

Treatment Options For Owners Of Non-Municipal Year-Round Residential Drinking Water Systems

This fact sheet provides information about options for owners of Non-municipal Year Round Residential (NMYRR) Drinking Water Systems which may assist you in complying with the treatment requirements of Ontario Regulation 170/03 (O.Reg.170/03), the Drinking Water Systems regulation, made under the Safe Drinking Water Act, 2002.

Non-municipal year round residential drinking water systems include privately owned systems that serve:

- apartment buildings with 6 or more residential units
- private subdivisions with 6 or more houses
- condominium or townhouse complexes with 6 or more residential units
- mobile home parks with 6 or more homes
- trailer parks supplying water year-round to 6 or more sites with water service hookup.

BACKGROUND

The Ministry of the Environment (MOE) has implemented amendments to O.Reg.170/03 to update, clarify, and add flexibility to the regulatory requirements, and in some cases address affordability concerns of stakeholders and owners of drinking water systems which continue to be covered by that regulation.

The ministry is committed to a regulatory framework that will safeguard public health and maintain confidence in Ontario's drinking water. As an owner or operating authority of a drinking water system, you are responsible for ensuring that safe, potable water is supplied to customers and other users.

TREATMENT BASICS

Treatment processes will reduce or eliminate the potential for the presence of pathogens (organisms that can cause illness) in drinking water. Different water sources require different levels and methods of treatment to ensure safe, clean water is provided to users of a drinking water system.

Depending on whether your system is served by surface water, ground water or ground water under the direct influence of surface water (GUDI), you may be required to install one or more of the following:

Filtration: removes particles from raw water that may hide or protect pathogens such as viruses, bacteria and protozoa. This helps to ensure that effective primary disinfection can be carried out.

Primary disinfection: inactivates pathogens before the water is delivered to the first consumer. Effective disinfection can be accomplished by chemical means such as chlorine, or by alternatives such as ultraviolet (UV) light.

Secondary disinfection: introduces and maintains a chlorine residual in a drinking water distribution system to protect the drinking water from microbiological recontamination or bacterial re-growth.

For more information about treatment and other operational requirements for your drinking water system, please refer to *Providing Safe Drinking Water to the Public: A guide for owners and operators of non-municipal year-round residential drinking water systems*, found at www.ontario.ca/drinkingwater/stel01_046948.pdf.

OTHER OPTIONS FOR MEETING THE REQUIREMENTS

Other options are available to drinking water system owners to comply with the regulation without installing a full treatment system. They include the following:

TREATMENT EXEMPTIONS

Treatment exemptions for secure ground water systems

If you have a system that uses **ground water from a drilled well** as a raw water supply and the system does not serve a designated facility (a facility that serves a population that may be vulnerable to drinking water of poor quality e.g., school, day nursery or health care facility), you may be exempt from the regulation's treatment requirements. A notice must be submitted to the Ministry of the Environment through a *Well Technician's Notice*, which can be found under Forms at the ministry's Drinking Water Ontario website at www.ontario.ca/drinkingwater. This form must be signed by a person who:

- holds a well technician licence for well drilling
- is a licensed engineering practitioner
- is a hydrogeologist, or
- is a certified engineering technologist who has experience in ground water supply.

For the notice to satisfy the criteria for treatment exemptions, one of these experts must have assessed your well and confirmed that it has met the key factors listed on the form.

In addition, for the exemptions to apply, the notice must also include a statement confirming that:

- you have complied with microbiological testing requirements according to the regulation for the past 12 months
- **no** raw water samples and no resamples of drinking water from the distribution system or plumbing indicated the presence of *E. coli* or total coliforms during that period.

For a new system that is starting operation, the *Well Technician's Notice* can be submitted prior to start-up. The notice of microbiological test results would not be required until the end of the month following the first anniversary of the day the system commenced operation. Installation of treatment equipment would not be required during that time.

