an Emergency Response Report, evaluate the situation, and make adjustments to your ERP as needed. You should continue updating and training on the ERP.

For questions regarding public health orders, please contact Yvette DePeiza at 617-292-5857 or Yvette.Depeiza@state.ma.us.

How to contact MassDEP offices: <http://www.mass.gov/dep/about/region/findyour.htm>



Conditions for Vending Machine Approval

By Otavio DePaula-Santos

This is a reminder for owners and operators of water vending machines (WVM) of the MassDEP conditions and requirements for vending machine approval.

All water-dispensing units must post a large printed notice warning the customers that the bottle may be a source of possible contamination if it is not sanitized. The notice shall be printed at a minimum on 8 1/2" x 14" size, or larger, waterproof decal. The text shall be set in at least 24 point type, or larger, and be in red type on a white background, and should read: "All customers are required to use clean and sanitized bottles/containers."

The WVM labels or advertisement shall not imply or describe, on the machine or elsewhere, the vended water as spring water or have medicinal or health-giving properties.

The operators of water-dispensing units *are required* to post a sign with the following information: *name and address of the operator, local or toll free phone # (for emergencies) and e-mail address (if available), method of treatment and post-disinfection utilized.* The sign shall be printed at minimum on an 8 1/2" x 14" size, or larger waterproof decal. The text shall be set in at least 24 point type, or larger, and be in red type on a white background.

Massachusetts Department of Public Health regulation, 105 CMR 590.018, requires the following: "(D) License: Display of Operator's License Number. An easily readable label or sign bearing the operator's license number, company name, and service telephone number shall be conspicuously displayed at each machine location."

Special Requirements:

Cross-connection Control and Backflow Prevention:

At a minimum, an installation of a dual check valve with an intermediate atmospheric vent backflow prevention device (DCIAV) is required on the supply line before the connection with the water purification system. The installation of such device will protect the public water system to which the unit is connected against a backflow caused by a back siphonage and/or backpressure; thus, protecting the public water from substances hazardous to health (310 CMR 22.22(12)). Be aware that proper drainage is required when using this or other backflow preventer devices such as a reduced pressure backflow preventer.

Installation Requirement:

For each proposed installation of water purification systems, the owner or its designee must apply for

the appropriate MassDEP permit and pay the respective permit fees. The permit applications required are: BRP WS30A (Water Vending Installation Approval – 1 to 9 units), or BRP WS35A (Multiple Water Vending Installation Approval – 10 or more units). Complete and submit a Water Vending Machine Request for Local Site Approval Form along with your permit application (BRP WS30A or BRP WS35A) for each public water system where you intend to install an approved unit. Please note that applications will be reviewed in the order in which they are received, and that the installation will be subject to specific water quality monitoring requirements. For the permit application instructions and forms go to: <http://www.mass.gov/dep/water/approvals/dwsforms.htm#vending>.

Emergency Requirements



In the event that the water supply is limited or unavailable, or the water quality has been compromised, the following steps must be taken:

- Disconnect the water line to the water vending machine
- The water vending machine unit *must be shut down* until further notice from the "parenting" PWS that the water quality is back to normal and the emergency situation has been lifted (Boil Order, Do Not Use, or Do Not Drink Order).
- Before the water vending machine is back in operation, the purification systems must be properly drained/flushed, the filters must be replaced, the disinfection system equipment must be properly maintained, and the internal piping properly disinfected.



New Vending Machine Models

Currently there are 97 vending machines registered as TNC systems with MassDEP. Recently we have had several requests to approve a variety of new business models. The United States Environmental Protection Agency (US EPA) determined that “Drinking water vending machines which either treat water in some way or sell water are covered by the National Interim Primary Drinking Water Regulations (NIPDWR) as a non-community public water supply”. See the USEPA information at http://www.epa.gov/safewater/wsg/wsg_3.pdf. MassDEP routinely reviews and approves all applications for new technology of drinking water vending machines. The approval process includes the following steps:

- Approval for the treatment unit if the unit has not been previously approved in the state. The permit application for this step, *BRP WS31 – Vending Machines and POU/POE Devices*, must be submitted to MassDEP Boston Office at One Winter St., 5th Floor, Boston, MA 02108. See MassDEP information at: <http://www.mass.gov/dep/water/approvals/dwsforms.htm#newtech>

- Approval of individual unit locations based on incoming water quality. This step is done by MassDEP Regional Offices and the forms are located at the same web link in the previous step.
- Massachusetts Department of Public Health site registration

All water vending machines must also comply with the local public drinking water system cross connection control program, board of health requirements and MassDEP Underground Injection Control (UIC) requirements if a reverse osmosis device is used.

