

Missouri Department of Natural Resources OPERATOR CERTIFICATION SECTION



WATER & WASTEWATER DIGEST

Winter 2018



2018 Drought

Most of Missouri experienced some stage of drought during 2018, and many communities, especially those in northern Missouri, are likely still feeling the impacts.

The Missouri Department of Natural Resources' drought webpage contains information to help communities and public water supply systems manage drought impacts. It includes information on drought conditions across the state, funding opportunities for drought-related projects, and guidance documents for best management practices.

It also includes specific information and recommendations for public water systems before, during and after a drought. We encourage operators to review this information and share it with community leaders. Best management practices include:

- Review emergency operations plan to make sure contact information is up-to-date and that it covers the worst-case scenarios. The plan should also include a contingency plan for emergency access to water, such as interconnections or contractual agreements with nearby systems.
- Monitor water levels and investigate if water levels are decreasing faster than usual or something seems amiss.
- Quickly locate and repair water leaks or main breaks. Lost water not only affects customers, but it also represents lost revenue.
- Establish a regular maintenance schedule and perform repairs to infrastructure. This includes completing an asset-management review, exercising valves and hydrants, setting aside funds for repairs and instituting a meter replacement program.
- Encourage common-sense water conservation. Simple measures that can make a big difference include shutting off the water while brushing teeth or washing dishes, watering lawns only during the early morning and evening, and repair leaks inside homes. Remind consumers that everyone working together can make an important impact.

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To view all of the department's drought-related resources visit the drought webpage at dnr.mo.gov/drought.htm.

New Login Information for Sanitary Sewer Overflows and Bypass Reporting

The department has moved the Sanitary Sewer Overflow Bypass Reporting System to a new platform called MoGEM. SSO/Bypass reporters will need to create new login profiles to access the system. MoGEM is also used for ePermitting for Land Disturbance permits, so users that already have a MoGEM account through ePermitting can use the same account and login information, but must add the SSO/Bypass service to the existing account.

Access and bookmark the MoGEM webpage at dnr.mo.gov/mogem.

If you have any questions or need assistance, please contact your regional office.



Kansas City Regional Office:	816-251-0700
Northeast Regional Office:	660-385-8000
Southeast Regional Office:	573-840-9750
St. Louis Regional Office:	314-416-2960
Southwest Regional Office:	417-891-4300

You may also contact the department's Water Protection Program at 573-751-1911 or SSO/bypass user technical support at 573-751-8309.

Wastewater Reporting Requirements – Percent Removal

Missouri State Operating Permits for publicly owned treatment works have historically contained effluent limitations for biochemical oxygen demand (BOD5), total suspended solids (TSS) and pH, and were accompanied by monitoring requirements for influent BOD5 and TSS.

Per federal regulation 40 CFR 125.3(a)(1), permits for POTWs are required to contain technology-based effluent limitations based on secondary treatment requirements. Secondary treatment requirements include effluent concentration limitations for BOD5, TSS and pH as well as percent removal for BOD5 and TSS. The influent monitoring was required so the permitted facility could use the monitoring information to calculate the percent removal by using the following equation:

$$\left(\frac{\text{influent concentration} - \text{effluent concentration}}{\text{influent concentration}} \right) 100\% = \% \text{ Removal}$$

While not identified as an itemized limitation, historical permits did contain a narrative requirement for percent removal. During permit renewals, percent removal is now being included as a reporting requirement with limits expressed as a Monthly Average Minimum because the regulatory requirement for percent removal equals a 30-day average. As a result, there is greater attention regarding compliance tracking of this parameter. For systems experiencing problems with complying with the limits for this parameter, the resulting expectations are similar to other parameters. If a violation occurs, a detailed explanation regarding the violation's cause and corresponding corrective actions is required.

Systems that fail to meet the percent removal requirement but do not exceed pollutant limit concentrations likely have an unusually weak waste stream. In many instances, this is the result of excessive groundwater or precipitation entering the collection system in the form of inflow and infiltration. However, this could also be attributed to industrial or commercial sources that discharge relatively large volumes of water into the collection system that are low in BOD5 and TSS. While federal regulations allow the permitting authority to relax the

percent removal requirement or replace it with a mass-based effluent limit, three stipulations must be met:

- The treatment facility must be consistently meeting effluent limitations.
- Effluent concentrations must be significantly more stringent than the concentration-based requirement to meet percent removal required.
- The weak or less concentrated influent cannot be the result of excessive inflow and infiltration, as defined in 40 CFR 35.2005(b)(16).

Regardless of the reason for the weak influent or what the potential permitting flexibilities are, the department recommends taking multiple influent and effluent samples for BOD5 and TSS each month to calculate the percent removal. Because the percent removal requirement is a 30-day average, compliance may simply be a matter of collecting more data. If increased monitoring does not demonstrate consistent compliance, operators should begin looking for the weak influent's cause.

If the issue is related to inflow and infiltration, a thorough evaluation can determine if the collection system has inappropriate connections, such as sump pumps or storm drains, or whether other breaks or gaps within the system are allowing communication with streams, groundwater, flooding, or similar sources.

