

**ONTARIO REGULATION 170/03**

made under the

**SAFE DRINKING WATER ACT, 2002**

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### **Interpretation: general**

#### **1. (1) In this Regulation,**

"appurtenance" includes a valve, valve chamber, hydrant, hydrant lead, flow meter, curb stop, maintenance access point, personnel access opening or other minor accessory part of a watermain;

"certified operator" means,

- (a) a person who holds an operator-in-training's licence or any class of water treatment

facility or water distribution facility operator's licence under section 6 or 8 of Ontario Regulation 435/93 (Water Works and Sewage Works),

(b) a person who holds a water treatment facility or water distribution facility conditional operator's licence issued under section 6.1 of Ontario Regulation 435/93, or

(c) a person who has qualifications that, in the opinion of the Director, are equivalent to the qualifications required for a licence referred to in clause (a);

"children's camp" means a camp that is intended primarily for campers under 18 years of age and that is a class A camp or class B camp within the meaning of Regulation 568 of the Revised Regulations of Ontario, 1990 (Recreational Camps) under the *Health Protection and Promotion Act*;

"chloramination" means combined chlorine residual disinfection where the combined chlorine residual is predominately in the form of monochloramine;

"chlorination" means free chlorine residual disinfection;

"day nursery" means a day nursery as defined in the *Day Nurseries Act*;

"delivery agent care facility" means,

(a) a place where an emergency hostel service that receives funding under the *Ontario Works Act, 1997* is provided,

(b) a domiciliary hostel that receives funding under the *Ministry of Community and Social Services Act*,

(c) a place where a resource centre program that receives funding under the *Day Nurseries Act* is provided, or

(d) a place where a recreational program that receives funding under the *Day Nurseries Act* is provided;

"designated facility" means,

(a) a children's camp,

(b) a delivery agent care facility,

(c) a health care facility,

(d) a school or private school,

(e) a social care facility, or

(f) a university, a college of applied arts and technology, or an institution with authority to grant degrees;

"distribution sample" means, with respect to a drinking-water system, a water sample that is taken, in the drinking-water system's distribution system or in plumbing that is connected to the drinking-water system, from a point significantly beyond the point at which treated water enters the distribution system or plumbing;

"health care facility" means a facility that provides overnight accommodation and that is,

(a) a hospital within the meaning of the *Public Hospitals Act* or the *Community Psychiatric Hospitals Act*,

(b) a private hospital within the meaning of the *Private Hospitals Act*,

(c) a psychiatric facility within the meaning of the *Mental Health Act*,

(d) a nursing home within the meaning of the *Nursing Homes Act*,

(e) a home within the meaning of the *Homes for the Aged and Rest Homes Act*,

(f) an approved charitable institution within the meaning of the *Charitable Institutions Act* that is approved under section 3 of that Act as,

(i) a halfway house where rehabilitative residential group care may be provided for adult persons,

(ii) a home for the aged, or

(iii) a home where residential group care may be provided for handicapped or convalescent adult persons,

(g) a cancer centre established by the Ontario Cancer Treatment and Research Foundation under the *Cancer Act*,

(h) a home for special care within the meaning of the *Homes for Special Care Act*,

(i) an approved home within the meaning of the *Mental Hospitals Act*,

(j) a residence for seniors or retired persons, or any other similar residence, where attainment of a mature age is a factor in being accepted for occupancy,

(k) a nursing station, health centre, clinic or other facility that receives funding through the Ministry of Health and Long-Term Care's Underserviced Area Program, or

(l) a facility owned or leased by a person who receives funding from the Ministry of Health and Long-Term Care for one or more of the following health care support services that are

provided to or are available to residents of the facility:

- (i) a residential treatment services program,
- (ii) a withdrawal management services program,
- (iii) a dedicated supportive housing project;

"infiltration gallery" means a subsurface ground water collection system constructed with open-jointed or perforated pipes that discharge collected water into a watertight chamber;

"interested authority" means,

- (a) with respect to a delivery agent care facility, the delivery agent designated under the *Ontario Works Act, 1997* or the *Day Nurseries Act* for the geographic area in which the facility is located, or any successor of that delivery agent,
- (b) with respect to a health care facility, the Ministry of Health and Long-Term Care, or any successor of that ministry,
- (c) with respect to a school, the Ministry of Education, or any successor of that ministry,
- (d) with respect to a social care facility, the Ministry of Community, Family and Children's Services, or any successor of that ministry, or
- (e) with respect to a university, a college of applied arts and technology, or an institution with authority to grant degrees, the Ministry of Training, Colleges and Universities, or any successor of that ministry;

"large municipal non-residential system" means a municipal drinking-water system that does not serve a major residential development and is capable of supplying drinking water at a rate of more than 2.9 litres per second;

"large municipal residential system" means a municipal drinking-water system that serves a major residential development and serves more than 100 private residences;

"large non-municipal non-residential system" means a non-municipal drinking-water system that is capable of supplying drinking water at a rate of more than 2.9 litres per second and does not serve,

- (a) a major residential development, or
- (b) a trailer park or campground that has more than five service connections;

"non-municipal seasonal residential system" means a non-municipal drinking-water system that is a seasonal system and serves,

(a) a major residential development, or

(b) a trailer park or campground that has more than five service connections;

"non-municipal year-round residential system" means a non-municipal drinking-water system that is not a seasonal system and serves,

(a) a major residential development, or

(b) a trailer park or campground that has more than five service connections;

"Ontario Drinking-Water Quality Standards" means Ontario Regulation 169/03 (Ontario Drinking-Water Quality Standards)";

"OWRA approval" means an approval granted before this Regulation came into force under section 52 of the *Ontario Water Resources Act*;

"OWRA order" means an order, direction or report in respect of a water works that was issued before this Regulation came into force under the *Ontario Water Resources Act*;

"point of entry treatment unit" means equipment for treating water that is installed in plumbing at a location that,

(a) is at or near where water from a drinking-water system enters a building or other structure, and

(b) is upstream of all plumbing fixtures,

but does not include equipment for treating water that is installed in plumbing at a location that is in close proximity to a plumbing fixture and that is intended only to treat water provided to that fixture;

"primary disinfection" means a process or series of processes intended to remove or inactivate human pathogens such as viruses, bacteria and protozoa in water;

"private residence" has the meaning prescribed in Ontario Regulation 171/03 (Definitions of Words and Expressions Used in the Act) for the purpose of the definition of "private residence" in subsection 2 (1) of the Act;

"private school" means a private school as defined in the *Education Act*;

"*Procedure for Corrective Action for Systems Not Currently Using Chlorine*" means the document of that name, originally dated April 16, 2003, published by and available from the Ministry, as amended from time to time;

"*Procedure for Disinfection of Drinking Water in Ontario*" means the document of that name, originally dated April 16, 2003, published by and available from the Ministry, as amended

from time to time;

"professional engineer" means a professional engineer as defined in the *Professional Engineers Act*;

"professional hydrogeologist" means a hydrogeologist who is a member of the Association of Professional Geoscientists of Ontario;

"public facility" means,

- (a) food premises, as defined in the *Health Protection and Promotion Act*,
- (b) a place that provides overnight accommodation to the travelling public, including a trailer park or campground,
- (c) a marina,
- (d) a church, mosque, synagogue, temple or other place of worship,
- (e) a recreational camp,
- (f) a recreational or athletic facility;
- (g) a place, other than a private residence, where a service club or fraternal organization meets on a regular basis, or
- (h) any place where the general public has access to a washroom, drinking water fountain or shower,

but does not include a designated facility;

"resample and test" means,

- (a) with respect to corrective action that arises from the test of a water sample for a microbiological parameter,
  - (i) take a set of water samples, at approximately the same time, with,
    - (A) at least one sample from the same location as the sample that gave rise to the corrective action,
    - (B) at least one sample from a location that is a significant distance upstream from the location described in sub-subclause (A), if that is reasonably possible, and
    - (C) at least one sample from a location that is a significant distance downstream from the location described in sub-subclause (A), if that is reasonably possible, and

(ii) conduct, on the samples taken under subclause (i), the same test that gave rise to the corrective action, or

(b) with respect to corrective action that arises from the test of a water sample for a parameter that is not a microbiological parameter,

(i) take a water sample from the same location as the sample that gave rise to the corrective action, and

(ii) conduct, on the sample taken under subclause (i), the same test that gave rise to the corrective action;

"school" means a school as defined in the *Education Act*;

"seasonal system" means a drinking-water system that,

(a) does not operate for at least 60 consecutive days in every calendar year, or

(b) does not operate for at least 60 consecutive days in every period that begins on April 1 in one year and ends on March 31 in the following year;

"secondary disinfection" means a process or series of processes intended to provide and maintain a disinfectant residual in a drinking-water system's distribution system, and in plumbing connected to the distribution system, for the purposes of,

(a) protecting water from microbiological re-contamination,

(b) reducing bacterial regrowth,

(c) controlling biofilm formation, and

(d) serving as an indicator of distribution system integrity,

and includes the use of disinfectant residuals from primary disinfection to provide and maintain a disinfectant residual in a drinking-water system's distribution system for the purposes described in clauses (a) to (d);

"service connection" means,

(a) a point where a drinking-water system connects to plumbing, or

(b) in a trailer park or campground, a fixture that allows a trailer or other vehicle to connect to the trailer park's or campground's drinking-water system;

"service pipe" means the pipe portion of a drinking-water system that extends from a watermain to the property line of a property serviced by the watermain;



"small municipal non-residential system" means a municipal drinking-water system that does not serve a major residential development, is not capable of supplying drinking water at a rate of more than 2.9 litres per second and serves a designated facility or public facility;

"small municipal residential system" means a municipal drinking-water system that serves a major residential development but serves fewer than 101 private residences;

"small non-municipal non-residential system" means a non-municipal drinking-water system that is not capable of supplying drinking water at a rate of more than 2.9 litres per second, serves a designated facility or public facility and does not serve,

- (a) a major residential development, or
- (b) a trailer park or campground that has more than five service connections;

"social care facility" means,

- (a) a facility designated by the regulations under the *Developmental Services Act* as a facility to which that Act applies,
- (b) a residence licensed as a children's residence under the *Child and Family Services Act*,
- (c) a facility where child development services, child treatment services, child welfare services, community support services or young offenders services, within the meaning of the *Child and Family Services Act*, are provided, unless the facility is located in a private residence,
- (d) a facility where child and family intervention services, within the meaning of Regulation 70 of the Revised Regulations of Ontario, 1990 (General) under the *Child and Family Services Act*, are provided, unless the facility is located in a private residence,
- (e) a place where an emergency shelter service that receives funding under the *Ministry of Community and Social Services Act* is provided, unless the place is located in a private residence,
- (f) a day nursery,
- (g) an Ontario Early Years Centre or a satellite program of the Ontario Early Years Centre that receives funding under the *Ministry of Community and Social Services Act*,
- (h) a sheltered workshop that receives funding under the *Developmental Services Act* or the *Ministry of Community and Social Services Act*,
- (i) a place where a supported employment program that receives funding under the *Developmental Services Act* or the *Ministry of Community and Social Services Act* is provided,

(j) a place where an adults' community support service that receives funding under the *Developmental Services Act* is provided, unless the place is located in a private residence,

(k) a place where an employment preparation, training and job placement program that receives funding under the *Developmental Services Act* or the *Ontario Disability Support Program Act, 1997* is provided,

(l) a place where a violence against women program that receives funding under the *Ministry of Community and Social Services Act* is provided, unless the place is located in a private residence,

(m) a place where an aboriginal healing and wellness program funded under the Aboriginal Healing and Wellness Strategy is provided;

"trained person" means,

(a) a certified operator, or

(b) a person who, in the preceding 36 months, successfully completed a course approved by the Director relating to the functions that trained persons are required or authorized by this Regulation to perform;

"watermain" means any system of pipes and appurtenances used for the distribution of drinking water, but does not include plumbing or a pumping facility.

(2) Despite the definition of "large municipal non-residential system" in subsection (1), a drinking-water system described in that definition that has one or more distribution lines that supply water exclusively for operations described in subsection (3), shall be deemed to be a small municipal non-residential system for the purposes of this Regulation if the result of the following calculation is 2.9 litres per second or less:

$$A - B$$

where,

A = the maximum rate, expressed in litres per second, at which the drinking-water system can supply drinking water;

B = the sum of the average rates, expressed in litres per second, at which the drinking-water system supplied drinking water in the preceding calendar year to the distribution lines that supply water exclusively for operations described in subsection (3).

(3) The operations referred to in subsections (2) and (6) are the following:

1. Agricultural operations.
2. Landscaping operations.

3. Industrial or manufacturing operations, including food manufacturing or processing operations.
4. Swimming pool or skating rink maintenance operations.

(4) Despite subsection (2) and the definition of "large municipal non-residential system" in subsection (1), a drinking-water system described in subsection (2) shall be deemed, during the calendar year in which the system begins operation, to be a small municipal non-residential system for the purposes of this Regulation if the owner of the system, on reasonable grounds, estimates that the result of the calculation referred to in subsection (2) would be 2.9 litres per second or less if the system had operated during all of the preceding calendar year.

(5) If a drinking-water system is deemed to be a small municipal non-residential system under subsection (2) or (4), the system does not serve any designated facilities and the system does not serve any public facilities, this Regulation does not apply to the system.

(6) Despite the definition of "large non-municipal non-residential system" in subsection (1), a drinking-water system described in that definition that has one or more distribution lines that supply water exclusively for operations described in subsection (3) shall be deemed to be a small non-municipal non-residential system for the purposes of this Regulation if the result of the following calculation is 2.9 litres per second or less:

$$A - B$$

where,

A = the maximum rate, expressed in litres per second, at which the drinking-water system can supply drinking water;

B = the sum of the average rates, expressed in litres per second, at which the drinking-water system supplied drinking water in the preceding calendar year to the distribution lines that supply water exclusively for operations described in subsection (3).

(7) Despite subsection (6) and the definition of "large non-municipal non-residential system" in subsection (1), a drinking-water system described in subsection (6) shall be deemed, during the calendar year in which the system begins operation, to be a small non-municipal non-residential system for the purposes of this Regulation if the owner of the system, on reasonable grounds, estimates that the result of the calculation referred to in subsection (6) would be 2.9 litres per second or less if the system had operated during all of the preceding calendar year.

(8) If a drinking-water system is deemed to be a small non-municipal non-residential system under subsection (6) or (7), the system does not serve any designated facilities and the system does not serve any public facilities, this Regulation does not apply to the system.

(9) For the purposes of this Regulation, a drinking-water system shall be deemed to be a seasonal system during the 365-day period that begins on the day the system begins operation if, during that period, it will not be operated for at least 60 consecutive days.

**Interpretation: ground water under direct influence of surface water**

2. (1) A drinking-water system that obtains water from a raw water supply that is ground water under the direct influence of surface water is deemed, for the purposes of this Regulation, to be a drinking-water system that obtains water from a raw water supply that is surface water.

(2) The following drinking-water systems are deemed, for the purposes of this Regulation, to be drinking-water systems that obtain water from a raw water supply that is ground water under the direct influence of surface water:

1. A drinking-water system that obtains water from a well that is not a drilled well or from a well that does not have a watertight casing that extends to a depth of six metres below ground level.

2. A drinking-water system that obtains water from an infiltration gallery.

3. A drinking-water system that is not capable of supplying water at a rate greater than 0.58 litres per second and that obtains water from a well, any part of which is within 15 metres of surface water.

4. A drinking-water system that is capable of supplying water at a rate greater than 0.58 litres per second and that obtains water from an overburden well, any part of which is within 100 metres of surface water.

5. A drinking-water system that is capable of supplying water at a rate greater than 0.58 litres per second and that obtains water from a bedrock well, any part of which is within 500 metres of surface water.

6. A drinking-water system that exhibits evidence of contamination by surface water.

7. A drinking-water system in respect of which a written report has been prepared by a professional engineer or professional hydrogeologist that concludes that the system's raw water supply is ground water under the direct influence of surface water and that includes a statement of his or her reasons for reaching that conclusion.

(3) Subsection (2) does not apply to a drinking-water system if,

(a) a written report prepared after August 1, 2000 by a professional engineer or professional hydrogeologist concludes that the raw water supply is not ground water under the direct influence of surface water and the report includes a statement of his or her reasons for reaching that conclusion; and

(b) in the case of a drinking-water system that requires an approval, the Director agrees that the raw water supply is not ground water under the direct influence of surface water.

(4) A drinking-water system that obtains water from a raw water supply that is surface water is deemed, for the purposes of this Regulation, not to be a drinking-water system that obtains water

from a raw water supply that is ground water.

### Interpretation: open designated facilities and public facilities

3. (1) For the purposes of this Regulation, a school or private school is open on a day if, at any time during that day, programs for children under 18 years of age are held at the school or private school.

(2) For the purposes of this Regulation, a designated facility other than a school or private school is open on a day if, at any time during that day, any of the persons that the facility serves, cares for or provides programming for are present at the facility.

(3) For the purposes of this Regulation, a public facility is open on a day unless persons served by the facility are denied access to the facility during the entire day.

