

Drinking Water Protocol

Preamble

The Ontario Public Health Standards (OPHS) are published by the Minister of Health and Long-Term Care under the authority of the Health Protection and Promotion Act (HPPA)¹ to specify the mandatory health programs and services provided by boards of health. Protocols are program and topic specific documents which provide direction on how boards of health must operationalize specific requirement(s) identified within the OPHS. They are an important mechanism by which greater standardization is achieved in the province-wide implementation of public health programs.

Protocols identify the minimum expectations for public health programs and services. Boards of health have the authority to develop programs and services in excess of minimum requirements where required to address local needs. Boards of health are accountable for implementing the standards including those protocols that are incorporated into the standards.

Purpose

The purpose of this protocol is to provide direction in the prevention and reduction of water-borne illness related to drinking water by providing direction to boards of health on the components of the Safe Water Program, which include but are not limited to:

- Surveillance and inspection of drinking water systems;
- Timely response to drinking water adverse events, reports of water-borne illnesses or outbreaks, and other drinking water-related issues arising from emergencies;
- Education and training of owners/operators of small drinking water systems;
- Informing the public about unsafe drinking-water conditions and provision of the necessary information to respond appropriately; and
- Reporting of Safe Water Program data elements to the Ministry of Health and Long-Term Care (the “ministry”) related to drinking water systems.

Regulations under the HPPA which are relevant to this protocol include:

- O. Reg. 562² (Food Premises) under the HPPA¹;
- O. Reg. 568³ (Recreational Camps) under the HPPA¹;
- O. Reg. 554⁴ (Camps in Unorganized Territories) under the HPPA¹;
- O. Reg. 318/08⁵ (Transitional-Small Drinking Water Systems) under the HPPA¹; and
- O. Reg. 319/08⁶ (Small Drinking Water Systems) under the HPPA¹

Other legislation and regulations that are relevant to this protocol include:

- O. Reg. 170/03⁷ (Drinking Water Systems) under the Safe Drinking Water Act, 2002⁸ (SDWA);
- O. Reg. 248/03⁹ (Drinking Water Testing Services) under the SDWA⁸;
- O. Reg. 169/03¹⁰ (Ontario Drinking Water Quality Standards) under the SDWA⁸;
- O. Reg. 243/07¹¹ (Schools, Private Schools and Day Nurseries) under the SDWA⁸;
- Ontario Water Resources Act (OWRA)¹²; and
- Clean Water Act (CWA)¹³

Reference to the Standards

The table below identifies the OPHS standard and requirements to which this protocol relates.

Standard	Requirement
Safe Water	Requirement #1: The board of health shall report Safe Water Program data elements in accordance with the <i>Beach Management Protocol, 2008</i> (or as current); the <i>Drinking Water Protocol, 2008</i> (or as current); and the <i>Recreational Water Protocol, 2008</i> (or as current).
	Requirement #2: The board of health shall conduct surveillance of drinking-water systems and of drinking water illnesses of public health importance, their associated risk factors, and emerging trends in accordance with the <i>Drinking Water Protocol, 2008</i> (or as current); the <i>Infectious Diseases Protocol, 2008</i> (or as current); and the <i>Population Health Assessment and Surveillance Protocol, 2008</i> (or as current).
	Requirement #7: The board of health shall provide education and training for owners/operators of drinking-water systems in accordance with the <i>Drinking Water Protocol, 2008</i> (or as current).
	Requirement #10: The board of health shall ensure that the medical officer of health or designate is available on a 24/7 basis to receive reports of and respond to: <ul style="list-style-type: none"> • Adverse events related to safe water, such as reports of adverse drinking water on drinking-water systems governed under the Health Protection and Promotion Act or the Safe Drinking Water Act; • Reports of water-borne illnesses or outbreaks; • Safe water issues arising from floods, fires, power outages, or other situations that may affect water safety; and • Safe water issues relating to recreational water use including public beaches in accordance with the Health Protection and Promotion Act; the <i>Beach Management Protocol, 2008</i> (or as current); the <i>Drinking Water Protocol, 2008</i> (or as current); the <i>Infectious Diseases Protocol, 2008</i> (or as current); the <i>Public Health Emergency Preparedness Protocol, 2008</i> (or as current); and the <i>Recreational Water Protocol, 2008</i> (or as current).
	Requirement #11: The board of health shall provide all the components of the Safe Water Program in accordance with all applicable statutes and regulations, and the <i>Drinking Water Protocol, 2008</i> (or as current) to protect the public from exposure to unsafe drinking water.
	Requirement #12: The board of health shall inform the public about unsafe drinking water conditions and provide the necessary information to respond appropriately in accordance with the <i>Drinking Water Protocol, 2008</i> (or as current).

Operational Roles and Responsibilities

1) Surveillance and inspection

Inventory

- a) The board of health shall:
 - i) Maintain an inventory or inventories of all drinking water systems in the health unit that are regulated under the HPPA¹ and the SDWA⁸; and
 - ii) Include in the inventory, at minimum, information required to identify the drinking water systems and the owners and operators of those systems in the event of emergencies or adverse results or observations.