While a complete evaluation can take several years depending on the collection system's size, the entity should be able to gather sufficient information to identify significant sources of inflow and infiltration to help guide mitigation efforts. Over time, there should be an improvement to influent weakness, which in turn should result in consistent compliance with percent removal.

Systems may also have to evaluate the potential impact of any large industrial contributions that may be low in BOD and TSS. The environmental benefits of having these industries connected to the system may outweigh the consequences of a low percent removal if all other effluent limits are still being met. Permit holders are encouraged to reach out to the department during the permitting process and communicate any concerns regarding the proposed percent removal monitoring requirements and corresponding limits.



Annual National Pharmaceutical Take-Back Events

It is vitally important to keep pharmaceuticals from entering our drinking water. One way to accomplish this is to participate in a National Prescription Drug Take-Back Event.

A 2013 Mayo Clinic study found that nearly 70 percent of Americans use at least one prescription drug on a regular basis and nearly 20 percent use five or more. Because the vast majority of wastewater systems are

not designed to remove pharmaceuticals, flushing unused drugs pollutes rivers, streams, and lakes, including drinking water supplies.

In 2010, the U.S. Drug Enforcement Administration hosted the first National Prescription Drug Take-Back Event, during which the public turned in more than 121 tons of drugs. Since then the DEA has hosted another 15 drug take-back events. On May 15, 2018, citizens turned in a record-breaking 476 tons of medications for proper disposal at take-back sites in all 50 states and U.S. territories. During the four publicized take-back days in 2018, the DEA and its state, local and tribal law-enforcement and community partners removed a total of more than 4,982 tons of medications from circulation.

Register for pharmaceutical take-back events by contacting the DEA at deadiversion.usdoj.gov. General information is available at deadiversion.usdoj.gov/drug_disposal/takeback/.

If you have questions or need assistance, contact Eric Fuchs with the Missouri Rural Water Association at 573-429-1383 or by email at efuchs@moruralwater.org.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
OPERATOR CERTIFICATION AND TRAINING
EXAMINATION SCHEDULE**

Exam Date	Location(s)	Filing Deadline
January 8, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	December 9, 2018
January 8, 2019	Southeast Regional Office, 2155 N Westwood Blvd, Poplar Bluff	December 9, 2018
January 8, 2019	Southwest Regional Office, 2040 W Woodland, Springfield	December 9, 2018
February 5, 2019	Kansas City Regional Office, 500 NE Colbern Rd, Lee's Summit	January 6, 2019
February 5, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	January 6, 2019
February 5, 2019	Northeast Regional Office, 1709 Prospect Dr, Macon	January 6, 2019
March 5, 2019	Department of Conservation, Powder Valley Nature Center, Kirkwood	February 3, 2019
March 5, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	February 3, 2019
April 9, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	March 10, 2019
April 9, 2019	Southeast Regional Office, 2155 N Westwood Blvd, Poplar Bluff	March 10, 2019
April 9, 2019	Southwest Regional Office, 2040 W Woodland, Springfield	March 10, 2019
May 7, 2019	Kansas City Regional Office, 500 NE Colbern Rd, Lee's Summit	April 7, 2019
May 7, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	April 7, 2019
May 7, 2019	Northeast Regional Office, 1709 Prospect Dr, Macon	April 7, 2019
June 4, 2019	Department of Conservation, Powder Valley Nature Center, Kirkwood	May 5, 2019
June 4, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	May 5, 2019
July 2, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	June 2, 2019
July 2, 2019	Southeast Regional Office, 2155 N Westwood Blvd, Poplar Bluff	June 2, 2019
July 2, 2019	Southwest Regional Office, 2040 W Woodland, Springfield	June 2, 2019
August 6, 2019	Kansas City Regional Office, 500 NE Colbern Rd, Lee's Summit	July 7, 2019
August 6, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	July 7, 2019
August 6, 2019	Northeast Regional Office, 1709 Prospect Dr, Macon	July 7, 2019
September 3, 2019	Department of Conservation, Powder Valley Nature Center, Kirkwood	August 4, 2019
September 3, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	August 4, 2019
October 1, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	September 1, 2019
October 1, 2019	Southeast Regional Office, 2155 N Westwood Blvd, Poplar Bluff	September 1, 2019
October 1, 2019	Southwest Regional Office, 2040 W Woodland, Springfield	September 1, 2019
November 5, 2019	Kansas City Regional Office, 500 NE Colbern Rd, Lee's Summit	October 6, 2019
November 5, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	October 6, 2019
November 5, 2019	Northeast Regional Office, 1709 Prospect Dr, Macon	October 6, 2019
December 3, 2019	Department of Conservation, Powder Valley Nature Center, Kirkwood	November 3, 2019
December 3, 2019	Lewis & Clark State Office Bldg., 1101 Riverside Dr, Jefferson City	November 3, 2019

Regular wastewater examinations are scheduled for 9:00 a.m., and the water supply examinations are scheduled for 1:00 p.m. **unless otherwise noted on the admission letter.**