

Drinking Water News



PUBLISHED BY THE PA. DEPARTMENT OF ENVIRONMENTAL PROTECTION - WINTER 2015 – 2016

The Revised Total Coliform Rule (RTCR) is Coming in 2016

There's a Lot to be Done by April 1, 2016

Is Your Water System or Lab Ready?



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Snapshot of the Revised Total Coliform Rule (RTCR)

Title	Revised Total Coliform Rule - (78 FR 10269, February 13, 2013, Vol. 78, No. 30)														
Purpose	Increase public health protection through the reduction of potential pathways of entry for fecal contamination into distribution systems.														
Description	The RTCR establishes a maximum contaminant level (MCL) for <i>E. coli</i> and uses <i>E. coli</i> and total coliforms to initiate a "find and fix" approach to address fecal contamination that could enter into the distribution system. It requires public water systems (PWSs) to perform assessments to identify sanitary defects and subsequently take action to correct them.														
Utilities Affected	The RTCR applies to ALL PWSs														
<i>E. coli</i> MCL Violation	<p>A PWS will receive an <i>E. coli</i> MCL violation when there is any combination of an EC+ sample result with a routine/repeat TC+ or EC+ sample result:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"><i>E. coli</i> MCL Violation Occurs with the Following Sample Result Combinations</th> </tr> <tr> <th style="text-align: center;">Routine Sample</th> <th style="text-align: center;">Repeat Sample</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">EC+</td> <td style="text-align: center;">TC+</td> </tr> <tr> <td style="text-align: center;">EC+</td> <td style="text-align: center;">Any missing sample</td> </tr> <tr> <td style="text-align: center;">EC+</td> <td style="text-align: center;">EC+</td> </tr> <tr> <td style="text-align: center;">TC+</td> <td style="text-align: center;">EC+</td> </tr> <tr> <td style="text-align: center;">TC+</td> <td style="text-align: center;">TC+ but no <i>E. coli</i> analysis</td> </tr> </tbody> </table>	<i>E. coli</i> MCL Violation Occurs with the Following Sample Result Combinations		Routine Sample	Repeat Sample	EC+	TC+	EC+	Any missing sample	EC+	EC+	TC+	EC+	TC+	TC+ but no <i>E. coli</i> analysis
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Treatment Technique Violation	<p>A Treatment Technique violation occurs when any of the following takes place:</p> <ul style="list-style-type: none"> • Failure to conduct a Level 1 or Level 2 Assessment within 30 days of a trigger • Failure to correct all sanitary defects from a Level 1 or Level 2 Assessment within 30 days of a trigger or in accordance with a schedule approved by DEP • Failure of a seasonal system to complete state-approved start-up procedures prior to serving water to the public 														
Before April 1, 2016	<ul style="list-style-type: none"> • PWSs must develop a written sample siting plan that identifies the system's sample collection schedule and all sample sites, including sites for routine and repeat monitoring. • PWSs monitoring quarterly or annually must also identify additional routine monitoring sites in their sample siting plans. • Sample siting plans are subject to DEP review and revision. 														
Beginning April 1, 2016	ALL PWSs must comply with the RTCR requirements.														

REVISED TOTAL COLIFORM RULE TRAINING CONTINUES

EPA's Revised Total Coliform Rule (RTCR) will go into effect on April 1, 2016, and will require **ALL** public water systems to submit a coliform sample siting plan and obtain state approval of start-up procedures for seasonal water systems. Workshops for both community and non-community water systems were conducted in recent months and will continue into 2016. The workshops allow you to work on your system's sample siting plan during class. Additional RTCR training topics will also be covered in 2016.

Visit DEP's RTCR webpage (www.dep.pa.gov/Business/Water/BureauSafeDrinkingWater/DrinkingWaterMgmt/Regulations/Pages/Revised-Total-Coliform-Rule.aspx#.VI3_a6Mo7b0) for more information on training dates and locations. The webpage also contains a link to PA's proposed regulations, the newly developed RTCR forms and instructions and tutorials.

Go to www.water.epa.gov/lawsregs/rulesregs/sdwa/tcr/upload/epa815b13001.pdf for EPA's RTCR Guide.

Practical Tips for Sampling Under the Revised Total Coliform Rule

John Cairnes, Compliance Assistance Specialist, Southeast Region

When the Revised Total Coliform Rule (RTCR) is implemented on April 1st, 2016, the methodology for total coliform sampling will change for all of Pennsylvania's public water systems. All public water suppliers will be required to produce a new total coliform sample siting plan for their systems based on revised methodology and begin using that plan next April. The sample site selection will stress locations that are representative of water throughout the distribution system.

The phrase "representative of water throughout the distribution system" is not new to coliform monitoring requirements. It can be found in 25 Pa Code Section 109.301(a)(2). But the RTCR will place an increased emphasis on identifying and employing sampling sites that are truly representative of the entire system. System owners and operators will be expected to think carefully while choosing those sites.

So what does "representative sampling" mean? The purpose of total coliform monitoring is to help determine if a water system's distribution network is vulnerable to microbial contamination. Therefore, we can define representative sampling as monitoring sites where vulnerability is highest.

