

Supplying Safe Drinking Water

What are my responsibilities to ensure safe drinking water under O. Reg. 252/05?

A guide for owners and operating authorities of
**LARGE NON-RESIDENTIAL DRINKING WATER SYSTEMS AND
SMALL MUNICIPAL NON-RESIDENTIAL DRINKING WATER SYSTEMS**

Large Non-Municipal Non-Residential systems could include systems serving:

- large hotels or resorts
- large highway service centres or service stations
- large commercial or industrial complexes
- large provincial parks
- large provincial prisons or jails

Large Municipal Non-Residential systems could include systems serving:

- large municipally-owned industrial parks and airports
- large municipal community centres, sports and recreational facilities

Small Municipal Non-Residential systems could include systems serving:

- town halls
- small municipal community centres, sports and recreational facilities
- municipal tourist information centres, museums or libraries

HOW YOU CAN PROVIDE SAFE DRINKING WATER – A CHECKLIST

- I have confirmed that this guide applies to my drinking water system (page 3)
- I have determined whether I can post signs indicating that my water has not been tested or that I am required to test my water (page 5)
- If I am eligible to post signs, I have followed the sign-posting conditions outlined (page 5)
- If I am not eligible to post signs, I have completed the following steps (page 6):
 - Step 1: Select a licensed laboratory (page 6)
 - Step 2: Take drinking water samples for testing (page 7)
 - Step 3: Notify authorities of adverse test results (page 8)
 - Step 4: Take corrective action if you have an adverse test result (page 8)
 - Step 5: Post warning notices of potential problems (page 10)
 - Step 6: Retain records and information (page 11)

A: Introduction

Under the *Safe Drinking Water Act, 2002*, and the “Non-Residential and Non-Municipal Seasonal Residential Systems that Do Not Serve Designated Facilities Regulation” (O. Reg. 252/05), owners and operating authorities of drinking water systems that supply water to the public have responsibilities to ensure the water is safe to drink. This guide outlines responsibilities as they apply to owners or operating authorities of large non-residential systems and small municipal non-residential drinking water systems. It does not include systems that serve designated facilities (see section B on page 3).

The government intends to develop new legislation that, if passed, would transfer responsibility for regulating these systems to public health units overseen by the Ministry of Health and Long-Term Care. The Ministry of the Environment will continue to oversee these systems until the intended transfer to public health units.

The regulation and this guide will help to ensure that public health is protected and drinking water standards are maintained until this new framework is developed.

Under this regulation, owners and operators either must post signs saying that their water has **not** been tested or must test their water according to the steps outlined in this guide.

Remember, this guide is only a summary

To be clear about your specific legal requirements, you must refer to the text of the “Non-Residential and Non-Municipal Seasonal Residential Systems that Do Not Serve Designated Facilities Regulation” (O.Reg. 252/05) and the *Safe Drinking Water Act, 2002*. You can access these at www.e-laws.gov.on.ca or by calling our Public Information Centre at: 1-800-565-4923

B: Does this guide apply to my drinking water system?

This guide is for you if you are an owner or operating authority of any one of the following three categories of systems, provided that the system obtains its own raw water from a well or surface water source (such as a lake or river):

Large Non-Municipal Non-Residential Systems

These include systems that:

- are not owned by a municipality;
- are capable of supplying drinking water at a rate greater than 2.9 litres per second (equivalent to 250,000 litres/day). *Please check the specifications on your pump or call your pump manufacturer.* For more details, please see Section 1 of O. Reg. 252/05; and
- do **not** serve:
 - a designated facility (see page 4);
 - a major residential development (six or more homes); or
 - a trailer park or campground that has six or more sites with water hook-up.

Large Municipal Non-Residential Systems

These include systems that:

- are owned by a municipality;
- are capable of supplying water at a rate greater than 2.9 litres of water per second (equivalent to 250,000 litres/day). *Please check the specifications on your pump or call your pump manufacturer.* For more details, please see Section 1 of O. Reg. 252/05; and

- do **not** serve:
 - a designated facility (see page 4);
 - a major residential development (six or more homes); or
 - a trailer park or campground that has six or more sites with water hook-up.

