

CITY OF CHARLOTTETOWN POLICY

**WATER QUALITY**

*Policy Number: D-W&S-5*

*Originating Department: Utilities*

*Approved By: Water & Sewer Utility Committee*

*Date of Approval: January 2002*

*Amended: June 25, 2015*

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Policy Statement

The City of Charlottetown is committed to providing an adequate supply of safe drinking water to all customers of the Charlottetown Water and Sewer Utility.

Scope

This policy is applicable to all locations provided water supply by the City of Charlottetown Water and Sewer Utility.

Water Quality Program

In order to monitor and report on the quality of water being supplied to the City of Charlottetown, the Water and Sewer Utility will carry out a routine water quality monitoring program including a taste and odour complaint program. This program will include sampling from the sources of supply as well as locations within the water distribution system. As part of this program the Utility includes sampling for microbiological quality as well as general chemistry.

The water quality program will be carried out in accordance with Appendix "A"  
Procedure for Water Quality Monitoring and Reporting

Supply of Bottled Water

The City of Charlottetown will not supply and deliver bottled water as a result of a Boil Water Advisory.

The Utility shall provide direction to customers on how to disinfect water through boiling and chlorination.

Disinfected water shall be considered safe to consume.

## Appendix "A"

### Procedure for Water Quality Monitoring and Reporting

Generally this program follows the requirements set out in the Prince Edward Island *Environmental Protection Act Drinking Water and Wastewater Facility Operating Regulations* and the *Guidelines for Canadian Drinking Water Quality*. The following is an outline of the program:

- Every two (2) weeks throughout the year, the Utility obtains approximately 17 samples from randomly chosen locations throughout the service area that are representative of points where water is consumed. Additionally as required the Utility will respond to complaints or inquiries about taste and odour.
- The minimum frequency for sampling will be one (1) sample per month for every 1,000 persons served within the City.
- In preparation for collection a Trouble and Repair order is raised at the beginning of each month to schedule the sample collection.
- For purposes of long term monitoring the City has been sectioned into ten (10) zones. During each collection event samples are obtained from each of the ten zones with multiple samples within selected zones.
- A water collection log records the sites, conditions and zones collected, and provides a guide to ensure full City coverage.
- Treated sample bottles are obtained from the PEI Analytical Laboratories and each bottle is inspected before selection for use in the program. Observed problems such as broken seal, dirt, etc shall be an indicator of unsuitable bottles.
- Wherever possible samples are to be collected from kitchen sinks. In preparing for the collection the sample site is inspected for cleanliness, the aerator or screen is removed from the tap outlet and the water is flushed for approximately five (5) minutes. Caution should be taken to prevent contamination of samples through the sampling process.
- While waiting to obtain a sample the free chlorine residual will be analyzed and recorded.
- The water sample is collected, water sample report is completed and each bottle is labeled.
- The Technician will clean any mess created during the course of sample collection and enter appropriate information in the sample log book.
- As the Utility Technician proceeds through the monitoring program observations are noted to assist with future improvements to the effectiveness of the program.
- Water samples are delivered directly to the PEI Analytical Laboratories for analysis within four (4) hours of sample collection and are to be maintained at a temperature of 10°C or slightly less. In the event samples have to be stored for up to 24 hours, they are to be maintained at a temperature of 4°C.

## Recommended Responses to Detection of Unacceptable Bacteria Results in Water Samples

Each of the following is an indicator of unacceptable water quality:

- Escherichia coli. (E. coli) or fecal coliforms detected in any required sample other than a raw water sample.
- Total coliforms detected (but not Escherichia coli. (E. coli) or fecal coliforms) in any required sample other than a raw water sample.
- Samples, other than a raw water samples, containing more than 200 background colonies.

The following criteria are recommended for response to unacceptable water quality.

### 1. Response to first sample results from within water distribution system:

<u>Sample Result</u>	<u>Response</u>
<ul style="list-style-type: none"><li>• Presence of any faecal coliform or E. coli.</li></ul>	<ul style="list-style-type: none"><li>• Immediate boil water advisory.</li><li>• Increase chlorine dosage and flush watermains to ensure total chlorine residual of at least 1.0 mg/l or a free chlorine residual of 0.2 mg/l throughout distribution system.</li><li>• Resample at wells and distribution system.</li></ul>
<ul style="list-style-type: none"><li>• Presence of more than 50 total coliforms.</li></ul>	<ul style="list-style-type: none"><li>• Immediate boil water advisory.</li><li>• Increase chlorine dosage and flush watermains to ensure total chlorine residual of at least 1.0 mg/l or a free chlorine residual of 0.2 mg/l throughout distribution system.</li><li>• Resample at wells and distribution system.</li></ul>
<ul style="list-style-type: none"><li>• Presence of any level of total coliform from more than one sample from a system in a single day or presence of more than 10 total coliforms at a single site.</li></ul>	<ul style="list-style-type: none"><li>• Immediate resampling at the well head, at the site(s) with total coliform counts, and at several adjacent homes on the distribution system.</li></ul>
<ul style="list-style-type: none"><li>• Presence of 10 or less total coliforms at a single site.</li></ul>	<ul style="list-style-type: none"><li>• Resample site.</li></ul>
<ul style="list-style-type: none"><li>• Presence of greater than 200 background colonies</li></ul>	<ul style="list-style-type: none"><li>• Resample site.</li></ul>