### Application

4. Unless otherwise provided, this Regulation applies to the drinking-water systems referred to in the following Table, with each row of the Table setting out the Schedules to this Regulation that apply to the drinking-water systems referred to in that row:

TABLE

Item	Drinking-Water Systems	Applicable Schedules				
		Treatment	Operational Checks, Sampling and Testing	Adverse Test Results and Other Problems	Reports	Chemical Testing Parameters
1.	Large municipal residential systems	1, 4	6, 7, 10, 13	16, 17	20, 22	23, 24
2.	Small municipal residential systems	1, 4	6, 7, 11, 13	16, 18, 19	20, 22	23, 24
3.	Large municipal non-residential systems	2, 3, 5	6, 8, 11, 13	16, 18, 19	21	23, 24
4.	Small municipal non-residential systems	2, 3, 5	6, 9, 12, 14	16, 18, 19	21	23, 24

5.	Non-municipal year-round residential systems	2, 5	6, 8, 11, 13	16, 18, 19	21	23, 24
6.	Non-municipal seasonal residential systems	2, 5	6, 9, 12, 14	16, 18, 19	21	23, 24
7.	Large non-municipal non-residential systems	2, 3, 5	6, 8, 11, 13	16, 18, 19	21	23, 24
8.	Small non-municipal non-residential systems	2, 3, 5	6, 9, 12, 15	16, 18, 19	21	23, 24

### Exemptions: residential systems

5. (1) If a large municipal residential system or a small municipal residential system obtains all of its water from a large municipal residential system or a small municipal residential system, Schedules 1, 7, 10, 11 and 13 do not apply to the system that obtains the water, except for the following provisions:

1. Section 7-1, subsection 7-2 (3) and section 7-5 of Schedule 7.
2. Sections 10-1, 10-2 and 10-5 of Schedule 10.
3. Sections 11-1, 11-2, 11-4 and 11-5 of Schedule 11.
4. Sections 13-1, 13-3, 13-5, 13-6, 13-10, 13-11 and 13-12 of Schedule 13.

(2) If a non-municipal year-round residential system obtains all of its water from a drinking-water system to which this Regulation applies that provides secondary disinfection in accordance with section 1-5 of Schedule 1 or section 2-5 of Schedule 2, Schedules 2, 8, 11 and 13 do not apply to the system that obtains the water, except for the following provisions:

1. Sections 8-1 and 8-2, subsection 8-3 (3) and sections 8-5 and 8-7 of Schedule 8.
2. Sections 11-1, 11-2, 11-4 and 11-5 of Schedule 11.
3. Sections 13-1, 13-3, 13-5, 13-10, 13-11 and 13-12 of Schedule 13.
4. If the system that obtains the water rechlorinates the water, section 13-6 of Schedule 13.

(3) If a non-municipal seasonal residential system obtains all of its water from a drinking-water

system to which this Regulation that provides secondary disinfection in accordance with section 1-5 of Schedule 1 or section 2-5 of Schedule 2, Schedules 2, 9, 12 and 14 do not apply to the system that obtains the water, except for the following provisions:

1. Sections 9-1 and 9-2, subsection 9-3 (3) and sections 9-5, 9-6 and 9-8 of Schedule 9.
2. Sections 12-1, 12-2, 12-4 and 12-5 of Schedule 12.
3. Sections 14-1, 14-3, 14-8, 14-9 and 14-10 of Schedule 14.
4. If the system that obtains the water rechlorinates the water, section 14-4 of Schedule 14.

**Exemptions: non-residential systems connected to other systems**

6. (1) This Regulation, except subsection 9 (1), does not apply to a drinking-water system listed in subsection (2) if,

(a) the drinking-water system is connected to and receives all of its drinking water from another drinking-water system to which this Regulation does apply;

(b) the drinking-water system from which the drinking water is obtained provides secondary disinfection in accordance with section 1-5 of Schedule 1 or section 2-5 of Schedule 2; and

(c) the owner of the drinking-water system from which the drinking water is obtained has agreed in writing to ensure that the treatment equipment that provides the secondary disinfection referred to in clause (b) is operated so that, at all times and at all locations within the distribution system of the system that obtains the water,

(i) the free chlorine residual is never less than 0.05 milligrams per litre, if the drinking-water system from which the water is obtained provides chlorination and does not provide chloramination, or

(ii) the combined chlorine residual is never less than 0.25 milligrams per litre, if the drinking-water system from which the water is obtained provides chloramination.

(2) The exemption provided by subsection (1) applies to the following drinking-water systems:

1. A large municipal non-residential system.
2. A small municipal non-residential system.
3. A large non-municipal non-residential system.
4. A small non-municipal non-residential system.

**Exemptions: non-residential systems that receive transported water**

7. (1) If drinking water is transported to one of the following drinking-water systems from a drinking-water system that provides secondary disinfection in accordance with section 1-5 of Schedule 1 or section 2-5 of Schedule 2, Schedules 2, 3, 8, 9 and 11 to 15 do not apply to the drinking-water system that receives the water:

1. A large municipal non-residential system.
2. A small municipal non-residential system.
3. A large non-municipal non-residential system.
4. A small non-municipal non-residential system.

(2) The owner of the drinking-water system referred to in subsection (1) that receives the drinking water and the operating authority for the system shall ensure that a distribution sample is taken at least once a day and is tested for,

- (a) free chlorine residual, if the system from which the drinking water is obtained provides chlorination and does not provide chloramination; or
- (b) combined chlorine residual, if the system from which the drinking water is obtained provides chloramination.

**Exemptions: warning notices for systems and users without electricity, etc.**

8. (1) Subject to subsections (2) to (5), this Regulation does not apply to a drinking-water system if,

- (a) the owner of the system posts warning notices in accordance with subsections (6) and (7);
- (b) the owner of the system complies with subsections (8) and (9);
- (c) all water fountains that are connected to the drinking-water system have been rendered inoperative; and
- (d) the owner of the system has notified the Director in writing that the steps described in clauses (a), (b) and (c) have been taken.

(2) Subject to subsection (3), subsection (1) applies to a drinking-water system only if the system does not use electricity and does not serve any building or other structure that uses electricity.

(3) Subsection (1) applies to small non-municipal non-residential system only if,

- (a) the system does not use electricity and does not serve any building or other structure that uses electricity;



- (b) the system does not serve any designated facilities and only supplies water to a washroom or shower;
  - (c) the system does not serve any designated facilities and the only user served by the system is a user described in clause 2 (1) (c) of Regulation 562 of the Revised Regulations of Ontario, 1990 (Food Premises) under the *Health Protection and Promotion Act*; or
  - (d) the system,
    - (i) does not serve any designated facilities, and
    - (ii) does not serve any food premises that rely on the system for the supply of potable water that is required by clause 20 (1) (a) of Regulation 562 of the Revised Regulations of Ontario, 1990 (Food Premises) under the *Health Protection and Promotion Act*.
- (4) Clause (3) (d) does not apply to a small non-municipal non-residential system after,
- (a) July 1, 2008, if the system obtains water from a raw water supply that is surface water; or
  - (b) December 31, 2009, if the system obtains water from a raw water supply that is ground water.
- (5) The exemption provided by subsection (1) does not apply to the following provisions:
1. Section 10.
  2. Schedules 4 and 5.
- (6) A warning notice must be posted at every tap that supplies water from the drinking-water system in a location where it is likely to come to the attention of all users and potential users of the tap.
- (7) A warning notice larger than the notices referred to in subsection (6) must be posted,
- (a) at every entrance to every building and every structure that is served by the drinking-water system; or
  - (b) if the drinking-water system does not serve any building or structure, in a location where it is likely to come to the attention of all users and potential users of water from the system.
- (8) The owner of the drinking-water system shall ensure that the warning notices are checked at least once a week to ensure that they are legible and comply with this section.
- (9) The owner of the drinking-water system shall ensure that,

(a) every time the warning notices are checked under subsection (8), a record is made of the date and time and of the name of the person who performed the check; and

(b) the records referred to in clause (a) are kept for at least five years at a location where they can conveniently be viewed by a provincial officer who is inspecting the warning notices.

(10) Nothing in this section relieves any person of any obligation to provide potable water or water that meets the standards prescribed by the Ontario Drinking-Water Quality Standards.

### **Exemptions from approval requirements of Act**

9. (1) Subsection 31 (1) of the Act does not apply to large municipal non-residential systems or small municipal non-residential systems.

(2) Subsection 31 (1) of the Act does not apply to a large municipal residential system or a small municipal residential system in respect of,

(a) the establishment or alteration of or a change to a service pipe;

(b) the establishment or alteration of or a change in an appurtenance of a watermain, if the appurtenance does not disrupt the operation of the drinking-water system that the watermain is part of;

(c) the relining of a watermain, if the new lining does not disrupt the operation of the drinking-water system that the watermain is part of;

(d) the replacement of an existing watermain with a new watermain that has similar dimensions and performance criteria and that is in the same or approximately the same location, if the existing watermain was established or altered in accordance with an approval granted by a Director.

### **Revocation of OWRA approvals for non-municipal systems**

10. For the purpose of subsection 52 (7) of the Act, the earliest of the following dates is prescribed as the date that the approval under the *Ontario Water Resources Act* is deemed to be revoked:

1. The date this Regulation comes into force, if, before that date, a report was submitted to the Director in respect of the drinking-water system in accordance with section 5 of Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities).

2. The date the owner of the drinking-water system gives the Director a notice that complies with section 21-7 of Schedule 21.

3. The date the owner of the drinking-water system gives the Director a statement under

subsection 21-2 (3) of Schedule 21.

4. The date the Director is notified in accordance with clause 8 (1) (d) that the steps described in clauses 8 (1) (a), (b) and (c) have been taken.

5. The date the Director imposes a condition under subsection 60 (2) of the Act in an approval under Part VI of the Act.

### **Annual reports**

11. (1) The owner of a drinking-water system shall ensure that an annual report is prepared and given to the Director in accordance with this section.

(2) The owner of a drinking-water system, other than a large municipal residential system or a small municipal residential system, shall ensure that, at the same time that the annual report is given to the Director, a copy of the report is given to,

(a) each designated facility served by the system; and

(b) the interested authority for each designated facility served by the system.

(3) In the case of the following drinking-water systems, the annual report must cover the period from January 1 to December 31 in a year and must be given to the Director not later than February 28 of the following year:

1. Large municipal residential systems.

2. Small municipal residential systems.

3. Large municipal non-residential systems.

4. Small municipal non-residential systems.

5. Non-municipal year-round residential systems.

(4) In the case of non-municipal seasonal residential systems and large non-municipal non-residential systems, the annual report must cover the period from November 1 in a year to October 31 of the following year and must be given to the Director not later than December 31 of the latter year.

(5) In the case of small non-municipal non-residential systems, the annual report must cover the period from April 1 in a year to March 31 of the following year and must be given to the Director not later than May 31 of the latter year.

(6) The annual report must,

(a) contain a brief description of the drinking-water system, including a list of water

treatment chemicals used by the system during the period covered by the report;

(b) summarize any reports made to the Ministry under subsection 18 (1) of the Act or section 16-4 of Schedule 16 during the period covered by the report;

(c) summarize the results of tests required under this Regulation, or an approval or order, including an OWRA order, during the period covered by the report and, if tests required under this Regulation in respect of a parameter were not required during that period, summarize the most recent results of tests of that parameter;

(d) describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report;

(e) describe any major expenses incurred during the period covered by the report to install, repair or replace required equipment; and

(f) in the case of a large municipal residential system or a small municipal residential system, include a statement of where a report prepared under Schedule 22 will be available for inspection under subsection 12 (4).

(7) The owner of the drinking-water system shall ensure that a copy of an annual report is given, without charge, to every person who requests a copy.

(8) Subsection (7) does not apply to an annual report that is more than two years old.

(9) The owner of the drinking-water system shall ensure that, every time an annual report is prepared, effective steps are taken to advise users of water from the system that copies of the report are available, without charge, and of how a copy may be obtained.

(10) If a large municipal residential system serves more than 10,000 people, the owner of the system shall ensure that a copy of every report prepared under this section is available to the public at no charge on a web site on the Internet.

(11) The obligation to ensure that a report be given to the interested authority for a designated facility under subsection (2) does not apply to the following designated facilities:

1. A private school.

2. A children's camp.

3. A residence for seniors or retired persons, or any other similar residence, where attainment of a mature age is a factor in being accepted for occupancy.

(12) If section 12 of Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works) applied to the owner of a system to which subsection (3) applies, the report required to be given to the Director not later than February 28, 2004 under subsection (3) shall, despite that subsection, cover the period from April 1, 2003 to December 31, 2003.

(13) If section 15 of Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities) applied to the owner of a system to which subsection (3) applies, the report required to be given to the Director not later than February 28, 2004 under subsection (3) shall, despite that subsection, cover the period from August 1, 2002 to December 31, 2003.

(14) If section 12 of Ontario Regulation 459/00 and section 15 of Ontario Regulation 505/01 did not apply to the owner of a system to which subsection (3) applies, the report required to be given to the Director not later than February 28, 2004 under subsection (3) shall, despite that subsection, cover the period from the day this section comes into force to December 31, 2003.

(15) If section 12 of Ontario Regulation 459/00 applied to the owner of a system to which subsection (4) applies, the report required to be given to the Director not later than December 31, 2003 under subsection (4) shall, despite that subsection, cover the period from April 1, 2003 to October 31, 2003.

(16) If section 12 of Ontario Regulation 459/00 and section 15 of Ontario Regulation 505/01 did not apply to the owner of a system to which subsection (4) applies, the report required to be given to the Director not later than December 31, 2003 under subsection (4) shall, despite that subsection, cover the period from the day this section comes into force to October 31, 2003.

(17) If section 15 of Ontario Regulation 505/01 applied to the owner of a system to which subsection (5) applies, the report required to be given to the Director not later than May 31, 2004 under subsection (5) shall, despite that subsection, cover the period from August 1, 2002 to March 31, 2004.

(18) If section 12 of Ontario Regulation 459/00 and section 15 of Ontario Regulation 505/01 did not apply to the owner of a system to which subsection (5) applies, no report is required to be given to the Director under subsection (5) until May 31, 2006 and, despite that subsection, the report required to be given to the Director not later than May 31, 2006 shall cover the period from June 1, 2005 to March 31, 2006.

(19) With respect to any period before this section comes into force,

(a) a reference in subsection (6) to reports made to the Ministry under subsection 18 (1) of the Act or section 16-4 of Schedule 16,

(i) shall be deemed to be a reference to,

(A) notices given under section 8 of Ontario Regulation 459/00, if that regulation applied to the drinking-water system, or

(B) notices given under section 11 of Ontario Regulation 505/01, if that regulation applied to the drinking-water system, and

(ii) does not apply, in any other case;

- (b) a reference in subsection (6) to results of tests required under this Regulation,
- (i) shall be deemed to be a reference to results of tests required under,
    - (A) Ontario Regulation 459/00, if that regulation applied to the drinking-water system, or
    - (B) Ontario Regulation 505/01, if that regulation applied to the drinking-water system, and
  - (ii) does not apply, in any other case;
- (c) a reference in subsection (6) to corrective actions taken under Schedule 17 or 18,
- (i) shall be deemed to be a reference to,
    - (A) action taken under section 9 of Ontario Regulation 459/00, if that regulation applied to the drinking-water system, or
    - (B) action taken under section 12 of Ontario Regulation 505/01, if that regulation applied to the drinking-water system, and
  - (ii) does not apply, in any other case; and
- (d) clause (6) (f) does not apply.

### **Information to be available**

- 12.** (1) The owner of a drinking-water system shall ensure that the following information is available for inspection in accordance with subsection (4):
1. A copy of every test result obtained in respect of a test required under this Regulation, or under an approval or order, including an OWRA order.
  2. A copy of every approval and every order, including OWRA orders, that applies to the system and is still in effect, if the approval or order was issued after January 1, 2001.
  3. A copy of every annual report prepared under section 11.
  4. A copy of every report prepared under Schedule 20, 21 or 22.
  5. A copy of this Regulation.
- (2) Paragraphs 1 and 2 of subsection (1) do not apply to a record, report or test result until the day after it comes into the owner's possession.
- (3) Paragraphs 1, 2, 4 and 5 of subsection (1) do not apply to a record, report or test result that

is more than two years old.

(4) The information must be available for inspection by any member of the public during normal business hours without charge,

(a) at the office of the owner or, if the office of the owner is not reasonably convenient to users of water from the system, at a location that is reasonably convenient to those users; and

(b) if the owner is not a municipality but the system serves a municipality, at the office of the municipality.

(5) If the owner of a drinking-water system provides the operator of a designated facility with a copy of the information referred to in subsection (1), the operator of the facility shall ensure that the information is available at the facility, between 9 a.m. and 5 p.m. or during normal business hours, for inspection without charge by any person allowed to enter the facility.

