Delaware Office of Drinking Water

Office of Drinking Water
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TAPTALK H2Oh!
Tapping Into Good Health
Division of Public Health • Spring 2014

Delaware's Plumbing Permit and Inspection Program

by Chuck Davidson

In addition to the Office of Drinking Water, the Delaware Division of Public Health's (DPH) Plumbing Permit and Inspection Program (PPIP) has a critical role in protecting drinking water supplies. PPIP operates under the DPH Office of Engineering. The program is required by Delaware Code to adopt and enforce the latest version of the International Plumbing Code (IPC) as Delaware's statewide plumbing code. Currently, the program enforces the 2012 IPC, and additional Delaware-specific amendments available on the program website: http://www.dhss.delaware.gov/dhss/dph/hsp/plumbing.html. All state jurisdictions are required to enforce the Delaware plumbing code as adopted by DPH.

Section 608 of the Delaware plumbing code addresses the protection of potable water supplies. This section requires protection of water supplies where there is a hazard of backflow or back-siphonage that may cause contamination. The code prescribes specific measures such as air gaps, backflow preventers and testable backflow assemblies, depending on the specific hazard listed in table 608.1.

Recently, irrigation installations have become an emerging PPIP issue. PPIP requires all connections to the potable water system to be made by a Delaware licensed plumber under a PPIP permit or a permit from a local plumbing jurisdiction. Irrigation systems connected to the potable water system must have a pressure vacuum breaker assembly installed to protect the water supply. If chemicals are added to the irrigation system, a reduced pressure principle backflow prevention assembly must be installed. Both of these assemblies require testing by section 312.10 of the Delaware plumbing code. Testing must be performed by an ASSE-certified tester at the time of installation, when repaired, when moved, and at least annually. Backflow assembly test forms are required to be kept by the tester and the owner of the device; given to the local water jurisdiction as required; and made available to DPH staff upon request.

Plumbing permit applications are available online, or in Kent County at 43 S. DuPont Highway, Dover, DE 19901, phone (302) 741-8600; or in Sussex County at 544 S. Bedford Street, Georgetown, DE 19947, phone (302) 856-5122. If you have questions about program requirements, please contact PPIP program administrator Chuck Davidson at (302) 856-5123 or email at: Raymond.Davidson@state.de.us.

Lead and Copper notes: The Reduction of Lead in Drinking Water Act

by Katie Huegel

As of January 4, 2014, the federal Reduction of Lead in Drinking Water Act (Reduction Act) is in effect across the United States. This Reduction Act amends the Safe Drinking Water Act (SDWA) to reduce the amount of lead in drinking water.

The State of Delaware has a responsibility to enforce this new act and to educate others, especially our state's water operators, about this change.

The Lead Reduction Act amends SWDA Section to redefine what it means to be "lead-free":

• Lowers the maximum lead content of wetted surfaces of plumbing products, such as pipes, pipe fittings, plumbing fittings, and fixtures, from eight percent to a weighted average of 0.25 percent and retains lead limits in solder and flux to 0.2 percent;

• Establishes a statutory method for the calculation of lead content; and

• Eliminates the requirement that lead-free products be in compliance with voluntary standards established in accordance with SDWA 1417€ for leaching of lead from new plumbing fittings and fixtures.

Additionally, the Reduction Act creates exemptions in the SDWA from the prohibitions on the use of introduction into commerce for:

• "pipes, pipe fittings, plumbing fittings or fixtures" including backflow preventers, that are used exclusively for nonpotable services such as manufacturing, industrial processing, irrigation, outdoor watering, or any other uses where the water is not anticipated to be used for human consumption"; and

• "toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, service saddles, or water distribution main gate valves that are 2 inches in diameter or larger."

Finally, the Reduction Act eliminates existing lead limits of eight percent for non-potable services not to be used for human consumption, including toilets, shower valves and irrigation systems.

For more updates on the Reduction Act, please visit the EPA's website: www.EPA.gov.

Please contact Katie Huegel at Katie.Huegel@state.de.us to suggest future newsletter articles about the Lead and Copper Rule.

DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
Office of Drinking Water

The Administrator's Corner

By Ed Hallock

Program Administrator, Office of Drinking Water

I wanted to start this newsletter by congratulating everyone for successfully surviving this winter but as I write this article on February 28th, the morning started with wind chills below zero here in Dover. We had several periods of brutally low temperatures and many snow days and yet my office did not have a higher than normal number of complaints about water main breaks or flooded wells. I believe that is a testament to the preparation that our water systems have taken over the past several years to address an all-hazards approach to water system sustainability and security. I am convinced that spring will arrive and I'm keeping my fingers crossed that by the time you read this, it will be here.

Water system operators and owners need to be aware that the Office of Drinking Water had a lot of activity in the last few months. We revised the operator certification regulations, the Delaware Water/Wastewater Agency Response Network (DEWARN) is up and running, and we are expanding the training opportunities offered by the Office of Drinking Water.

