

# 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 O. Regulation 170/03 (“Drinking-Water Systems”) 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 also have a responsibility to ensure 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 necessitate 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**, which removes particles from raw water that may hide or protect pathogens such as viruses, bacteria and protozoa, and helps to ensure that effective primary disinfection can be carried out.

**Primary disinfection**, which 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**, which 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: *A guide for owners and operators of Non-Municipal Year-Round Residential Drinking Water Systems*, found at: <http://www.ene.gov.on.ca/envision/gp/5362e.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, you may be able to obtain exemptions from the treatment requirements of the regulation. A notice must be submitted to the Ministry of the Environment through a *Well Technician's Notice*, which can be found at [www.ene.gov.on.ca/environet/DWIS/forms.htm](http://www.ene.gov.on.ca/environet/DWIS/forms.htm), signed by a person who holds a well technician licence for Well Drilling, a professional engineer, a hydrogeologist, or 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 and that **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 commencing operation, the *Well Technician's Notice* can be submitted prior to start-up and then 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 does not serve a designated facility, 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 meets 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 (i.e. filtration and disinfection) for a surface water system.

#### **Exempted systems with positive microbiological test results**

The regulation has provisions for the exemption to end in the event that the presence of *E. coli* is confirmed in test results from the drinking water or in the event that the presence of total coliforms is confirmed in the drinking water on more than one occasion within any 12 month period. Please consult the Regulation, which can be found at [www.e-laws.gov.on.ca](http://www.e-laws.gov.on.ca), for more information.

### **Drilling a New Well**

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

### **Connecting 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 chose this option, the municipality will likely require that you pay for the extension of the distribution system to include the residences currently served by your system.

### **Connecting 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 also contact the owner of that system to request that your system be connected to this system. 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.

### **Installing 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.

### **Installing Point of Entry (POE) Treatment**

If your system serves 100 or fewer private residences, you can choose the option of meeting treatment requirements using point of entry (POE) treatment. Point of entry 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 allow you to be exempt from secondary disinfection (chlorine residual in the distribution system) requirements. There are additional requirements if you choose to install point of entry treatment. Please consult the regulation for more information.

### **Fragmenting the 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 requirements under the regulation are lessened or removed.

Where development of individual supplies of safe drinking water is 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 MOE Director about the proposed fragmentation.

Fragmentation of a regulated residential system is subject to obtaining written consent of the MOE Director under the *Safe Drinking Water Act, 2002* and the MOE 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, and
- 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 Approvals Related to Municipal and Non-Municipal Drinking-Water Systems* (available on the MOE website at:

<http://www.ene.gov.on.ca/envision/gp/4467e.pdf>, which 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](http://www.e-laws.gov.on.ca) or by calling our Public Information Centre at: 1-800-565-4923.