(6) For the purpose of this section,

(a) a reference in paragraph 1 of subsection (1) to tests required under this Regulation shall be deemed to include a reference to,

(i) tests required under Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works), if that regulation applied to the drinking-water system, or

(ii) tests required under Ontario Regulation 505/01 (Drinking Water Protection - Small Water Works Serving Designated Facilities), if that regulation applied to the drinking-water system;

(b) a reference in paragraph 3 of subsection (1) to annual reports prepared under section 11 shall be deemed to include a reference to,

(i) reports prepared under section 12 of Ontario Regulation 459/00, if that regulation applied to the drinking-water system, or

(ii) reports prepared under section 15 of Ontario Regulation 505/01, if that regulation applied to the drinking-water system;

(c) a reference in paragraph 4 of subsection (1) to reports prepared under Schedule 20 shall be deemed to include a reference to reports prepared under section 13 of Ontario Regulation 459/00, if that regulation applied to the drinking-water system; and

(d) a reference in paragraph 4 of subsection (1) to reports prepared under Schedule 21 shall be deemed to include a reference to reports prepared under section 5 of Ontario Regulation 505/01, if that regulation applied to the drinking-water system.

### **Retention of records**

13. (1) The owner of a drinking-water system shall ensure that the following documents and other records are kept for at least five years:

1. Every record or report related to a test required under section 7, Schedules 6 to 12, sections 17-5 to 17-9 of Schedule 17 or sections 18-5 to 18-9 of Schedule 18.
2. Every record or report related to a test required under an approval or order, including an OWRA order, unless the record or report relates to a parameter listed in Schedule 23 or 24 of this Regulation or Schedule 3 of Ontario Regulation 169/03 (Ontario Drinking-Water Quality Standards).
3. Every annual report prepared under section 11.
4. Every report prepared under Schedule 22.

(2) The owner of a drinking-water system shall ensure that the following documents and other records are kept for at least 15 years:

1. Every record or report related to a test required under Schedules 13 to 15, sections 17-10 to 17-13 of Schedule 17 or sections 18-10 to 18-13 of Schedule 18.
2. Every record or report related to a test required under an approval or order, including an OWRA order, if the record or report relates to a parameter listed in Schedule 23 or 24 of this Regulation or Schedule 3 of Ontario Regulation 169/03 (Ontario Drinking-Water Quality Standards).
3. Every report prepared under Schedule 21.
4. Every report referred to in paragraph 7 of subsection 2 (2) or clause 2 (3) (a) that is related to the system's raw water supply.

(3) The owner of a drinking-water system shall ensure that reports prepared under Schedule 21 are kept at a location where they can conveniently be viewed by a provincial officer who is inspecting the system's water treatment equipment.

(4) If the Director or a provincial officer makes a request for a document or other record referred to in subsection (1) or (2), the owner of a drinking-water system shall ensure that the document or other record is given to the Director or a provincial officer within such period as the Director or provincial officer may specify.

(5) For the purpose of this section,

(a) a reference in paragraph 1 of subsection (1) to tests required under Schedules 6 to 12 shall be deemed to include a reference to,

(i) tests required under section 7 of Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works), other than tests referred in subclause (6) (a) (i), if



that regulation applied to the drinking-water system, or

(ii) tests required under sections 7 and 8 of Ontario Regulation 505/01 (Drinking Water Protection - Small Water Works Serving Designated Facilities), if that regulation applied to the drinking-water system;

(b) a reference in paragraph 1 of subsection (1) to tests required under sections 17-5 to 17-9 of Schedule 17 or sections 18-5 to 18-9 of Schedule 18 shall be deemed to include a reference to,

(i) tests required under clause 9 (b) of Ontario Regulation 459/00, if that regulation applied to the drinking-water system, or

(ii) tests required under section 12 of Ontario Regulation 505/01, if that regulation applied to the drinking-water system; and

(c) a reference in paragraph 2 of subsection (1) to annual reports prepared under section 11 shall be deemed to include a reference to,

(i) reports prepared under section 12 of Ontario Regulation 459/00, if that regulation applied to the drinking-water system, or

(ii) reports prepared under section 15 of Ontario Regulation 505/01, if that regulation applied to the drinking-water system.

(6) For the purpose of this section,

(a) a reference in paragraph 1 of subsection (2) to tests required under Schedules 13 to 15 shall be deemed to include a reference to,

(i) tests required under section 7 of Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works) with respect to Tables B, C and D of Schedule 2 to that regulation, if that regulation applied to the drinking-water system, or

(ii) tests required under section 9 of Ontario Regulation 505/01 (Drinking Water Protection - Small Water Works Serving Designated Facilities), if that regulation applied to the drinking-water system;

(b) a reference in paragraph 1 of subsection (2) to tests required under sections 17-10 to 17-13 of Schedule 17 or sections 18-10 to 18-13 of Schedule 18 shall be deemed to include a reference to tests required under clause 9 (a) of Ontario Regulation 459/00, if that regulation applied to the drinking-water system; and

(c) a reference in paragraph 2 of subsection (2) to reports prepared under section 21 shall be deemed to include a reference to reports prepared under section 5 of Ontario Regulation 505/01, if that regulation applied to the drinking-water system.

## Forms

14. (1) Where this Regulation requires or permits the submission of a written notice or report or the posting of a warning notice, the notice or report must be in a form provided by or approved by the Director.

(2) The Director may require that a document or other record that is given to the Director under this Regulation be given in an electronic format specified by the Director.

## Purpose of notice to interested authorities

15. The sole purpose of the provisions of this Regulation that require notice to be given to interested authorities is to provide interested authorities with information relating to compliance with this Regulation.

## Commencement

16. This Regulation comes into force on the day subsection 11 (1) of the *Safe Drinking Water Act, 2002* comes into force.

## SCHEDULE 1

### TREATMENT EQUIPMENT

Municipal: Large Residential  
Small Residential

## Application

1-1. This Schedule applies to the following drinking-water systems:

1. Large municipal residential systems.
2. Small municipal residential systems.

## General obligations

1-2. (1) The owner of a drinking-water system shall ensure the following:

1. Any well used as a raw water supply is constructed and maintained to prevent surface water and other foreign materials from entering the well.
2. Water treatment equipment is provided in accordance with sections 1-3 to 1-5.

(2) The owner of a drinking-water system and the operating authority for the system shall ensure the following:

1. The water treatment equipment is in operation whenever water is being obtained or supplied.
2. The water treatment equipment is operated in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*.
3. The water treatment equipment required by section 1-3 or 1-4 is operated in a manner that achieves the design capabilities it is required to have under that section.
4. The water treatment equipment required by section 1-5 is operated so that, at all times and at all locations within the distribution system,
  - i. the free chlorine residual is never less than 0.05 milligrams per litre, if the drinking-water system provides chlorination and does not provide chloramination, or
  - ii. the combined chlorine residual is never less than 0.25 milligrams per litre, if the drinking-water system provides chloramination.
5. Adjustments to the water treatment equipment are carried out only by certified operators.

#### **Primary disinfection for ground water raw water supply**

**1-3.** The owner of a drinking-water system that obtains water from a raw water supply that is ground water shall ensure provision of water treatment equipment that is designed to be capable of primary disinfection in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario* and that is designed to be capable of achieving, at all times, at least 99 per cent removal or inactivation of viruses before water enters the distribution system.

#### **Filtration and primary disinfection for surface water raw water supply**

**1-4.** The owner of a drinking-water system that obtains water from a raw water supply that is surface water shall ensure provision of,

- (a) water treatment equipment that is designed to be capable of chemically assisted filtration and primary disinfection in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario* and that is designed to be capable of achieving, at all times, at least 99 per cent removal or inactivation of cryptosporidium (*Cryptosporidium parvum*) cysts, at least 99.9 per cent removal or inactivation of giardia (*Giardia lamblia*) cysts and at least 99.99 per cent removal or inactivation of viruses, before water enters the distribution system; or
- (b) other water treatment equipment that, in the Director's opinion, is designed to be capable of producing water of equal or better quality than the equipment described in clause (a).

#### **Secondary disinfection**

**1-5.** The owner of a drinking-water system shall ensure provision of,

(a) water treatment equipment that is designed to be capable of secondary disinfection using chlorination or chloramination in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario* and that is designed to be capable of achieving, at all locations within the distribution system,

(i) a free chlorine residual of 0.2 milligrams per litre, if the drinking-water system provides chlorination and does not provide chloramination, or

(ii) a combined chlorine residual of 1.0 milligrams per litre, if the drinking-water system provides chloramination; or

(b) other water treatment equipment that, in the Director's opinion, is designed to be capable of providing secondary disinfection that is equivalent to or better than the secondary disinfection provided by the equipment described in clause (a).

### **Ultraviolet light disinfection equipment**

**1-6.** If ultraviolet light disinfection equipment is provided by a drinking-water system, the owner of the system and the operating authority for the system shall ensure that the following standards are met:

1. The disinfection equipment must have a feature that causes an alarm to sound in the following locations if the disinfection equipment malfunctions, loses power or ceases to provide the appropriate level of disinfection:

i. The building or structure where the disinfection equipment is installed.

ii. A location where a person is present, if a person is not always present at the building or structure where the disinfection equipment is installed.

2. If an alarm sounds under paragraph 1, a certified operator who is at the building or structure where the disinfection equipment is installed must take appropriate action or, if no certified operator is at that location, a certified operator must promptly be dispatched to that location to take appropriate action.

3. A certified operator who is dispatched under paragraph 2 must arrive at the building or structure where the disinfection equipment is installed as soon as possible.

### **OWRA approvals and OWRA orders with less stringent requirements**

**1-7.** This Schedule prevails over an OWRA approval or OWRA order granted or issued before August 1, 2000 that provides for less stringent requirements.

### **OWRA approvals that give additional time for compliance**

**1-8.** If an OWRA approval granted on or after August 1, 2000 provides that a drinking-water system is required, by a date specified in the approval that is later than the date this Regulation comes into force,

(a) to comply with section 5 of Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works); or

(b) to ensure that water treatment equipment is provided for primary disinfection, secondary disinfection or filtration,

sections 1-2 to 1-6 do not apply until the date specified in the approval.

### **Delayed compliance**

**1-9.** (1) Subject to section 1-8, if a drinking-water system commenced operation before August 1, 2000 and, immediately before that day, was not in compliance with sections 1-2 to 1-6, those sections do not apply until July 1, 2003.

(2) Subsection (1) does not apply if an OWRA approval granted on or after August 1, 2000 provided that the drinking-water system was required, by a date specified in the approval that is on or before the date this Regulation comes into force,

(a) to comply with section 5 of Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works); or

(b) to ensure that water treatment equipment is provided for primary disinfection, secondary disinfection or filtration.

## **SCHEDULE 2**

### **TREATMENT EQUIPMENT**

Municipal: Large Non-Residential  
Small Non-Residential

Non-Municipal: Year-Round Residential  
Seasonal Residential  
Large Non-Residential  
Small Non-Residential

### **Application**

**2-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal non-residential systems.
2. Small municipal non-residential systems.

3. Non-municipal year-round residential systems.
4. Non-municipal seasonal residential systems.
5. Large non-municipal non-residential systems.
6. Small non-municipal non-residential systems.

### **General obligations**

**2-2.** (1) The owner of a drinking-water system shall ensure the following:

1. Any well used as a raw water supply is constructed and maintained to prevent surface water and other foreign materials from entering the well.
2. Water treatment equipment is provided in accordance with sections 2-3 to 2-5.

(2) The owner of a drinking-water system and the operating authority for the system shall ensure the following:

1. The water treatment equipment is in operation whenever water is being obtained or supplied.
2. The water treatment equipment is operated in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*.
3. The water treatment equipment required by section 2-3 or 2-4 is operated in a manner that achieves the design capabilities it is required to have under that section.
4. The water treatment equipment required by section 2-5 is operated so that, at all times and at all locations within the distribution system,
  - i. the free chlorine residual is never less than 0.05 milligrams per litre, if the drinking-water system provides chlorination and does not provide chloramination, or
  - ii. the combined chlorine residual is never less than 0.25 milligrams per litre, if the drinking-water system provides chloramination.
5. The water treatment equipment is properly maintained.
6. Written operating instructions for the water treatment equipment are kept near the equipment.
7. Clearly marked adequate supplies of chemicals or other materials necessary for the operation of the water treatment equipment are kept nearby, separate from other chemicals and materials that are not used for the drinking-water system.

8. Replacement parts are kept nearby for those parts of the water treatment equipment that may be expected to require periodic replacement.
9. Adjustments to the water treatment equipment are carried out only by,
  - i. certified operators, in the case of,
    - A. a large municipal non-residential system,
    - B. a non-municipal year-round residential system, or
    - C. a large non-municipal non-residential system, or
  - ii. trained persons, in the case of,
    - A. a small municipal non-residential system,
    - B. a non-municipal seasonal residential system, or
    - C. a small non-municipal non-residential system.

#### **Primary disinfection for ground water raw water supply**

**2-3.** The owner of a drinking-water system that obtains water from a raw water supply that is ground water shall ensure provision of water treatment equipment that is designed to be capable of primary disinfection in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario* and that is designed to be capable of achieving, at all times, at least 99 per cent removal or inactivation of viruses before water enters the distribution system.

#### **Filtration and primary disinfection for surface water raw water supply**

**2-4.** The owner of a drinking-water system that obtains water from a raw water supply that is surface water shall ensure provision of,

- (a) water treatment equipment that is designed to be capable of chemically assisted filtration and primary disinfection in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario* and that is designed to be capable of achieving, at all times, at least 99 per cent removal or inactivation of cryptosporidium (*Cryptosporidium parvum*) cysts, at least 99.9 per cent removal or inactivation of giardia (*Giardia lamblia*) cysts and at least 99.99 per cent removal or inactivation of viruses, before water enters the distribution system or plumbing; or
- (b) other water treatment equipment that, in the opinion of a professional engineer, is designed to be capable of producing water of equal or better quality than the equipment described in clause (a).

#### **Secondary disinfection**

2-5. (1) The owner of a drinking-water system shall ensure provision of,

(a) water treatment equipment that is designed to be capable of secondary disinfection using chlorination or chloramination in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario* and that is designed to be capable of achieving, at all locations within the distribution system,

(i) a free chlorine residual of 0.2 milligrams per litre, if the drinking-water system provides chlorination and does not provide chloramination, or

(ii) a combined chlorine residual of 1.0 milligrams per litre, if the drinking-water system provides chloramination; or

(b) other water treatment equipment that, in the opinion of a professional engineer, is designed to be capable of providing secondary disinfection that is equivalent to or better than the secondary disinfection provided by the equipment described in clause (a).

(2) This section does not apply if,

(a) the owner complies with section 2-3 or 2-4, whichever is applicable; and

(b) all parts of the drinking-water system and of the plumbing connected to the drinking-water system that are downstream of the equipment provided in accordance with section 2-3 or 2-4 are enclosed in a building or other protective structure.

### **Ultraviolet light disinfection equipment**

2-6. If ultraviolet light disinfection equipment is provided by a drinking-water system, the owner of the drinking-water system and the operating authority for the system shall ensure that the following standards are met:

1. The disinfection equipment must have a feature that causes an alarm to sound in the following locations if the disinfection equipment malfunctions, loses power or ceases to provide the appropriate level of disinfection:

i. The building or structure where the disinfection equipment is installed.

ii. A location where a person is present, if a person is not always present at the location described in subparagraph i.

iii. Every designated facility served by the drinking-water system.

2. If an alarm sounds under paragraph 1, a person described in paragraph 9 of subsection 2-2 (2) who is at the building or structure where the disinfection equipment is installed must take appropriate action or, if no such person is at that location, a person described in paragraph 9 of subsection 2-2 (2) must promptly be dispatched to that location to take appropriate action.



3. A person who is dispatched under paragraph 2 must arrive at the building or structure where the disinfection equipment is installed as soon as possible.

### **OWRA approvals and OWRA orders with less stringent requirements**

**2-7.** This Schedule prevails over an OWRA approval or OWRA order granted or issued before August 1, 2000 that provides for less stringent requirements.

### **OWRA approvals and OWRA orders that give additional time for compliance**

**2-8.** If an OWRA approval or OWRA order granted or issued on or after August 1, 2000 provides that a drinking-water system is required, by a date specified in the approval or order that is later than the date this Regulation comes into force,

(a) to comply with section 5 of Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works) or section 4 of Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities); or

(b) to ensure that water treatment equipment is provided for primary disinfection, secondary disinfection or filtration,

sections 2-2 to 2-6 do not apply until the date specified in the approval or order.

### **Delayed compliance**

**2-9.** (1) Subject to section 2-8, if a large municipal non-residential system, a non-municipal year-round residential system or a large non-municipal non-residential system does not serve a designated facility, the system commenced operation before August 1, 2000 and, immediately before that day, the system was not in compliance with sections 2-2 to 2-6, those sections do not apply until,

(a) July 1, 2004, if the system obtains water from a raw water supply that is surface water; or

(b) December 31, 2005, if the system obtains water from a raw water supply that is ground water.

(2) Subject to section 2-8, if a small municipal non-residential system, a non-municipal seasonal residential system or a small non-municipal non-residential system does not serve a designated facility, the system commenced operation before the day this Regulation comes into force and, immediately before that day, the system was not in compliance with sections 2-2 to 2-6, those sections do not apply until,

(a) July 1, 2005, if the system obtains water from a raw water supply that is surface water; or

(b) December 31, 2006, if the system obtains water from a raw water supply that is ground

water.