Small Municipal Non-Residential Systems

These include systems that:

- are owned by a municipality;
- serve a public facility such as a sports or recreation facility, a food service establishment or another place with a public washroom, drinking water fountain or shower such as a community centre, town hall, tourist information centre, museum or library;
- are not capable of supplying water at a rate of more than 2.9 litres per second (equivalent to 250,000 litres/day). *It is unlikely that a small public facility would have this capability. Please check the specifications on your pump or call your pump manufacturer.* For more details, please see Section 1 of O. Reg. 252/05; and
- do **not** serve:
 - a designated facility (see page 4);
 - a major residential development (six or more homes); or
 - a trailer park or campground that has six or more sites with water hook-up.

This guide is NOT for use by owners or operating authorities of drinking water systems who supply water to designated facilities:

Designated facilities serve people who would be more susceptible to drinking water of poor quality. These facilities include **children’s camps, day nurseries and other children and youth**

facilities, nursing homes and other health-care facilities, schools, private schools and university/college facilities, hostels and other delivery agent care facilities, or shelters and other social-care facilities. Drinking water systems that provide water to designated facilities are regulated under O. Reg. 170/03.

CHANGES AT A GLANCE

How have my requirements as a Large Non-Residential System changed? (Both municipal and non-municipal systems)

	O. Reg. 170/03	O. Reg. 252/05
Microbiological sampling in the distribution system	Collect and submit samples to a licensed laboratory twice weekly or weekly (<i>E. coli</i> / fecal coliforms, total coliforms and HPC testing)	Collect and submit samples to a licensed laboratory weekly (<i>E. coli</i> and total coliforms only)
Microbiological sampling of the raw water supply	Collect and submit samples to a licensed laboratory monthly	Not required
Chemical sampling	Collect and submit samples to a licensed laboratory ranging from once every 3 months to once every 5 years	Not required
Option to post signs rather than test	You can post if you do not use electricity	You can post if you do not use electricity
Installation of treatment	Install treatment equipment by July 1, 2006	No requirement to install treatment. Certified operator must operate system to provide proper disinfection where treatment equipment that would comply with previous regulation has been provided and is operated (see O. Reg. 252/05 for more details).
Annual Reports	Each year by December 31 (non-municipal) or by February 28 (municipal)	Not required

CHANGES AT A GLANCE (continued)

How have my requirements as a Small Municipal Non-Residential System changed?

	O. Reg. 170/03	O. Reg. 252/05
Microbiological sampling in the distribution system	Collect and submit samples to a licensed laboratory weekly or every two weeks (<i>E. coli</i> / fecal coliforms, total coliforms and HPC testing)	Collect and submit samples to a licensed laboratory every two weeks (<i>E. coli</i> and total coliforms only)
Microbiological sampling of the raw water supply	Collect and submit samples to a licensed laboratory monthly	Not required
Chemical sampling	Collect and submit samples to a licensed laboratory ranging from once every 3 months to once every 5 years	Not required
Option to post signs rather than test	You can post until December 31, 2005 if certain conditions were met	You can post if certain conditions are met. There no longer is an end date.
Installation of treatment	Install treatment equipment by December 31, 2006	No requirement to install treatment
Annual Reports	Each year by February 28	Not required

C: Can I post signs or do I need to test my water?

- **If you are eligible to post signs you do not have to test your water, provided you post signs saying that your water has not been tested for drinking purposes and you meet the following conditions.**
- Large non-residential systems (both municipal and non-municipal) and small municipal non-residential systems that do not use electricity or do not serve any building or structure that uses electricity have the option to post signs.
- In addition, small municipal non-residential drinking water systems that do not serve food service establishments have the sign posting option. **(If you are not sure, you should consult with your local public health unit).**

D: How should I post signs if I am eligible to do so?

In order to post signs and be exempt from having to test your drinking water, you must follow the instructions in the box below:

Posting Signs

- Inform the Ministry of the Environment that you are posting signs. Obtain a *Notification to the Director of Posting Warning Notices* available at: www.ene.gov.on.ca/envision/water/sdwa/reg252.htm Email the completed form to: Reg170_formssubmission@ene.gov.on.ca or fax it to: 416-314-8716

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Basic information about your drinking water system will be kept on file to ensure that the ministry can inform you of any potential concerns with drinking water in your immediate area.

