

Water & Wastewater Digest

Summer 2015

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As you may know, the first full week of May is Drinking Water Week across the nation. Drinking Water Week recognizes the public drinking water industry for the work it does in providing each of us with safe drinking water.



Drinking Water Week, held May 3-9, was also a time to recognize the essential role drinking water plays in our daily lives. Many of us turn on our faucets and expect a plentiful supply of clean, safe water to come out. Water is one of our most precious natural resources, yet too often it is taken for granted.

The Missouri Department of Natural Resources Public Drinking Water Branch Chief Steve Sturgess expressed his appreciation for the men and women who work to provide safe drinking water to the residents and visitors of Missouri.

“Public water systems in Missouri face ever-increasing and complex challenges to meet stringent standards that the public has come to expect of them,” said Sturgess. “We urge all Missourians to join in paying tribute to the tireless, dedicated men and women that run our public drinking water systems.”

In celebration of the Drinking Water Week the department, in conjunction with the American Water Works Association, held a poster contest for fifth grade students.

First place went to Tracy Nguyen of Florissant. Second place went to Madi Wall of Smithville, and third place went to Luke Crawford of California, Mo.

Congratulations to our winners and a big thank you to our drinking water industry workers! For more information about Drinking Water Week, visit dnr.mo.gov/env/wpp/drinkingwaterweek/index.html

Preparing for Drinking Water’s Revised Total Coliform Rule, Part 2 of 4: Treatment Techniques and Assessments.

The Revised Total Coliform Rule (RTCR) replaces the existing total coliform maximum contaminant level violation and associated public notice requirement with a total coliform treatment technique requirement. The term treatment technique does not necessarily refer to the chemical treatment (such as disinfection) or physical treatment (such as filtration) of the water. A treatment technique is a required process or set of procedures intended to reduce the level of a contaminant in drinking water, or reduce the potential of contamination entering drinking water.

Under the RTCR, a public water system that exceeds the total coliform treatment technique trigger by having a specified number of total coliform positive sample occurrences, or incurs an E. coli MCL violation, must conduct an assessment of the water system and take corrective action within 30 days of learning of the trigger.

The purpose of the assessment is to investigate the cause of the unsafe samples and look for any existing or potential sanitary defects starting with the total coliform positive sample site(s), followed by sample collection procedures, then the distribution system, water storage, treatment and finally the source. The RTCR defines sanitary defect as a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.



Under the RTCR, failure to conduct an assessment or correct sanitary defects identified during the assessment within 30 days of the treatment technique trigger would result in a treatment technique violation requiring public notification.

There are two levels of assessments. The Level 1 Assessment is a basic evaluation of the water system intended to be conducted by the water system owner or operator. Missouri Department of Natural Resources’ regional office staff will be available to assist the operator by consultation over the phone or on-site. Currently, some regional offices are testing the draft Level 1 Assessment when calling water systems to notify them of total coliform positive samples. If you are interested in obtaining a copy of the

latest draft Level 1 Assessment, please contact Scott Weckenborg of the department's Public Drinking Water Branch at 573-526-1124.

A Level 1 Assessment is triggered when one of the following occurs:

- A public water system collecting fewer than 40 samples per month has two or more total coliform positive samples in one month; or
- A public water system collecting at least 40 samples per month has greater than 5.0 percent of compliance samples in the same month that are total coliform positive; or
- A public water system fails to collect every required repeat sample after each total coliform positive routine sample.

A Level 2 Assessment is a more detailed examination of the water system than a Level 1 Assessment and must be conducted by Department of Natural Resources regional office staff in coordination with the public water system operator or owner. A full compliance and operations inspection by the regional office can be substituted for the Level 2 Assessment. A Level 2 Assessment is triggered when one of the following occurs:

- A public water system has an E. coli maximum contaminant level violation (this includes failure to collect all required repeat sample following an E. coli positive routine sample); or
- A public water system triggers a second Level 1 Assessment within a rolling 12-month period.

Minimum elements for all assessments must include the review of the following:

- Atypical events that could affect water quality in the distribution system or indicate that distributed water quality was impaired.
- Changes in distribution system maintenance and operation that may have affected or could affect water quality.

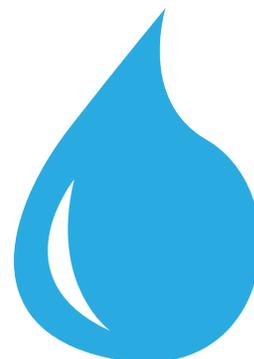
- Evaluation of source water quality and treatment changes or conditions that may affect distributed water quality.
- System's past records and existing water quality monitoring data (Chlorine residuals).
- Inadequacies in sample sites, sampling protocol, and sampling process.