(3) Subject to section 2-8, if a large municipal non-residential system, a small municipal non-residential system, a non-municipal year-round residential system, a non-municipal seasonal residential system, a large non-municipal non-residential system or a small non-municipal non-residential system serves a designated facility other than a school, the system commenced operation before December 19, 2001 and, immediately before that day, the system was not in compliance with sections 2-2 to 2-6, those sections do not apply until July 1, 2003.

(4) Despite subsection (3) but subject to section 2-8, if a large municipal non-residential system, a small municipal non-residential system, a non-municipal year-round residential system, a non-municipal seasonal residential system, a large non-municipal non-residential system or a small non-municipal non-residential system serves a designated facility referred to in subsection (5), the system commenced operation before the day this Regulation came into force and, immediately before that day, the system was not in compliance with sections 2-2 to 2-6, those sections do not apply until July 1, 2004.

(5) Subsection (4) applies to a drinking-water system if it serves one or more of the following designated facilities:

1. A children's camp.

2. A residence for seniors or retired persons, or any other similar residence, where attainment of a mature age is a factor in being accepted for occupancy, if the residence is not operated for commercial purposes.

(6) Subsections (1) to (5) do not apply if an OWRA approval or OWRA order granted or issued on or after August 1, 2000 provided that the drinking-water system was required, by a date specified in the approval or order that is on or before the date this Regulation comes into force,

(a) to comply with section 5 of Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works) or section 4 of Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities); or

(b) to ensure that water treatment equipment is provided for primary disinfection, secondary disinfection or filtration.

#### **Notice if s. 2-9 applies**

**2-10.** (1) The owner of a drinking-water system to which section 2-9 applies, other than a system that serves a designated facility, shall give a notice to the Director in accordance with subsection (2) not later than,

(a) December 31, 2004, in the case of a small non-municipal non-residential system; or

(b) July 1, 2004, in the case of any other drinking-water system.

(2) The notice must indicate one of the following:

1. The owner intends to comply with sections 2-2 to 2-6 not later than the date the owner is required to comply under section 2-9.
2. The owner intends to make an application under clause 38 (3) (a) or 60 (3) (a) of the Act for relief from compliance with some or all of the requirements of sections 2-2 to 2-6.
3. The owner intends to post warning notices and take the other steps necessary to obtain the exemption provided by section 8 of this Regulation.

(3) The owner of a drinking-water system shall promptly give a notice to the Director that describes any changes that occur with respect to information that was given in an earlier notice under subsection (1) or this subsection.

(4) Subsection (1) does not apply if, before the date the notice is required to be given to the Director under that subsection,

(a) the owner of the drinking-water system gives the Director a notice that complies with section 21-7 of Schedule 21; or

(b) the owner of the drinking-water system makes an application under clause 38 (3) (a) or 60 (3) (a) of the Act for relief from compliance with some or all of the requirements of sections 2-2 to 2-6.

### SCHEDULE 3

#### POINT OF ENTRY TREATMENT

Municipal: Large Non-Residential  
Small Non-Residential

Non-Municipal: Large Non-Residential  
Small Non-Residential

#### **Application**

**3-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal non-residential systems.
2. Small municipal non-residential systems.
3. Large non-municipal non-residential systems.
4. Small non-municipal non-residential systems.

**Exemption: s. 2-5 of Sched. 2**

**3-2.** Section 2-5 of Schedule 2 does not apply to a drinking-water system if the following criteria are met:

1. A point of entry treatment unit belonging to the owner of the drinking-water system is installed in the plumbing of every building and other structure served by the drinking-water system.
2. If adjustments are required to a point of entry unit and access to the unit requires the permission of the occupants of the building or structure that is served by the unit, notice must be given to the occupants informing them that access is required for that purpose.

**SCHEDULE 4****RELIEF FROM SCHEDULE 1**

Municipal: Large Residential  
Small Residential

**Application: systems**

**4-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal residential systems.
2. Small municipal residential systems.

**Application: conditions**

**4-2.** This Schedule applies to a condition imposed by the Director under clause 38 (2) (a) of the Act only if the condition provides relief from compliance with all of the requirements of the following provisions:

1. Paragraph 2 of subsection 1-2 (1) of Schedule 1.
2. Subsection 1-2 (2) of Schedule 1.
3. Sections 1-3 to 1-6 of Schedule 1.

**Prohibitions**

**4-3.** (1) The Director is prohibited from imposing a condition under clause 38 (2) (a) of the Act if the drinking-water system obtains water from a raw water supply that is surface water.

(2) The Director is prohibited from imposing a condition under clause 38 (2) (a) of the Act if the condition would apply after the fifth anniversary of the date the condition is imposed, but

this subsection does not prohibit the Director from subsequently imposing that condition again pursuant to a new application under clause 38 (3) (a) of the Act.

(3) The Director is prohibited from imposing a condition under clause 38 (2) (a) of the Act unless the municipality to which the drinking-water system relates has passed a resolution requesting the condition.

### **Assessment**

**4-4.** A person who proposes that the Director include a condition in an approval under clause 38 (2) (a) of the Act shall ensure that a written assessment is prepared in accordance with the following rules before an application is made under clause 38 (3) (a) of the Act:

1. The assessment must be prepared by a professional hydrogeologist.
2. The assessment must assess the aquifer and the wells that the drinking-water system obtains water from, the well head protection and the impact of existing and anticipated land uses.
3. The assessment must include,
  - i. the results of all drinking-water tests required under the Act during the 24 months before the assessment is prepared, and
  - ii. the results of all analyses required under Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works) during the 24 months before the assessment is prepared, if the assessment is prepared less than 24 months after the revocation of that Regulation.
4. The assessment must include,
  - i. a written statement from the professional hydrogeologist confirming that he or she has requested and, to the best of his or her knowledge, received all information in the possession of the medical officer of health that relates to the drinking-water system,
  - ii. a written statement from the professional hydrogeologist confirming that he or she has consulted with the medical officer of health about potential health-related issues or concerns that relate to the drinking-water system, and
  - iii. a summary of all the potential health-related issues and concerns that relate to the drinking-water system that were identified by the medical officer of health.

### **Consultation**

**4-5.** A person who proposes that the Director include a condition in an approval under clause 38 (2) (a) of the Act shall ensure that public consultation is conducted in accordance with the following rules before an application is made under clause 38 (3) (a) of the Act:

1. A public meeting must be conducted to obtain comments on the proposed condition.
2. Reasonable notice of the public meeting must be given to users and prospective users of water from the drinking-water system.
3. The person proposing the condition must prepare a written summary of the comments made at the public meeting, along with the person's responses to the comments.

## SCHEDULE 5

### RELIEF FROM SCHEDULE 2

Municipal: Large Non-Residential  
Small Non-Residential

Non-Municipal: Year-Round Residential  
Seasonal Residential  
Large Non-Residential  
Small Non-Residential

### **Application**

**5-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal non-residential systems.
2. Small municipal non-residential systems.
3. Non-municipal year-round residential systems.
4. Non-municipal seasonal residential systems.
5. Large non-municipal non-residential systems.
6. Small non-municipal non-residential systems.

### **Application: conditions**

**5-2.** This Schedule applies to a condition imposed by the Director under clause 38 (2) (a) or 60 (2) (a) of the Act only if the condition provides relief from compliance with all of the requirements of the following provisions:

1. Paragraph 2 of subsection 2-2 (1) of Schedule 2.
2. Subsection 2-2 (2) of Schedule 2.
3. Sections 2-3 to 2-6 of Schedule 2.

## Prohibitions

**5-3.** (1) The Director is prohibited from imposing a condition under clause 38 (2) (a) or 60 (2) (a) of the Act if the drinking-water system obtains water from a raw water supply that is surface water.

(2) The Director is prohibited from imposing a condition under clause 38 (2) (a) or 60 (2) (a) of the Act if the condition would apply after the fifth anniversary of the date the condition is imposed, but this subsection does not prohibit the Director from subsequently imposing that condition again pursuant to a new application under clause 38 (3) (a) or 60 (3) (a) of the Act.

## Assessment

**5-4.** (1) A person who proposes that the Director include a condition in an approval under clause 38 (2) (a) or 60 (2) (a) of the Act shall ensure that a written assessment is prepared in accordance with the following rules before an application is made under clause 38 (3) (a) or 60 (3) (a) of the Act:

1. The assessment must be prepared by a professional engineer.
2. The assessment must include,
  - i. a written statement from the professional engineer confirming that he or she has requested and, to the best of his or her knowledge, received all information in the possession of the medical officer of health that relates to the drinking-water system,
  - ii. a written statement from the professional engineer confirming that he or she has consulted with the medical officer of health about potential health-related issues or concerns that relate to the drinking-water system, and
  - iii. a summary of all the potential health-related issues and concerns that relate to the drinking-water system that were identified by the medical officer of health.
3. The assessment must include a characterization of the drinking-water system's raw water supply prepared by or under the supervision of the professional engineer that includes,
  - i. the results of all microbiological tests conducted on waters from the system during the 24 months before the assessment is prepared,
  - ii. the results of a testing program conducted on the system's raw water supply that includes, in each of the 24 months before the assessment is prepared, at least one test for *Escherichia coli* (E. coli) or fecal coliforms and at least one test for total coliforms,
  - iii. a written statement from the professional engineer confirming that, in his or her opinion, there are no significant and rapid shifts in raw water supply characteristics in relation to any of the following parameters:

- A. pH,
- B. turbidity,
- C. temperature,
- D. nitrate and nitrite,
- E. conductivity, and

iv. copies of all results of any tests the professional engineer has obtained, from any person, that show past evidence of any of the following organisms or chemicals in the system's raw water supply:

- A. viruses,
- B. chlorophyll a,
- C. protozoan cysts,
- D. macro-organisms.

4. The assessment must include surveys and analyses prepared by or under the supervision of the professional engineer that deal with the potential risks of microbiological contamination with respect to each of the following:

- i. well construction and well head protection,
- ii. the well head vicinity and recharge zone,
- iii. the drinking-water system's distribution system and plumbing that is connected to the drinking-water system that is owned by the owner of the drinking-water system,
- iv. connections between the drinking-water system and plumbing that is not owned by the owner of the drinking-water system.

5. The assessment must include a proposed management plan prepared by or under the supervision of the professional engineer that provides guidance for operations related to preventing, reducing and managing microbiological risks, including,

- i. procedures describing seasonal start-up and scheduled routine maintenance activities related to flushing and disinfecting the system,
- ii. procedures for increased monitoring activities following heavy rainfall, floods or other adverse weather events,
- iii. logs for recording samples taken for tests, including records of locations, times,



signatures and test results,

iv. a protocol for notifying users of water from the system, the Ministry and the medical officer of health, including contact lists,

v. procedures for corrective action to be taken on receipt of adverse sampling results that are consistent with the Ministry's *Procedure for Corrective Action for Systems Not Currently Using Chlorine*, and

vi. procedures for recording summaries of any corrective actions taken, the results that were achieved, and the resolution of the issues that gave rise to the corrective actions.

(2) Subparagraph 3 i of subsection (1) does not apply to a drinking-water system that has not begun operation.

### **Consultation**

**5-5.** A person who proposes that the Director include a condition in an approval under clause 38 (2) (a) or 60 (2) (a) of the Act shall ensure that public consultation is conducted in accordance with the following rules before an application is made under clause 38 (3) (a) or 60 (3) (a) of the Act:

1. The following persons must be notified of the proposed condition and given a reasonable opportunity to comment on it:

- i. The occupants of the private residences served by the system.
- ii. The operators and occupants of the designated facilities served by the system.
- iii. The operators of the public facilities served by the system.
- iv. The operators of all other premises served by the system.

2. The person proposing the condition must prepare a written summary of the comments made under paragraph 1, along with the person's responses to the comments.

## SCHEDULE 6

### OPERATIONAL CHECKS, SAMPLING AND TESTING - GENERAL

#### **Application**

**6-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal residential systems.
2. Small municipal residential systems.

3. Large municipal non-residential systems.
4. Small municipal non-residential systems.
5. Non-municipal year-round residential systems.
6. Non-municipal seasonal residential systems.
7. Large non-municipal non-residential systems.
8. Small non-municipal non-residential systems.

### **Location of samples**

**6-2.** Unless otherwise specified, a person who is required to ensure that samples are taken under this Regulation, or under an approval or order, including an OWRA order, shall ensure that they are taken from the point at which treated water enters the drinking-water systems' distribution system or plumbing that is connected to the drinking-water system.

### **Microbiological samples and chlorine residual**

**6-3.** (1) If this Regulation or an approval or order, including an OWRA order, requires a water sample to be taken and tested for a microbiological parameter, the owner of the drinking-water system and the operating authority for the system shall ensure that another sample is taken at the same time from the same location and is tested immediately for,

- (a) free chlorine residual, if the system provides chlorination and does not provide chloramination; or
- (b) combined chlorine residual, if the system provides chloramination.

(2) Subsection (1) does not apply to water samples taken from the drinking-water system's raw water or raw water supply.

(3) Subsection (1) does not apply to sampling and testing for a microbiological parameter that is conducted by microbiological in-line testing equipment.

### **Form of sampling**

**6-4.** (1) A person who is required to ensure that samples are taken under this Regulation, or under an approval or order, including an OWRA order, shall ensure that they are taken in the form of grab samples, unless continuous monitoring equipment or microbiological in-line testing equipment is authorized or required.

(2) Continuous monitoring equipment may be used for sampling and testing that is required under this Regulation, or under an approval or order, for,

- (a) turbidity;
- (b) fluoride;
- (c) free chlorine residual; and
- (d) free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual.

(3) Microbiological in-line testing equipment may be used for sampling and testing for a microbiological parameter that is required under this Regulation, or under an approval or order, if the Director is of the opinion that the testing method used by the equipment and the person operating the equipment is equivalent to a testing method for the parameter that is accredited by the Standards Council of Canada.

### **Continuous monitoring**

**6-5.** (1) If a drinking-water system uses continuous monitoring equipment for sampling and testing that is required under this Regulation, or under an approval or order, for a parameter set out in the Table to this section, the owner of the system and the operating authority for the system shall ensure that the following standards are met:

1. The continuous monitoring equipment must,
  - i. test for the parameter with at least the minimum frequency specified in the Table for the parameter, and
  - ii. record the date, time, sampling location and result of every test for the parameter with at least the minimum frequency referred to in subparagraph i.
2. If the continuous monitoring equipment tests for a parameter more often than is required by subparagraph 1 i, the equipment may, instead of complying with subparagraph 1 ii,
  - i. record the minimum, maximum and mean results of tests for the parameter for every period that is equal to the length of time referred to in subparagraph 1 i, along with the sampling location, the date of the tests conducted during the period and the time at the end of the period, and
  - ii. record the result of every test that causes an alarm to sound under paragraph 5, along with the sampling location and the date and time of the test.
3. Test results recorded under paragraph 1 or 2 must be examined, within 24 hours after the tests are conducted,
  - i. by a certified operator, in the case of,
    - A. a large municipal residential system,

- B. a small municipal residential system,
  - C. a large municipal non-residential system,
  - D. a non-municipal year-round residential system, or
  - E. a large non-municipal non-residential system, or
- ii. by a trained person, in the case of,
- A. a non-municipal seasonal residential system,
  - B. a small municipal non-residential system, or
  - C. a small non-municipal non-residential system.
4. If test results are not examined under paragraph 3 at the location where the tests are conducted, the continuous monitoring equipment must transmit the results to the location where they are examined.
5. The continuous monitoring equipment must cause an alarm to sound at the following locations if the equipment malfunctions or loses power or a test result for a parameter is above the maximum alarm standard or below the minimum alarm standard specified in the Table to this section for the parameter:
- i. The location where the equipment conducts tests.
  - ii. A location where a person is present, if a person is not always present at the location where the equipment conducts tests.
  - iii. Every designated facility served by the drinking-water system, unless the system is a large municipal residential system or a small municipal residential system.
6. If any of the following circumstances arise, a person qualified to examine test results under paragraph 3 who is at the location where tests are conducted must take appropriate action or, if no such person is at that location, one must promptly be dispatched to that location to take appropriate action:
- i. An alarm sounds under paragraph 5.
  - ii. A record of a test result indicates that an alarm should have sounded under paragraph 5.
  - iii. There is good reason to believe that the continuous monitoring equipment has malfunctioned or lost power.
7. A person who is dispatched under paragraph 6 must arrive at the location where tests are

conducted as soon as possible.

8. The continuous monitoring equipment must be checked and calibrated in accordance with the manufacturer's instructions.

9. If the manufacturer's instructions do not indicate how often to check and calibrate the continuous monitoring equipment, the equipment must be checked and calibrated at least once a month while the drinking-water system is in operation, in the case of,

- i. a small municipal non-residential system,
- ii. a non-municipal seasonal residential system, or
- iii. a small non-municipal non-residential system.

10. If the manufacturer's instructions do not indicate how often to check and calibrate the continuous monitoring equipment and paragraph 9 does not apply, the equipment must be checked and calibrated as often as necessary to ensure that test results are within the following margins of error:

- i. In the case of free chlorine residual, 0.05 milligrams per litre, if the concentrations usually measured by the equipment are less than or equal to 1.0 milligrams per litre, and proportionally higher if the concentrations usually measured are greater than 1.0 milligrams per litre,
- ii. In the case of free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual, 0.05 milligrams per litre, if the concentrations usually measured by the equipment are less than or equal to 1.0 milligrams per litre, and proportionally higher if the concentrations usually measured are greater than 1.0 milligrams per litre,
- iii. 0.1 Nephelometric Turbidity Units (NTU), in the case of turbidity.