Inspections of Drinking Water Systems

- b) The board of health shall utilize a risk management approach for addressing water-related public health issues regarding drinking water systems that are required to provide potable water under the HPPA¹ or as required by the local medical officer of health.

- c) The board of health shall inspect drinking water systems regulated under the HPPA¹ on a response basis to support the provision of safe drinking water and to determine compliance with standards and regulations where applicable. These inspections shall include but are not limited to:
- i) Observations to determine compliance with regulations, where applicable;
 - ii) Arrangements for testing water-quality parameters and collection of water samples, as deemed necessary;
 - iii) Communication of results or findings of the inspection to the owner/operator of the drinking water system; and
 - iv) Communication of requirements or recommendations, if applicable, to the owner/operator of the drinking water system.
- d) The board of health shall inspect drinking water haulage vehicles annually. In conducting these inspections, boards of health shall refer to the most current version of the *Drinking Water Haulage Guidance Document* for information.
- e) The board of health shall conduct additional inspections of drinking water systems regulated under the HPPA as necessary.

Inspections of Small Drinking Water Systems

- f) The board of health shall conduct risk assessments of all small drinking water systems that meet the criteria of O. Reg. 318/08⁵ (Transitional-Small Drinking Water Systems) or O. Reg. 319/08⁶ (Small Drinking Water Systems) under the HPPA.¹ As part of the risk assessment process, the board of health shall:
- i) Conduct a site-specific visit of the small drinking water system;
 - ii) Use the most current version of the ministry-approved risk categorization (RCAT) tool in accordance with any ministry instructions relating to that version;
 - iii) Assign a risk category of “high,” “moderate” or “low” for each system;
 - iv) Assess each system’s compliance with regulations;
 - v) Issue a written directive to the owner of each system outlining the site-specific requirements for the system following an initial risk assessment; and
 - vi) Issue a new directive or written amendment to a directive to the owner of each system outlining the site-specific requirements for the system following any subsequent routine risk assessment of the system, where deemed necessary.
- g) The board of health shall issue directives to owners of small drinking water systems in accordance with the most current version of the *Small Drinking Water Systems Risk Assessment Directives Guidance Document*.
- h) Following the initial risk assessment, the board of health shall conduct subsequent routine risk assessments of small drinking water systems based on the following frequencies:
- Not less than once every two years for high-risk small drinking water systems; and
 - Not less than once every four years for moderate and low-risk small drinking water systems.
- i) The board of health shall re-evaluate the requirements outlined in the site-specific directive relating to a small drinking water system between regularly-scheduled, routine risk assessments when any of the following situations exist:
- The owner or operator requests in writing a reassessment of the system;
 - Any water sampling or other information indicates a possible change in the function or operation of the small drinking water system (e.g., complaints, adverse results, adverse observations, illnesses); or
 - There is a change in the premises being served by the small drinking water system (e.g., expansion, alteration).
- j) When scheduling any risk assessment, the board of health shall:
- i) Give priority to those small drinking water systems that have the potential to pose the greatest risk to health; and
 - ii) Notify owners and operators in advance of the risk assessment and inform them of any information or other requirements that will be necessary for purposes of completing the risk assessment.

- k) As part of general inspection responsibilities, the board of health shall:
- i) Notify owners and operators of small drinking water systems in a timely manner following each risk assessment of: the risk category assigned to their system; the findings arising out of the inspection; recommendations relating to the operation of the system; any issues relating to compliance; and the site-specific directives, as applicable;
 - ii) Inform owners and operators that they may request a review of the risk category assigned to their small drinking water system and/or the contents of the directives; and
 - iii) Carry-out ongoing compliance monitoring of drinking water samples submitted by owners or operators in accordance with the regulations and site-specific directives.

2) Management and response

24/7 on-call and response policy

- a) The board of health shall have an on-call system for receiving and responding to reports in the health unit on a 24 hours per day, 7 days per week (24/7) basis related to:
 - i) Suspected or confirmed waterborne illnesses or outbreaks; and
 - ii) Water-related complaints, adverse test results and adverse observations.
- b) The board of health shall act on drinking water-related complaints and reports within 24 hours of notification of the complaint or report to determine the appropriate response required. For more information, refer to the most current version of the *Response to Adverse Drinking Water Quality Incidents Guidance Document*.
- c) Where the board of health suspects that a microbiological, chemical, physical or radiological agent has been transmitted through drinking water intended for consumption, the board of health shall:
 - i) Respond appropriately within 24 hours of receiving report of the drinking water-related incident, illness, injury or outbreak;
 - ii) Conduct outbreak investigations for microbiological agents in accordance with the *Infectious Diseases Protocol, 2008* (or as current); and
 - iii) Conduct investigations for chemical, physical or radiological agents in accordance with the *Risk Assessment and Inspection of Facilities Protocol, 2008* (or as current).

