

Drinking Water Haulage Guidance Document

**This document is in support of the Safe
Water Program, Drinking Water Protocol**

**Environmental Health Branch
Public Health Division
Ministry of Health and Long-Term Care
December 2008**

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This guidance document is intended to support boards of health in inspecting drinking water haulage vehicles. This document is not intended to provide legal advice or to be a substitute for the professional judgment of medical officers of health or local board of health staff. Board of health staff should consult with legal counsel as appropriate.

Preamble

Drinking water haulage vehicles often supply water to homes in rural areas serviced by cisterns or shallow wells with poor or unreliable water yield. Hauled drinking water is also relied upon in emergency situations by municipalities, businesses and homes in cases where a risk to public health has been associated or identified in drinking water supplies.

1 Purpose

This document is referenced in the Drinking Water Protocol, under the Safe Water Program of the Ontario Public Health Standards. Specifically, under Section 1 d) of the Drinking Water Protocol, boards of health are required to inspect drinking water haulage vehicles annually, and in so doing, are directed to refer to the most current version of the Drinking Water Haulage Guidance Document for information.

The purpose of this document is to provide guidance to assist local public health units in assessing potential health risks associated with drinking water obtained, transported and delivered in bulk containers, such as tanker trucks or drums.

It is recognized that there are currently no regulatory requirements under the *Health Protection and Promotion Act* (HPPA) pertaining to the operation of water haulage vehicles. This document therefore outlines factors for public health inspectors to consider in carrying-out their inspection functions, to prevent and reduce water-borne illness related to drinking water. An educational approach with the owners/operators of these vehicles should be encouraged; however, public health inspectors can always act on *health hazards* identified in connection with water haulage vehicles in accordance with the HPPA.

2 Guidance for Public Health Inspectors

The following factors related to the operation of water haulage vehicles should be considered by public health inspectors while carrying-out their inspection functions of these vehicles. The public health inspector should check whether the owner or operator of the water haulage vehicle:

1. Obtains drinking water from a supply that complies with the requirements of Ontario Regulation 169/03 (Ontario Drinking Water Standards).
2. Takes appropriate measures to protect the tank, equipment and connections from becoming contaminated during storage, filling, transportation and delivery of the drinking water.
3. Ensures that any article or piece of equipment that is used for the distribution of drinking water is:
 - i. of sound and tight construction;
 - ii. kept in good repair;
 - iii. made of surfaces that can be readily cleaned and sanitized (where drinking water comes in direct contact);
 - iv. are corrosion-resistant and non-toxic; and

- v. free of cracks, crevices and open seams.
4. Ensures that the inlets or openings of containers used for water haulage are constructed and maintained in a manner that will prevent the entry of insects, rodents, or any foreign material that may contaminate the water. With the exception of instances where cleaning, emptying or filling of the tank is occurring, inlets or openings should be covered and sealed at all times.
5. Ensures that, where lubricants are used that may come in contact with the water, the lubricants are of such quality that the lubricants do not contaminate the water or cause a health hazard.
6. Ensures that bulk containers have not been previously used to transport any substance other than water and are cleaned and sanitized prior to transporting potable water.
7. Ensures that bulk containers are clearly and appropriately labeled, i.e., “Drinking Water” or “Potable Water”; “Water Not Safe for Drinking” or “Non-Potable Water”.
8. Ensures that surfaces with which drinking water comes in direct contact are cleaned and sanitized as often as is necessary to maintain them in a clean and sanitary condition.

2.1 Sanitizing a Bulk Water Container

The public health inspector should check that all surfaces are washed or scrubbed with a detergent solution, rinsed with clean water and,

- (a) sprayed or rinsed with hot water or steam in a manner that creates a temperature of not less than 82° Celsius on the treated surface; or
- (b) sprayed or rinsed with a chemical solution as follows:
 - i. immersion in a clean chlorine solution of not less than 200 parts per million of available chlorine at a temperature not lower than 24° Celsius for at least forty-five seconds;
 - ii. immersion in a clean quaternary ammonium compound solution of not less than 400 parts per million at a temperature not lower than 24° Celsius for at least forty-five seconds;
 - iii. immersion in a clean solution containing not less than 25 parts per million of available iodine at a temperature not lower than 24° Celsius for at least forty-five seconds; or
 - iv. immersion in any solution containing a sanitizing agent that is non-toxic and that provides a bactericidal result not less than the result provided by clause (i), (ii) or (iii) and for which a convenient test reagent is available.

Note:

- One should never enter a tank without first consulting with the Ministry of Labour to determine whether ‘confined space’ precautions are required. .
- The solution and rinse water should be disposed of in a manner that does not adversely affect the environment.

2.2 Sampling and Record Keeping

The public health inspector should check whether the owner or operator of a water haulage vehicle:

1. Collects samples for microbial quality of hauled water that is intended for human consumption at the point of delivery. Water samples should be collected and tested with reference to the Ontario Water Quality Standards for microbiological quality, at least once every three months of operation per year.
2. Considers sampling and testing for other chemical or radiological parameters, which will depend largely on the source supply, in consultation with the local public health unit. See Section 3 of this document.
3. Maintains a logbook that records:
 - a. The date, time and location of each occasion where the tanker is filled;
 - b. The chlorine residual (if applicable) of the water at the time of filling from the drinking water system;
 - c. The date, time and location of each water delivery;
 - d. The volume of water delivered to each location;
 - e. The date and time when equipment was cleaned and sanitized;
 - f. Water sample results;
 - g. Comments about problems that may have been encountered with the source water supply, (i.e., unusual water colour or odour), water haulage vehicle, and any equipment used in the operation
4. Keeps the activity logbook for a period of not less than two years.