The assessment must be conducted and a report submitted to the department's regional office within 30 days after the system learns it has triggered an assessment. The report must list any sanitary defects found and the actions taken to correct each sanitary defect identified. Because some corrective actions may take longer than 30 days, the water system can consult with the department and agree to a timeline for completing the remaining corrective actions. It is possible the water system may not find the particular cause that triggered the assessment. If no sanitary defects are identified in any category of the assessment, this finding must be indicated in the report submitted to the regional office.

For a copy of the federal RTCR and U.S. Environmental Protection Agency guidance documents, visit the EPA RTCR website: water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm

The department's website for the draft Missouri RTCR rule and the status of the rule development is: www.dnr.mo.gov/env/wpp/rules/wpp-rule-dev.htm

In Part 3, we will review sampling, site sampling plans and reporting requirements.



Small Borrower Loan Program

Do you have a small wastewater or drinking water construction project? Do you need project funding but don't want to jump through all of the hoops associated with federal funding? Look no further than the Department of Natural Resources' Small Borrower Loan Program.



The Small Borrower Loan Program provides low-interest loans for wastewater or drinking water system improvement projects. Eligible applicants are small communities with a population no greater than 1,000 that are currently experiencing financial difficulties or that have a small financial need. Small Borrower Loans have a \$100,000 maximum, require no environmental clearances and do not require a bond sale.

A Small Borrower Loan may be used for eligible costs of a project, including construction and engineering costs. Examples of eligible projects include, but are not limited to, small-scale projects such as disinfection or system upgrades to meet permit limits, remote read meters and drinking water line replacements.

If you are not certain about the eligibility of a project, please contact the department's Financial Assistance Center at 573-751-1192 for a preliminary determination. Applications are accepted any time.

2014 Annual Water Quality Report

Draft 2014 Consumer Confidence Reports (CCRs) are getting a fresh look this year with new formatting. The CCRs are developed by the Missouri Department of Natural Resources' Public Drinking Water Branch and provided to community water systems, which are then required to distribute the annual report to water customers by July 1 of each year.

Systems must submit a copy of the CCR, the completed certification form stating when and how the CCR was distributed and any additional paperwork to the department by Oct. 1 each year to avoid violation. Distribution methods vary depending on the size of population served.

All water systems, regardless of size, may use direct delivery to meet CCR distribution requirements. A growing trend is for water systems to cut costs by distributing electronic CCRs. Many systems chose to provide the direct web address, or, URL, for the CCR on utility bills sent to customers. You will find the CCR for your system at: www.dnr.mo.gov/ccr/MO#####.pdf with "#####" replaced with your system's unique MO PWS ID#.

To learn how to access electronic CCRs from the department's website and distribute CCRs electronically, a short YouTube video is available at www.youtube.com/watch?v=eMvi4O5HoFs. Additional CCR resources, including this year's instruction packet and newly revised CCR Certification Form, can be found on the department's website at: www.dnr.mo.gov/ccr/ccr.htm.



Important CCR dates:

July 1 – CCR Distribution Deadline to Customers

Oct. 1 – CCR Certification Form Deadline to the department's Public Drinking Water Branch

For more information, please visit the department's website at: dnr.mo.gov/ccr/index.html or contact the CCR Coordinator at 573-526-3832 or by email at CCR@dnr.mo.gov.

Wastewater Pilot Projects

Many wastewater treatment facilities across Missouri are facing more stringent effluent limits. In their efforts to meet the stringent and future limits, they are considering new and innovative treatment alternatives. The Missouri Department of Natural Resources has a procedure for reviewing and approving small scale pilot projects. Pilot projects may operate for a period of one year. The rules regarding wastewater pilot projects can be found at 10 CSR 20-6.010(1)(B)8.

The department has a dedicated webpage, dnr.mo.gov/env/wpp/pilot-projects.htm, to share recently approved and ongoing pilot

projects in Missouri. The website provides some basic facility information and identifies the new technology, process, or equipment to be implemented during the pilot project. The department encourages you to visit with the communities implementing these approved pilot projects. If your treatment facility is interested in conducting a pilot project, contact the department's Water Protection Program at 573-751-1300.