A key factor in the determination of vulnerability is water age. This is simply the amount of time a volume of water remains in a distribution system. It varies by water usage, the structure of the distribution system, and circulation. Water age is a key factor in many variables affecting drinking water quality: microbial growth rates, chemical reaction rates, residual chlorine degradation, dissolution of organic carbon and dissolved gases, etc. The longer a volume of water stays in distribution without being consumed or circulated, the more the quality of that water will differ from when it left the treatment plant. So areas of high water age are good locations for monitoring system vulnerability.

In a simple hydraulic model, the point farthest from the treatment plant is the place of highest water age. This is often the best choice for a one- or two-story, single building system. However, in more complex models featuring many buildings, pressure zones, areas of high and low population and seasonal fluctuations in water use, the choice is often not so obvious. Here are some features of a typical distribution system that may be expected to be areas of high vulnerability:

Dead Ends - The water that fills the dead end of a distribution main does not get circulated well and it is unlikely to be ejected during flushing unless the dead end itself is used as a flushing point. Lack of circulation can make the water stagnant, making it possible for micro-organisms (the only contaminant class that can move under its own power) to swim upstream and be carried elsewhere throughout the system.

Finished Water Tanks - Whether used for fire prevention or pressure, distribution system tanks are rarely completely filled or emptied. Draw cycles leave some volume of water in the tank before the next fill cycle. The water that remains behind is older than the water pumped in during the fill cycle. Blending the waters can affect chlorine demand and the overall effectiveness of residual disinfection, increasing the water's vulnerability to contamination.

Pressure Zones - Pumping water uphill causes head loss, which reduces circulation. Without booster pumps, water in high-altitude areas of a distribution system often have lower pressure and chlorine residuals than in low-altitude areas, adding to the vulnerability created by water age.



Areas with Previous Coliform Detections - A confirmed coliform positive in one area of distribution may be an indicator of biofilm growth or a pathway to contamination from the degrading integrity of water mains.

Interconnections - Some water systems buy their water from another system. Purchasing suppliers may want to ensure the water they are receiving is consistently of good quality.

If you have multiple site locations, but are only required to take a few or one sample each month, you should rotate them for more complete representation. You may also choose to take more than the required minimum for additional peace of mind. And in all cases, make sure you have adequate sample sites for check sampling, if needed, both upstream and downstream of your routine monitoring sites.

By carefully selecting your total coliform monitoring sites, you'll accomplish one of the primary goals of the Revised Total Coliform Rule. You'll be exercising the due diligence needed to ensure that your customers are receiving good quality water at all times.

Revised Total Coliform Rule Assessments

Ed Chescattie, Capability Enhancement Chief, South-central Region

As summarized in the Revised Total Coliform Rule (RTCR) sample siting plan article on page 3, developing a representative sample siting plan is the first step towards complying with the RTCR. A sample siting plan will provide you with accurate data to identify any potential vulnerability of your distribution system to pathways of contamination, which is why the first round of trainings conducted by DEP focused on sample siting plans. By now, you have hopefully attended one of these valuable workshops; if you have, you will likely recall that DEP staff mentioned that the next round of RTCR training offered by DEP will focus on Assessments.

Assessments are the key mechanism by which water suppliers meet the primary intent of the RTCR, which is reducing potential pathways of fecal contamination via the find and fix approach. To further explain assessments, a fact sheet developed by EPA provides the following summary:

"When sampling results show that your PWS may be vulnerable to contamination, PWSs must perform an assessment (Level 1 or Level 2) and find and fix any 'sanitary defects'. A sanitary defect can provide a pathway of entry for microbial contamination into the distribution system or indicate imminent failure in an existing barrier (e.g. cracked tank, rat droppings on wellheads, or broken seals)."



There are 5 basic elements to investigate during an assessment:

- Atypical events that may affect distributed water quality or indicate that distributed water quality was impaired;
- Changes in distribution system maintenance and operation, including water storage;
- Water source and treatment methods that affect distributed water quality;
- Inadequacies in sample sites, sampling protocol and sample processing; and
- Existing water quality monitoring data.

A Level 2 Assessment is more comprehensive and in-depth compared to a Level 1 Assessment because the cause of the Level 2 Assessment is more critical and likely to result in a direct public health impact. A Level 2 Assessment must be conducted by DEP or a party approved by DEP, whereas a Level 1 assessment is typically conducted by the PWS.

According to the federal rule, a PWS has 30 days (after learning that an assessment has been triggered) to complete the assessment, correct any sanitary defects found, and submit the assessment form. For sanitary defects found but not fixed within the 30 days, you must obtain DEP approval of an alternative schedule for all incomplete corrective actions. After completing each scheduled corrective action, you must notify DEP to avoid violations. We recommend that when first triggering an assessment and throughout the assessment process you consult with your local DEP office.

One final thought: by proactively evaluating your distribution system for areas of weakness and taking feasible corrective actions, you can improve public health protection and avoid future compliance issues in advance of the April 1, 2016 RTCR implementation date.

Revised Total Coliform Rule Seasonal Systems Start Up Requirements

Pete Mengak, Compliance Assistance Specialist, Northeast Region

EPA's Revised Total Coliform Rule (RTCR) will take effect April 1, 2016. RTCR will revise the current total coliform rule by requiring all water systems to complete and submit to DEP a sample siting plan for coliform bacteria. Seasonal water systems will also be required to create and follow start-up procedures approved by DEP. A Seasonal Water System is defined as a non-community water system that is not operated as a public water system (PWS) on a year-round basis AND starts up and shuts down at the beginning and end of each operating season. Examples are campgrounds, fairgrounds, ice cream stands, children camps, boy/girl scout camps and ski facilities.