Treatment exemptions for GUDI systems

If your system uses water from a **drilled well** and is deemed by the regulation to have a raw water supply that is ground water under direct influence of surface water (GUDI) because the well is located within close proximity to surface water, you are normally required to install treatment for a surface water system (i.e. filtration and disinfection). However, if you have such a system and you submit a *Well Technician's Notice* and notice of microbiological test results that meet the same exemption criteria outlined above, your system would be required to install treatment for a ground water system, (i.e., disinfection only) rather than the treatment for a surface water system (i.e., filtration and disinfection).

Exempted systems with positive microbiological test results

The exemption will end in the event that the presence of *E. coli* is confirmed in drinking water test results or in the event that the presence of total coliforms is confirmed on more than one occasion within any 12 month period. For more information, please consult the regulation, which can be found at www.e-laws.gov.on.ca.

DRILLING A NEW WELL

If you have a surface water system or a well that does not meet the criteria to be considered secure ground water (**i.e. not a drilled well**), you could meet the regulation requirements without installing a full treatment system by drilling a new well that would provide a new high quality water supply. To obtain treatment exemptions, you would then follow the same steps as outlined above.

CONNECT TO A MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM

Another option is to contact your nearest local municipality that has a municipal residential system to request that your system be connected to municipal water service. In this way, the residents of your system will be served by a system already meeting the requirements of the regulation. If you choose this option, the municipality will likely require that you pay for the extension of the distribution system to the residences currently served by your system.

CONNECT TO ANOTHER NON-MUNICIPAL YEAR ROUND RESIDENTIAL DRINKING WATER SYSTEM THAT HAS ALREADY MET THE REGULATORY REQUIREMENTS RELATED TO TREATMENT

If there is another non-municipal year round residential system in the area, you can contact the owner of that system to request that your system be connected to it. In this way, the residents of your system will be served by a system already meeting the requirements of the regulation and costs can be shared among a larger group of people.

INSTALL A COMMUNAL RESERVOIR (E.G. CISTERN)

Some sites may lend themselves to the installation of a communal reservoir or tank for the storage and subsequent distribution of water hauled from a nearby municipality. In some cases, it may still be necessary for you to install and operate a chlorinator in the system to ensure that disinfectant concentrations are maintained at a safe level.

INSTALL POINT OF ENTRY (POE) TREATMENT

If your system serves 100 or fewer private residences, you can meet treatment requirements using Point of Entry (POE) treatment. POE treatment units are primary disinfection units that are installed on the plumbing at or near where water from the system enters a building or other structure. The regulation provides a detailed explanation of POE system requirements and obligations that would exempt you from secondary disinfection requirements (chlorine residual in the distribution system). There are additional requirements if you choose to install point of entry treatment. Please consult the regulation for more information.

FRAGMENTING YOUR SYSTEM

The Safe Drinking Water Act, 2002 also permits system owners to apply to the Ministry of Environment for permission to fragment (or divide up) the system in such a way that its treatment requirements are lessened or removed.

Where feasible, the owner of a non-municipal year-round residential system serving a multi-property development may consider fragmenting the system

into separately owned smaller systems not subject to the regulated treatment and monitoring requirements. The local Medical Officer of Health needs to be consulted by the Ministry of the Environment about the proposed fragmentation.

Fragmentation of a regulated residential system is dependent on obtaining written consent from a Ministry of the Environment Director under the Safe Drinking Water Act, 2002. The ministry Director is prohibited from granting such consent unless you, as the owner of the system, demonstrate to the satisfaction of the MOE Director that:

- all affected users of the system have been notified of the intention to fragment
- the fragmentation will not expose users to a drinking water health hazard and will not endanger the environment.

If you intend to seek the MOE Director's consent for fragmentation, you should refer to the *Guide For Applying For Approvals Related To Municipal And Non-Municipal Drinking-Water Systems*, available on the ministry's Drinking Water Ontario website under Guidance at www.ontario.ca/drinkingwater. This guide identifies the information that must be submitted with an application for the MOE Director's consent.

It is important to note that the ministry would need to be satisfied that there will be no drinking water health hazard or environmental harm caused by allowing fragmentation.

Remember, this is only a summary of options for treatment. To be clear about your specific legal requirements, you must refer to the text of the Drinking Water Systems Regulation (O.Reg.170/03) 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**.