EPA Releases New Website Enabling the Public to Track Compliance Status of Public Water Systems

The U.S. Environmental Protection Agency released the Safe Drinking Water Act dashboard, a user-friendly website that presents data about violations and the compliance status of public water systems. The dashboard contains interactive charts and graphs that provide information regarding the compliance of public water systems with federal drinking water regulations, as well as enforcement actions.

"It's critical that the public knows whether public water systems are complying with laws that protect against harmful pollution in drinking water," said Cynthia Giles, assistant administrator for enforcement and compliance

assurance at EPA. “This dashboard is a vital resource for Americans that want to play an active role to ensure clean drinking water in their communities. The dashboard supports EPA’s commitment to build transparency and engage the public in environmental protection.”

The Safe Drinking Water Act dashboard is connected to EPA’s Enforcement and Compliance History Online (ECHO) website, which allows users to assess the compliance status of regulated facilities in their communities. Key features of the dashboard include:

- It presents annual statistics and five-year trends for public water systems across the U.S., individual states, Indian country and territories, in easy-to-read pie graph and bar chart formats.
- Users can view various sets of data – including violation history, site visits and enforcement actions – sorted onto one screen.
- By clicking on a chart, the user can view more detail about the data represented, and can connect to detailed facility reports for individual non-complying systems.
- All data can be exported, downloaded and printed.

The Safe Drinking Water Act dashboard is the latest in a series of online dashboards available through ECHO, including tools for the Clean Water Act’s National Pollutant Discharge Elimination System, the Clean Air Act, and Resource Conservation and Recovery Act.

The Safe Drinking Water Act is the main federal law that ensures the quality of Americans’ drinking water. Under the act, EPA sets standards for drinking water quality and oversees the implementation of those standards by the state, tribal, and territorial agencies, and may bring enforcement actions against any public water systems that violate the standards.

The Safe Drinking Water Act dashboard does not replace Drinking Water Watch, but can be

used for additional information. Keep in mind that the information provided on the dashboard may not reflect all recent activities; Drinking Water Watch contains the most updated information for Missouri water systems.

To view the Safe Drinking Water Act dashboard, visit: echo.epa.gov/trends/comparative-maps-dashboards/drinking-water-dashboard



Pumping Energy Savings

The Missouri Division of Energy’s Energy Loan Program (ELP)

Pulaski County, situated in south central Missouri, is in the heart of the Ozarks. Known for its hills and valleys, this part of the Show-Me State offers beautiful views. But with that beauty comes unique challenges for one rural sewer district.

“The layout here is simply unmatched,” said Nola Wadley, office manager for the Pulaski County Sewer District No. 1. “We looked at other districts, and found we really have a unique situation in Pulaski County.”

The county’s hilly terrain makes movement through the sewer system a challenge. To meet the challenge, the district relied on lift stations installed in the early ‘90s to navigate wastewater through the hills and valleys, which resulted in high electricity costs.

“The pumps were dinosaurs,” said Terris Cates, president and owner of Integrity Engineering and project manager for the Pulaski County Sewer District No. 1. “The technology was old and using an incredible amount of energy.”

Cates applied for an energy loan and was approved for \$99,525 through the Division of Energy’s Energy Loan Program to replace pumps at seven lift stations with equipment controls.

The upgrade is estimated to save \$11,211 or 162,466 kWh annually. This is equivalent to annual greenhouse gas emissions from 40.2 tons of waste being sent to a landfill.

“The pumps we were able to purchase, thanks to the Energy Loan Program, are much more efficient, which means savings for the patrons of the district,” Cates said. “The sewer district is not-for-profit, so the rates charged to customers are based on operating costs and debt service. When the district saves on operations, they can pass that savings onto the customer.”

Opportunities for Improvement

Water and wastewater treatment facilities, like the Pulaski County Sewer District No. 1, are ripe with potential for energy savings. With large pumps, drives and motors running 24 hours a day, energy usage can make up 30 to 40 percent of a facility’s operating cost. Rising energy costs, population growth, stringent regulations, and increased demand on aging infrastructures are all major challenges for rural water and wastewater facilities.

The most effective way to meet these challenges, while reducing cost and improving environmental performance, is to invest in energy efficiency.

That’s where the Missouri Division of Energy’s Energy Loan Program comes in.

The program provides loan financing for energy-saving investments for more efficient pumps, motors, blowers, aerations systems, leak prevention measures, infiltration/exfiltration systems, SCADA systems, insulation, lighting



systems, heating and cooling systems, renewable energy systems and other measures that reduce energy use and cost.