Seasonal water systems must submit a sample siting plan and a seasonal start-up procedure form and have them approved and in place prior to start-up. Once the start-up procedure has been reviewed and approved by DEP, an approval letter will be sent to each system that has submitted a form. As long as the system has no updates to their forms, they are only required to send them in once. If the system has updated their previously approved start-up procedure form, they are required to send in an updated form and have it approved by DEP.

Every year, a seasonal water system must use their approved start-up procedure as a checklist as they start-up their system and submit a signed Seasonal Certification Form certifying that the system followed *Continued on page 5*

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the approved start-up procedure. DEP has created templates to assist water systems in meeting these requirements. The templates include instructions and information on where to send the required forms.

Proper start-up procedures used to help reduce the presence of harmful bacteria would be:

Source Protection – Inspect all sources and be aware of potential contamination around source structures and take action to eliminate the potential for contamination.

Disinfection – Any source and/or stagnant distribution lines should be disinfected prior to the opening of a seasonal system. This may include flushing stagnant water lines or those that have been drained once the seasonal system has closed.

Cleaning water storage tanks – Draining and cleaning water tanks with a disinfectant prior to delivering water would help eliminate harmful bacteria. This would also be beneficial for tanks that have sediments that have built up over time. Cleaning and inspecting storage tanks regularly helps to prevent harmful bacteria from entering a water system.

Flushing – Systems should include the flushing of all distribution lines. Flushing helps pressurize a system that may have been previously de-pressurized due to a shut-down procedure and provides a proper cleaning of the distribution lines. Flushing does not need to be listed if it was used as part of a previous step in the start-up procedure.

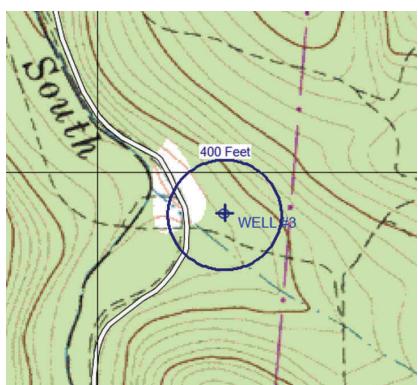
Inspect and Repair – Inspection and repair of previously broken or malfunctioning equipment should be in a start-up procedure. Equipment broken or worn out during the off season can create a situation that may allow bacteria to enter the distribution system. Perform equipment maintenance in accordance with manufacturer's instructions.

Collect Coliform Samples – Coliform sampling steps are listed in the start-up procedure form. At least one sample is required *prior* to opening a seasonal system. It is recommended that each routine site listed in the sample siting plan be sampled to ensure representative monitoring. If a system opens in stages, this can be done prior to the opening of each portion of the system. Coliform sampling during start-up ensures that a system has selected a good sampling location and has verified with their laboratory that sample results are good before opening to the public.

Zone 1 Wellhead Protection Areas

Jamie Estep, Compliance Assistance Specialist, Southwest Region

Was your well permitted after October 1995? If it was, do you “control” the Zone 1 Wellhead Protection Area? Did you know, if your water system has a groundwater well that was permitted after October 9, 1995, you are **required** to “own or substantially control through a deed restriction or other methods acceptable to the Department, the Zone 1 wellhead protection area” [Chapter 109.603(b)(1)]? The Zone 1 protection area can range from a 100 to 400 feet radius depending on source and aquifer characteristics. The Zone 1 protection area is calculated using data from the new source aquifer test. A DEP-approved delineation of the Zone 1 wellhead protection area is required when submitting a construction permit [Chapter 109.503(a)(1)(iii)(D)] and is included in the hydrogeologic report for the well.



Activities that may have potential adverse impacts on the source quality or quantity are prohibited within the Zone 1 area. The Public Water Supply Manual, Part II, Section II.C.1.b lists a few examples of prohibited activities within the Zone I. They include but are not limited to roads, pastures, buildings, farming, sewer and stormwater lines, etc. It is essential that public water suppliers have control of the Zone 1 areas to limit these types of activities.

Public water suppliers may wish to further their wellhead protection steps and obtain a DEP-approved Wellhead Protection Plan. This would extend the protection areas to include the Zone II and Zone III areas. More information on the Wellhead Protection Programs can be found on DEP's at http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/source/Final_WHPP.htm.

Groundwater Rule Compliance Monitoring: Low Free Chlorine vs. No Free Chlorine

Jill Anderson, Compliance Assistance Specialist, Southcentral Region

Under the Groundwater Rule (GWR), all community water systems are required to provide 4-log (99.99%) treatment of viruses. Noncommunity water systems with E.coli detected in their raw source water as a result of triggered source water monitoring are also required to provide 4-log treatment of viruses. 4-log (99.99%) treatment is a treatment technique achieved by maintaining a minimum free chlorine residual and adequate chlorine contact time prior to each Entry Point (EP). As implementation of the GWR progresses, an important point to note is the different response required for a situation involving low free chlorine residual at the EP (i.e. below the required minimum) versus a situation in which no free chlorine residual is detectable at the EP.



