

STANDARD OPERATING PROCEDURE

SOP #

8

REASON CODE:

D2—A cross-connection is discovered in the distribution system

REV:

0

DATE:

Dec. 2015

BWA CAUSE IDENTIFICATION

Complete Assessment Tool

Identify Potential Cause(s)

Cause #1

Discovery of a cross-connection between the potable water system and non-potable water source.

Some common cross-connections:  
A) Connection to unapproved water supply.  
B) Private wells.  
C) Water line going through septic field.  
D) Garden hose or other pipe connected to water distribution system with no back flow preventer and submerged in untreated water or other liquids.  
E) Loss of water pressure in the distribution system resulting in back siphoning of untreated water into the system.

RECOMMENDED STEPS TO ADDRESS BOIL WATER ADVISORY

Implement Short Term Corrective Measures

- ☐ Owner to eliminate cross-connections and educate water users about impacts of cross-connections.
- ☐ Upon removing cross-connections owner should flush system (unidirectional).
- ☐ Owner to increase disinfectant residuals in the distribution system in accordance with provincial disinfection standards.

Confirm Operation and Lift BWA

- ☐ Owner to test disinfectant residuals to confirm compliance with the Drinking Water Treatment Standards.
- ☐ Owner to contact Service NL office to request an Environmental Health Officer to re-sample the drinking water system for compliance with provincial drinking water bacteriological and disinfection standards.

Implement Long Term Corrective Measures

- ☐ Owner to repair any leaks in the water distribution system.
- ☐ Owner to install backflow prevention assemblies and devices and maintain as required.
- ☐ Owner to implement cross-connection control and backflow prevention (CCCBFP) program.
- ☐ Maintain adequate pressure in the system to prevent backflow and back siphonage by installing booster pumping stations, variable frequency drive pumps (VFD's), elevated storage facilities, surge tanks and relief valves, and modify high service pumps. Install automatic pressure monitoring and control.
- ☐ Owner should provide opportunities for training to increase operators knowledge associated with cause and corrective measures.
- ☐ Owner should ensure operators have appropriate level of training/education to allow operators to be eligible for certification in accordance with provincial standards. Operator training may be obtained via ACWWA, on-line courses, and MAE Operator Education, Training and Certification.

Capital Works Funding

- ☐ Contact nearest MAE regional office to initiate evaluation of existing water infrastructure.
- ☐ to Owner to work with stakeholders (MAE, engineering consultants, etc.) to identify sustainable options.
- ☐ Owner to make an application to MAE for project funding. Online applications can be made at: [http://www.mae.gov.nl.ca/capital\\_works/cwfunding.html](http://www.mae.gov.nl.ca/capital_works/cwfunding.html).

IMPLEMENT PREVENTATIVE MAINTENANCE

DAILY

- ☐ Measure and record flow rates.
- ☐ Complete daily disinfection and treatment logs.
- ☐ Visual inspection of chemical feed pumps and feed lines.
- ☐ Measure and record chemical usage.
- ☐ Measure and record free and total chlorine residual throughout the distribution system (first user, end of main and branch lines).

WEEKLY

- ☐ Visual inspection of chlorine injector for leaks and ensure operating normal.

MONTHLY

- ☐ Inspect and clean intake structure, intake screens and pipeline.
- ☐ Inventory all consumables and order supplies as necessary.
- ☐ If a back-up metering pump is available, replace operating pump with back-up pump and inspect internal components.

3 MONTHS

- ☐ Clean chemical feed lines and solution tanks.

6 MONTHS

- ☐ Inspect watershed for potential sources of contamination (including development activity, storage of chemicals/fuels and animal activity).

ANNUAL

- ☐ Inspect dam and spillway for signs of deterioration, malfunction, blockages and public safety.

For more detailed information on preventative maintenance schedules for water infrastructure visit <http://www.mae.gov.nl.ca/waterres/waste/community.html>