

Start-Up Procedure for Seasonal Water Systems

Revised Total Coliform Rule (RTCR)

This procedure applies to all seasonal public water systems. A seasonal system is defined as water system that is not operated as a public water system on a year-round basis. A seasonal water system starts up at the beginning of the operating season and shuts down at the end of the operating season. Examples include summer camps, water parks, seasonal concessions, and campgrounds.

Please start this procedure at least one (1) month before your water system is scheduled to open. You **cannot** serve water until all steps are properly completed, including submitting the required paperwork to the Oklahoma Department of Environmental Quality (DEQ).

Failure to complete this Seasonal Start-Up Procedure is a violation of state law.

Before beginning the Seasonal Start-Up Procedure, your system needs to:

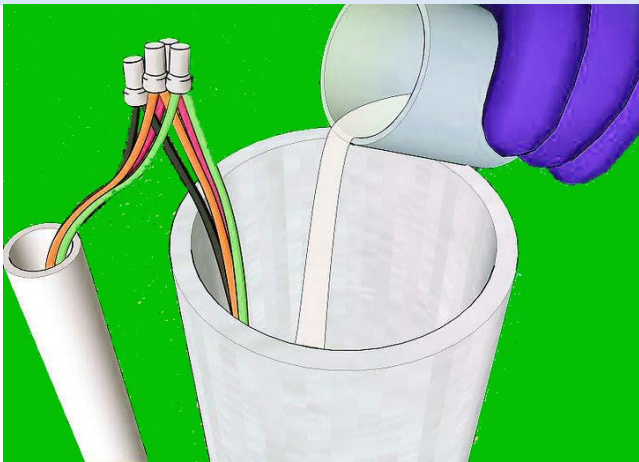
- **Obtain** ordinary, household chlorine bleach (sodium hypochlorite) to be used as a disinfectant. The bleach cannot be scented or splash-less. Bleach with at least 5.25% chlorine concentration (check bottle) is recommended. If you use bleach with a lower concentration, you may not properly disinfect your water system as required.
- **Obtain** a new, clean garden hose to use when disinfecting the wells.
- **Obtain** BacT sample bottles and Chain of Custody forms from a laboratory that is certified by DEQ to test BacT samples for coliform bacteria in drinking water.
- **Check** the manufacturer's disinfection recommendations for any softeners, filters, or other treatment devices in your water system.

Step 1: Inspect and Repair

- A. Inspect all parts of your water system.
- B. Make any needed repairs.
- C. Remove any debris or contaminants from around the well.

Step 2: Clean and Flush

- A. Pump the wells onto the ground long enough to completely remove sediments and stagnant (old) water.
- B. Drain and remove sediment and debris from each tank, including storage tanks, pressure tanks and hot water tanks.
- C. Flush hydrants and faucets to get rid of the stagnant (old) water in the pipes.



Step 3: Disinfect

- A. **Disinfect the wells.** Note: This process must be done at every well.
 1. **Remove the well cap or seal.** Add enough chlorine bleach to achieve a 50 ppm to 100 ppm solution in the well.

Amount of 5.25% bleach needed to disinfect a well to approximately 50 ppm chlorine				
Well Depth	Well Diameter			
	3 inch	6 inch	9 inch	12 inch
50 feet	2.5 ounces	10 ounces	21 ounces	38 ounces
100 feet	5 ounces	19 ounces	42 ounces	75 ounces
150 feet	8 ounces	28 ounces	64 ounces	113 ounces

Note: If you don't know your well dimensions, use a 1/2 gallon of bleach.

2. **Circulate the newly chlorinated well water back into the well.** This can be done by attaching a new garden hose to a nearby spigot and placing the other end of the hose into the opened well. Turn the water on at the spigot. The water coming out of the hose should flow back into the opened well. Allow the water to circulate through the hose and the opened well for at least 30 minutes. After 30 minutes, turn off the water and remove the hose from the well opening. Let the chlorinated water sit in the well, undisturbed and unused, for at least 24 hours. Please take caution not to contaminate the well during this process. If you have any concerns regarding the recirculation process, please contact a qualified well expert.



3. **Inspect the well seal.** If the well seal is compromised (damaged, brittle, or aged), replace it.
4. **Carefully re-attach and seal the well cap.**

B. Disinfect the storage tanks. Note: This process must be done at every tank.

1. **Fill the tank with water from the disinfected wells.**
2. **Add bleach to the tanks using the table below.**

Amount of 5.25% bleach needed to disinfect a tank to approximately 20 ppm chlorine	
Tank Volume	Amount of Bleach Needed
100 gallons	5 ounces
500 gallons	25 ounces
1,000 gallons	50 ounces

3. **Let chlorinated water sit in the tank,** undisturbed and unused, for at least 24 hours. After 24 hours, drain the tank. Be sure the tank does not drain to a water body or septic system. Keep in mind chlorine can kill vegetation.

C. Disinfect the pipes and plumbing.

1. **Draw chlorinated water into the water lines.** Start with the faucet (or spigot) closest to the well and move toward the faucets that are the furthest from the well.
 - a. Turn on the hot water faucet. Allow the water to run until a bleach smell is present. Turn off the hot water.
 - b. Then turn on the cold-water faucet. Allow the water to run until a bleach smell is present. Turn off the cold-water faucet.
 - c. Repeat for all faucets and spigots.
2. **Let the chlorinated water sit in the pipes,** undisturbed and unused, for at least 24 hours. After 24 hours, flush out chlorinated water by running each faucet until the smell of chlorine disappears.

Note: If the water system is required to provide full-time chlorination:

- a. Verify the chlorinator is functioning properly.
- b. Confirm the chlorine being used for chlorination is new and of the proper strength.
- c. Ensure there is a free chlorine residual of at least 0.2 ppm throughout the water system.

Step 4: Collect two BacT samples and submit to a DEQ-certified lab for analysis.

- A. One sample must be collected each day on two consecutive days.
 1. Use a regular BacT sampling site for each sample.
 2. Label each sample as a “special line test” on the Chain of Custody.
 3. If the system is required to provide full-time chlorination, record the chlorine residual on the Chain of Custody for each sample.
- B. Submit the samples to a DEQ-certified lab for coliform bacteria analysis.
- C. Both sample results must be absent of coliform bacteria. If either sample is present for coliform bacteria, repeat Steps 3 and 4.

Step 5: Contact your local DEQ office to schedule a site visit. To find your local DEQ office, call 405-702-6100.

Step 6: Send a completed Certification Form and paper copies of both sample results to DEQ.

Questions?

Send an email to drinkingwater@deq.ok.gov and include your water system's name and county.