3 Source Water Supply

An important consideration in assessing the potential risks of the drinking water transported by hauled vehicles is the security and the quality of the source supply. Ideally, source water supplies should be those that are regulated under the *Safe Drinking Water Act* (O. Reg. 170/03) or under the HPPA (O. Reg. 318/08 or O. Reg. 319/08). Public health inspectors should encourage owners and operators of these drinking water systems to consult with MOE or the local health unit to determine any implications of supplying water to hauling businesses.

Public health inspectors should assess source water supplies that are not regulated supplies to determine the quality of the water and suitability to be used for human consumption. Where a public health inspector determines that a drinking water supply system being used to supply water haulage operations is not suitable, action should be taken to reduce the risk of water-borne illness.

4. Other Non-Potable Uses of Hauled Water

In the course of their duties, public health inspectors may be required to investigate public health issues related to the use of non-potable water. For example, some water hauler operations supply water for filling private swimming pools as well as a number of other

recreational or commercial uses. In situations where public health concerns are reported in relation to non-potable uses, public health inspectors should respond in accordance with procedures to assess potential health hazards.

5. Enforcement

Where a public health inspector determines that a condition (at source, in storage, transport or delivery) constitutes a health hazard as defined in the HPPA, the issuance of an order under section 13 of the HPPA should be considered.

Appendix A – Glossary

“Contamination” means the presence of hazards in the drinking water that can be harmful to humans. Hazards may be microbiological, chemical or physical in nature.

“Sanitizing” means antimicrobial treatment and “sanitize” has a corresponding meaning.

Appendix B – References

Haldimand-Norfolk Health Unit, (2002). *Water Haulers – Safe Drinking Water*

Halton Regional Health Unit, (1992). *Drinking-Water Haulage Guidelines*

Mistahia Health Unit, Alberta Regulation 240/85 – *Health Standards For Bulk Water Hauling*

York Region Health Services, (2002). *Water Haulers – Sampling and Inspection Protocol, Health Protection Division Policy and Procedures Manual.*

Appendix C – Sample Tools

The attached appendices are sample tools that local boards of health may wish to use to assist water haulage operations in ensuring the provision of safe water.

C.1 – Water Haulage Inspection Checklist

C.2 – Daily Activity Log Sheet

Appendix C.1 – Water Haulage Inspection Checklist

Bulk Water Hauler Information

1. Establishment #: _____
2. Company Name: _____
3. Address: _____
4. Owner: _____
5. Telephone #: _____
6. Licence Plate: _____ 7. Truck Driver Name: _____
8. Purpose(s) of bulk water:
 Drinking Water Cistern Swimming Pool
 Other (*please specify*): _____

Water Source Information:

9. Drinking-Water System Information:
Name: _____
Location: _____
Waterworks # (*if applicable*): _____
10. Free Available Chlorine Residual at the time of sampling:
(minimum 0.05 ppm) _____ ppm
11. Description of Source Water Supply (ie: municipal, private well, etc.)

Vehicle and Equipment Standards:

- 12 Tank Capacity: _____
- 13 Tank Contact Surface
 Stainless Steel Fiberglass Plastic
 Other (*please specify*): _____

Note: Tank contact surface must be made of food-grade material. Contact surface must not be painted nor consist of other toxic/non-food grade metal or coating

14. Presence of drain at bottom: Yes No

15 The following items are corrosion resistant, readily accessible for cleaning and sanitizing, and have a food-grade contact surface:

Bulk Water Tank Yes No Equipment Yes No
Hose(s) Yes No Pump(s) Yes No

16 Has the truck been used for transporting other material(s) prior its use for transporting bulk water?
Yes No

17 If the answer is Yes to question 16, state what were the bulk content(s):

18 Are all openings and vents constructed to protect the water from contaminants?
Yes No

19 Are inlet and outlet connections protected from contamination of potable water at all times?
Yes No

20 Is the maintenance hole large enough for a person to enter for inspection?
Yes No

21 If the answer is Yes to question 20 is there a confined space entry safety program in place?
Yes No

22 Are chemical products used to clean, sanitize/disinfect the bulk water tank:

23 Exterior condition of the truck and equipment

Sanitary: Yes No
Rusted: Yes No
In good repair: Yes No

Other:

24 bulk containers are clearly and appropriately labeled?

Yes No

25 operator training provided by the employer for water tank maintenance and sanitation?

Yes No

Water Sampling and Record Keeping

26 sampling done at least every 3 months of operation per year for microbiological parameters for hauled drinking water

Yes No

2. Log book contains the following information:

- 24 Date, time and location of each water fill Yes No
- b Chlorine residual recorded at time of filling N/A Yes No
- c Date, time and location of each water delivery Yes No
- d Volume of water delivered to each site Yes No
- e Date and time of equipment disinfection Yes No
- f Water sample results Yes No
- g Comments on problems encountered with water supply (i.e., unusual water colour or odour), water haulage vehicle, and/or equipment Yes No

Comments:

Date of Inspection: *(mm/dd/yyyy)* _____

Signature of Public Health Inspector: _____ Date *(mm/dd/yyyy)* _____

Signature of Operator: _____ Date *(mm/dd/yyyy)* _____

Appendix C.2 – Daily Activity Log Sheet

					COMMENTS (e.g. – problems with water source, vehicle, etc.)	OPERATOR SIGNATURE
Date (mm/dd/yyyy)	Time	Location of fill (F) or delivery (D)	Volume (gallons/litres)	Chlorine Residual level at time of filling (ppm)		

Water Sampling and Testing – Attach all sample test results