If you have identified an operating drinking water vending machine that has not received MassDEP approval or you have questions on drinking water vending machines, please contact Otavio DePaula-Santos at 617-556-1085 or Otavio.Paula-Santos@state.ma.us. Please look on line for more information at: <http://www.mass.gov/dep/water/drinking/stepapr.htm>.

2011 Training Updates

By Ken Pelletier

MassDEP’s Drinking Water Program (DWP) has prepared a training program for all operators covering recent (and proposed) updates to various DWP rules, guidelines, and programs. The training is being made available for the first time using a recorded webinar. This option allows MassDEP to provide you training remotely in your office, at your plant, or anywhere you have a computer and access to the Internet (to download the training material). This option saves the DWP and the PWS energy, time, and money by not having to drive to fixed training locations.

The training material is available on MassDEP’s website at: <http://www.mass.gov/dep/water/drinking/systems.htm#training>. The training webinar can be taken in two ways. In order to accrue training contact hours (TCH) which are issued by the Board of Certification, you must contact Ken Pelletier by email at Kenneth.pelletier@state.ma.us to receive a training packet including the necessary Board of Certification application and attachments. If you do not wish to receive TCHs, simply go to the training site listed above to download the recording, agenda, PowerPoint slides, and other attachments to take the training at your leisure. The recorded webinar is set up so that you can view it in one sitting (3 hours) or over several sessions (see the agenda to assist you when using this method).

Some PWSs and technical assistance providers will be “hosting” training sessions, which will be offering TCHs and will be open to all operators. As MassDEP becomes aware of these webinar sessions we will post them on the MassDEP/DWP training website (listed above).

MassDEP kindly requests that all operators viewing the webinar submit a training evaluation form (also found on the website) to Ken Pelletier. There will also be a Question and Answer form on the training website for all questions submitted by the training participants. Any additional questions can be sent to Ken Pelletier at 617-348-4014 or Kenneth.pelletier@state.ma.us.

Lead in Schools and Childcare Facilities

By Ken Pelletier

MassDEP and its partners continue to work with schools and childcare facilities to eliminate sources of lead in drinking water at their facilities.

MassDEP and Massachusetts Department of Public Health, Department of Elementary and Secondary Education, and the Department of Early Education and Care are working together to inform and educate school officials and child care facilities on how to identify, evaluate, and eliminate the sources of lead contamination in school/child care drinking water. The Massachusetts lead action level is 15 ug/l (0.015 ppm).

Schools and childcare facilities have two unique features that make them susceptible to problems with lead in drinking water: the sub-populations they serve are very sensitive to lead and their buildings have long periods

of time when water sits in the internal plumbing (overnight, weekends, and vacations), potentially increasing the contaminant levels.



MassDEP sent letters to all school and child care facilities (summer of 2010) asking them to complete an evaluation of their plumbing systems for susceptibility to lead drinking water contamination and to submit their checklist to MassDEP.

The facilities were reminded to contact their local public water system, board of health, and plumbing inspector for assistance. *BOHs and PWSs are encouraged to work with their local schools and childcare facilities to evaluate and provide technical assistance to correct any lead in drinking water problems.*

Please encourage schools and child care facilities that you are associated with to submit their 2010 Checklist to MassDEP and to test their water from taps used for drinking water and food/beverage preparation areas. If you or they have any questions, please go to: <http://www.mass.gov/dep/water/drinking/leadtothe.htm#leadcop> for more information or contact Kenneth Pelletier at 617-348-4014 or at kenneth.pelletier@state.ma.us.

What to Do after a Cross-Connection Incident

By Otavio DePaula-Santos

1. Isolate the affected plumbing system and immediately stop the backflow.
2. Notify the public about the event and provide guidance regarding the consumption and use of water.
3. Contact the proper state and local authorities to report the incident. Make sure that the information on your Emergency Response Plan regarding "Local Authorities Contact List" is updated and the ERP is posted or kept in an easy access place.
4. Activate the emergency response procedures:
 - If the contamination is already known and is restricted to a facility or a small area: stop the backflow, isolate the site, flush and disinfect the domestic line and any other service line, such as fire protection.
 - If the contamination is unknown and/or if the affected area is a large one: stop the backflow, isolate the area and take samples. After the contaminant is known: flush and disinfect the distribution system.
 - Flush all the domestic lines within your facility.
5. Continue taking samples for a period of time to make sure that the lines are clean and the contaminant has been removed.
6. Install a backflow preventer to assure that the backflow does not recur.
7. Conduct a new cross-connection survey of your facility or re-survey the affected area.
8. Notify the public about the course of actions that were taken to control and remediate the cross-connection incident and keep them informed about the water quality as a way to restore the confidence on your water system. Be pro-active and do not fear to communicate with your customers.