- Use signs provided by, or approved by, the Ministry. They are available free of charge by calling 1-800-565-4923.
- Post signs on all taps warning that the water has not been tested for drinking water purposes.
- Disconnect all drinking water fountains.
- Check the signs at least once a week to ensure they are in place and are legible.
- Keep records of the date and time, and the name of the person who performs each check and keep these records for at least five years.

Refer to Section 6 of O. Reg. 252/05 for more information on the sign posting option.

If you follow the above when posting signs (provided you are eligible to do so) you do not have to test your water and will not have to follow the steps outlined in part E.

E: I am not posting signs. How do I meet my drinking water testing requirements?

You must take the following 6 steps if:

- **the sign posting option is not available for your system; or**
- **you choose not to post signs.**

Note: Large non-residential systems that have installed treatment equipment that would comply with previous regulations must have a certified operator to ensure that equipment is operated in a manner that provides proper disinfection. [See Section 7 of O. Reg. 252/05 and O. Reg. 128/04 (Certification of Drinking-Water System Operators and Water Quality Analysts) made under the *Safe Drinking Water Act, 2002* and available at www.e-laws.gov.on.ca.]

Step 1: Select a licensed laboratory

- Drinking water samples must be sent to a laboratory licensed by the Ministry of the Environment to test for bacteria (*E. coli* and total coliforms).
- Before sending your samples to a licensed laboratory for the first time, you must submit the *Laboratory Services Notification* form (available on the Ministry's website at www.ene.gov.on.ca/envision/water/sdwa/reg252.htm) to the Ministry by fax at: 416-235-6312, identifying the licensed laboratory(ies) that will be carrying out the testing. You will then be assigned a drinking water system number.
- The licensed laboratory will send a written report of the results to you within 28 days of completing the test, and will also provide the results to the Ministry.

How can I find out if a laboratory is licensed for microbiological/bacteria testing?

1. View the list of licensed laboratories on the Ministry's web site: www.ene.gov.on.ca/envision/water/sdwa/licensedlabs.htm ; or
2. Contact the Public Information Centre at 1-800-565-4923; or
3. Contact a laboratory directly and ask them if they are licensed to test for *E. coli* and total coliforms.

Step 2: Take drinking water samples for testing

- Owners and operators can take their own drinking water samples.
- Licensed laboratories will provide you with instructions on proper techniques for sample collection, transport, storage and temperature control, and will also supply the appropriate containers. You must follow these instructions (see box to the right).
- Pay particular attention to the instructions for temperature control of the samples. Do not freeze samples. Make sure that if samples are being transported in a vehicle that they are kept in a cooler with ice packs or other means to keep them cool.
- Each time a sample is collected, the collector must complete the *Chain-of-Custody Form* provided by the licensed laboratory. This form records your drinking water system number, the date and time the sample was taken, where it was taken, and the sampler's name.

Note: If your system is using chlorine, then you must also sample and test for chlorine residual at the same time and location of your bacterial sample. Make sure the chlorine residual value is recorded clearly on your *Chain-of-Custody Form*, along with your microbiological sample.

Sampling and testing requirements

How often to collect samples

- **Large non-residential systems (municipal and non-municipal):** At least once every week while operating to supply water. A sample must be collected between 5 and 10 days after the last sample was collected.
- **Small municipal non-residential systems:** At least once every two weeks while operating to supply water. A sample must be collected between 10 and 20 days after the last sample was collected.

What licensed laboratories test for:

They test for the presence of the following bacteria:

- *E. coli*
- Total coliforms

Where and how to collect samples

- Collect your sample from a point after the water has entered the distribution or plumbing system. For example, samples can be taken from taps throughout buildings served by the system.
- Follow the licensed laboratory's instructions which will include removing screens/filters at any taps, allowing the water to run for at least 2 minutes, not touching or otherwise contaminating sample bottles, capping the bottle immediately, leaving an airspace so that the bottle does not overflow, and preventing splashing.