(2) For the purposes of the Table to this section, the concentration of free chlorine residual or combined chlorine residual that is required to achieve primary disinfection for the drinking-water system shall be determined in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*.

TABLE

Item	Parameter	Minimum Testing and Recording Frequency	Maximum Alarm Standard	Minimum Alarm Standard
1.	Free chlorine residual	5 minutes	Not applicable	0.1 milligrams per litre less than the concentration

				of free chlorine residual that is required to achieve primary disinfection
2.	Free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual	5 minutes	Not applicable	0.1 milligrams per litre less than the concentration of combined chlorine residual that is required to achieve primary disinfection
3.	Turbidity	15 minutes	1.0 Nephelometric Turbidity Units (NTU)	Not applicable

### Turbidity testing

**6-6.** If a water sample is required to be taken and tested for turbidity, the owner of the drinking-water system and the operating authority for the system shall ensure that the testing is conducted using a turbidity meter that measures turbidity in Nephelometric Turbidity Units (NTU).

### Chlorine residual testing

**6-7.** (1) If a water sample is required to be taken and tested for free chlorine residual or combined chlorine residual, the owner of the drinking-water system and the operating authority for the system shall ensure that the testing is conducted using,

- (a) an electronic direct readout colourimetric or amperometric chlorine analyzer; or
- (b) another device, if, based on an inspection of the device and on a review of relevant records and documentation, a professional engineer certifies in writing that it is equivalent to or better than an electronic direct readout colourimetric or amperometric chlorine analyser, having regard to accuracy, reliability and ease of use.

(2) Subsection (1) does not apply to testing that is conducted by continuous monitoring equipment.

### Sample handling

**6-8.** (1) If this Regulation or an approval or order, including an OWRA order, requires a water sample to be tested for a parameter by a laboratory, the owner of the drinking-water system and the operating authority for the system shall ensure that, subject to the other provisions of this Regulation, the sample is taken and handled in accordance with the directions of the laboratory to which the sample will be delivered for testing, including directions to,

- (a) follow any sampling instructions that are provided by the laboratory;

- (b) use a specified kind of container or a container that is provided by the laboratory;
- (c) complete and submit any forms that are provided by the laboratory; and
- (d) deliver the sample to the laboratory within a time period specified by the laboratory.

(2) If this Regulation or an approval or order, including an OWRA order, requires a water sample to be tested for a microbiological parameter by a laboratory, the owner of the drinking-water system and the operating authority for the system shall ensure that the sample is kept refrigerated or in a cooler at all times during storage and transportation between the time the sample is taken and the time the sample is delivered to the laboratory.

### **Testing by laboratories**

**6-9.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that every test required by this Regulation, or by an approval or order, including an OWRA order, for a parameter is conducted by an accredited laboratory for that parameter.

(2) If a test required by this Regulation, or by an approval or order, including an OWRA order, is conducted by a laboratory outside Ontario, the owner of the drinking-water system and the operating authority for the system shall ensure that,

- (a) the laboratory is provided with a copy of this Regulation; and
- (b) the laboratory has agreed in writing to comply with subsection (3) of this section, with Schedule 16 and with subsections 18 (1) and (4) of the Act.

(3) A laboratory that conducts a test required by this Regulation, or by an approval or order, including an OWRA order, shall, within 14 days after completing the test, prepare a report on the results of the test and send a copy of the report to the Director and to,

- (a) the operating authority for the drinking-water system, if an operating authority is responsible for the system; or
- (b) the owner of the drinking-water system, if no operating authority is responsible for the system.

(4) If a test of a water sample for a parameter is required by this Regulation, or by an approval or order, including an OWRA order, the owner of the drinking-water system and the operating authority for the system shall ensure that written notice of the identity of the laboratory that will conduct the test is given to the Director before the sample is tested, unless,

- (a) the Director has previously been notified under this subsection that a water sample from the drinking-water system was to be tested for that parameter by that laboratory; or
- (b) before this Regulation came into force, the Director was previously notified in accordance with Ontario Regulation 459/00 (Drinking Water Protection - Larger Water

Works) or Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities) that a water sample from the drinking-water system was to be tested for that parameter by that laboratory.

(5) Subsection (1) does not apply to,

(a) testing that is conducted by continuous monitoring equipment or microbiological in-line testing equipment;

(b) testing that is conducted in accordance with an approval or order, including an OWRA order, if the testing is for a parameter that is not listed in the Ontario Drinking-Water Quality Standards and,

(i) the parameter is not identified in the approval or order as a health-related parameter, or

(ii) the parameter is identified in the approval or order as a health-related parameter and the testing is conducted by a Ministry of the Environment laboratory or by a laboratory that, in the Director's opinion, is proficient in conducting tests for that parameter; or

(c) testing for fluoride, turbidity or free chlorine residual or combined chlorine residual, if the testing is conducted in the drinking-water system, or in a facility served by the system, by,

(i) a certified operator,

(ii) a trained person,

(iii) a provincial officer, or

(iv) a person who,

(A) has at least one year of experience working in a laboratory in a drinking-water system or in a laboratory that, in the Director's opinion, is similar to a laboratory in a drinking-water system, and

(B) has passed an examination approved by the Director that relates to water quality testing in drinking-water systems or, in the Director's opinion, has education, training or experience indicating that the person has the skills tested by the examination.

(6) If a test of a water sample for a parameter is required by an approval or order, including an OWRA order, and the parameter is identified in the approval or order as a health-related parameter, the owner of the drinking-water system and the operating authority for the system shall ensure that the laboratory that conducts the testing is informed, when the sample is sent to the laboratory, of the maximum concentration set out for the parameter in the approval or order.



- (7) A laboratory that conducts tests required by this Regulation, or by an approval or order, including an OWRA order, for more than one microbiological parameter,
- (a) shall conduct separate tests for each parameter; and
  - (b) shall not infer the result for one parameter from a result obtained for another parameter.
- (8) For the purposes of this section, a laboratory is an accredited laboratory for a parameter if,
- (a) the laboratory is accredited for testing of that parameter by the Standards Council of Canada; or
  - (b) the laboratory has obtained an accreditation for testing of that parameter that, in the Director's opinion, is equivalent to accreditation by the Standards Council of Canada.
- (9) For the purposes of this section, testing for a microbiological parameter shall be deemed to be conducted by an accredited laboratory for that parameter if it is carried out in an Ontario Ministry of Health and Long-Term Care laboratory by a member of the College of Medical Laboratory Technologists of Ontario.

## Records

**6-10.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that, for every sample required by this Regulation or by an approval or order, including an OWRA order, a record is made of the following information:

1. The date and time the sample was taken, the location where the sample was taken and the name of the person who took the sample.
2. If the sample is taken under section 7 of this Regulation or Schedule 7, 8 or 9, the date and time the sample was tested, the name of the person who conducted the test, and the results of the test.

(2) Subsection (1) does not apply to a sample tested by continuous monitoring equipment or microbiological in-line testing equipment.

## OWRA orders

**6-11.** If an OWRA order requires samples to be taken and tested for a parameter and a provision of Schedules 7 to 15 also requires samples to be taken and tested for the parameter, the provision of Schedules 7 to 15 prevails.

## SCHEDULE 7

### OPERATIONAL CHECKS

Municipal: Large Residential

## Small Residential

### Application

7-1. This Schedule applies to the following drinking-water systems.

1. Large municipal residential systems.
2. Small municipal residential systems.

### Chlorine residual

7-2. (1) The owner of a drinking-water system that provides chlorination for primary disinfection shall ensure that sampling and testing for free chlorine residual is carried out by continuous monitoring equipment in the treatment process at a location where the intended contact time has just been completed in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*.

(2) The owner of a drinking-water system that provides chloramination for primary disinfection shall ensure that sampling and testing for combined chlorine residual is carried out by continuous monitoring equipment in the treatment process at a location where the intended contact time has just been completed in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*.

(3) The owner of a drinking-water system that provides secondary disinfection and the operating authority for the system shall ensure that a distribution sample is taken at least once every day and is tested immediately for,

- (a) free chlorine residual, if the system provides chlorination and does not provide chloramination; or
- (b) combined chlorine residual, if the system provides chloramination.

### Turbidity

7-3. (1) The owner of a drinking-water system and the operating authority for the system shall ensure that a water sample is taken at least once every month, from a location that is before raw water enters the treatment system, and is tested for turbidity.

(2) If a drinking-water system obtains water from a raw water supply that is surface water and the system provides filtration,

- (a) subsection (1) does not apply; and
- (b) the owner of the system shall ensure that sampling and testing for turbidity is carried out by continuous monitoring equipment on each filter effluent line.

**Fluoride**

7-4. If a drinking-water system provides fluoridation,

(a) the owner of the system and the operating authority for the system shall ensure that a water sample is taken at the end of the fluoridation process at least once every day and is tested for fluoride; and

(b) the owner of the system and the operating authority for the system shall ensure that the concentration of fluoride is maintained between 0.5 and 0.8 milligrams per litre at the end of the fluoridation process.

**Testing by certified operators**

7-5. The owner of a drinking-water system and the operating authority for the system shall ensure that every test required by this Schedule is conducted by a certified operator, unless the test is carried out by continuous monitoring equipment.

**SCHEDULE 8****OPERATIONAL CHECKS**

Municipal: Large Non-Residential

Non-Municipal: Year-Round Residential  
Large Non-Residential

**Application**

8-1. This Schedule applies to the following drinking-water systems:

1. Large municipal non-residential systems.
2. Non-municipal year-round residential systems.
3. Large non-municipal non-residential systems.

**Check of treatment equipment**

8-2. The owner of a drinking-water system and the operating authority for the system shall ensure that all water treatment equipment is checked at least once each week by a certified operator to confirm proper functioning and that, for each check, a record is made of the date and time of the check, the name of the person who performed the check and the results of the check.

**Chlorine residual**

8-3. (1) The owner of a drinking-water system that provides chlorination for primary

disinfection and the operating authority for the system shall ensure that a water sample is taken at least once every day, in the treatment process at a location where the intended contact time has just been completed in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*, and is tested immediately for free chlorine residual.

(2) The owner of a drinking-water system that provides chloramination for primary disinfection shall ensure that sampling and testing for combined chlorine residual is carried out by continuous monitoring equipment in the treatment process at a location where the intended contact time has just been completed in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*.

(3) The owner of a drinking-water system that provides secondary disinfection and the operating authority for the system shall ensure that a distribution sample is taken at least once every day and is tested immediately for,

(a) free chlorine residual, if the system provides chlorination and does not provide chloramination; or

(b) combined chlorine residual, if the system provides chloramination.

### **Turbidity**

**8-4.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that a water sample is taken at least once every month, from a location that is before raw water enters the treatment system, and is tested immediately for turbidity.

(2) If a drinking-water system obtains water from a raw water supply that is surface water and the system provides filtration,

(a) subsection (1) does not apply; and

(b) the owner of the system shall ensure that sampling and testing for turbidity is conducted by continuous monitoring equipment on each filter effluent line.

### **Testing by certified operators**

**8-5.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that every test required by this Schedule is conducted by a certified operator.

(2) Subsection (1) does not apply to tests conducted by continuous monitoring equipment.

### **Non-residential systems**

**8-6.** Sections 8-2, 8-3 and 8-4 do not apply to the following drinking-water systems during days on which all designated facilities and all public facilities served by the system are not open:

1. A large municipal non-residential system.

2. A large non-municipal non-residential system.

**Transition: certified operators**

**8-7.** If the owner of a drinking-water system is not required to comply with sections 2-2 to 2-6 of Schedule 2 until after this Regulation comes into force, a reference in this Schedule to a certified operator shall be deemed, with respect to that system, to be a reference to any person until the owner complies with sections 2-2 to 2-6 of Schedule 2.

**SCHEDULE 9****OPERATIONAL CHECKS**

Municipal: Small Non-Residential

Non-Municipal: Seasonal Residential  
Small Non-Residential

**Application**

**9-1.** This Schedule applies to the following drinking-water systems:

1. Small municipal non-residential systems.
2. Non-municipal seasonal residential systems.
3. Small non-municipal non-residential systems.

**Check of treatment equipment**

**9-2.** The owner of a drinking-water system and the operating authority for the system shall ensure that all water treatment equipment is checked at least once each week by a trained person to confirm proper functioning and that, for each check, a record is made of the date and time of the check, the name of the person who performed the check and the results of the check.

**Chlorine residual**

**9-3.** (1) The owner of a drinking-water system that provides chlorination for primary disinfection and the operating authority for the system shall ensure that a water sample is taken at least once every day, in the treatment process at a location where the intended contact time has just been completed in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*, and is tested immediately for free chlorine residual.

(2) The owner of a drinking-water system that provides chloramination for primary disinfection shall ensure that sampling and testing for combined chlorine residual is carried out by continuous monitoring equipment in the treatment process at a location where the intended contact time has just been completed in accordance with the Ministry's *Procedure for*

*Disinfection of Drinking Water in Ontario.*

(3) The owner of a drinking-water system that provides secondary disinfection and the operating authority for the system shall ensure that a distribution sample is taken at least once every day and is tested immediately for,

(a) free chlorine residual, if the system provides chlorination and does not provide chloramination; or

(b) combined chlorine residual, if the system provides chloramination.

**Turbidity**

**9-4.** If Schedule 2 requires filtration equipment to be provided in a drinking-water system, the owner of the system and the operating authority for the system shall ensure that a water sample is taken at least once every day on each filter effluent line and is tested immediately for turbidity.

**Testing by trained persons**

**9-5.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that every test required by this Schedule is conducted by a trained person.

(2) Subsection (1) does not apply to tests conducted by continuous monitoring equipment.

**Exception**

**9-6.** Sections 9-2 to 9-4 do not apply to a drinking-water system during days on which all designated facilities and all public facilities served by the system are not open.

**Small non-municipal non-residential systems that do not serve designated facilities**

**9-7.** If a small non-municipal non-residential system does not serve a designated facility, this Schedule does not apply to the system until the second anniversary of the day this Regulation comes into force.

**Transition: trained persons**

**9-8.** If the owner of a drinking-water system is not required to comply with sections 2-2 to 2-6 of Schedule 2 until after this Regulation comes into force, a reference in this Schedule to a trained person shall be deemed, with respect to that system, to be a reference to any person until the owner complies with sections 2-2 to 2-6 of Schedule 2.

## SCHEDULE 10

## MICROBIOLOGICAL SAMPLING AND TESTING

## Large Municipal Residential

### Application

**10-1.** This Schedule applies to large municipal residential systems.

### Distribution samples

**10-2.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that,

(a) if the system serves 100,000 people or less, at least eight distribution samples, plus one additional distribution sample for every 1,000 people served by the system, are taken every month, with at least one of the samples being taken in each week; and

(b) if the system serves more than 100,000 people, at least 100 distribution samples, plus one additional distribution sample for every 10,000 people served by the system, are taken every month, with at least three of the samples being taken in each week.

(2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for,

(a) *Escherichia coli* or fecal coliforms; and

(b) total coliforms.

(3) The owner of the drinking-water system and the operating authority for the system shall ensure that at least 25 per cent of the samples taken under subsection (1) are tested for general bacteria population expressed as background colony counts on the total coliform membrane filter or as colony counts on a heterotrophic plate count.

### Treated samples

**10-3.** The owner of a drinking-water system and the operating authority for the system shall ensure that a water sample is taken at least once every week and tested for,

(a) *Escherichia coli* or fecal coliforms;

(b) total coliforms; and

(c) general bacteria population expressed as background colony counts on the total coliform membrane filter or as colony counts on a heterotrophic plate count.

### Raw water samples

**10-4.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that a water sample is taken at least once every week from the drinking-water system's

raw water, before any treatment is applied to the water.

(2) If the drinking-water system obtains water from a raw water supply that is ground water, the owner of the system and the operating authority for the system shall ensure that a sample is taken under subsection (1) from each well in the system.

(3) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for,

(a) *Escherichia coli* or fecal coliforms; and

(b) total coliforms.

### **Approvals before Aug. 1, 2000**

**10-5.** This Schedule prevails over an OWRA approval granted before August 1, 2000 that provides for less stringent sampling or testing.

## **SCHEDULE 11**

### **MICROBIOLOGICAL SAMPLING AND TESTING**

Municipal: Small Residential  
Large Non-Residential

Non-Municipal: Year-Round Residential  
Large Non-Residential

### **Application**

**11-1.** This Schedule applies to the following drinking-water systems:

1. Small municipal residential systems.
2. Large municipal non-residential systems.
3. Non-municipal year-round residential systems.
4. Large non-municipal non-residential systems.