The minimum free chlorine residual required at each groundwater EP by §109.1302(a)(2) is 0.40 mg/L, or other minimum approved by DEP. This is a Treatment Technique requirement and must be consistently maintained to continuously provide 4-log treatment of viruses associated with fecal contamination. Community and noncommunity drinking water systems with permitted 4-log treatment in place are required to conduct compliance monitoring in order to verify that the minimum residual is maintained. Compliance monitoring consists of either continuous or daily grab monitoring of the free chlorine residual at each EP. If the minimum free chlorine residual is not maintained and falls **below the required minimum for more than 4 continuous hours**, that *low* residual constitutes a breakdown in treatment according to §109.1307(a)(1)(ii). Follow up actions are required, including **one-hour notification to DEP** and **Tier 1 Public Notification (PN) to consumers**, according to §109.408(a)(9).

Chapter 109 regulations, §109.202(c)(3) require **continuous** disinfection of all groundwater sources at *community* water systems. This is not a new requirement. If the free chlorine residual at the EP of a *community* water system is **not detectable for any amount of time**, it constitutes a failure or significant interruption of a key water treatment process and is potentially a violation of §109.202(c)(3) and §109.4(2). Follow up actions in this situation include **one-hour notification to DEP upon discovery**, according to §109.701(a)(3)(iii)(B), at which time DEP will discuss the overall situation with you, including the potential need to provide **Tier 1 PN to the consumers**, according to §109.408(a)(10).

Noncommunity water systems with permitted 4-log treatment are also required to maintain the approved 4-log treatment technique. If the free chlorine residual at the EP of a *noncommunity* water system with approved 4-log treatment is **not detectable for any amount of time**, it constitutes a failure or significant interruption of a key water treatment process and a potential violation of §109.4(2). Just as with community water systems, follow up actions include **one-hour notification to DEP upon discovery**, and potentially issuing **Tier 1 PN** to the system's customers.

It is important to note that there are various operating scenarios that may be considered a failure or significant interruption of a key treatment process, and that the discovery of *any* of these scenarios requires **one-hour notification to DEP**. For example, if you find that your EP free chlorine residual is below the required minimum, and it is due to circumstances that may not be resolved within 4 hours, that may be considered a failure or significant interruption of a key treatment process. You need to notify DEP within one hour of this discovery. Don't wait until the low residual has persisted for more than 4 hours to consult with DEP in a scenario such as this. Additional follow up actions, including any PN that may be required, would be determined on a case by case basis.

In summary, for **any** system (community or noncommunity) with approved 4-log treatment of viruses, if the EP free chlorine residual is **low** (i.e. below the approved minimum), the system generally has 4 hours to determine the reason for the low residual and rectify the problem. If the residual remains below the required minimum for more than 4 hours, it is considered an interruption or failure of a key water treatment process, and the appropriate follow up actions are required. However, if the EP free chlorine residual is **not detectable** for any amount of time, it is considered an immediate interruption or failure of a key water treatment process.

The bottom line is: if in doubt, call your local DEP office. Failure to report a situation that requires one-hour notification is a violation of §109.701(a)(3), and may lead to further violations if additional follow up actions are not initiated. It is always better to be proactive and prevent possible violations from occurring.

Submit Drought Contingency Plans Online

Kristina Peacock-Jones, Water Use Section Chief, Central Office

Now is the time to plan ahead and make sure you have an up-to-date Drought Contingency Plan (DCP). DCPs are an important tool to have on hand in the event of a drought or other times of low water supply. If you are a public water supplier and do not have a DCP, or your existing DCP is older than 3 years, please review and update your DCP to account for any changes in either your sources or the demands on your system.



The ability to upload and submit your DCP electronically has recently been added to a new application available through DEP's GreenPort. DCPs can be submitted online through our new Drought Emergency Application available at: <https://www.ahs.dep.pa.gov/DEA/>. If you have any questions, or we can be of assistance to you in any way, please feel free to contact our Planning and Conservation Division by e-mail at droughtinfo@pa.gov or by telephone at 717-772-4048.

External Team Reviews Op. Cert. Program

**Phil Consonery, Training, Technical and Financial Services Division
Chief, Central Office**

The purpose of Pennsylvania's Drinking Water and Wastewater Systems Operator Certification Program is to protect public health, safety and the environment and promote the long-term sustainability of the Commonwealth's drinking water and wastewater treatment systems. The Environmental Protection Agency (EPA) requires all states to complete an external review of their certification program at least once every five years. External program reviews provide the states with a report describing the results of the review and listing recommendations for improving their programs.

In 2015, DEP initiated an external review covering calendar years 2011 through 2015. The Certification Program Advisory Committee (CPAC) served as the review team. Historically, at DEP's request, CPAC has been charged with providing comments and recommendations related to operator certification issues. The appointment procedures for CPAC members—who are system owners and certified operators—are established in the Water and Wastewater Systems Operators' Certification Act.

CPAC's final report was presented to the State Board for Certification of Water and Wastewater Systems Operators on December 10, 2015. CPAC's report includes comments on program strengths, areas of weakness, and recommendations for improvements. The report also includes the results of an electronic statewide survey that was distributed to drinking water and wastewater certified operators, system owners, training and exam providers, and examinees during July 1 through September 30, 2015.

