

# Maintaining Treatment Systems

## A Guide for Public Water Systems

Maine CDC Drinking Water Program • 11 SHS Augusta, ME 04333 • 287-2070 • [www.medwp.com](http://www.medwp.com)

### The Importance of Maintaining Your Treatment System

Treatment systems are an important part of delivering safe drinking water for many public water systems throughout the State. However, treatment only works when the proper chemicals are used in the right amounts and treatment is maintained and monitored. Failure to regularly and effectively maintain and monitor your treatment system puts the health of your customers at risk. This document is intended to provide essential guidelines for the proper maintenance and monitoring of water treatment systems.

### Chemicals and Products Used in Treatment

All chemicals used for treating drinking water must be certified to NSF/ANSI Standard 60 and all products that come in contact with drinking water (tanks, piping, fittings, etc) must be certified to NSF/ANSI Standard 61. There are a few exemptions that the Rules allow (consult the DWP for details), but generally, anything added to, or coming in contact with water, needs to be certified to these Standards. This requirement ensures that only products that have been tested and certified to be safe are used. Agencies that certify to Standard 60 and 61 include NSF International (NSF), Underwriters Laboratories (UL), and Water Quality Association (WQA). The easiest way to ensure compliance is finding a label on the product or package. However, not all chemicals are labeled as certified even if they have the certification. In these cases, it is necessary to do further investigation. This may include reviewing documentation that came with the product shipment, such as a packing slip or bill of lading, looking up the product online with the certifying agencies, or even contacting the manufacturer. You should then be prepared to provide proof that the products you are using in your treatment system (and throughout the rest of your water system) are certified.



### Monthly Operating Reports (MORs)

All public water systems that add a chemical(s) to their water must submit a Monthly Operating Report (MOR) to DWP. MORs help track the amount of chemical used, daily production of the water system, and the amount of chemical (residual) present in the distribution system. These measurements ensure that the treatment system is operating properly and providing protection in the drinking water supply.

There are essentially two types of MORs submitted to the DWP. The “Small System Chlorination Report Forms” as the name implies, is only for small systems such as mobile home parks, restaurants, motels and campgrounds. This report is 8 ½” x 5 ½” and is designated as MOR-012. The rest of the MORs submitted to the DWP are 8 ½” x 11” and designated MOR-001 through 011. All of the MOR forms are available online at [www.medwp.com](http://www.medwp.com) in either Excel format or Adobe Acrobat (pdf) and can be submitted electronically to the designated e-mail address for MOR submittals: [DWPMOR@maine.gov](mailto:DWPMOR@maine.gov). It is important to remember that for those water systems required to have a Designated Operator (DO), the DO must sign every MOR before it is submitted. For those MORs submitted electronically, the MOR is considered signed by the DO if the MOR is submitted directly by the DO through e-mail.

Also note that all MORs must be **submitted by the 10th of the month** following the month being reported on the MOR.

**Keep Your Drinking Water Safe:**

✓ Protect Your Source      ✓ Take Your Samples      ✓ Maintain Your Treatment      ✓ Inspect Your Pipes & Tanks

## Cross Connections and Bypasses

While cross connections within the entire water system should be avoided whenever possible, or properly protected when they can't, it is especially important to pay attention to cross connections within the treatment system. Cross connections that are not properly protected can result in serious and dangerous consequences of adding too much of a chemical to the system. Make-up water lines (or feed lines) should have either an air gap or a proper testable backflow prevention device installed. Hoses should never be kept attached to the feed lines or spigots in the treatment system. Remember, a closed valve is NOT a backflow prevention device.



*A testable backflow prevention device on a treatment feed line*

Additionally, a **bypass cannot be installed** on any treatment systems that are required by the DWP. The potential for operating a valve incorrectly, or even a leaking valve, can result in contaminated water entering the distribution system, posing a risk to the safety of the water for your customers.

## Standard Operating Procedures (SOPs) and Maintenance

Written Standard Operating Procedures (SOPs) are important and valuable for all operations in every water system to ensure consistency, efficiency, best practices, and continued operations during emergencies or personnel changes. Written SOPs that outline specific instructions and procedures for operating, maintaining, checking, and monitoring treatment systems are particularly important. Every treatment system process should be clearly documented and outlined in a SOP. This enables operations to remain consistent no matter which staff are on duty and also helps to serve as a resource during emergencies when an operator, or person who usually oversees the treatment system, is absent.

Along with a written SOP, a maintenance log should be recorded and kept onsite for all treatment systems to keep track of when the treatment system is serviced or changes are made. Essential spare parts should be onsite or immediately available, such as a working spare chemical feed pump. Being prepared for an emergency can help save time, money and ensure you are always able to provide safe drinking water to your customers.

## Addition, Removal, or Changes to Treatment Systems

Changes in treatment processes which involve the addition or deletion of any chemicals require prior approval by the DWP. No new construction, addition, or alteration involving the source, treatment, or storage of water in any system shall be commenced until the plans and specifications have been submitted to and approved in writing by the DWP. If you wish to add, remove, or make changes to a treatment system, you should contact your field inspector or compliance officer and allow 30 days for approval.

## Treatment Failures



If your treatment system fails or malfunctions, you must take immediate action. For treatment failures of disinfection systems, such as continuous chlorination or UV systems, a Boil Water Order will be necessary. When other types of treatment fail such as an Arsenic Removal or a Corrosion Control treatment system, the failure may cause unsafe levels of contaminants to be present in the drinking water and may cause an immediate health risk to anyone who drinks the water. In such cases, a Do Not Drink Order or a Do Not Use Order may be necessary in order to protect the health and safety of your water system's consumers. **With any treatment failure, call the DWP immediately at 287-2070 or after hours at 557-4214.**



Paul R. LePage, Governor

Department of Health  
and Human Services

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Mary C. Mayhew, Commissioner