

## **DEPARTMENT OF PUBLIC HEALTH – DRINKING WATER SECTION**

### **GUIDANCE DOCUMENT SEASONAL WATER SYSTEM SHUT-DOWN GUIDELINES**

Seasonal water systems face unique challenges at the beginning and end of their operating seasons that other year round water systems do not. Seasonal systems should depressurize and drain their water systems over the winter months when the water systems are not in use, to prevent freezing and damage to water system piping and other components.

The following guidelines are based on a generic water system. Many water systems have different design features and these procedures should be tailored to fit individual public water system's needs. These guidelines are offered as recommended shut-down procedures that should be incorporated into each system's operating procedures. These steps, along with the proper water quality testing, will help ensure the safe delivery of drinking water to the public at the beginning of the operational season. It is recommended that a water system professional perform the seasonal water system shut-down.

#### **Evaluate the system:**

- Inspect and evaluate the water system; identify necessary improvements and/or repairs (refer to the DPH – DWS, Guidance Document, Seasonal Water System Start-Up Guidelines for details); and,
- Collect a source meter reading if available.

#### **Storage tanks:**

- Drain all water out of the storage tank(s), be sure that drainage is directed away from the well, to avoid ponding around the wellhead;
- Inspect the tank(s) for cracks or other defects and make any necessary repairs; and,
- Inspect the tank(s) overflows and vents, for any openings which would allow for the entrance of foreign matter (rodents, insects or other contaminants). Ensure that vents, overflows and any openings to the tank(s) are adequately screened (24-mesh non-corrodible screen) or sealed off to prevent the entrance of insects, vermin or other contaminants during the winter months.

#### **Pressure tanks:**

- Drain the pressure tank(s) according to the manufacturer's instructions when not in use.

#### **Shut down the source(s):**

- Protect the source(s), equipment and structures from freezing, vandalism, vermin, flooding, severe weather, etc;
- Be sure that the well is equipped with a proper watertight well cap, and that the well vent is adequately shielded and screened (24-mesh non-corrodible screen), and meets

the requirements of Regulations of Connecticut State Agencies (RCSA) Section 19-13-B51;

- Be sure to maintain the required sanitary radius surrounding the well; remove any potential sources of pollution (i.e., gas cans, garbage, etc.);
- Evaluate the integrity of the well casing;
- If the drilled well is located within a well pit, the well casing should be extended and brought into compliance with RCSA Section 19-13-B51f in accordance with the CT DPH – DWS; Well Casing Extension Guidance Document: [http://www.ct.gov/dph/lib/dph/drinking\\_water/pdf/well\\_casing\\_extension.pdf](http://www.ct.gov/dph/lib/dph/drinking_water/pdf/well_casing_extension.pdf);
- If the well is a dug well, consider replacing the source with a drilled well (which are less vulnerable to contamination). If drilling a new well is pursued, a well site review and approval must first be obtained by this Department prior to the commencement of the modifications; and,
- Check the source for openings which would allow for the entry of foreign matter (rodents, insects or other contaminants) and correct as needed.

**Shut Down Treatment:**

- Turn off the power to all treatment systems;
- Properly dispose of any unused chemicals, especially chlorine, salt in brine tanks, media in tanks, etc;
- Drain and clean out day tanks; and,
- For all other treatment systems, refer to the manufacturer’s instructions on proper shut-down procedures.

**Protect the distribution system:**

- Drain all distribution lines completely;
- Blow the lines dry with compressed air, using an **oil-less** air compressor;
- Blow-offs and/or hydrants should be installed at all low points in the distribution system to ensure proper system drainage;
- Do not leave taps open during the off-season, (remember to check all outdoor spigots, hose bibbs, vacuum breakers, etc);
- Exercise valves and ensure that they work properly, repair as needed;
- Never add anti-freeze to the water supply or plumbing system;
- Never add any chemical to the water supply or plumbing system, without prior approval from DWS, in accordance with RCSA Section 19-13-B80; and,
- Reconnect or plug all plumbing components that may have been disconnected while draining the system, to prevent the entrance of foreign matter during the shut-down period.
- Properly installed distribution lines should be below the frost line to prevent freezing.

**While the system is closed:**

- If the last round of water quality monitoring, prior to shut down, detects bacteriological contamination, the system should:
  - Post the required public notices;

- Chlorinate the well in accordance with the Disinfection of a Well Water Supply Document:  
[http://www.ct.gov/dph/lib/dph/drinking\\_water/pdf/Well\\_Disinfection.pdf](http://www.ct.gov/dph/lib/dph/drinking_water/pdf/Well_Disinfection.pdf);
  - Properly flush the system;
  - Conduct additional non-compliance water quality monitoring at the well(s); and,
  - Prepare for increased monitoring at the beginning of the following season at start-up. Check the compliance schedule at the following website:  
<http://www.ct.gov/dph/cwp/view.asp?a=3139&q=387350> prior to the seasonal start-up; and,
- A good time to make system improvements is during the time that the system is shut-down, because there would be little or no impact on the water supply during this time. Please note that pursuant to RCSA Section 19-13-B102(d)(2), no modifications or improvements may be made including treatment works, transmission lines, storage tanks, pumping stations, new or additional sources and other works of sanitary significance without prior approval from this Department. Approval may not be necessary for routine maintenance or for replacement of aged or failed equipment with equivalent products. Contact the Drinking Water Section prior to making system changes to determine if approval is necessary and for technical assistance. A notice of violation may be issued for any modifications of the water system that are not recorded as approved by this Department.

**For more information, please contact the State of Connecticut Department of Public Health (CT DPH) – Drinking Water Section at 860-509-7333.**

CT DPH – Drinking Water Section Website: [www.ct.gov/dph](http://www.ct.gov/dph)