Nearly 500 individuals completed the electronic survey (using SurveyGizmo®). The survey revealed the following overall observations and follow-up action items:

- Respondents indicated a general satisfaction with DEP's services.
- Ratings of DEP's training modules have improved, but DEP will continue to modify them.
- Course topic suggestions were received from 220 respondents. The comments will be organized and shared with training providers.
- Classroom courses are still preferred, but Web-based training also ranked high.
- Owners reported difficulty in finding properly certified operators.
- A majority of owners and operators appear to be aware of their primary responsibilities.
- There is a need for DEP to continue training and informing circuit riders of their responsibilities, including management plans.

The full report, titled *Five-Year External Review Report Operator Certification Program*, is available online at [DEP's Operator Information Center](#). In addition to CPAC's findings and recommendation, Appendix A of the report includes statistics presented in graphical format on operator certificates in Pennsylvania,

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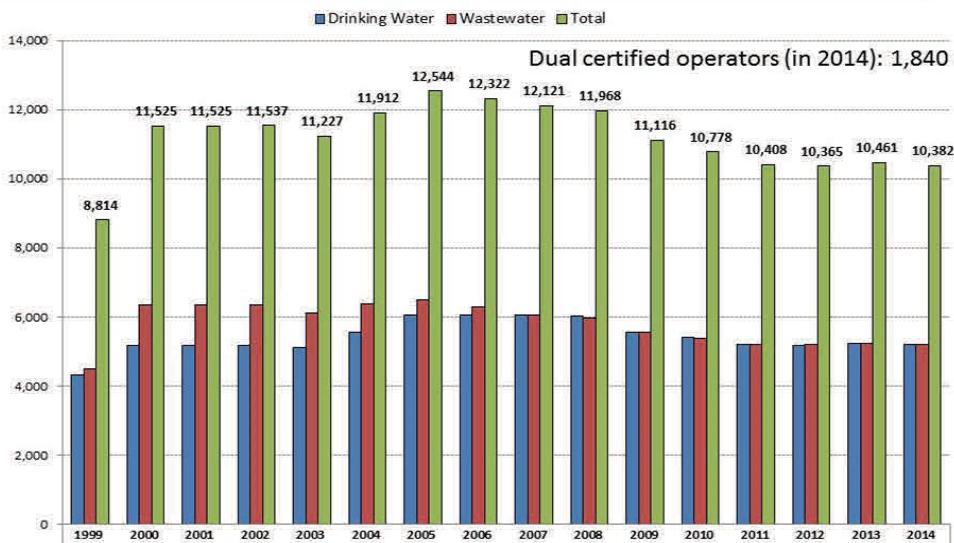
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operator demographics, certification exam pass rates and exams offered, facility types, numbers of uncertified operators and inappropriately certified operators, and much more. Two of those graphs are shown here:

Pennsylvania has experienced a 16% loss in the number of certified operators since 2005. These statistics are based on the unique client IDs in DEP's enterprise database system called eFACTS (Environment Facility Application Compliance Tracking System).



Number of Certificates



Some operators hold both a drinking water and wastewater certificate, often referred to as "dual certified operators." Looking at the total number of certificates, Pennsylvania has experienced a 17% loss in the number of certificates since 2005.

2009 furloughs of Commonwealth employees resulted in a reduction of available exams for operators, which reduced the total number of available exams over the next three years. With the addition of DEP staff members who are solely directed at supporting the certification program, the number of exams and examinees in 2013 and 2014 was well above pre-furlough levels. Operators often take more than one exam type during an exam session, so Pennsylvania has seen a huge uptick in the total number of subclass exams in recent years.

Appendix B of the report includes the actual survey questions and a breakdown of the answers as well as all of the respondents' unaltered comments. DEP will widely disseminate the report and its appendices to professional water associations, approved exam and training providers, and the U.S. Environmental Protection Agency.

~ Phil Consonery is the Program Manager for DEP's Training, Technical and Financial Services Division. He holds a water operator certificate and is the DEP Secretary's appointed designee on the State Board for Certification of Water and Wastewater Systems Operators.

Advisory Concerning Operator Misconduct

Phil Consonery, Training, Technical and Financial Services Division
Chief, Central Office

The Water and Wastewater Systems Operators Certification Act (Act) grants DEP the ability to petition the State Board for Certification of Water and Wastewater Systems Operators (Board) to revoke, suspend, or modify the certification of water and wastewater system operators based on operator misconduct. Operator misconduct includes, but is not limited to, falsification of certification applications, certificates, sample results, monitoring records, or other records relating to the operation of a water and wastewater system. The Act gives the Board authority to revoke, suspend, or modify an operator's certificate based on the operator's misconduct.

DEP has petitioned the Board to take action on a number of cases involving falsification of operating records and falsification of certificates. Under Pennsylvania's Crimes Code (18 Pa.C.S. §§ 101 to 9402), it is a criminal offense if a person knowingly makes a false entry in, or false alteration of, a record or document that (1) belongs to, is received by, or is kept by a government agency for its own information or records, or (2) is required by law to be kept by others for information of the government. A person committing this offense is guilty of tampering with public records or information, a second degree misdemeanor. If the person also acted with intent to defraud or injure anyone, the offense is a third degree felony and the person may be subject to prosecution in the appropriate Pennsylvania Court of Common Pleas.

