

June 2006

Technical Update

For Municipal Residential Drinking Water Systems under O. Reg. 170/03 made under the *Safe Drinking Water Act, 2002*

Following public consultation, on June 5, 2006, O. Reg. 170/03 was amended. These technical amendments are designed to safeguard the quality of Ontario's drinking water, while making the regulation more workable and affordable for owners and operators of municipal and non-municipal year-round residential drinking water systems and systems serving designated facilities. They also add clarity and flexibility to the testing and operational regimes set out in O. Reg. 170/03. For full details, please see:

http://www.e-laws.gov.on.ca/DBLaws/Regs/English/030170_e.htm

Adverse Water Quality Notification Requirements

Under the *Safe Drinking Water Act, 2002* (s.18), a laboratory that conducts tests on drinking water samples from regulated drinking water systems is required to provide immediate notification of adverse results, as prescribed in the Drinking-Water Systems Regulation (O. Reg. 170/03).

In the event of an adverse test result, labs must notify the Medical Officer of Health, the Ministry of the Environment and the owner of the regulated drinking water system or the accredited operating authority of the regulated drinking water system.

The owner or operating authority of the drinking water system must also provide immediate notification of adverse results to the Medical Officer of Health and; the Ministry of the Environment An operating authority must also notify the owner to ensure the owner is kept apprised, and if the system is a small municipal residential system that serves any designated facilities, the operator(s) of the designated facility(ies) must also be notified immediately.

Adverse test results are prescribed in O. Reg. 170/03 and include any result that exceeds the standards listed in Schedules 1, 2 or 3 to the Ontario Drinking-Water Quality Standards (O. Reg. 169/03). Adverse test results that must be reported also include specified test results obtained from continuous monitoring equipment and approved in-line microbiological testing equipment.

Under O. Reg. 170/03, owners of drinking water systems must also notify the Ministry of the Environment and the Medical Officer of Health immediately if an observation, other than an adverse test result, indicates that the drinking water system is directing to users of water from the system water that has not been disinfected in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*.

Verbal notification

The owner or operating authority of the drinking water system and the laboratory are required to provide immediate notification to the Medical Officer of Health by speaking in person or by telephone with a person at the office of the Medical Officer of Health or, if the office is closed, by speaking with a person at the on-call system of the health unit. Immediate notification to the

Ministry of the Environment requires speaking with a person at the ministry's Spills Action Centre (SAC).

Immediate notification by the laboratory must be made to the operating authority of the drinking water system or to the owner by speaking in person or by telephone with a person designated for that purpose by the owner or operating authority. If a designated facility is closed, notification must be made no later than the time the facility re-opens.

Written confirmation

Laboratories and owners/operating authorities of drinking water systems must also follow-up their verbal notification within 24 hours with a written notice (electronic copy or hard copy) of the adverse result to the Medical Officer of Health, the Ministry of the Environment's Spills Action Centre, and where required, the operator of a designated facility served by the system.

Next steps

The immediate report by the owner of a drinking water system in response to the adverse water test result or observation must include the actions that are being taken and whether or not corrective actions are being taken that may be required according to Schedule 17 or Schedule 18 of the Drinking-Water Systems Regulation (O. Reg. 170/03).

In addition, within seven days after resolving the problem which led to the adverse test result, the owner of the drinking water system must give written notice summarizing the action(s) taken and results achieved to the Medical Officer of Health and the Ministry of the Environment's Spills Action Centre. Notice must also be provided within 30 days after resolving the issue to the interested authority for any designated facility(ies) supplied by the system.

Adverse test results

Ontario Regulation 170/03 prescribes adverse results of a test on a sample of drinking water, for the purpose of Section 18 of the *Safe Drinking Water Act, 2002* as:

- 1) A result that exceeds any of the standards prescribed by Schedule 1, 2 or 3 to the Ontario Drinking-Water Quality Standards (O. Reg. 169/03) other than the standard for fluoride.
- 2) A result indicating the presence of *Aeromonas* spp, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*)
- 3) A result indicating the presence of a pesticide not listed in Schedule 2 to the Ontario Drinking-Water Quality Standards (O. Reg. 169/03), at any concentration.
- 4) If the drinking-water system is required to provide secondary disinfection in accordance with section 1-5 of Schedule 1, or section 2-5 of Schedule 2, the system provides chlorination, the system does not provide chloramination and a report under subsection 18 (1) of the Act has not been made in respect of free chlorine residual in the preceding 24 hours,
 - a result indicating that the concentration of free chlorine residual is less than 0.05 milligrams per litre in:
 - a distribution sample that is a grab sample; or

- two distribution samples that are tested by continuous monitoring equipment, if the two samples were taken 15 minutes or more apart and the later of the two samples was the first sample that was taken 15 minutes or more after the earlier sample.
- 5) If the drinking-water system is required to provide secondary disinfection in accordance with section 1-5 of Schedule 1, or section 2-5 of Schedule 2, the system provides chloramination and a report under subsection 18 (1) of the Act has not been made in respect of combined chlorine residual in the preceding 24 hours,
- a result indicating that the concentration of combined chlorine residual is less than 0.25 milligrams per litre and the concentration of free chlorine residual is less than 0.05 milligrams per litre in:
 - a distribution sample that is a grab sample; or
 two distribution samples that are tested by continuous monitoring equipment, if the two samples were taken 15 minutes or more apart and the later of the two samples was the first sample that was taken 15 minutes or more after the earlier sample.
- 6) If the drinking-water system is required to provide filtration and a report under subsection 18 (1) of the Act has not been made in respect of turbidity in the preceding 24 hours, a result indicating that turbidity exceeds 1.0 Nephelometric Turbidity Units (NTU) in: a grab sample of water taken from a filter effluent line, or two samples of water from a filter effluent line that are tested by continuous monitoring equipment, if: two samples were taken 15 minutes or more apart and the later of the two samples was the first sample that was taken 15 minutes or more after the earlier sample, and the filter effluent line is directing water to the next stage of the treatment process.
- 7) If an approval or order, including an *Ontario Water Resources Act* order, identifies a parameter as health-related, and establishes a maximum concentration for the parameter, a result indicating that the parameter exceeds the maximum concentration.
- 8) A result indicating that the concentration of sodium exceeds 20 mg/L, if a report under subsection 18(1) of the Act has not been made in respect of in the preceding 60 months.
- 9) A result indicating that the concentration of fluoride exceeds 1.5 mg/L, if a report under subsection 18(1) of the Act has not been made in respect of fluoride in the preceding 60 months (for systems not providing fluoridation); and 24 hours for systems providing fluoridation.

Corrective Actions

Corrective actions following adverse test results or other problems are prescribed under Schedule 17 (large municipal residential) or Schedule 18 (small municipal residential) of O. Reg. 170/03. Prescribed corrective actions now include the following steps:

- Following non-*E. coli* adverse test results, resampling is required as soon as reasonably possible, rather than immediately
- Following adverse chlorine residual from a distribution sample, the actions now require restoring secondary disinfection to 0.05 mg/L free available chlorine or 0.25 mg/L combined chlorine in the affected parts of the system

- Following adverse total coliform results, notification of users is no longer required for small municipal residential systems
- For remaining steps requiring notification of users, boiling of the water is only recommended if no alternate source is available

For more information contact:

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