2. Response to second set of samples:

Sample Result	Response
<ul style="list-style-type: none"> <li>• Presence of any E.coli in well head and any coliforms or E. coli in distribution system</li> </ul>	<ul style="list-style-type: none"> <li>• Immediate boil water advisory.</li> </ul>
<ul style="list-style-type: none"> <li>• Presence of any total coliforms in well head and any total coliforms in distribution system</li> </ul>	<ul style="list-style-type: none"> <li>• Immediate boil water advisory</li> </ul>
<ul style="list-style-type: none"> <li>• Well head sample has 0 total coliforms and distribution system samples have any level of total coliforms</li> </ul>	<ul style="list-style-type: none"> <li>• Distribution system is flushed and/or disinfected and resampled, or where this is not possible, a boil water advisory may be issued.</li> </ul>
<ul style="list-style-type: none"> <li>• Resample of a single site confirms presence of total coliforms</li> </ul>	<ul style="list-style-type: none"> <li>• Distribution system is flushed and/or disinfected and resampled, or where this is not possible, a boil water advisory may be issued.</li> </ul>
<ul style="list-style-type: none"> <li>• Resample confirms the presence of greater than 200 background colonies.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase chlorine dosage and flush watermains to ensure total chlorine residual of at least 1.0 mg/l or a free chlorine residual of 0.2 mg/l throughout distribution system.</li> <li>• Resample at wells and distribution system.</li> </ul>

Issuance of Boil Water Advisory - Notification

The decision to issue a Boil Water Advisory will be made following consultation with the PEI Department of Health and Wellness and the PEI Department Communities, Land and Environment. It should be noted that a Boil Water Advisory could be issued relative to a single site, a specific section of the distribution system or system wide. This determination should also be made through consultation with the PEI Department of Health and Wellness and the PEI Department Communities, Land and Environment.

Upon issuance, a boil water advisory will be immediately transmitted to the affected customers, local media, schools, hospitals, nursing homes. Appendix “B” provides a listing of those to be contacted in the event of a boil water advisory.

Suggested Wording for Boil Water Advisory

Due to water quality problems within the City of Charlottetown and the possibility of unsafe water, consumers are advised to boil all water for at least two (2) minutes before drinking, making ice cubes, washing foods, brushing teeth or any other activity requiring human consumption. This boil water advisory is to be in effect until further notice.

It is recommended that this advisory be placed daily in local newspapers and broadcasted regularly throughout the day on local radio stations for the duration of the boil water advisory.

Draft Press Release for Boil Water Advisory (See Appendix “C”)

Follow-up Communication Plan for Boil Water Advisory

Following the issuance of a boil water advisory, the city will keep the general public informed about the status of the advisory. The use of a hot line, fact sheets and local media may assist in keeping the public informed.

Refer to Appendix “D” for sample fact sheets.

Criteria for rescinding Boil Water Advisory

- (1) Boil water advisories will be rescinded after two consecutive sets of samples indicate bacterial quality has returned to acceptable levels: i.e., 0 Ecoli, 0 total coliforms, less than 200 colony forming organisms (background growth).
- (2) Where ultra-violet light system has been installed, 1 set of clear samples indicates bacterial quality has returned to acceptable levels, i.e., 0 total coliforms, less than 200 colony forming organisms (background growth).
- (3) Notwithstanding (1) above, where the probable cause of unacceptable microbiological water quality has not been identified and corrected, a boil water advisory may remain in place until such time as:
  - (a) sufficient sampling and investigation has occurred to indicate that the integrity of the water supply system is not compromised and human health is not likely to be at risk, or
  - (b) a satisfactory form of disinfection is in place.

**Appendix “B”**  
**Notification Listing**

To be contacted in the event of a Boil Water Advisory.

Name	Contact	Work Phone	After Hours	Cell	Fax
<u>Hospitals</u>					
Queen Elizabeth Hospital		894-2111	894-2211		
<u>PEI Government</u>					
PEI Department of Health & Wellness	Joe Bradley	368-4792	368-4970		
PEI Department Communities, Land and Environment	Jim Young, Director of Water Resources	368-5034			
<u>Schools</u>					
Eastern School District	Fred Horrelt Noreen Lanigang	368-6961 368-6962			
<u>Nursing Homes</u>					
Garden Home, 310 North River Road	Phyllis Johnston	892-4131	368-2354		
Prince Edward Home, Brighton Road	Position temp. vacant Maintenance – Wayne Smith	368-4607 368-5773	314-2238		
Beach Grove Home, 200 Beach Grove Road	Susane Howard	368-6750	892-5701		
MacMillan Lodge, 230 Richmond Street	Claudett MacMillan	894-7173			
PEI Atlantic Baptist Nursing Home, 16 Centennial Drive	Kurt Turpin Wendy Vandunkirken	566-5975, ext 102			
Whisperwood Villa, St. Peters Road	Carol Chandler Danny Ferguson – maint.	218-2170 566-5556			
ADL West Royalty (50 Fourth Street)	Thane MacEwen	888-5060	439-0868		
Perfection Foods (215 Fitzroy Street)	Terri McNeill	888-5064	432-2422		
	David McLellan	566-5515	626-7438		
	Terri McNeill	888-5064	432-2422		
COWS PEI	James Power Armand Bernard Kristen Walker Jackie MacIntyre	368-3000 370-3153 370-3151 892-5253		393-8308 393-9943	
Queen Street Meat Market	Anna & Myron Turner	894-7336			894-7339
Island Abbey Foods Ltd	Murray MacPherson	367-4022		940-6423	866-271-0469