[DEP's Operator Information Center](#) contains information on operator certification regulations, an operator handbook, certification exams, and other helpful information for operators.

DWELR and Bounced Emails

Mike Hitcho, Operation and Monitoring Division, Central Office

Federal electronic reporting regulations require that all Drinking Water Laboratory Reporting (DWELR) System submitters receive an acknowledgement/confirmation email as part of the validation process when data are submitted into DWELR. When these emails return as undeliverable (i.e., bounced back), DEP is required to suspend the user's DWELR access/permissions until the user provides a valid email address. Often it is user's email server and/or spam filter that is blocking the DWELR emails. The user can resolve the issue by accepting the DWELR generated emails.

Users can update their account information (i.e., email address) prior to suspension at any time by clicking on the "Account Administration" button on the page after logging on to DEP GreenPort.

DEP will not suspend users between the 5th and 10th of the month in order to facilitate DWLER submissions. DEP will notify the user(s) of returned emails via email (i.e., an email to other users associated with the lab id) or by phone. However, if the user fails to update their email address after approximately three notification attempts, the user's DWELR access/permission will be suspended.

Suspended DWELR users are able to "unsuspend" themselves by following the instructions presented on their next DWELR login and entering a valid email. If unsuccessful, the user should contact the Help Desk Team at ep-efactshelpdeskteam@pa.gov or 717-705-3768.



On May 11, 2014, DEP began suspending users with AOL email addresses as their acknowledgement/confirmation emails were routinely being returned to DEP as undeliverable. DWELR Registration Forms with AOL addresses are not processed and applicants are notified that an email address with a domain other than AOL is required.

It is important that DWLER users understand that, as part of the DEP Trading Partner Agreement, it is **illegal** to use another individual's DWELR account to submit data. Your name and password are identifying you. If you are using another person's name and password, you are submitting false information. If someone else has access to your name and password, notify us immediately." Operators and/or DWELR users for a laboratory or water system that no longer perform these duties/functions should have their DWELR access removed. To request DWELR access removal, email the individual's full name and/or GreenPort Username to ra-padwis@pa.gov. The requester will receive an email confirming the named individual's DWELR access removal.

Users having questions about their password or other issues related to DWELR should contact the Help Desk Team at ep-efactshelpdeskteam@pa.gov or 717-705-3768. For other DWELR access issues (i.e., establishing an account, Username, etc.) call the Operations and Monitoring Division at 717-772-4018.

2016 Lead and Copper Sampling and Reporting

Jennifer Brock, Operations and Monitoring Division, Central Office

2016 is a triennial lead and copper year. This means that not only do all community and nontransient noncommunity water systems on an annual monitoring frequency for lead and copper need to sample between June 1 and September 30, but that all the water systems on a triennial monitoring frequency also need to sample in the same four month period. All of these sample results are then due to DEP by October 10.



As of October 2015, there are approximately 2,700 water systems on a triennial monitoring frequency and an additional 200 systems on an annual monitoring frequency. So in 2016, we expect about 14 times as many lead and copper samples as there were in 2015. Accredited laboratories and public water systems need to work together in order to ensure that all the samples are collected in an appropriate time period so samples are analyzed in time to meet the reporting deadline.

Now is the time for water systems to contact their laboratories to plan when they are going to sample to ensure that the samples can be processed. In making your plan, remember that lead and copper first draw tap samples have specific sample collection procedures. This is particularly important for schools and other water systems which close or operate with reduced populations (and water use) during the summer months. We recommend that you avoid late September sampling as that practice will put a lot of pressure on labs to get the samples analyzed and reported on time.

If you are unsure of your water system's monitoring requirements, you can find them on the Drinking Water Reporting System at <http://www.drinkingwater.state.pa.us/dwrs/HTM/Welcome.html>. Select "Selection Criteria," then click on either "Public Water System ID" or "Public Water System Name." Look under Inventory for the monitoring requirements.

Complying With Air Quality Asbestos Regulations at a Drinking Water Facility

Renee Diehl, Compliance Assistance Specialist, Southwest Region

Asbestos can cause serious health problems in certain forms. DEP and EPA both regulate demolition and renovation projects as per the Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations. Any project involving a defined "facility", which includes buildings, tanks, piping and construction materials made with asbestos, may be subject to these regulations. Every demolition project is subject to the NESHAP regulations. Renovation projects may or may not be subject to the NESHAP regulations.

All demolition and renovation projects require hiring a certified asbestos inspector who will inspect the project, take samples of suspect asbestos materials and have them analyzed by a certified laboratory. If necessary, a project may need to have the asbestos abated. If the project is determined to be NESHAP regulated, an Asbestos Abatement and



Demolition / Renovation Notification form must be completed and sent to both EPA and DEP at least 10 working days prior to the project's commencement. A certified asbestos inspector should be able to walk you through these processes.

If you have any questions as to whether or not your project is regulated, call your regional DEP Air Quality Program (or County Health Department if you are located in Allegheny or Philadelphia Counties) before you begin. For further asbestos information, visit the DEP website at www.dep.pa.gov or the EPA website at www.epa.gov and search 'Asbestos'.

