

FACT SHEET

Preparing an Action Plan When Contamination Persists Following Disinfection

Action plans to address persistent contamination following disinfection are developed on a case-by-case basis depending on the cause of the problem, the type of water supply and other site-specific factors.

Preparing an action plan will typically involve determining why bacterial contamination persists, selecting a corrective action, determining the schedule for carrying out the corrective action and collecting confirmation water samples to demonstrate that corrective action has been successful.

Where treatment is necessary, Nova Scotia Environment and Labour (NSEL) can not recommend specific brands of drinking water devices, but it strongly recommends that consumers look for a mark or label indicating that the device has been certified as meeting the appropriate NSF drinking water treatment unit standard. NSF standards have been designed to safeguard drinking water by helping to ensure material safety and performance of products that come into contact with drinking water. Where supplementary treatment is necessary to meet the health-related parameters listed in the *Guidelines for Canadian Drinking Water Quality*, the owner should have regard to:

- NSF Standards 42 and 53: Drinking Water Treatment Units - Aesthetic and Health Effects;
- NSF Standard 44: Cation Exchange Water Softeners;
- NSF Standard 55: Ultraviolet (UV) Microbiological Water Treatment Systems;
- NSF Standard 58: Reverse Osmosis Drinking Water Treatment Systems;
- NSF Standard 62: Drinking Water Distillation Systems.

When selecting a treatment unit, deal with companies or individuals that carry products that are NSF certified. The NSF website (<http://www.nsf.org>) has information about both health-based and performance standards related to drinking water treatment devices including a listing of certified devices.

Determining Why Bacterial Contamination Persists

It is important to determine the reason why bacterial contamination persists following disinfection so that the most appropriate corrective action can then be selected. Typical reasons include a well construction problem or the presence of a nearby contaminant source.

If the re-sample result indicates the presence of total coliform or *E. coli*, following disinfection, the owner of a registered public drinking water supply is required to immediately seek the expertise of a person qualified under the *Well Construction Regulations* to confirm the well is constructed properly. Any upgrading of the well to address deficiencies must meet the requirements of the *Well Construction Regulations*.

A list of qualified contractors that can evaluate well construction problems is available on the government website at www.gov.ns.ca/enla/water.

If contamination persists once the well is confirmed to be constructed properly and any nearby contaminant sources have been removed, the owner of a registered public drinking water supply is required to submit an action plan to the NSEL outlining the corrective measures that will be taken to remediate the situation.

More over.....

Selecting Corrective Measures

When selecting corrective measures after well construction deficiencies have been addressed and any nearby contaminant sources have been removed, the following options are typically used:

- water treatment;
- switch to an acceptable alternate potable water supply.

If UV treatment is selected, the treatment system must be certified to meet NSF Standard 55 (Class A).

Action Plan and Schedule

The owner of a public drinking water supply is required to submit an action plan outlining the investigation of the likely cause of contamination and the corrective measures that will be taken to remediate the situation. The action plan is to be submitted within 30 calendar days unless otherwise advised. The action plan is to be prepared by a qualified professional, complete with a schedule for implementation of the corrective measures and copies of any water quality results. Qualified professionals include licensed hydrogeologists, licensed engineers, or water treatment specialists. Experts can be reached through the following avenues:

- Hydrogeologists
 - Association of Professional Geoscientists of Nova Scotia (420-9928)
 - Yellow Pages
- Professional Engineers
 - Association of Professional Engineers of Nova Scotia (429-2250)
 - Consulting Engineers of Nova Scotia (461-1325)
 - Yellow Pages
- Water Treatment Specialists
 - Yellow Pages

The proposed action plan must be acceptable to NSEL. The acceptance of the proposed action plan by NSEL does not preclude the owner from having to take additional corrective measures if the proposed action plan is unsuccessful at remediating the problem or from having to submit a revised or new action plan.

Collect Post-Corrective Action Samples

After completing the corrective measures, water samples must be collected to demonstrate that the corrective action plan has been successful.

The boil water advisory will be removed by NSEL, in consultation with the Medical Officer of Health (MOH) when:

- the *Guidelines for Canadian Drinking Water Quality* for bacteriological parameters are met for two consecutive sets of samples separated by a minimum of twenty-four hours; and
- the deficiencies which led to the boil water advisory are corrected.

Summary

This document has been prepared to help owners of registered public drinking water supplies prepare an Action Plan to address persistent contamination following disinfection.

For more information, please contact Nova Scotia Environment and Labour at 1-877-9ENVIRO.