“It’s estimated that investing in efficient water and wastewater systems can mean as much as 15 to 30 percent in savings, resulting in a substantial return on investment,” says Lewis Mills, Director of the Missouri Division of Energy.

The loan is not considered debt as it’s repaid with money saved on energy costs as a result of implementing energy efficient and renewable energy projects. Loan principal, plus 2.5 percent interest (FY2015 ELP program rate), is repaid in semi-annual payments not to exceed a 10-year repayment period.

Get Connected to Energy Savings

For more information about the Energy Loan Program, call toll-free 1-855-522-2796 or email energy@ded.mo.gov.

Assessing Your System's Energy Efficiency

If you are wondering how to determine if your facility is in need of energy efficiency improvements, the U.S. Environmental Protection Agency has tools and resources to help you.

The EPA's Energy Use Assessment Tool, water.epa.gov/infrastructure/sustain/energy_use.cfm, is a free Excel-based program that will assist small- to medium-size water and wastewater facilities to self-assess their energy consumption and use. This tool can also be used to identify building energy efficiency measures such as lighting and HVAC. The tool will help to determine whether it is more appropriate to replace equipment with newer technology or change operating procedures.

EPA's Portfolio Manager (energy.star.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/learn-how-portfolio-manager) is also a useful interactive energy management tool that allows you to track and assess energy and water consumption by creating an energy baseline to help you set investment priorities. Other free tools include:

- Energy Management Guidebook for Wastewater and Water Utilities (water.epa.gov/infrastructure/sustain/uploand/Final-Eergy-Management-Guidebook.pdf)
 - U.S. DOE Best Practices Tools: Pumping Systems Assessment Tool and Motor Master. <https://ecenter.ee.doe.gov/Pages/default.aspx>.
- When assessing your facility, look for signs of inefficiency such as noisy pumps and valves, wear on impellers, casings and bearings. Oversized pumps operating in a throttled condition and pumping systems with large flow rate and pressure variations are inefficient applications. Consider efficiency measures like shutting down unnecessary pumps, using pressure switches to control the number of pumps in use, replacing or modifying oversized pumps and meeting variable demand with adjustable drive or multiple pump arrangements. Other opportunities include efficient blowers, SCADA systems for control of remote equipment, aeration systems, lighting and HVAC improvements and sludge management systems.

For more information or for assistance with any of the tools and resources mentioned here, call the Energy Loan Program toll-free at 1-855-522-2796 or email energy@ded.mo.gov.

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Missouri Department of Natural Resources
Operator Certification Section
P.O. Box 176, Jefferson City, MO 65102-0176
Fax: 573-751-0678

Section 2 - New Address

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Operator Certificate _____
Street _____
City/State/ZIP Code _____
Daytime phone with area code _____

Operator Certification Exam Schedule

Exam Date	Location	Filing Deadline
Aug. 4	Kansas City Regional Office 500 NE Colbern Road, Lee's Summit	July 5
	Lewis & Clark State Office Building 1101 Riverside Dr., Jefferson City	
	Northeast Regional Office 1709 Prospect Dr., Macon	
Sept. 1	Department of Conservation Powder Valley Nature Center, Kirkwood	Aug. 2
	Lewis & Clark State Office Building 1101 Riverside Dr., Jefferson City	
Oct. 6	Lewis & Clark State Office Building 1101 Riverside Dr., Jefferson City	Sept. 6
	Southeast Regional Office 2155 N. Westwood Blvd., Poplar Bluff	
	Southwest Regional Office 2040 W. Woodland, Springfield	

Need your Password to log in?

Certified operators are encouraged to access training reports by visiting the department's website at dnr.mo.gov/operator. To login, the password is the last four digits of your social security number.

In addition to checking training hours and renewing certificates online, this site provides a convenient place to view and update important contact information for public drinking water systems including the chief operator, sample collector and administrative contact.

For more information, contact the department's Operator Certification Section at 800-361-4827 or 573-751-1600.

Visit us on the web

The list of approved training changes frequently and new courses are reviewed and approved by Department staff or trainers adjust schedules. By the time this newsletter reaches you, there may be new courses available in your area. visit us at dnr.mo.gov/env/wpp/opcert/oprtrain.htm for an up-to-date list of approved operator certification courses.

Training

The mailed version of this publication included a two page list of approved training courses and exam schedule that was available at the time of printing.

For a current listing of training, please visit:

dnr.mo.gov/env/wpp/opcert/oprtrain.htm