Laboratory Reporting Instructions for PWSs Using Surface Water or GUDI Sources

Pauline Risser, Monitoring Section, Central Office

The Long-term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) introduces source water monitoring and additional treatment requirements for higher risk source water, to enhance public health protection against pathogenic microbial contaminants, especially *Cryptosporidium*.

For the LT2ESWTR, PWSs that use surface water or GUDI sources must monitor their sources to determine treatment requirements. PWSs with filtered or unfiltered sources and serving 10,000 people or more must perform source sampling for *Cryptosporidium*, *E.coli* (by enumeration per LT2 ESWTR), and turbidity. Small systems (with filtered or unfiltered sources) serving less than 10,000 people must also perform source water sampling for LT2 *E.coli* (unless the PWS monitors for *Cryptosporidium*) twice a month for 12 months or once a month for 24 months. Other PWSs may also be required to monitor source water for *E.coli* (by enumeration) under this rule.

PWSs and accredited laboratories are required to report *Cryptosporidium* and any other LT2ESWTR required sample results no later than **10 days after the end of the first month following the month the sample is collected**. Below are tables to assist laboratories and PWSs when reporting LT2ESWTR required results.

Table 1 contains contaminant and method codes for reporting *Cryptosporidium* and *E.coli* enumeration (e.g., quantitative or bacteriological counts) laboratory analysis results. LT2ESTWR requires source water *E.coli* analyses to be qualitative; **presence/absence analysis is not acceptable**.

NOTE: The **filter effluent turbidity** reporting requirements under the PA Filter Rule are different than the turbidity monitoring that are described here. For filter effluent turbidity, DEP has recently published the *Turbidity and LT2 ESWTR Reporting Instructions for Public Water Systems Using Filtered Surface Water or Groundwater under the Direct Influence of Surface Water (GUDI) Sources*, available at www.elibrary.dep.state.pa.us/dsweb/HomePage.

Table 1 Enumeration Laboratory Method Codes for Reporting <i>Cryptosporidium</i> and <i>E.coli</i>			
Parameter Name	EPA Analysis Method	DEP Method Code	EPA Contaminant Code
<i>Cryptosporidium Oocysts</i>			
Cryptosporidium Oocysts	EPA method 1622 or 1623	320	3015
	EPA method 1623.1	336	
Two-Step Process: Determine presence of Total Coliform and, if present, analyze for <i>E.coli</i>			
<i>E.coli</i>	Membrane Filtration with m-Endo SM 9222B + SM 9222G verification*	323	3014
	SM 9221B + SM 9221F verification (report the MPN)	327	
	Membrane Filtration with m-TEC SM 9213D/EPA 1103.1	321	
	Membrane Filtration with m-FC SM 9222D + SM 9222G verification*	335	
Simultaneous Detection of Total Coliform and <i>E.coli</i>			
<i>E.coli</i>	Membrane Filtration with MI Agar EPA 1604	324	3014
	MMO-MUG Colilert SM 9223B (report the MPN)	331	
One Step Enumeration only for <i>E.coli</i>			
<i>E.coli</i>	Membrane Filtration with m-ColiBlue24â	333	3014
	Membrane Filtration with modified m-TEC EPA 1603	322	

SM = Standard Methods

MPN = Most Probable Number

*-The Long Term 2 Enhanced Surface Water Treatment Rule **requires** NA+MUG verification from m-Endo or m-FC.

Notes: Results are reported as density (colonies/100-milliliters or MPN/100-milliliters).

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Turbidity contaminant and method codes are in Table 2.

Table 2 Laboratory Method Codes for Reporting Turbidity			
Parameter	EPA Analysis Method	DEP Method Code	EPA Contaminant Code
Turbidity	EPA method 180.1; SM 2130B	001	0100
SM = Standard Methods.			

PWSs are responsible for sampling source waters; both the PWS and the accredited laboratory that analyzes the water samples have responsibilities concerning the reporting of the sampling results to the DEP.

Cryptosporidium, *E.coli*, and turbidity source water analysis results are electronically entered into DWELR. LT2ESWTR *Cryptosporidia* and *E. coli* (enumeration), and turbidity reporting requirements and the corresponding reporting forms are listed in Table 3.

Table 3		DEP is preparing a technical guidance manual containing <i>Cryptosporidia</i> , <i>E.coli</i> , and Turbidity LT2ESWTR Laboratory Reporting Instructions. The manual will provide accredited laboratories and PWS staff with instructions for reporting <i>Cryptosporidia</i> and related <i>E.coli</i> monitoring as required by the LT2ESWTR.
Parameter	SDWA Form	
<i>Cryptosporidia</i>	CRYPTOSPORIDIUM OOCYSTS form	
<i>E. coli</i> enumeration*	SDWA-1 BACTERIOLOGICAL / RESIDUAL DISINFECTANT / TURBIDITY / DBP ANALYSIS form	
Turbidity	SDWA-1 BACTERIOLOGICAL / RESIDUAL DISINFECTANT /	

* The analysis and reporting are for enumeration per the LT2ESWTR.

How does Environmental Laboratory Accreditation Affect a Public Water System?

Dawn Hissner, Operations & Monitoring Division, Central Office

As a public water supplier, you are probably aware that the samples you collect to fulfill your monitoring requirements must be analyzed by a lab accredited under Chapter 252 regulations. However, are you aware that your water system may qualify as an environmental lab that must also be accredited under Chapter 252?