Note: Large non-residential systems (municipal and non-municipal) are not required to perform sampling or testing during a period of seven or more consecutive days when:

- the system is not in operation; or
- the system supplies water only to the owner's private residence, his/her family, or the employees/agents of the owner and their families.

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Small municipal non-residential systems are not required to perform sampling or testing during a period of seven or more consecutive days when:

- the system is not in operation; or
- the system is not supplying water to any open public facilities.

Upon restarting the system you must collect and submit samples to a licensed laboratory for testing, and receive the results prior to supplying drinking water to users of the system.

Step 3: Notify authorities of adverse test results

An adverse water quality incident (AWQI) is a test result that indicates the presence of *E. coli* or total coliforms in your drinking water sample. Your licensed laboratory will notify you if an adverse test result arises (See Schedule 4, s.4-3 of O. Reg. 252/05 for more details).

Owners and operators of drinking water systems must immediately report adverse drinking water test results to the Ministry of the Environment's (MOE) Spills Action Centre and the local Medical Officer of Health (see box to the right for more information). The laboratory is also required to report the results.

What must I do if I have an adverse test result?

First: Make immediate report (by telephone or in person).

Immediately report the adverse water quality test result (as provided to you by your licensed laboratory) to the MOE's Spills Action Centre (telephone 1-800-268-6060) and the local Medical Officer of Health, by speaking with someone in person or on the telephone.

Specify the adverse test result and the corrective action that is being taken.

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Second: Deliver written notice.

Within 24 hours of giving the verbal notice, you must deliver written notice to:

- the local Medical Officer of Health; and
- the MOE Spills Action Centre by fax at 1-800-268-6061.

Use the *Non-Residential and Non-Municipal Seasonal Residential Systems that Do Not Serve Designated Facilities (O.Reg. 252/05) – NOTICE OF ADVERSE TEST RESULTS AND NOTICE OF ISSUE RESOLUTION* available on the Ministry's website at www.ene.gov.on.ca/envision/water/sdwa/reg252.htm

The written notice must indicate the problem and the corrective action that is being taken.

Third: Deliver follow-up notice of action taken.

Within seven days of resolving the problem that gave rise to the adverse test result, you must submit the same form with a completed Section 2(b) Notice of Issue Resolution available on the Ministry's website at www.ene.gov.on.ca/envision/water/sdwa/reg252.htm

The follow-up written notice must summarize the action taken and the results achieved. Send it to the local Medical Officer of Health and the MOE Spills Action Centre.

Step 4: Take corrective action if you have an adverse test result

If your system receives an adverse water quality test result, not only must you notify the appropriate authorities as stated above, but you must also resolve the problem and protect the people who drink your water.

You must follow the proper set of corrective actions following adverse test results for *E. coli* or total coliforms.

A local Ministry of the Environment inspector may contact you by telephone to ensure that you are taking the appropriate corrective action.

You can also contact your local ministry office for advice on adverse test results. Visit: www.ene.gov.on.ca/envision/org/op.htm#Reg/Dist for contact information.

See the corresponding boxes below (see Schedule 5 of O. Reg. 252/05 for more details):

Taking Corrective Actions on Adverse Test Results

If *E. coli* are detected:

1. Immediately notify all users of water from the system to use an alternate source of water or, if no alternate source is available, to bring water to a rapid rolling boil for at least one minute before use – See Step 5 on page 10 for details on these warning notices.
2. Immediately resample and test.*
3. If your system uses chlorine, immediately flush the system to ensure a chlorine residual is achieved. Maintain the chlorine residual until *E. coli* are not detected in two consecutive sets of samples taken 24 to 48 hours apart.
4. If your system does not use chlorine, immediately follow the Ministry's *Procedure for Corrective Action for Non-Residential and Non-Municipal Seasonal Residential Systems that Do Not Serve Designated Facilities and are Not Currently Using Chlorine*. (Available at: <http://www.ene.gov.on.ca/envision/gp/5150e.pdf>)

Steps include:

- a. inspecting the well-head and surrounding property, the distribution system and plumbing to ensure that they are properly constructed and maintained to prevent entry of contamination.
- b. using temporary disinfection, flushing the system and continuing to resample and test until *E. coli* are not detected in any sample from two consecutive sets of samples taken 24 to 48 hours apart.