### **Distribution samples**

**11-2.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that,

(a) at least one distribution sample is taken every week, if chlorination or chloramination is provided; or



- (b) at least two distribution samples are taken every week, if neither chlorination nor chloramination is provided.
- (2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for,
- (a) *Escherichia coli* or fecal coliforms;
  - (b) total coliforms; and
  - (c) general bacteria population expressed as colony counts on a heterotrophic plate count.
- (3) The frequency of sampling under subsection (1) may be reduced to the frequency set out in subsection (4) if, for a period of 24 consecutive months, not more than one of the test results obtained under paragraph 2 of section 18-5 and paragraph 1 of section 18-6 of Schedule 18 to this Regulation exceeds the standard prescribed for *Escherichia coli*, fecal coliforms or total coliforms by Schedule 1 to the Ontario Drinking-Water Quality Standards.
- (4) If a reduction in the frequency of sampling is permitted under subsection (3), the frequency of sampling under subsection (1) may be reduced so that,
- (a) at least one distribution sample is taken every two weeks, if chlorination or chloramination is provided; or
  - (b) at least one distribution sample is taken every week, if neither chlorination nor chloramination is provided.
- (5) Subsection (3) ceases to apply if, in any period of 24 consecutive months, more than one of the test results obtained under paragraph 2 of section 18-5 and paragraph 1 of section 18-6 of Schedule 18 to this Regulation exceed the standard prescribed for *Escherichia coli*, fecal coliforms or total coliforms by Schedule 1 to the Ontario Drinking-Water Quality Standards.

### **Raw water samples**

- 11-3.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that a water sample is taken at least once every month from the drinking-water system's raw water, before any treatment is applied to the water.
- (2) If the drinking-water system obtains water from a raw water supply that is ground water, the owner of the system and the operating authority for the system shall ensure that a sample is taken under subsection (1) from each well in the system.
- (3) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for,
- (a) *Escherichia coli* or fecal coliforms; and

(b) total coliforms.

### **Seven-day shutdowns**

**11-4.** (1) If the drinking-water system does not operate for a period of seven or more consecutive days, sampling and testing is not required under sections 11-2 and 11-3 during that period.

(2) If the drinking-water system does not operate for a period of seven or more consecutive days, the owner of the system and the operating authority for the system shall ensure that no drinking water is supplied to a user of water from the system until samples have been taken and tested under sections 11-2 and 11-3 and the results of the tests have been received by the owner and the operating authority.

### **Approvals before Aug. 1, 2001**

**11-5.** This Schedule prevails over an OWRA approval granted before August 1, 2000 that provides for less stringent sampling or testing.

## **SCHEDULE 12**

### **MICROBIOLOGICAL SAMPLING AND TESTING**

**Municipal: Small Non-Residential**

**Non-Municipal: Seasonal Residential  
Small Non-Residential**

### **Application**

**12-1.** This Schedule applies to the following drinking-water systems:

1. Small municipal non-residential systems.
2. Non-municipal seasonal residential systems.
3. Small non-municipal non-residential systems.

### **Distribution samples**

**12-2.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that,

- (a) at least one distribution sample is taken every two weeks, if chlorination or chloramination is provided; or
- (b) at least one distribution sample is taken every week, if neither chlorination nor

ensure that each of the samples taken under subsection (1) is tested for,

- (a) *Escherichia coli* or fecal coliforms; and
- (b) total coliforms.

### **Seven-day shutdowns**

**12-4.** (1) If the drinking-water system does not operate for a period of seven or more consecutive days, sampling and testing is not required under sections 12-2 and 12-3 during that period.

(2) If the drinking-water system does not operate for a period of seven or more consecutive days, the owner of the system and the operating authority for the system shall ensure that no drinking water is supplied to a user of water from the system until samples have been taken and tested under sections 12-2 and 12-3 and the results of the tests have been received by the owner and the operating authority.

### **Approvals before Dec. 19, 2001**

**12-5.** This Schedule prevails over an OWRA approval granted before December 19, 2001 that provides for less stringent sampling or testing.

### **Small non-municipal non-residential systems that do not serve designated facilities**

**12-6.** If a small non-municipal non-residential system does not serve a designated facility, this Schedule does not apply to the system until the second anniversary of the day this Regulation comes into force.

## SCHEDULE 13

### CHEMICAL SAMPLING AND TESTING

Municipal: Large Residential  
Small Residential  
Large Non-Residential

Non-Municipal: Year-Round Residential  
Large Non-Residential

### **Application**

**13-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal residential systems.
2. Small municipal residential systems.

chloramination is provided.

(2) If a non-municipal seasonal residential system supplies water to more than 100 service connections, the owner of the system and the operating authority for the system shall ensure that, for every 100 service connections, at least one distribution sample is taken every month, in addition to the samples required by subsection (1).

(3) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsections (1) and (2) is tested for,

(a) *Escherichia coli* or fecal coliforms;

(b) total coliforms; and

(c) general bacteria population expressed as colony counts on a heterotrophic plate count.

(4) The frequency of sampling under subsection (1) may be reduced to the frequency set out in subsection (5) if, for a period of 24 consecutive months, not more than one of the test results obtained under paragraph 2 of section 18-5 and paragraph 1 of section 18-6 of Schedule 18 to this Regulation exceeds the standard prescribed for *Escherichia coli*, fecal coliforms or total coliforms by Schedule 1 to the Ontario Drinking-Water Quality Standards.

(5) If a reduction in the frequency of sampling is permitted under subsection (4), the frequency of sampling under subsection (1) may be reduced so that,

(a) at least one distribution sample is taken every two weeks, if chlorination or chloramination is provided; or

(b) at least one distribution sample is taken every week, if neither chlorination nor chloramination is provided.

(6) Subsection (4) ceases to apply if, in any period of 24 consecutive months, more than one of the test results obtained under paragraph 2 of section 18-5 and paragraph 1 of section 18-6 of Schedule 18 to this Regulation exceed the standard prescribed for *Escherichia coli*, fecal coliforms or total coliforms by Schedule 1 to the Ontario Drinking-Water Quality Standards.

### **Raw water samples**

**12-3.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that a water sample is taken at least once every month from the drinking-water system's raw water, before any treatment is applied to the water.

(2) If the drinking-water system obtains water from a raw water supply that is ground water, the owner of the system and the operating authority for the system shall ensure that a sample is taken under subsection (1) from each well in the system.

(3) The owner of the drinking-water system and the operating authority for the system shall

3. Large municipal non-residential systems.
4. Non-municipal year-round residential systems.
5. Large non-municipal non-residential systems.

### **Inorganics**

**13-2.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that,

- (a) at least one water sample is taken every 12 months, if the system obtains water from a raw water supply that is surface water; or
- (b) at least one water sample is taken every 36 months, if the system obtains water from a raw water supply that is ground water.

(2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for every parameter set out in Schedule 23.

### **Lead**

**13-3.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that at least one distribution sample is taken every 12 months, from a point in the drinking-water system's distribution system, or in plumbing that is connected to the drinking-water system, that is likely to have an elevated concentration of lead.

(2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for lead.

### **Organics**

**13-4.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that,

- (a) at least one water sample is taken every 12 months, if the system obtains water from a raw water supply that is surface water; or
- (b) at least one water sample is taken every 36 months, if the system obtains water from a raw water supply that is ground water.

(2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for every parameter set out in Schedule 24.

### **Increased frequency under ss. 13-2, 13-3 and 13-4**

**13-5.** (1) If a test result obtained under section 13-2, 13-3 or 13-4 for a parameter exceeds half of the standard prescribed for the parameter in Schedule 2 to the Ontario Drinking-Water Quality Standards, the frequency of sampling and testing for that parameter under that section shall be increased so that at least one water sample is taken and tested every three months.

(2) Subsection (1) ceases to apply to a parameter if,

(a) in the case of a drinking-water system that obtains water from a raw water supply that is surface water, for four consecutive three-month periods in which the system is in operation, none of the test results obtained under section 13-2, 13-3 or 13-4 for the parameter exceed half of the standard prescribed for the parameter in Schedule 2 to the Ontario Drinking-Water Quality Standards; or

(b) in the case of a drinking-water system that obtains water from a raw water supply that is ground water, for two consecutive three-month periods in which the system is in operation, none of the test results obtained under section 13-2, 13-3 or 13-4 for the parameter exceed half of the standard prescribed for the parameter in Schedule 2 to the Ontario Drinking-Water Quality Standards.

### **Trihalomethanes**

**13-6.** (1) The owner of a drinking-water system that provides chlorination or chloramination and the operating authority for the system shall ensure that at least one distribution sample is taken every three months, from a point in the drinking-water system's distribution system, or plumbing that is connected to the drinking-water system, that is likely to have an elevated potential for the formation of trihalomethanes.

(2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for trihalomethanes.

### **Nitrate and nitrite**

**13-7.** The owner of a drinking-water system and the operating authority for the system shall ensure that at least one water sample is taken every three months and tested for nitrate and nitrite.

### **Sodium**

**13-8.** The owner of a drinking-water system and the operating authority for the system shall ensure that at least one water sample is taken every 60 months and tested for sodium.

### **Fluoride**

**13-9.** If a drinking-water system does not provide fluoridation, the owner of the system and the operating authority for the system shall ensure that a water sample is taken at least once every 60 months and tested for fluoride.

**First tests**

**13-10.** Where this Schedule requires that water samples be taken and tested for a parameter with a frequency of a period of time fixed by this Schedule, the owner of the drinking-water system and the operating authority for the system shall ensure that the first sample is taken and tested for that parameter,

(a) within that period of time after the latest of,

(i) the date the last sample was taken and tested for that parameter under Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works) or Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities), if one of those regulations applied to the drinking-water system,

(ii) the date the last sample was taken and tested for that parameter for the purpose of preparing a report under section 13 of Ontario Regulation 459/00, if that regulation applied to the drinking-water system, and

(iii) the date the last sample was taken and tested for that parameter before this Regulation came into force for the purpose of complying with an OWRA approval or OWRA order or making an application for an OWRA approval, if a sample was taken and tested for that parameter for that purpose before this Regulation came into force; or

(b) within that period of time or 12 months, whichever is shorter, after this Schedule begins to apply to the drinking-water system, if clause (a) does not apply.

**60-day shutdowns**

**13-11.** If the drinking-water system does not operate for a period of 60 or more consecutive days, sampling and testing is not required under sections 13-5, 13-6 and 13-7 during that period.

**Approvals before Aug. 1, 2000**

**13-12.** This Schedule prevails over an OWRA approval granted before August 1, 2000 that provides for less stringent sampling or testing.

**SCHEDULE 14****CHEMICAL SAMPLING AND TESTING**

Municipal: Small Non-Residential

Non-Municipal: Seasonal Residential

**Application**

**14-1.** This Schedule applies to the following drinking-water systems:

1. Small municipal non-residential systems.
2. Non-municipal seasonal residential systems.

### **Inorganics and organics**

**14-2.** The owner of a drinking-water system and the operating authority for the system shall ensure that at least one water sample is taken every 60 months and tested for every parameter set out in Schedules 23 and 24.

### **Lead**

**14-3.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that at least one distribution sample is taken every 60 months, from a point in the drinking-water system's distribution system, or in plumbing that is connected to the drinking-water system, that is likely to have an elevated concentration of lead.

(2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for lead.

### **Trihalomethanes**

**14-4.** (1) The owner of a drinking-water system that provides chlorination or chloramination and the operating authority for the system shall ensure that at least one distribution sample is taken every three months, from a point in the drinking-water system's distribution system, or plumbing that is connected to the drinking-water system, that is likely to have an elevated potential for the formation of trihalomethanes.

(2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for trihalomethanes.

(3) Subsections (1) and (2) do not apply to a non-municipal seasonal residential system.

### **Nitrate and nitrite**

**14-5.** The owner of a drinking-water system and the operating authority for the system shall ensure that at least one water sample is taken every three months and tested for nitrate and nitrite.

### **Sodium**

**14-6.** The owner of a drinking-water system and the operating authority for the system shall ensure that at least one water sample is taken every 60 months and tested for sodium.

### **Fluoride**

**14-7.** If a drinking-water system does not provide fluoridation, the owner of the system and the



operating authority for the system shall ensure that at least one water sample is taken at least once every 60 months and tested for fluoride.

### **First tests**

**14-8.** Where this Schedule requires that water samples be taken and tested for a parameter with a frequency of a period of time fixed by this Schedule, the owner of the drinking-water system and the operating authority for the system shall ensure that the first sample is taken and tested for that parameter,

(a) within that period of time after the latest of,

(i) the date the last sample was taken and tested for that parameter under Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works) or Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities), if one of those regulations applied to the drinking-water system,

(ii) the date the last sample was taken and tested for that parameter for the purpose of preparing a report under section 13 of Ontario Regulation 459/00, if that regulation applied to the drinking-water system, and

(iii) the date the last sample was taken and tested for that parameter before this Regulation came into force for the purpose of complying with an OWRA approval or OWRA order or making an application for an OWRA approval, if a sample was taken and tested for that parameter for that purpose before this Regulation came into force; or

(b) within that period of time or 12 months, whichever is shorter, after this Schedule begins to apply to the drinking-water system, if clause (a) does not apply.

### **60-day shutdowns**

**14-9.** If the drinking-water system does not operate for a period of 60 or more consecutive days, sampling and testing is not required under sections 14-4 and 14-5 during that period.

### **Approvals before Dec. 19, 2001**

**14-10.** This Schedule prevails over an OWRA approval granted before December 19, 2001 that provides for less stringent sampling or testing.

## **SCHEDULE 15**

### **CHEMICAL SAMPLING AND TESTING**

#### **Small Non-Municipal Non-Residential**

### **Application**

**15-1.** This Schedule applies to small non-municipal non-residential systems.

### **Inorganics and organics**

**15-2.** The owner of a drinking-water system that serves a designated facility, and the operating authority for the system, shall ensure that at least one water sample is taken every 60 months and tested for every parameter set out in Schedules 23 and 24.

### **Lead**

**15-3.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that at least one distribution sample is taken every 60 months, from a point in the drinking-water system's distribution system, or in plumbing that is connected to the drinking-water system, that is likely to have an elevated concentration of lead.

(2) The owner of the drinking-water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for lead.

### **Nitrate and nitrite**

**15-4.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that at least one water sample is taken every three months and tested for nitrate and nitrite.

(2) If the drinking-water system does not operate for a period of 60 or more consecutive days, sampling and testing is not required under subsection (1) during that period.

### **Sodium**

**15-5.** The owner of a drinking-water system and the operating authority for the system shall ensure that at least one water sample is taken every 60 months and tested for sodium.

### **Fluoride**

**15-6.** If a drinking-water system does not provide fluoridation, the owner of the system and the operating authority for the system shall ensure that at least one water sample is taken at least once every 60 months and tested for fluoride.

### **First tests**

**15-7.** Where this Schedule requires that water samples be taken and tested for a parameter with a frequency of a period of time fixed by this Schedule, the owner of the drinking-water system and the operating authority for the system shall ensure that the first sample is taken and tested for that parameter,

(a) within that period of time after the later of,

(i) the date the last sample was taken and tested for that parameter under Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works) or Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities), if one of those regulations applied to the drinking-water system, and

(ii) the date the last sample was taken and tested for that parameter before this Regulation came into force for the purpose of complying with an OWRA approval or OWRA order or making an application for an OWRA approval, if a sample was taken and tested for that parameter for that purpose before this Regulation came into force; or

(b) within that period of time or 12 months, whichever is shorter, after this Schedule begins to apply to the drinking-water system, if clause (a) does not apply.

### **Approvals before Dec. 19, 2001**

**15-8.** This Schedule prevails over an OWRA approval granted before December 19, 2001 that provides for less stringent sampling or testing.

### **Small non-municipal non-residential systems that do not serve designated facilities**

**15-9.** If a small non-municipal non-residential system does not serve a designated facility, this Schedule does not apply to the system until the second anniversary of the day this Regulation comes into force.

## SCHEDULE 16

### REPORTING ADVERSE TEST RESULTS AND OTHER PROBLEMS

#### **Application**

**16-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal residential systems.
2. Small municipal residential systems.
3. Large municipal non-residential systems.
4. Small municipal non-residential systems.
5. Non-municipal year-round residential systems.
6. Non-municipal seasonal residential systems.
7. Large non-municipal non-residential systems.

8. Small non-municipal non-residential systems.

### Exemption

**16-2.** Subsection 18 (1) of the Act does not apply to a drinking-water test unless,

- (a) the test is required by this Regulation, an approval or an order, including an OWRA order;
- (b) the test is conducted by or pursuant to the direction of the owner of a drinking-water system, the operating authority for a drinking-water system or a certified operator or trained person employed by the owner or operating authority;
- (c) the test is conducted by or pursuant to the direction of a provincial officer;
- (d) the test is conducted by or pursuant to the direction of the medical officer of health or a member of the staff of the medical officer of health;
- (e) the test is conducted by or pursuant to the direction of a person employed in the Ministry of Health and Long-Term Care or the Ministry of Labour; or
- (f) the test is conducted by continuous monitoring equipment or microbiological in-line testing equipment.

