

## Operational Guideline for Manitoba Water Suppliers

### Planned and Unplanned Water System Maintenance

#### PURPOSE

This guideline has been established to ensure that public and semi-public drinking water suppliers throughout the Province of Manitoba meet their regulatory requirements with regard to undertaking planned water system maintenance.

The goal of good maintenance practices is to minimize the disruption of service to customers and to take the necessary steps to ensure the safety of the water supplied.

#### Legislation

[The Drinking Water Safety Act](#) requires [water systems](#) obtain an [Operating Licence](#). The licence contains terms and conditions necessary to provide for the safety of water obtained from a water system.

#### Operating Licence

The operating licence contains terms and conditions that require that water suppliers to:

- operate all water system facilities, control systems and equipment as efficiently as possible,
- inspect them on a regular basis,
- maintain them in good working order,
- ensure that the water system is protected from the risks associated with cross-contamination.

Following construction, repair or maintenance, a water supplier shall

- ensure that disinfection is undertaken in accordance with applicable industry standards such as AWWA Standards, or Manitoba Water Services Board specifications, or other standards approved by the Director.

Water suppliers are reminded to [immediately notify](#) the Office of Drinking Water of any condition(s) that may affect the ability of the water system to produce or deliver safe drinking water.

Not all maintenance activities have potential to affect water quality. Maintenance can be completed in a safe manner by following approved standard operating procedures and ensuring crews are well trained and receive proper supervision and guidance.

#### Schedule Planned Maintenance

Scheduling maintenance activities will vary with the type and complexity of the water system and the type of maintenance planned.

Certain times of the year may be more suitable for maintenance activities. Cleaning reservoirs or replacing filter media should be scheduled during periods of low water use.

When undertaking yearly distribution maintenance programs such as flushing, hydrant and valve maintenance, advising people ahead of time helps minimize customer complaints.

#### Practice Sanitary Conditions

Undertaking planned works allows for the use of sanitary procedures that reduce the risk of contamination.

Simple protective and corrective measures can be taken to ensure sanitary conditions are maintained throughout the maintenance process:

- ensure proper storage of pipes, fittings and valves – keep them clean and dry
- use dedicated tools specific for the type of works and disinfect prior to each use
- protect the interior of pipes by capping during transport and during works
- maintain a positive pressure in pipes until the leak is fully exposed
- keep work area as clean and dry as possible – dewater trenches
- follow safe work procedures

#### Public Notification

When undertaking works on the distribution system, or when the works will affect the water provided to customers, the public should receive advanced notice.

Public notification should include the following at a minimum:

- date or date range of works
- what the customer can expect from the water service (low pressure, no pressure)
- what precautions the customer should take (store water, avoid use)
- instructions following return to service
- who to contact for additional information

Water suppliers should notify their regional drinking water officers of the planned maintenance activity. The regional drinking water officer can review and comment on your Public Notice and will notify the regional Medical Officer of Health in case there are medical questions resulting from the works.

### **Emergency Repairs**

All water suppliers that distribute water through buried pipelines will repair breaks on an emergency bases.

All repair work should be accomplished as quickly as possible using sanitary and safe work procedures by well trained crews.

Depending on the type of service connections that are affected by the break (homes versus schools), and the extent of the service disruption (one block versus half the distribution system), the water supplier should contact the regional drinking water officer as a boil water advisory may be warranted.

The water supplier must also contact the regional drinking water officer if the water system experiences a major pressure loss to all or part of the distribution system (water pressure < 20 psi in the distribution system).

Water systems with approved standard operating procedures may have different reporting requirements.

### **Water Quality Testing**

Whether the maintenance was planned or completed under emergency conditions, the primary means of ensuring sanitary conditions have been maintained throughout the works is by testing. At a minimum, disinfectant residuals and turbidity should be measured and recorded.

Bacteriological testing is required following;

- reservoir cleaning and disinfection,
- flushing after a water main depressurization, or low pressure (< 20 psi) in the distribution system, or
- if the interior of the pipe has been exposed

Depending on the type of works and the sanitary conditions throughout the process, the water can either be placed back into service, placed back into service with special instructions to customers, or remain off line until the bacteriological results indicate the water is safe.

### **Documentation**

Water supplies should have standard operating procedures and work instructions to ensure quality and consistency.

Documentation for standard maintenance practices should reference the industry standard followed, safe work procedures and include best management practices and technologies and any follow-up testing required

Water supplies should maintain an adequate record keeping system to ensure the system is always performing at high standards.

All records pertaining to the operation and maintenance of a water supply must be maintained in a secure location for at least 24 months and made available upon request to the regional drinking water officer.

### **Office of Drinking Water**

Regional [Drinking Water Officers](#) are available for operational and monitoring advice and to provide technical assistance.

After hours, please call the Environmental Emergency Response line at 204-944-4888 and ask for the on-call drinking water officer

For more information related to Manitoba's drinking water and how it is regulated visit: [www.manitoba.ca/drinkingwater](http://www.manitoba.ca/drinkingwater).