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5. Follow other directions from the local Medical Officer of Health.

* To “resample and test” means that you must collect and transport a set of at least three drinking water samples to your licensed laboratory for analysis. The first sample must be from the same location as the sample that gave rise to the corrective action. The second sample must be from a location that is a significant distance upstream from the location of the adverse result, where reasonably possible, and the third sample must be from a location that is a significant distance downstream from the adverse result, where reasonably possible.

Taking Corrective Actions on Adverse Test Results

If Total Coliforms are detected:

1. Resample and test* as soon as reasonably possible.
2. If a resample confirms the presence of total coliforms and your system uses chlorine, immediately flush the system to ensure a chlorine residual is achieved. Maintain the chlorine residual until total coliforms are not detected in two consecutive sets of samples taken 24 to 48 hours apart.
3. If a resample confirms the presence of total coliforms and your system does not use chlorine, immediately follow the Ministry's *Procedure for Corrective Action for Non-Residential and Non-Municipal Seasonal Residential Systems that Do Not Serve Designated Facilities and are Not Currently Using Chlorine*. (Available at: <http://www.ene.gov.on.ca/envision/gp/5150e.pdf>)

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Steps include:

- a. inspecting the well-head and surrounding property, the distribution system and plumbing to ensure that they are properly constructed and maintained to prevent entry of contamination.
 - b. using temporary disinfection, flushing the system and continuing to resample and test until total coliforms are not detected in any of the samples from two consecutive sets of samples taken 24 to 48 hours apart
4. Follow other directions from the local Medical Officer of Health.

* To “resample and test” means that you must collect and transport a set of at least three drinking water samples to your licensed laboratory for analysis. The first sample must be from the same location as the sample that gave rise to the corrective action. The second sample must be from a location that is a significant distance upstream from the location of the adverse result, where reasonably possible, and the third sample must be from a location that is a significant distance downstream from the adverse result, where reasonably possible.

Step 5: Post warning notices of potential problems

You must post a warning notice to advise the public if:

- you get adverse test results for *E. coli*; or
- you are not currently meeting your sampling requirements and you do not have signs already posted at the taps; or
- you have not yet carried out required corrective actions.

Warning Notices do NOT provide an exemption for testing or corrective action!

The warning notices required to be posted are a temporary requirement meant to protect public health in the short term. The owner must still comply with testing and corrective action requirements as soon as possible, despite posting the warning notices.

Where do I post the warning notices?

Post the notices in a prominent location where they are likely to be seen by those using water from the system. If you fail to post a warning notice at your drinking water system, a provincial officer or public health inspector may do so instead.

What must the warning notices say and where can I obtain them?

Warning notices must be in a form provided by or approved by the Ministry. There are two warning notices available from the Ministry of the Environment. Ensure with Ministry staff that the proper notice is used. You can obtain Ministry of the Environment-approved warning notices by calling 1-800-565-4923.

If you have not yet obtained warning notices, you can (as an interim measure) post any sign that states: “Public Notice: Do not drink this water” until you have received the Ministry-approved warning notice.

Step 6: Retain records and information

- For the public, keep copies of all the results from your required samples on site for at least two years. You must make them available on request, free of charge during normal business hours. You must also have a copy of O. Reg. 252/05 available to the public.
- For Ministry of the Environment inspectors, keep copies of all the records or reports of test results from your required samples for at least five years.

Note: If a Ministry of the Environment order or approval applies to your drinking water system, or if you have already installed treatment equipment in accordance with previous regulations, then there may be additional requirements to keep related information available and to retain it for inspection. Please see Sections 11 and 12 of O. Reg. 252/05 for more information.

F: Who can I contact for more information?

- If you would like other guides and fact sheets related to drinking water, please contact the Ministry of the Environment's Public Information Centre at: 1-800-565-4923 or visit the Ministry of the Environment's website at: www.ene.gov.on.ca
- You can also sign up for drinking water updates by sending an email to: drinking.water@ene.gov.on.ca and requesting that you be added to the mailing list.