### Duty to report under s. 18 of the Act

**16-3.** The following are prescribed as adverse results of a drinking-water test for the purpose of section 18 of the Act:

1. A result that exceeds any of the standards prescribed by Schedule 1, 2 or 3 to the Ontario Drinking-Water Quality Standards, other than the standard for fluoride, if the result is from a sample of drinking water.
2. A result indicating the presence of *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*) in a sample of drinking water.
3. A result indicating the presence of a pesticide not listed in Schedule 2 to the Ontario Drinking-Water Quality Standards in a sample of drinking water, at any concentration.
4. A result indicating that the concentration of free chlorine residual is less than 0.05 milligrams per litre in a distribution sample, if the drinking-water system provides chlorination and does not provide chloramination.
5. A result indicating that the concentration of combined chlorine residual is less than 0.25 milligrams per litre in a distribution sample, if the drinking-water system provides chloramination.

6. If the drinking-water system is required to provide filtration, a result indicating that turbidity exceeds 1.0 Nephelometric Turbidity Units (NTU) in,

i. a grab sample of water taken from a filter effluent line, or

ii. two samples of water from a filter effluent line 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.

7. If an approval or order, including an OWRA order, identifies a parameter as a health-related parameter and establishes a maximum concentration for the parameter, a result indicating that the parameter exceeds the maximum concentration in a sample of drinking water.

8. A result indicating that the concentration of sodium exceeds 20 milligrams per litre in a sample of drinking water, if a report under subsection 18 (1) of the Act has not been made in respect of sodium in the preceding 60 months.

9. A result indicating that the concentration of fluoride exceeds 1.5 milligrams per litre in a sample of drinking water, if a report under subsection 18 (1) of the Act has not been made in respect of fluoride in the preceding 60 months.

### **Duty to report other observations**

**16-4.** If an observation other than an adverse test result prescribed by section 16-3 indicates that a drinking-water system that provides or is required to provide disinfection is directing water that has not been properly disinfected to users of water from the system, the owner of the system shall report to the Ministry and the medical officer of health immediately after the observation is made.

### **Report to designated facilities**

**16-5.** (1) An owner of a drinking-water system who is required to report under section 16-4 or under subsection 18 (1) of the Act shall also report to the operator of each designated facility served by the system immediately after the adverse result is obtained or the observation is made.

(2) Subsection (1) does not apply to the owner of a large municipal residential system.

(3) Subsection (1) does not apply if the owner of the drinking-water system is also the operator of the designated facility.

### **Manner of making immediate report**

**16-6.** (1) A person who is required to report immediately under section 16-4 or 16-5 or under section 18 of the Act shall do so in accordance with this section and section 16-8.

- (2) An immediate report required under section 16-4 or 16-5 or under subsection 18 (1) of the Act must be given by speaking in person or by telephone with a person referred to in subsection (3).
- (3) For the purpose of subsection (2), the immediate report must be given,
- (a) to a medical officer of health, by speaking 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;
  - (b) to the Ministry, by speaking with a person at the Ministry's Spills Action Centre; and
  - (c) if the report is required under section 16-5, by speaking with a responsible individual at the designated facility.
- (4) An immediate report required under subsection 18 (3) of the Act must be given by speaking in person or by telephone with a person designated for that purpose by the owner of the drinking-water system.
- (5) An immediate notice required under subsection 18 (4) of the Act must be given by speaking in person or by telephone with a person designated for that purpose by,
- (a) the owner of the system and the operating authority for the system, if an operating authority is responsible for the system; or
  - (b) the owner of the system, if no operating authority is responsible for the system.
- (6) If an immediate report is required to be given under section 16-5 to the operator of a designated facility that is not open, the report must be given not later than the time the designated facility re-opens.

### **Written notice**

- 16-7.** (1) A person who is required to report immediately to another person under section 16-4 or 16-5 or under subsection 18 (1) of the Act shall also give the other person a written notice in accordance with this section and section 16-8.
- (2) A written notice required by subsection (1) must be given within 24 hours after the immediate report is given under section 16-4 or 16-5 or under subsection 18 (1) of the Act.
- (3) A written notice required by subsection (1) must be given to,
- (a) the medical officer of health, by delivering the written notice to the office of the medical officer of health;
  - (b) the Ministry, by delivering the written notice to the Ministry's Spills Action Centre; and

- (c) the operator of a designated facility, by delivering the written notice to the facility.
- (4) A person who is required to give a written notice to a designated facility under subsection (1) shall also give a copy of the notice to,
- (a) the minister responsible for the ministry or a person designated by the minister, if the interested authority is a ministry; or
  - (b) the head of the interested authority, if the interested authority is not a ministry.
- (5) Subsection (4) does not apply to a designated facility that is,
- (a) a private school;
  - (b) a children's camp; or
  - (c) a residence for seniors or retired persons, or any other similar residence, where attainment of a mature age is a factor in being accepted for occupancy.

### **Content of report and notice**

- 16-8.** (1) An immediate report given under section 16-4 or 16-5 or under section 18 of the Act must specify the adverse test result or observation that requires the report.
- (2) An immediate report given by the owner of a drinking-water system under section 16-4 or 16-5 or under subsection 18 (1) of the Act must indicate,
- (a) what actions are being taken in response to the adverse test result or observation that requires the report; and
  - (b) if Schedule 17 or 18 requires that a corrective action be taken in respect of the adverse test result or observation, whether the corrective action is being taken.
- (3) Subsections (1) and (2) also apply, with necessary modifications, to the written notice given by the person under section 16-7.

### **Notice of issue resolution**

- 16-9.** (1) If an immediate report or a written notice is given under this Schedule and the issue that gave rise to the notice is resolved, the owner of the drinking-water system shall, within seven days after the issue is resolved, give a written notice summarizing the action taken and the results achieved to,
- (a) the medical officer of health, by delivering the written notice to the office of the medical officer of health; and
  - (b) the Ministry, by delivering the written notice to the Ministry's Spills Action Centre.

(2) If an immediate report or a written notice is given under this Schedule to the interested authority for a designated facility and the issue that gave rise to the notice is resolved, the owner of the drinking-water system shall, within 30 days after the issue is resolved, give a written notice summarizing the action taken and the results achieved to the interested authority.

## SCHEDULE 17

### CORRECTIVE ACTION

#### Large Municipal Residential

##### **Application**

**17-1.** This Schedule applies to large municipal residential systems.

##### **Improper disinfection**

**17-2.** If a report is required to be made under section 16-4 of Schedule 16 in respect of water that has not been properly disinfected, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately restore the proper disinfection.
2. Take such other steps as are directed by the medical officer of health.

##### **Turbidity**

**17-3.** If a report is required to be made under section 18 of the Act in respect of turbidity, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately check all the drinking-water system's filters and turbidity monitoring equipment.
2. Review upstream operational processes and correct any faulty processes that are identified.
3. Take such other steps as are directed by the medical officer of health.

##### **Chlorine residual**

**17-4.** If a report is required to be made under section 18 of the Act in respect of free chlorine residual or combined chlorine residual, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately increase the chlorine or chloramine dose and flush the watermains to ensure that,



- i. a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chlorination and does not provide chloramination, or
  - ii. a combined chlorine residual of at least 1.0 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chloramination.
2. Take such other steps as are directed by the medical officer of health.

### ***Escherichia coli* (E. coli) or fecal coliforms**

**17-5.** If a report is required to be made under section 18 of the Act in respect of *Escherichia coli* (E. coli) or fecal coliforms, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.
2. Immediately increase the chlorine or chloramine dose and flush the watermains to ensure that,
  - i. a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chlorination and does not provide chloramination, or
  - ii. a combined chlorine residual of at least 1.0 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chloramination.
3. Maintain the free chlorine residual or combined chlorine residual concentration referred to in paragraph 2 in the affected parts of the distribution system, and continue to resample and test, until *Escherichia coli* (E. coli) or fecal coliforms are not detected in any of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.
4. Take such other steps as are directed by the medical officer of health.

### **Total coliforms**

**17-6.** If a report is required to be made under section 18 of the Act in respect of total coliforms, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.
2. If total coliforms are detected under paragraph 1, immediately increase the chlorine or chloramine dose and flush the watermains to ensure that,

- i. a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chlorination and does not provide chloramination, or
  - ii. a combined chlorine residual of at least 1.0 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chloramination.
3. Maintain the free chlorine residual or combined chlorine residual concentration referred to in paragraph 2 in the affected parts of the distribution system, and continue to resample and test, until total coliforms are not detected in any of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.
  4. Take such other steps as are directed by the medical officer of health.

### **Background colony counts on the total coliform membrane filter**

**17-7.** If a report is required to be made under section 18 of the Act in respect of general bacteria population expressed as background colony counts on the total coliform membrane filter, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.
2. If more than 200 colony forming units (CFU) per 100 millilitres are detected under paragraph 1, immediately increase the chlorine or chloramine dose and flush the watermains to ensure that,
  - i. a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chlorination and does not provide chloramination, or
  - ii. a combined chlorine residual of at least 1.0 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chloramination.
3. Maintain the free chlorine residual or combined chlorine residual concentration referred to in paragraph 2 in the affected parts of the distribution system, and continue to resample and test, until less than 200 colony forming units (CFU) per 100 millilitres are detected in all of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.
4. Take such other steps as are directed by the medical officer of health.

### **Colony counts on a heterotrophic plate count**

**17-8.** If a report is required to be made under section 18 of the Act in respect of general bacteria population expressed as colony counts on a heterotrophic plate count, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.
2. If more than 500 colony forming units (CFU) per millilitre are detected under paragraph 1, immediately increase the chlorine or chloramine dose and flush the watermains to ensure that,
  - i. a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chlorination and does not provide chloramination, or
  - ii. a combined chlorine residual of at least 1.0 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chloramination.
3. Maintain the free chlorine residual or combined chlorine residual concentration referred to in paragraph 2 in the affected parts of the distribution system, and continue to resample and test, until less than 500 colony forming units (CFU) per millilitre are detected in all of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.
4. Take such other steps as are directed by the medical officer of health.

***Aeromonas spp., etc.***

**17-9.** If a report is required to be made under section 18 of the Act in respect of *Aeromonas spp.*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium spp.* or fecal *streptococci* (Group D *streptococci*), the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.
2. If *Aeromonas spp.*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium spp.* or fecal *streptococci* (Group D *streptococci*) are detected under paragraph 1, immediately increase the chlorine or chloramine dose and flush the watermains to ensure that,
  - i. a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chlorination and does not provide chloramination, or
  - ii. a combined chlorine residual of at least 1.0 milligrams per litre is achieved at all points in the affected parts of the distribution system, if the drinking-water system provides chloramination.

3. Maintain the free chlorine residual or combined chlorine residual concentration referred to in paragraph 2 in the affected parts of the distribution system, and continue to resample and test, until *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*) are not detected in any of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.

4. Take such other steps as are directed by the medical officer of health.

### **Chemical and radiological parameters in O. Reg. 169/03**

**17-10.** If a report is required to be made under section 18 of the Act in respect of a chemical or radiological parameter set out in Schedule 2 or 3 to the Ontario Drinking-Water Quality Standards, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If a concentration that exceeds the standard prescribed for the parameter by Schedule 2 or 3 to the Ontario Drinking-Water Quality Standards is detected under paragraph 1, take such other steps as are directed by the medical officer of health.

### **Pesticide not listed in Schedule 2 to O. Reg. 169/03**

**17-11.** If a report is required to be made under section 18 of the Act in respect of a pesticide not listed in Schedule 2 to the Ontario Drinking-Water Quality Standards, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If the pesticide is detected under paragraph 1, take such other steps as are directed by the medical officer of health.

### **Health-related parameters in an approval or order**

**17-12.** If an approval or order identifies a parameter as a health-related parameter and a report is required to be made under section 18 of the Act in respect of the parameter, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If a concentration that exceeds the maximum concentration established for the parameter by the approval or order is detected under paragraph 1, take such other steps as are directed by the medical officer of health.

## Sodium

**17-13.** If a report is required to be made under section 18 of the Act in respect of sodium, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.
2. If a concentration of sodium that exceeds 20 milligrams per litre is detected under paragraph 1, take such steps as are directed by the medical officer of health.

### SCHEDULE 18

#### CORRECTIVE ACTION

Municipal: Small Residential  
Large Non-Residential  
Small Non-Residential

Non-Municipal: Year-Round Residential  
Seasonal Residential  
Large Non-Residential  
Small Non-Residential

## Application

**18-1.** This Schedule applies to the following drinking-water systems:

1. Small municipal residential systems.
2. Large municipal non-residential systems.
3. Small municipal non-residential systems.
4. Non-municipal year-round residential systems.
5. Non-municipal seasonal residential systems.
6. Large non-municipal non-residential systems.
7. Small non-municipal non-residential systems.

## Improper disinfection

**18-2.** If a report is required to be made under section 16-4 of Schedule 16 in respect of water that has not been properly disinfected, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately take all reasonable steps to notify all users of water from the system to use an alternate source of drinking water or to bring water to a rapid rolling boil for at least one minute before use.
2. Immediately restore the disinfection.
3. Take such other steps as are directed by the medical officer of health.

### **Turbidity**

**18-3.** If a report is required to be made under section 18 of the Act in respect of turbidity, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately take all reasonable steps to notify all users of water from the system to use an alternate source of drinking water or to bring water to a rapid rolling boil for at least one minute before use.
2. Immediately check all the drinking-water system's filters and turbidity monitoring equipment.
3. Review upstream operational processes and correct any faulty processes that are identified.
4. After taking the steps referred to in paragraphs 1, 2 and 3,
  - i. follow the manufacturer's recommendations for servicing or backwashing the nearest filter upstream of the location where the sample that gave rise to the report under section 18 of the Act was taken, or
  - ii. replace the filter cartridge or filter element of the nearest filter upstream of the location where the sample that gave rise to the report under section 18 of the Act was taken,

and flush the distribution system and any plumbing owned by the owner of the drinking-water system.

5. Take such other steps as are directed by the medical officer of health.

### **Chlorine residual**

**18-4.** If a report is required to be made under section 18 of the Act in respect of free chlorine residual, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately take all reasonable steps to notify all users of water from the system to use an alternate source of drinking water or to bring water to a rapid rolling boil for at least one

minute before use.

2. Immediately increase the chlorine dose and flush the distribution system and any plumbing owned by the owner of the drinking-water system to ensure that a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system and plumbing.

3. Take such other steps as are directed by the medical officer of health.

### ***Escherichia coli* (E. coli) or fecal coliforms**

**18-5.** If a report is required to be made under section 18 of the Act in respect of *Escherichia coli* (E. coli) or fecal coliforms, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately take all reasonable steps to notify all users of water from the system to use an alternate source of drinking water or to bring water to a rapid rolling boil for at least one minute before use.

2. Immediately resample and test.

3. If the drinking-water system provides chlorination, immediately increase the chlorine dose and flush the distribution system and any plumbing owned by the owner of the drinking-water system to ensure that a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system and plumbing.

4. If the drinking-water system provides chlorination, maintain the free chlorine residual concentration referred to in paragraph 3 in the affected parts of the distribution system and plumbing, and continue to resample and test, until *Escherichia coli* (E. coli) or fecal coliforms are not detected in any of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.

5. If the drinking-water system does not provide chlorination, immediately take the relevant corrective action steps described in the Ministry's *Procedure for Corrective Action for Systems Not Currently Using Chlorine*.

6. Take such other steps as are directed by the medical officer of health.

### **Total coliforms**

**18-6.** If a report is required to be made under section 18 of the Act in respect of total coliforms, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If total coliforms are detected under paragraph 1, immediately take all reasonable steps

to notify all users of water from the system to use an alternate source of drinking water or to bring water to a rapid rolling boil for at least one minute before use.

3. If total coliforms are detected under paragraph 1 and the drinking-water system provides chlorination, immediately increase the chlorine dose and flush the distribution system and any plumbing owned by the owner of the drinking-water system to ensure that a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system and plumbing.

4. If total coliforms are detected under paragraph 1 and the drinking-water system provides chlorination, maintain the free chlorine residual concentration referred to in paragraph 3 in the affected parts of the distribution system and plumbing, and continue to resample and test, until total coliforms are not detected in any of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.

5. If total coliforms are detected under paragraph 1 and the drinking-water system does not provide chlorination, immediately take the relevant corrective action steps described in the Ministry's *Procedure for Corrective Action for Systems Not Currently Using Chlorine*.

6. Take such other steps as are directed by the medical officer of health.

### **Background colony counts on the total coliform membrane filter**

**18-7.** If a report is required to be made under section 18 of the Act in respect of general bacteria population expressed as background colony counts on the total coliform membrane filter, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If more than 200 colony forming units (CFU) per 100 millilitres are detected under paragraph 1 and the drinking-water system provides chlorination, immediately increase the chlorine dose and flush the distribution system and any plumbing owned by the owner of the drinking-water system to ensure that a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system and plumbing.

3. If more than 200 colony forming units (CFU) per 100 millilitres are detected under paragraph 1 and the drinking-water system provides chlorination, maintain the free chlorine residual concentration referred to in paragraph 2 in the affected parts of the distribution system and plumbing, and continue to resample and test, until less than 200 colony forming units (CFU) per 100 millilitres are detected in all of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.

4. If more than 200 colony forming units (CFU) per 100 millilitres are detected under



paragraph 1 and the drinking-water system does not provide chlorination, immediately take the relevant corrective action steps described in the Ministry's *Procedure for Corrective Action for Systems Not Currently Using Chlorine*.