The revised regulations for the certification of operators of public water systems were published as final on March 1, 2014 and became final on March 10, 2014. Several significant changes require the Advisory Council to develop an implementation plan. We are now requiring 20 hours of continuing education for all licensed operators, with at least 10 hours directly related to operating a public water system. We raised the passing score for licensing exams to 75 percent from 70 percent. We will be creating a new Distribution License where an operator who only works in the distribution system will be able to take the Distribution test and obtain his/her license without first having to get a Base Level license. We are also creating a non-transferrable Limited License for small systems. I will be working with the Advisory Council to determine the implementation schedule for these changes and we will keep you informed.

The DEWARN now has 14 members representing more than 90 percent of the citizens of Delaware who are served by a community water system. This is an excellent start but they are still looking to get more towns and small utilities to become members. This is a utilities helping utilities group and it is free to join and free to maintain membership; hard to beat a deal like that.

Lastly, I want to let everyone know that the Office of Drinking Water is looking to expand our training classes into each county. Look for updates in our newsletter for dates and locations near you for training on classes ranging from Approved Sampler/Tester to CCRs to new rule implementation. If there are specific training classes you want, please let us know so we can put them together as well.

E. coli – How Bad Can It Be?

by Keith Harrison

Escherichia coli, or *E. coli*, is one form of bacteria that gets a lot of attention when it is found in food or drinking water. Just ask the residents of Walkerton, Ontario. In May 2000, farm runoff from a five-day rain storm leaked into the town's only functional groundwater well. Unfortunately, the runoff was contaminated with the fecal coliform bacteria *E. coli*. There are many species of *E. coli*, most of them are harmless, but this one was the deadly form, 0157:H7.

As a result of the *E. coli* contamination, seven people died and about half of the town's population of nearly 5,000 were sickened with bloody diarrhea. Some survivors continue to suffer from the lingering effects of that illness to this day.

Each year in the United States, millions of water samples are retrieved from public water supplies and analyzed for bacteria (as mandated by the Total Coliform Rule). Interestingly, most of those water samples are not analyzed for *E. coli*. Instead, the water is analyzed for total coliform bacteria. Coliform bacteria are abundant and very hardy. Coliforms live in our environment and are found in soil, on plants (fruits and vegetables), in surface water, and on your body as well as in your body! In fact, you have about 10 times as many bacteria and other microorganisms in your body as you do human cells. The average adult carries about five pounds of these very tiny bacteria in their gut (source: National Institutes of Health).

So, why are many water samples analyzed for total coliform bacteria and not *E. coli*? First, some water samples are analyzed for *E. coli*. When the lab gets a positive test result for total coliform, they will then test the sample for *E. coli*. However, it is not practical to test every water sample for *E. coli* because *E. coli* are usually not as abundant as total coliform. Make no mistake, *E. coli* are a subgroup of total coliform bacteria, so the presence of total coliform indicates the possible presence of *E. coli*. But the absence of total coliform means the absolute absence of *E. coli*.

In Delaware, we averaged about 200 positive total coliform tests on public water systems each year for the past five years. By contrast, we get about six positive *E. coli* tests each year (for public water systems). Fortunately most *E. coli* species, especially those living in our intestines, are harmless. And what about the deadly 0157:H7? There has not been a recorded outbreak of *E. coli* 0157:H7 in Delaware.

The citizens of Walkerton, Ontario were not so lucky in May 2000. Now, more than a decade after the incident, many people still suffer from those ill-fated days. Most people infected with *E. coli* 0157:H7 will recover in a week or two, although full recovery may take several months. Some people, particularly children under the age of five infected with *E. coli* 0157:H7, may develop hypertension, heart disease, or kidney problems leading to the possible need for a kidney transplant later in their lives. An *E. coli* infection is an acute illness that may have very long-lasting effects.

The Total Coliform Rule was created to improve public health protection by reducing fecal pathogens, including *E. coli*, in drinking water. Adherence to the rule costs Delawareans time and money, but it prevents incidents such as the Walkerton tragedy.

Reminders/Notes

- Water system owners are required to notify the Office of Drinking Water (ODW) when making any changes to water system operations.
- All public water systems may be required to submit a new Sample Siting Plan by Dec. 31, 2015. ODW will have Sample Siting Plan trainings during the next several months.

Office of Drinking Water

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Consumer Confidence Report (CCR): Source Water

by Keith Harrison

The EPA requires CCR reports to contain eight basic reporting items.[1] One of the items often overlooked when water system personnel create a CCR is Item 2: Source(s) of Water. Item 2 is broken down into three parts:

1. Type of source water, the general location of the source and the common name of the source (river or aquifer);
2. The availability of the source water assessment; and
3. Information on significant sources of contamination and/or a brief summary of the system's susceptibility to potential sources of contamination.

Fortunately, most public water systems have an online source water assessment that was created for them by the Delaware Department of Natural Resources and Environmental Control's (DNREC) Division of Water Resources[2]. And, the source water assessment contains all of the required CCR source water reporting information. One simply needs to glean the information from the report.