Any facility engaged in the testing or analysis of environmental samples is an environmental lab. An environmental sample is a solid, liquid, gas or other specimen taken for the purpose of testing or analysis as required by an environmental statute. If you are measuring turbidity, disinfectant residuals or corrosion control water quality parameters for compliance purposes, you are testing environmental samples and are considered an environmental lab. You may be eligible for accreditation-by-rule (ABR) under Chapter 252 if you meet all of the following criteria:

- The environmental samples being tested are only for turbidity, disinfectant residual, daily chlorite, fluoride (process control), pH, alkalinity, orthophosphates, silica, calcium, magnesium hardness, conductivity, and temperature.
- The samples are properly preserved, are in proper containers, do not exceed maximum holding times between collection and analysis and are handled in accordance with applicable State or Federal laws, regulations, promulgated methods, orders and permit conditions.
- Analysis is performed using the correct method, including all required QA/QC and using the appropriate equipment.
- The analysis is performed by a person either meeting the requirements of § 109.704 (relating to operator certification) or a person using a standard operating procedure as provided under authority of the Water and Wastewater Systems Operators' Certification Act.

If your environmental lab qualifies for accreditation-by-rule, you must register with DEP's Lab Accreditation Program. For information on registering as an ABR environmental lab, visit http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx#.VIYEG_Mo691.

We're So Glad You Asked



DEP receives a lot of good questions from water system operators and officials, so we're sharing some of the most common questions in hopes of helping more water systems and certified laboratories.

Q: My sanitarian noted my chlorine readings of 2.2 were not valid. Why is this a problem?

A: Most colorimeters are set to read a maximum of 2.2 in the most common range (low). The meter will display 2.2 LIMIT or MAX. When the meter reads 2.2, that is the minimum the sample can be but to determine the actual reading, you need to resample using either a high range method or by conducting an approved dilution method. Put simply, a reading of 2.2 might actually be 2.40 or it might be 8.00.

Q: Why can't a campground winterize lines with RV antifreeze?

A: Chapter 109.606 states that chemicals that come in contact with drinking water must be NSF Standard 60 certified. RV antifreeze is not NSF certified and in many cases the jugs are labeled not for human consumption. Draining water lines for winter is a far safer method to prevent frozen lines.

Q: The definition of a Community Water System refers to year round residents. What is a year round resident?

EPA Water Supply Guidance Manual 66A defines a year round resident as "an individual whose primary residence is served by the water system. The individual need not live at the residence for 365 days a year for it to be considered his / her year round residence."

Q: My neighbors are digging a well on their property. Why and when would it be necessary for me to contact DEP to investigate what's going on?

A: The installation of a well on your neighbor's property may be just fine without any involvement by DEP. DEP does not regulate **residential** water well installation or operation and the installation of water wells on **commercial** or **business** properties may or may not be regulated by the department. The regulation of water well installation and operation depends on the end use of the water being supplied from the well. If the water will ultimately be used for human consumption and those being served the water meet the definition of a Public Water System, then DEP would regulate the well and likely would require some type of permitting and monitoring.

Q: We operate our ice cream shop year-round, but received documentation from the Department indicating we were a "Seasonal" system. What does that mean and what should we do about it?

A: A seasonal system is a noncommunity water system that is not operated year-round. It starts up and shuts down at the beginning and end of each operating season. DEP is finding systems are in our database as seasonal due to previous operating schedules. Some systems may have started out, years ago, as seasonal systems, but then decided to stay open year round. Seasonal systems are now required to submit a Start-up Procedure Form for approval by DEP. If you are not a seasonal system anymore, please contact your DEP Sanitarian so your status can be changed in our database.

Q: Our normal plant operating procedures include blending of two raw water sources prior to entry to the treatment plant. As a result, DEP approved our LT2 sampling plan to collect one blended sample each month prior to any chemical addition. When submitting sample results in DWELR, how should our lab enter the data to reflect that it is an evaluation of two sources blended together?

A: When submitting LT2 monitoring results when a sample represents two blended sources, please use the 2nd location field to report the 2nd source. The turbidity and E. Coli results should be reported in DWELR via SDWA-1 Form which has a 2nd ID field. Unfortunately, a 2nd location field does not appear on the Cryptosporidium reporting form, so DEP Drinking Water Data Management staff will have to be notified to add the 2nd source after the data is submitted via DWELR. Contact Jennifer Brock at 717-772-4018 with questions on this matter or send an email to ra-padwis@pa.gov.

Q: We began our LT2 sampling earlier this year which includes raw water sampling for Cryptosporidium, E.coli, and Turbidity. Does all of this data need to be reported in DWELR? Who should report? And, what is the reporting timeframe?

A: "109.1206(a) Source Water Reporting Time Frame" specifies that systems shall report results from source water monitoring required under 109.1202 no later than 10 days after the end of the first month following the month the sample is collected..." In this case "results" applies to Cryptosporidium, E.coli, and turbidity. The certified lab conducting the analysis should enter this information into DWELR. If the water system analyzed turbidity on their own, then that water system should report the turbidity results in DWELR.

****Important Note: There is a requirement to submit a bin determination request (which is a summary of the data) at the conclusion of the 2 year LT2 sampling. However, that is a separate requirement from the above-summarized routine DWELR reporting.**