

Ministry of the Environment

Safe Drinking Water Branch

Laboratory Licensing and
Compliance Program

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March 15, 2012

MEMORANDUM

TO: Drinking Water Licensed Laboratories

FROM : Cammy L. Moodie
Assistant Director
Safe Drinking Water Branch

RE: **Interpretation re: "Resample and test as soon as reasonably possible"**

Background

The regulatory requirement noted in Schedules 17 and 18 of Ontario Regulation 170/03 refers to system owners/operators having to take corrective actions when any of the following parameters have exceeded the Ontario Drinking Water Quality Standards (Ontario Regulation 169/03): total coliform, aeromonas spp. etc; chemical, radiological parameters; sodium; pesticides (not listed in O.Reg. 169/03) and any health-related parameters in an approval or order

When Ontario Regulation 170/03 was first made in 2003, the requirement was to "*Immediately resample and test*". Upon notification by the licensed laboratory that a parameter (noted above) had exceeded the standard, the system owner/operator was required to immediately collect and submit a sample to their hired licensed laboratory for testing. In some cases, this action was taken in the middle of a night requiring an after-hours response and caused hardship. The Ministry was alerted to this issue and was asked to consider whether collecting a resample the next morning would be sufficient if the parameter did not cause a health risk such as would be case with the presence of *E coli*.

Since the above listed parameters indicate deteriorating water quality and do not pose an immediate health risk, the regulation requirement was changed from "*Immediately resample and test*" to "*Resample and test as soon as reasonably possible*".

NOTE: The presence of *E coli* has an immediate health risk and in this emergency situation, action must be taken to inform consumers immediately about an alternate supply as well as to collect another sample right away. As such, the phrase "Immediately resample and test" remained unchanged for *E. coli*, in Schedules 17 and 18.

Rationale

From the time a routine sample is collected by an owner/operator to the time an exceedance notification of the test results is made by the hired licensed laboratory, 24 hours to 48 hours may have elapsed due to sample shipping, submission, testing, result approval etc. Upon notification of an exceedance, the owner/operator is now aware that the water quality has deteriorated and must take every reasonable step possible to restore the water quality. The operator's actions include confirmation of the routine test result by re-sampling and submitting the samples to the hired laboratory to obtain results as quickly as possible and carry out further actions (as necessary) such as boosting chlorine etc.,. During this period, consumers will likely still be using the water. Science dictates that at this point there are no immediate health risks associated with the situation, thus immediate sampling and testing is not required, although it should be carried out as soon as reasonably possible under the circumstances, ahead of non-critical routine work. Depending on the resample test results, other corrective actions may be required immediately.

Criteria Acceptable by MOE (Using Total Coliforms as an Example)

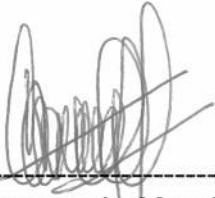
Determining criteria for whether corrective actions were taken "as soon as reasonably possible" requires a consideration of what a reasonable owner/operator would do under the particular circumstances. Factors to consider could include:

- Other concurrent information indicating a potential microbiological problem with the water quality
- Decrease in chlorine residual, nearby main break or a history of microbiological problems with the water quality in the system..
- Normal working hours of the drinking water system;
- Timing of the sample result (i.e. the owner/operator becoming aware of an adverse test result just before a long weekend may need to act more quickly due to the long intervening time for re-sampling and testing);
- The initial test results (i.e. a small total coliform count versus an unusually large occurrence);
- Operating hours of the hired laboratory;

Regulatory Obligations by the System Owner/Operator

- a. As soon as reasonably possible after becoming aware of a total coliform exceedance in the drinking water supply and prior to performing other non-critical routine work, the owner/operator must take every step to verify that the test result in fact an accurate result (not due to sampling error) by re-sampling at 3 locations. The re-sampling for TC (and other microbiological parameters) would require 1 sample at the location where the original sample was taken + 1 sample at an upstream point + 1 sample at a downstream point. In the case of non-microbiological parameters, the re-sampling is performed only at the location where the original sample was taken. The owner/operator must exercise every practical measure possible to send the samples as quickly as possible to the laboratory to obtain the test results.
- b. If any of the resample tests taken in (a) confirms the presence of total coliform, the owner/operator must flush the water main, increase the chlorine dose and resample again (3 locations for total coliform or 1 location for non-microbiological parameters).
- c. If no total coliform is detected in the second set of re-samples, the owner/operator must re-sample again within 24 hours to 48 hours of (b) to confirm that the flushing and increasing chlorine actions have worked.

- d. If the confirmation tests in (a) indicate that there is no presence of total coliform and the original result was an error, no further actions are required.



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Safe Drinking Water Branch