Identifying Day Cares that Meet the Definition of a PWS

Do you know of any day cares that meet the definition of a public water system (PWS) but may not be registered with MassDEP? Recently MassDEP identified several day care facilities that were unregistered PWSs. These day care facilities served 25 or more persons, at least 60 days a year and had their own source of drinking water (e.g., a well). If a daycare

facility with its own source of water is licensed/permitted to have a total of 25 or more children and childcare workers, it must be registered with MassDEP to ensure compliance with 310 CMR 22.00 and all applicable MassDEP standards, permits, and approvals. Day cares that meet the definition of a PWS that do not comply with MassDEP standards are

placing the children in the facility at risk. Please contact Yvette DePeiza at 617-292-5857 or Yvette.DePeiza@state.ma.us for more information on day care regulations. You may also contact the Massachusetts Department of Early Education and Care at: <http://www.eec.state.ma.us/>.

Eliminating Cross-Connections on Your Property

By Otavio DePaula-Santos

There are several simple actions and devices that you can use to accomplish backflow prevention and eliminate potential cross-connections that are commonly found in our homes and workplace:

- **Have your system/facility surveyed for cross-connections.**
- **Atmospheric vacuum breakers (AVB) must be installed on all threaded hose connections.** These devices simply screw onto

the hose bib (faucet) and provide a second threaded connection for the hose. Many local hardware stores stock these devices which can be easily installed by the property owner. Be sure the atmospheric vacuum breaker you buy has an ASSE 1011 designation or at least an UL approval. Please contact your water department's office for more information.

- **Drain hoses and piping must be installed with an air gap between the end of the hose/piping and the discharge point.** Make sure the end of the drain hose or pipe is *at least 1"* above the top of the sink or basin it discharges into. Residential automatic washers may have internal protection ahead of the discharge hose. Check the equipment instructions or contact your plumber.
- **Handheld showers and pullout faucets.** Kitchen sink faucets with pullout spouts should have at least an atmospheric vacuum breaker to protect against backsiphonage. Similarly, handheld showers should be installed with an in-line backflow preventer with an ASSE 1014 designation.

tubs must be installed with an air gap between the top rim of the sink or tub and the faucet. Older fixtures may have faucets located below the top rim of the sink or tub. If the faucet becomes submerged, contaminated water can back-siphon into the public system if pressure is lost.

- **Water tanks on toilets must include a ball cock valve that creates a vacuum break to prevent backflow.** Be sure the ball cock valve you buy has at least an ASSE 1002 designation.
- **Hot water heating systems must include proper backflow protection for the water line feeding the boiler.** Contact your plumber or your local plumbing inspector office to assure that the backflow preventer is adequate for your system.

For more information on the Massachusetts Cross-Connection Control Program, please access MassDEP's website at: <http://www.mass.gov/dep/water/drinking/systems.htm#crosscon> or contact Anita Wolovick at 617-292-5920, Otavio DePaula-Santos at 617-556-1085, or Paul Niman at 617-556-1166.



A hose left in pool can be a possible cross-connection if not protected.

- **Water faucets for sinks and**

Property Conversions



In The Main

MassDEP Drinking Water Program
1 Winter Street - 5th Floor
Boston, MA 02108

As properties continue to change their locally permitted functions, MassDEP has been active in determining when a conversion will result in the creation of a public water system (PWS) or a change in the type of PWS. If a facility that is currently classified as a private water supply proposes or initiates any changes in the use of the establishment that would cause the system to be classified as a public water supply, the facility must meet all applicable MassDEP standards, and obtain the proper MassDEP permits and approvals. Some examples of changes that may affect their drinking water status include:

- A change in number of permitted occupancy, e.g., increasing the number of children and staff at a day care or business to 25 or more persons per day.
- A change in type of permitted occupancy, e.g., changing from a residential



home to a daycare or doctor's office. Changing from a small office or gas station to a day care, coffee shop, restaurant, or other facility that may serve beverages, handle food, require food permits, or supply water to 25 or more persons on average per day.



Proponents creating any new or potential public water system or changing their PWS type must contact MassDEP to be evaluated for compliance with 310 CMR 22.00 and all applicable MassDEP standards, permits, and approvals. It should also be noted that if a proponent subsequently creates and/or operates a facility as a public water system prior to obtaining MassDEP approvals, the facility owner(s) and operator(s) are in non-compliance with the Drinking Water regulations.

If you have any question on a property conversion please contact the



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Drinking Water Program regional staff listed below:

Western Regional Office

Doug Paine
413-755-2281
Douglas.Paine@state.ma.us

Northeast Regional Office

James Dillon
978-694-3231
James.Dillon@state.ma.us

Central Regional Office

Kelly Momberger
508-849-4023
Kelly.Momberger@state.ma.us

Marielle Stone 508-767-2827

Marielle.Stone@state.ma.us

Southeast Regional Office

Dan DiSalvio 508-946-2793

Dan.Disalvio@state.ma.us

Terry Dayian 508-946-2765

Therese.Dayian@state.ma.us

ITM