Why must we need to know the sources of our drinking water? The EPA provides this explanation[3]:

"EPA also encourages public water suppliers to use the CCR as a way to discuss appropriate source water protection actions that are in the planning stages or are already in place. This discussion is an ideal opportunity to invite public participation in locally based source water protection efforts. Systems may also wish to provide tips for consumers in the CCR on ways they can protect the source water. **Remember, this is your opportunity to educate your customers about the impacts they and others have on the quality of source water."**

1 Eight basic reporting requirements: http://www.dhss.delaware.gov/dhss/dph/hsp/files/odwccrckl.pdf
2 Source water assessments: http://delawaresourcewater.org/assessments/
3 *Preparing Your Drinking Water Consumer Confidence Report, Guidance for Water Suppliers, EPA, April 2010*

Water Works Reports

by Allison Diggins

If you provide treatment to your public water system, then you should be submitting monthly water works reports to the Office of Drinking Water. A water works report is a daily log that documents field measurements taken by an approved sampler tester or certified operator who monitors the effectiveness of treatment on a system or can verify that chemicals added to the water are within the regulated range.

Here is some basic information:

Q: Who logs data and creates the report?
A: An approved sampler tester or certified water operator overseeing a system that provides treatment (disinfection, fluoride injection, nitrate removal, etc.).

Q: What data is recorded?
A: Daily free available chlorine residual, nitrates, pH, fluoride levels, etc.

Q: When is the report submitted?
A: Submit completed report by the 10th day of the following month to the Office of Drinking Water.

Q: How do I submit the report?
A: By mail (43 S. DuPont Highway, Dover, DE 19901), fax (302-741-8631), email (to your territory manager), or drop it off in person.

Why? It can help identify issues with treatment or prove that treatment is working correctly. Plus, it is a requirement!*

For more information on how to become an approved sampler/tester or a certified operator begin daily treatment monitoring for your system, please contact Keith Harrison at William.Harrison@state.de.us.

*Pursuant to State of Delaware Regulations Governing Public Drinking Water, Section 4.1.1.3, daily testing for free available chlorine residual, nitrates, pH, fluoride, or other chemicals as determined by the Division is required for systems that provide treatment (addition, removal, or adjustment) unless another schedule is agreed to in writing by the Division.

Introduction to the DEWARN

by Rob Penman, Artesian Resources

The Delaware Water/Wastewater Agency Response Network (DEWARN) is a statewide Water/Wastewater Agency Response Network comprised of both private and municipal utilities throughout the state of Delaware. It's a "utilities helping utilities" approach to handling both natural and man-made emergencies.

Members have a forum for developing and maintaining emergency contacts and building relationships with neighboring utilities. Through our Mutual Aid Agreement there is a process for sharing emergency resources, response and recovery from emergency situations. To date, we have 14 members and are still growing.

If you are interested or would like to receive information about the DEWARN, please contact Rob Penman at rpenman@artesianwater.com.

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Approved Sampler/Tester (AST) Training

An approved sampler/tester is approved by Delaware Health and Social Services for conducting routine water sampling and water quality analyses for chlorine residual, pH, nitrate testing or water quality parameter testing and entering that information into a log book. The approved sampler/tester typically works under the direction of a fully licensed operator. During the AST training, the participant will learn about water-borne bacteria and the Total Coliform Rule that regulates bacteria in drinking water. The participant will also learn about other chemicals/compounds that may enter drinking water such as nitrate or petroleum. The focus of the training is to help participants understand the Safe Drinking Water Act in relation to public health.

Other Training Opportunities

- Sampling Plan Training, May 15, 2014 in Dover (Edgehill). 9:00 a.m. – 11:00 a.m. (2 CEUs for water operators).

Upcoming Approved Sampler/Tester Trainings (AST)

AST Basic, Dover: 9:00 a.m. - noon
May 8, 2014
June 12, 2014
July 10, 2014
August 14, 2014
September 11, 2014
October 9, 2014
November 13, 2014

AST Refresher, Dover: 9:00 a.m. - noon
May 22, 2014
June 26, 2014
July 24, 2014
August 28, 2014
September 25, 2014
October 23, 2014

AST Basic, Milford:
July 17, 2014, 9:00 a.m. – noon
October 30, 2014, 9:00 a.m. – noon

AST Refresher, Milford:
July 17, 2014, 8:00 a.m. - 9 a.m.
October 30, 2014, 8:00 a.m. - 9:00 a.m.

AST Basic, Newark:
June 13, 2014, 9:00 a.m. – noon
August 15, 2014, 9:00 a.m. – noon

AST Refresher, Newark:
June 13, 2014, 8:00 a.m. – 9:00 a.m.
August 15, 2014, 8:00 a.m. – 9:00 a.m.

Training Locations

- Newark: Oxford Building, 256 Chapman Road (University Plaza), Newark, DE 19702
- Dover: Office of Drinking Water, 43 South DuPont Hwy (Edgehill Shopping Center) Dover, DE 19901
- Milford: Delaware Rural Water, 210 Vickers Drive, Milford, DE 19963

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