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# Guidance for Small Water Systems With Continuous Chlorination Disinfection

Maine CDC Drinking Water Program • 11 SHS Augusta, ME 04330 • 287-2070 • [www.medwp.com](http://www.medwp.com)

Your chlorination system is a key part of delivering safe drinking water to your customers. It needs regular care to keep it working effectively. Monitoring your chlorination system and reporting to the Drinking Water Program helps ensure that your system is working as it is designed. This document is intended to provide guidelines for maintaining your chlorination treatment system.



## Chlorine Residuals and Monthly Operating Reports

### How do I measure chlorine residuals?

Test for chlorine residuals using a DPD method, free chlorine, low range (0 mg/l to 3.5 mg/l) chlorine test kit. A pool test kit is **NOT** acceptable. Follow the instructions in your chlorine test kit to measure free chlorine residual and please ensure the test kit is usable: i.e. vials are not stained and reagents have not expired. Pick a sample point in the distribution system according to your sampling plan, such as a kitchen sink.



### What should my chlorine residual be?

The target chlorine residual range for most systems is 0.2 mg/l to 0.7 mg/l of free chlorine in the system. At no time should the level be over 4.0 mg/l at the first faucet after the chlorinator.

### What are Monthly Operating Reports (MORs) and why do I have to send them to the DWP?

Your chlorination system helps protect your customers by disinfecting their drinking water. Problems with chlorination systems can put the health of your customers and employees at risk. Ensuring that you maintain a chlorine residual in your water system helps to confirm that

your chlorination system is working properly. For this reason, **all public water systems that use continuous chlorination must regularly measure chlorine residuals in their water system, record them on a Monthly Operating Report (MOR) form and submit the MOR to the Drinking Water Program.**

### How often do I have to submit MORs to the DWP?

Chlorine residuals must be measured and recorded on MORs regularly every month and submitted to the DWP **by the 10th of the following month.**

### Where can I get MOR forms and how do I submit them to DWP?

MOR forms are available on the DWP website at: <http://www.maine.gov/dhhs/mecdc/environmental-health/water/rules-policies/mor.htm> and clicking on the link for the "MOR-012" Small Water System Chlorination Report Form. Hardcopies of the MOR forms can also be obtained by contacting your Compliance Officer at 287-2070. You can either send the MOR electronically to [dwpmor@maine.gov](mailto:dwpmor@maine.gov) or by mail to the address listed in the header of this document.



**Keep Your Drinking Water Safe:**

✓ **Protect Your Source**

✓ **Take Your Samples**

✓ **Maintain Your Treatment**

✓ **Inspect Your Pipes & Tanks**

## Chlorine Bleach Used

### What kind of bleach can I use?

The chlorine that you use in your continuous chlorination system must be certified to meet NSF/ANSI Standard 60. Agencies that certify to Standard 60 include NSF International (NSF), Underwriters Laboratories (UL), and Water Quality Association (WQA). Unscented Clorox bleach is certified to NSF/ANSI Standard 60. You should check the label to ensure it meets this requirement.



### How should I maintain the chlorine solution tank?

It is important to have a written procedure in place for how to fill the chlorine solution tank and to keep it visible and near the tank. This should include the amount of bleach used to the ratio of water. Additionally, every time bleach is added to the solution tank, the amount of bleach added should be recorded under the appropriate date on the MOR form.

## Collecting a Bacteria Sample



### Do I need to do anything different when collecting my bacteria sample?

Whenever a bacteria sample is collected for compliance, a chlorine residual should also be taken at the same time and location. Record the chlorine residual reading the sections indicated on the chain of custody paperwork that comes with the water sample kit. The date and location that the bacteria sample was taken, along with chlorine residual reading should be recorded in the appropriate section on the MOR form.

## If Your Chlorination System Malfunctions

If your chlorination system is malfunctioning, whether you discover it upon inspection, from an initial bacteria positive water sample, or if there is no chlorine residual in the water system, **you must issue a Boil Water Order right away.** You must notify all of your customers as soon as possible within 24 hours and keep Boil Water Order notices posted until the problem is resolved and the Boil Water Order is lifted. You must also immediately contact the DWP and inform them of the chlorination system malfunction at 287-2070 or after hours at 557-4214.

The next step is to repair the chlorinator and return the chlorine residual to normal levels to all taps throughout your water system. The Boil Water Order can be removed once the residual is reestablished throughout the system to all taps unless directed otherwise by the DWP. **The DWP reserves the right to verify residual levels or require satisfactory BWO removal bacteria samples before lifting the Boil Water Order.** Additional follow-up water samples may also be required by the DWP.

## Maintenance Checklist



- ✓ Use only bleach that is certified to NSF/ANSI Standard 60 (Clorox®)
- ✓ Inspect your treatment system daily to ensure there is adequate chlorine solution in the solution tank and the chemical feed pump is operating
- ✓ Have a written procedure in place to regularly fill and maintain the chlorine solution tank with appropriate mixture
- ✓ Have the chlorination system serviced on a regular basis by a qualified treatment professional and have essential spare parts onsite or immediately available, such as a working spare chemical feed pump
- ✓ Keep maintenance logs which detail when the chlorination system was serviced, when the solution tank was filled, any unusual changes in residuals, etc.
- ✓ Submit MORs monthly to the DWP by the tenth day of the following month