

Start-up Procedure for Seasonal Public Water Systems

The United States Environmental Protection Agency's Revised Total Coliform Rule (RTCR) requires seasonal public water suppliers to implement a "state-approved start-up procedure." Starting April 1, 2016, all seasonal systems must start up with a state-approved procedure at the beginning of each operating season.

MDEQ must receive certification from the public water supplier that the state-approved start-up procedure has been completed.

Start-up at a seasonal public water supply is the opportune time for a thorough examination of the water system's physical components. If repairs are needed, they can be accomplished prior to the start of the season without being an imposition on customers. Properly maintained systems are less likely to have water quality problems.

For systems that depressurized during the off season, the sanitary condition of distribution system piping and components observed at the time of start-up is a reflection of the condition in which the system was depressurized at the time of shutdown. While a "shut down plan" is not part of the seasonal start-up procedure, it is strongly encouraged to leave piping and components in as sanitary condition as possible when the system shuts down for the season.

The MDEQ approved procedure checklist consists of the following required elements: a system inspection, an integrity check, bacteriological sample(s) and a thorough system flushing.

A seasonal system is a noncommunity public water supply that:

- does not operate on a year-round basis and,
- starts up and shuts down at the beginning and end of each season.

A state-approved start-up procedure:

- provides public health protection by offsetting an increased contamination risk in water systems where piping and other system components are depressurized.
- promotes proper maintenance and system self-inspection.

Public water suppliers that are seasonal systems must:

- **implement a** state-approved start-up procedure, and,
- **Certify to MDEQ** compliance with the procedure before serving water to the public.

Components that are Required

Self-Inspection

- Look for any damage or evidence of contamination that may have occurred during the off-season.
- Inspect the wellhead(s) and verify that the well casing is structurally sound, the well cap is tightly attached, vents are downturned with intact screens, and electrical conduit is securely in place.
- Examine water treatment equipment, storage tanks, and surface water intake (if applicable). It is recommended that non-pressurized storage tanks are disinfected.
- Perform a walk-through of the distribution and plumbing systems.
- Observe pipes, valves, and backflow prevention devices. Ensure that valves are exercised (turned off and on) and repair/replace as needed.

Flushing

Flushing is essential maintenance; it removes contaminants and debris from the system.

- Flush all wells and water mains.
- Flush this water to the ground surface rather than into a sewage treatment system. Be aware that adequate flow is necessary to effectively flush lines, therefore open sufficient taps to obtain maximum flow rate. If applicable, watch the water level in any non-pressurized storage tanks so they do not run dry.
- Prior to flushing, remove all faucet strainers to prevent sediment from clogging them.
- If possible, flushing should progress from taps closest to the well or storage tank and end at taps furthest from the well or storage tank to ensure that clean water is used during flushing.
- Flush all service lines and building plumbing for a minimum of five minutes and the water runs clear. Large distribution systems may need to be flushed in sections one at a time in order to achieve adequate flow rates for effective flushing.

Integrity Check

Leaks in the system, especially in buried piping, provide potential conduits for contaminants to enter when the system is drained or when system pressure is lost. To help gain a better understanding of leakage within the distribution system(s), conduct an integrity check once the system is re-pressurized.

1. After the distribution system is filled and pressurized, turn off all taps and the power supply to the well and/or distribution system pump.
2. Read the system's pressure gauge and document the initial system pressure.
3. After one hour, read the pressure gauge again and document the system pressure. Pressure loss over this one hour time span may indicate leaks in the distribution could be present.

Water Testing

It is required that all public water suppliers collect and test their drinking water prior to opening for the season. This will help identify any water quality problems before opening and serving the public. If the water system has been disinfected, ensure that all the chlorine is flushed from the system prior to collecting the sample to be analyzed.

Recommended Elements

System Disinfection

Water system disinfection is strongly encouraged by MDEQ and is an optional step in the start-up procedure. Disinfection kills microorganisms that can be introduced during shut down or the off-season.

Summary

- The Revised Total Coliform Rule takes effect on April 1, 2016.
- For additional information, refer to the **Montana Seasonal Start-up Procedure Checklist** and the **Revised Total Coliform Rule Summary** at: <http://deq.mt.gov/wqinfo/pws/default.mcp>

For more information on the seasonal start up procedures call the RTCR Rule Managers at 406-444-4400 or email at DEQRTCRL12@MT.GOV	or your DEQ Regional Field Offices at: Helena Region: 406-444-4769 Kalispell Region: 406-755-8971 Billings Region: 406-247-4444
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