Enforcement actions and procedures

- d) The board of health shall address non-compliance with the HPPA¹ and related regulations and take action where water that is intended for human consumption may not be safe.

Liaison with agencies and ministries

- e) The board of health shall:
 - i) Provide upon request from the Ministry of the Environment (MOE) information on the quality of water intended for human consumption and any other information as requested by the ministry;
 - ii) Provide upon request of the ministry information to other governmental bodies;
 - iii) Engage in activities within the community that increase the safety of drinking water and decrease potential for adverse effects on health, including but not limited to participation on technical committees and assistance in the identification of vulnerable areas and threats to drinking water systems;
 - iv) Collaborate with MOE through participation in meetings held at least semi-annually on matters of:
 - Existing drinking water systems in the health unit;
 - Mutual responsibility and interest;
 - Applications to issue, amend, suspend, or revoke an approval, permit, or licence or fragmentation of a drinking water system; and
 - Regulatory oversight and sharing expertise regarding the inspection of drinking water systems.
 - iv) Notify the local MOE office, when possible, of any small drinking water system that is expected to move from the authority of a regulation under the HPPA¹ to the authority of O. Reg. 170/03⁷ (Drinking Water Systems) under the SDWA⁸; and

- v) Participate in local steering groups consisting of representatives from organizations including local hospitals, municipalities and local MOE offices, for the purpose of developing drinking water–related emergency response plans for the control of or response to infectious diseases, outbreaks and other public health hazards.

3) Education and training

Drinking water education

- a) The board of health shall:
 - i) Ensure the availability of information and/or educational material on safe drinking water practices to private citizens, water haulers, and owners and operators of drinking water systems required to provide potable water under the HPPA¹;
 - ii) Ensure the availability of information and/or educational material to owners and operators of small drinking water systems regarding:
 - Available training programs pertaining to the operation of small drinking water systems;
 - Relevant public health legislation and regulations; and
 - Directives requirements.
 - iii) Provide, upon request:
 - Assistance in the interpretation of water analysis reports; and
 - Information on potential health effects and appropriate response to adverse results or adverse observations.

Providing water sampling bottles for unregulated drinking water systems

- b) The board of health shall make available for owners of unregulated drinking water systems sample bottles, forms and information provided by the Public Health Laboratories to encourage sampling and testing of those unregulated drinking water systems.

4) Reporting

Inspection activities – general

- a) The board of health shall:
 - i) Record inspection data pertaining to drinking water systems under its jurisdiction and provide information as required by the ministry; and
 - ii) Report all adverse drinking water notifications in a timely manner and as directed by the ministry including as a minimum: date issued, date rescinded and corrective measures taken.

Inspection activities – small drinking water systems

- b) The board of health shall:
 - i) Record data collected from risk assessments and inspections conducted on small drinking water systems in the health unit and provide information as required by the ministry;
 - ii) Maintain surveillance of drinking water sampling results using the ministry laboratory results management application; and
 - iii) Retain results of any inspections conducted for a minimum of five years.

Glossary

Drinking water system: Defined in Section 2.(1) of the Safe Drinking Water Act, 2002

A system of works, excluding plumbing, that is established for the purpose of providing users of the system with drinking water and that includes,

- a) any thing used for the collection, production, treatment, storage, supply or distribution of water;*
- b) any thing related to the management of residue from the treatment process or the management of the discharge of a substance into the natural environment from the treatment system, and*
- c) a well or intake that serves as the source or entry point of raw water supply for the system.⁸*

Potable water: Defined in Section 10 of the Safe Drinking Water Act, 2002

Despite any other Act, a requirement that water be “potable” in any Act, regulation, order or other document issued under the authority of any Act or in a municipal by-law shall be deemed to be a requirement to meet, at a minimum, the requirements of the prescribed drinking-water quality standards.⁸

Small drinking water system: A small drinking water system as defined in O. Reg. 318/08⁵ (Transitional-Small Drinking Water Systems) and O. Reg. 319/08⁶ (Small Drinking Water Systems) under the HPPA!

References

1. *Health Protection and Promotion Act*, R.S.O. 1990, c. H.7.
Available from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm.
2. O. Reg. 562/90. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900562_e.htm.
3. O. Reg. 568/90. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900568_e.htm.
4. O. Reg. 554/90. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900554_e.htm.
5. O. Reg. 318/08. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080318_e.htm.
6. O. Reg. 319/08. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080319_e.htm.
7. O. Reg. 170/03. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_030170_e.htm.
8. *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32.
Available from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_02s32_e.htm.
9. O. Reg. 248/03. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_030248_e.htm.
10. O. Reg. 169/03. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_030169_e.htm.
11. O. Reg. 243/07. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_070243_e.htm.
12. *Ontario Water Resources Act*, R.S.O. 1990, c. O40.
Available from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o40_e.htm.
13. *Clean Water Act*, 2006, S.O. 2006, c. 22.
Available from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_06c22_e.htm.