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(Continued) To be contacted in the event of a Boil Water Advisory.

Name	Contact	Work Phone	After Hours	Cell	Fax
<b><u>Media</u></b>					
New Cap Radio (K-Rock/Ocean 100)	Main office	569-1003			Fax 892-2906
	News room	566-6397			
MBS Radio	Main office (8 – 5)	892-1066			566-1338
		• CFCY 566-5900			
	• Magic 93	566-9191			
CBC					629-6518
	• TV	629-6403			
	• Radio	629-6402			
Guardian		629-6035			566-3808
ATV		566-1010			368-1012

APPENDIX “C”



**Release**

DATE HERE

FOR IMMEDIATE RELEASE

**Boil water advisory issues for City of Charlottetown**

CHARLOTTETOWN, PEI – Due to possible contamination of the public water supply residents are advised – until further notice - to boil all water for at least two minutes before consuming.

Tap water should be boiled before drinking, making ice cubes, washing food, brushing teeth or any other consumption.

The Charlottetown Water Utility is doing all it can to determine the cause of the problem and fix it as quickly as possible.

The Utility, the Prince Edward Island Department of Health and Wellness and the Prince Edward Island Department of Communities, Land and Environment are in consultation and will monitor water quality closely.

Fact sheets on boil water advisories are available at Charlottetown City Hall, 199 Queen St. or the P.E.I. Department of Health and Wellness.

For more information contact the City of Charlottetown at 566-5548.

## Appendix “D”

### **Fact Sheet on Domestic Water Usage When a Boil Water Advisory is in Effect.**

Water can be disinfected in a number of ways including boiling or adding household bleach which contains chlorine. Please refer to the table below for details on disinfecting water.

	Method	Amount	Time
Boiling	Bring water to a rapid boil and continue to boil for at least 2 minutes.		Boil for at least 2 minutes.
Adding Bleach	Use household bleach (5.25% sodium hypochlorite)  a) for washing dishes in a sink  b) for bathing in a bath tub.  c) For whirlpool tubs.	a) a capful (10 ml) of bleach per sink of water.  b) 3 ounces (85 ml) of bleach per standard tub.  c) Follow manufacturers instructions.	a) mix and let sit for 1 minute before use.  b) Mix and let sit for 10 minutes before use

Only boiled water should be used for:

- Drinking
- Teeth brushing.
- Use in formulas or mixing juice or other drinks.
- Making ice cubes.

Only disinfected water (boiled or bleached) should be used for:

- Washing and bathing.
- Washing dishes.
- Humidifiers.
- Washing food that will be consumed uncooked such as fruit or vegetables.

Note: Showering is not recommended if water contains fecal coliform.

It is not necessary to use disinfected water for:

- Laundry.
- Washing floors and other household cleaning.

**Point of use treatment units on the consumers tap or water line cannot be depended upon to adequately disinfect water.**

## Users that Must Take Particular Precautions During A Boil Water Advisory

### Restaurants

- It is necessary to boil water for:
- All drinking water.
- Soft drink post-mix machines.
- Ice cubes and ice products (shaved or block ice) used in food or drinks.
- Washing any food that would not be cooked.
- Vending machines that use water that does not reach boiling temperatures as part of their design.

It is not necessary to boil water for:

- Soft drink pre-mix machines.
- Cooking and baking.
- Coffee machines, which achieve boiling temperatures as part of their design.

### Food Production

- Dairy Plants – The contaminated water must not contact products following the pasteurization procedure and water used in clean-in-place procedures and in cleaning of product related equipment must be properly chlorinated.
- Bottling Plants – Pre-superchlorination and chlorine removal must be part of production procedure.
- Ice Making – It is prohibited to make ice for domestic purposes or for cooling or preservation of food from water that is likely to make the ice impure or is liable to produce disease.

### Hospitals, Schools, Special Care Facilities, Dental or Physician Clinics, Etc.

- Boil water or use alternate potable water supply in all applications of tap water intended for consumption or treatment procedures where a risk of infection is possible. Assess all water usage in consultation with infection control personnel.

### Water Vending Outlets (Includes Wine and Beer Vending)

- Assess each system individually.