5. Take such other steps as are directed by the medical officer of health.

### **Colony counts on a heterotrophic plate count**

**18-8.** If a report is required to be made under section 18 of the Act in respect of general bacteria population expressed as colony counts on a heterotrophic plate count, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If more than 500 colony forming units (CFU) per millilitre are detected under paragraph 1 and the drinking-water system provides chlorination, immediately increase the chlorine dose and flush the distribution system and any plumbing owned by the owner of the drinking-water system to ensure that a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system and plumbing.

3. If more than 500 colony forming units (CFU) per millilitre are detected under paragraph 1 and the drinking-water system provides chlorination, maintain the free chlorine residual concentration referred to in paragraph 2 in the affected parts of the distribution system and plumbing, and continue to resample and test, until less than 500 colony forming units (CFU) per millilitre are detected in all of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.

4. If more than 500 colony forming units (CFU) per millilitre are detected under paragraph 1 and the drinking-water system does not provide chlorination, immediately take the relevant corrective action steps described in the Ministry's *Procedure for Corrective Action for Systems Not Currently Using Chlorine*.

5. Take such other steps as are directed by the medical officer of health.

### ***Aeromonas* spp., etc.**

**18-9.** If a report is required to be made under section 18 of the Act in respect of *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*), the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*) are detected under paragraph 1 and the drinking-water system provides chlorination, immediately increase the chlorine dose and

flush the distribution system and any plumbing owned by the owner of the drinking-water system to ensure that a free chlorine residual of at least 0.2 milligrams per litre is achieved at all points in the affected parts of the distribution system and plumbing.

3. If *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*) are detected under paragraph 1 and the drinking-water system provides chlorination, maintain the free chlorine residual concentration referred to in paragraph 2 in the affected parts of the distribution system and plumbing, and continue to resample and test, until *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*) are not detected in any of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the medical officer of health.

4. If *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*) are detected under paragraph 1 and the drinking-water system does not provide chlorination, immediately take the relevant corrective action steps described in the Ministry's *Procedure for Corrective Action for Systems Not Currently Using Chlorine*.

5. Take such other steps as are directed by the medical officer of health.

### **Chemical and radiological parameters in O. Reg. 169/03**

**18-10.** If a report is required to be made under section 18 of the Act in respect of a chemical or radiological parameter set out in Schedule 2 or 3 to the Ontario Drinking-Water Quality Standards, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If a concentration that exceeds the standard prescribed for the parameter by Schedule 2 or 3 to the Ontario Drinking-Water Quality Standards is detected under paragraph 1, take such other steps as are directed by the medical officer of health.

### **Pesticide not listed in Schedule 2 to O. Reg. 169/03**

**18-11.** If a report is required to be made under section 18 of the Act in respect of a pesticide not listed in Schedule 2 to the Ontario Drinking-Water Quality Standards, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.

2. If the pesticide is detected under paragraph 1, take such other steps as are directed by the medical officer of health.

### **Health-related parameters in an approval or order**

**18-12.** If an approval or order identifies a parameter as a health-related parameter and a report is required to be made under section 18 of the Act in respect of the parameter, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.
2. If a concentration that exceeds the maximum concentration established for the parameter by the approval or order is detected under paragraph 1, take such other steps as are directed by the medical officer of health.

### **Sodium**

**18-13.** If a report is required to be made under section 18 of the Act in respect of sodium, the owner of the drinking-water system and the operating authority for the system shall ensure that the following corrective action is taken:

1. Immediately resample and test.
2. If a concentration of sodium that exceeds 20 milligrams per litre is detected under paragraph 1, take such other steps as are directed by the medical officer of health.

## **SCHEDULE 19**

### **WARNING NOTICE OF POTENTIAL PROBLEMS**

**Municipal:** Small Residential  
Large Non-Residential  
Small Non-Residential

**Non-Municipal:** Year-Round Residential  
Seasonal Residential  
Large Non-Residential  
Small Non-Residential

### **Application**

**19-1.** This Schedule applies to the following drinking-water systems:

1. Small municipal residential systems.
2. Large municipal non-residential systems.
3. Small municipal non-residential systems.
4. Non-municipal year-round residential systems.

5. Non-municipal seasonal residential systems.
6. Large non-municipal non-residential systems.
7. Small non-municipal non-residential systems.

### **Warning notice to be posted**

**19-2.** (1) The owner of a drinking-water system and the operating authority for the system shall ensure that warning notices are posted in accordance with this section if,

(a) the owner or operating authority is required under Schedule 18 to take all reasonable steps to ensure that all users of water from the system are notified to use an alternate source of drinking water or to bring water to a rapid rolling boil for at least one minute before use; or

(b) the owner or operating authority is not complying with Schedule 11, 12 or 18.

(2) The warning notices required by subsection (1) must be posted in prominent locations where they are likely to come to the attention of users of water from the system.

(3) As part of complying with subsection (2), if the drinking-water system serves a designated facility, the warning notices required by subsection (1) must be posted,

(a) at every entrance to every building and every structure that is part of the designated facility; or

(b) if the designated facility does not have any building or structure, at a location where the warning notices are likely to come to the attention of all persons who enter the facility.

(4) If the drinking-water system serves a designated facility that is not owned by the owner of the drinking-water system, the owner of the system and the operating authority for the system shall be deemed to have ensured that warning notices are posted in accordance with subsection (3) if the operator of the facility is provided with,

(a) sufficient copies of the warning notices required by subsection (3); and

(b) instructions to post the warning notices in accordance with subsection (3).

### **Posting by others**

**19-3.** (1) If warning notices are not posted in accordance with section 19-2, the warning notices may be posted by,

(a) a provincial officer; or

(b) a public health inspector under the *Health Protection and Promotion Act*.

(2) If warning notices are not posted in accordance with section 19-2 at a designated facility, the warning notices may also be posted by an officer or agent of the interested authority for the designated facility.

(3) Subsection (2) does not apply to the following designated facilities:

1. A private school.
2. A children's camp.
3. A residence for seniors or retired persons, or any other similar residence, where attainment of a mature age is a factor in being accepted for occupancy.

## SCHEDULE 20

### ENGINEERS' REPORTS

Municipal: Large Residential  
Small Residential

#### **Application**

**20-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal residential systems.
2. Small municipal residential systems.

#### **Engineers' reports**

**20-2.** (1) The owner of a drinking-water system shall ensure that reports are given to the Director in accordance with this section.

(2) A report under this section must be prepared by a professional engineer who has experience in sanitary engineering related to drinking-water supplies and who is not an employee of the owner of the drinking-water system.

(3) A report under this section must be prepared in accordance with the document entitled *Terms of Reference for Engineers' Reports for Water Works*, originally dated August 2000, published by and available from the Ministry, as amended from time to time.

(4) If, before this Regulation came into force, a report in respect of the drinking-water system was given to the Director under section 13 of Ontario Regulation 459/00 (Drinking Water Protection - Larger Water Works), the first report under this section must be given to the Director not later than the fifth anniversary of the date the report was required to be given under Ontario Regulation 459/00.

- (5) If subsection (4) does not apply and the drinking-water system began operation after August 1, 2000 and before this Regulation comes into force, the first report under this section must be given to the Director not later than the fifth anniversary of the date the system began operation.
- (6) If subsections (4) and (5) do not apply in respect of a drinking-water system that began operation before this Regulation came into force, the first report under this section in respect of the system must be given to the Director within 90 days after this Regulation came into force.
- (7) If a drinking-water system begins operation on or after the date this Regulation comes into force, the first report under this section must be given to the Director not later than the fifth anniversary of the date the system began operation.
- (8) Subsequent reports under this section must be given to the Director not later than the fifth anniversary of the date the preceding report was required to be given.
- (9) Subsection (8) prevails over an OWRA order or OWRA approval.
- (10) An approval granted after this section comes into force prevails over subsections (4) to (8).

## SCHEDULE 21

### ENGINEERING EVALUATION REPORTS

Municipal: Large Non-Residential  
Small Non-Residential

Non-Municipal: Year-Round Residential  
Seasonal Residential  
Large Non-Residential  
Small Non-Residential

### Application

**21-1.** (1) This Schedule applies to the following drinking-water systems:

1. Large municipal non-residential systems.
2. Small municipal non-residential systems.
3. Non-municipal year-round residential systems.
4. Non-municipal seasonal residential systems.
5. Large non-municipal non-residential systems.
6. Small non-municipal non-residential systems.

(2) This Schedule does not apply to a drinking-water system if the system has an approval with a condition that provides relief from compliance with all of the requirements of the following provisions:

1. Paragraph 2 of subsection 2-2 (1) of Schedule 2.
2. Subsection 2-2 (2) of Schedule 2.
3. Sections 2-3 to 2-6 of Schedule 2.

### **Systems that commenced operation before this Regulation**

**21-2.** (1) The owner of a drinking-water system that commenced operation before this Regulation came into force shall ensure that a professional engineer who has experience in sanitary engineering related to drinking-water systems prepares a report that complies with section 21-5 not later than 30 days after sections 2-2 to 2-6 begin to apply to the system.

(2) If, before this Regulation came into force, a report on a drinking-water system was prepared and given to the Director in accordance with section 5 of Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities), the owner of the system shall be deemed to have complied with subsection (1) and with the owner's first obligation to give a notice to the Director under section 21-7, and, for the purpose of this Schedule, the report required by subsection (1) shall be deemed to have been required to be prepared not later than the date it was required to be prepared and given under Ontario Regulation 505/01.

(3) Subsection (1) does not apply to a drinking-water system in respect of which an OWRA approval was granted after August 1, 2000 if the owner gives the Director a written statement by a professional engineer certifying that he or she has visited the system and, in his or her opinion, the system complies with the approval, and, for the purpose of this Schedule, the report required by subsection (1) shall be deemed to have been required to be prepared not later than the date the approval was granted.

(4) Subsection (1) does not apply if, before the date the report is required to be prepared under that subsection, a report is prepared under section 21-3 in respect of the drinking-water system.

### **New and altered systems**

**21-3.** (1) If, after this Regulation comes into force, a drinking-water system commences operation or an alteration is made to a drinking-water system, the owner of the system shall ensure that, not later than 30 days after the system or altered system commences operation, a professional engineer who has experience in sanitary engineering related to drinking-water systems prepares a report that complies with section 21-5.

(2) Subsection (1) does not apply to,

- (a) the establishment or alteration of or a change to a service pipe;

(b) the establishment or alteration of or a change in an appurtenance of a watermain, if the appurtenance does not disrupt the operation of the drinking-water system that the watermain is part of;

(c) the relining of a watermain, if the new lining does not disrupt the operation of the drinking-water system that the watermain is part of;

(d) the replacement of an existing watermain with a new watermain that has similar dimensions and performance criteria and that is in the same or approximately the same location, if,

(i) the existing watermain was established or previously altered in accordance with an approval, or

(ii) after the existing watermain was established or previously altered,

(A) a report was prepared in accordance with this section and a notice was given to the Director in accordance with section 21-7 with respect to the establishment or alteration, or

(B) a report was prepared and given to the Director in accordance with section 5 of Ontario Regulation 505/01 (Drinking Water Protection - Smaller Water Works Serving Designated Facilities) with respect to the establishment or alteration.

### **Subsequent reports**

**21-4.** (1) If a report of a professional engineer with respect to a drinking-water system has been prepared under section 21-2 or 21-3 or this section, the owner of the system shall ensure that a professional engineer who has experience in sanitary engineering related to drinking-water systems prepares a subsequent report that complies with section 21-5,

(a) if the drinking-water system obtains water from a raw water supply that is surface water, before the fifth anniversary of the earlier of,

(i) the date the preceding report was prepared, and

(ii) the date the preceding report was required to be prepared; or

(b) if the drinking-water system obtains water from a raw water supply that is ground water, before the 10th anniversary of the earlier of,

(i) the date the preceding report was prepared, and

(ii) the date the preceding report was required to be prepared.

(2) If a report is prepared under section 21-3 in respect of an alteration to a drinking-water system before the date a report is required to be prepared under subsection (1), the owner of the



system is not required to prepare a further report under subsection (1) until the fifth anniversary or 10th anniversary, as the case may be of the date the preceding report was required to be prepared under section 21-3.

### **Contents of engineer's report**

**21-5.** For the purposes of this Schedule, a report complies with this section if,

- (a) the report specifies which type of drinking-water system listed in subsection 21-1 (1) the report deals with;
- (b) the professional engineer who prepares the report certifies in the report that he or she has visited the drinking-water system and that, in his or her opinion,
  - (i) all equipment required in order to ensure compliance with Schedule 2 is being provided, and
  - (ii) all equipment required in order to ensure compliance with Schedules 6, 8 and 9 is being provided; and
- (c) the report sets out the professional engineer's reasons for the opinion referred to in clause (b), along with the technical and other information he or she relied on in reaching that opinion.

### **Report to be delivered to owner**

**21-6.** The professional engineer who prepares a report under section 21-2, 21-3 or 21-4 shall immediately deliver the report to the owner of the system.

### **Notice to Director**

**21-7.** (1) The owner of the drinking-water system shall, within seven days after a report is required to be prepared under this Schedule, give a notice to the Director and to the interested authority for each designated facility served by the system that specifies which type of drinking-water system listed in subsection 21-1 (1) the report deals with and includes a copy of the opinion referred to in clause 21-5 (b).

(2) The owner of a drinking-water system shall promptly give a notice to the Director that describes any changes that occur with respect to information that was given in an earlier notice under subsection (1) or this subsection.

(3) The obligation to ensure that a notice be given to the interested authority for a designated facility under subsection (1) does not apply to the following designated facilities:

1. A private school.
2. A children's camp.

3. A residence for seniors or retired persons, or any other similar residence, where attainment of a mature age is a factor in being accepted for occupancy.

## SCHEDULE 22

### SUMMARY REPORTS FOR MUNICIPALITIES

Municipal: Large Residential  
Small Residential

#### Application

**22-1.** This Schedule applies to the following drinking-water systems:

1. Large municipal residential systems.
2. Small municipal residential systems.

#### Report

**22-2.** (1) The owner of a drinking-water system shall ensure that, not later than March 31 of each year after 2004, a report is prepared in accordance with subsections (2) and (3) for the preceding calendar year and is given to,

- (a) in the case of a drinking-water system owned by a municipality, the members of the municipal council;
- (b) in the case of a drinking-water system owned by a municipal service board established under section 195 of the *Municipal Act, 2001*, the members of the municipal service board; or
- (c) in the case of a drinking-water system owned by a corporation, the board of directors of the corporation.

(2) The report must,

- (a) list the requirements of the Act, the regulations, the system's approval and any order that the system failed to meet at any time during the period covered by the report and specify the duration of the failure; and
- (b) for each failure referred to in clause (a), describe the measures that were taken to correct the failure.

(3) The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

10.	Carbaryl
11.	Carbofuran
12.	Carbon Tetrachloride
13.	Chlordane (Total)
14.	Chlorpyrifos
15.	Cyanazine
16.	Diazinon
17.	Dicamba
18.	1,2-Dichlorobenzene
19.	1,4-Dichlorobenzene
20.	Dichlorodiphenyltrichloroethane (DDT) + metabolites
21.	1,2-dichloroethane
22.	1,1-Dichloroethylene (vinylidene chloride)
23.	Dichloromethane
24.	2,4-Dichlorophenol
25.	2,4-Dichlorophenoxy acetic acid (2,4-D)
26.	Diclofop-methyl
27.	Dimethoate
28.	Dinoseb
29.	Diquat
30.	Diuron
31.	Glyphosate
32.	Heptachlor + Heptachlor Epoxide
33.	Lindane (Total)
34.	Malathion
35.	Methoxychlor
36.	Metolachlor
37.	Metribuzin
38.	Monochlorobenzene
39.	Paraquat
40.	Parathion
41.	Pentachlorophenol
42.	Phorate
43.	Picloram

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows and daily instantaneous peak flow rates.

2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval.

(4) If a report is prepared under subsection (1) for a system that supplies water to a municipality under the terms of a contract, the owner of the system shall give a copy of the report to the municipality by March 31.

### SCHEDULE 23

#### INORGANIC PARAMETERS

Item	Parameter
1.	Antimony
2.	Arsenic
3.	Barium
4.	Boron
5.	Cadmium
6.	Chromium
7.	Mercury
8.	Selenium
9.	Uranium

### SCHEDULE 24

#### ORGANIC PARAMETERS

Item	Parameter
1.	Alachlor
2.	Aldicarb
3.	Aldrin + Dieldrin
4.	Atrazine + N-dealkylated metabolites
5.	Azinphos-methyl
6.	Bendiocarb
7.	Benzene
8.	Benzo(a)pyrene
9.	Bromoxynil

44.	Polychlorinated Biphenyls (PCB)
45.	Prometryne
46.	Simazine
47.	Temephos
48.	Terbufos
49.	Tetrachloroethylene (perchloroethylene)
50.	2,3,4,6-Tetrachlorophenol
51.	Triallate
52.	Trichloroethylene
53.	2,4,6-Trichlorophenol
54.	2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)
55.	Trifluralin
56.	Vinyl Chloride

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