

why eliminate quarterly report
 in favor of annual report
 BL
 annual SOS + 457?
 plan to submit reg'd
 on title
 + annual
 plan for
 vs
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 lots

Proposed
Drinking Water Protection Regulation
under the
Safe Drinking Water Act

January 2003

EBR coverage not
 been with
 content
 all of
 this

The following proposed regulation has been drafted for discussion purposes only. The structure, format and content of the regulation are subject to change.

① professional engineer
 industry
 report } like a SAR
 for man. systems }
 - short of approval

Pibs: 4348e

For Discussion Purposes Only

content
 → approvals
 → public

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Interpretation

1. (1) In this Regulation,

"Act" means SDWA

"approval" means,

- (a) an approval under subsection 52 (1) of the *Ontario Water Resources Act*, which is deemed by subsection 31(2) of the Act to be an approval for a municipal drinking-water system under Part V of the Act or is deemed by subsection 52(6) of the Act to be an approval for a regulated non-municipal drinking-water system under Part VI of the Act,
- (b) an approval granted for a municipal drinking-water system under section 36 of the *Safe Drinking Water Act*; or
- (c) an approval granted for a regulated non-municipal drinking-water system under section 56 of the *Safe Drinking Water Act*.

"children's camp" means a recreational camp which only admits children under the age of 16 as campers and which is a class "A" camp or a class "B" camp within the meaning of Regulation 568 (Recreational Camps) R.R.O. 1990, under the *Health Protection and Promotion Act*;

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

"deficiency" means, in respect of a drinking-water system,

- (a) a violation of section 5 [Minimum level of treatment],
- (b) a violation of section 8 [Sampling and Testing], if the violation poses a drinking-water health hazard; or
- (c) a violation of section 11 [Corrective action].

"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;

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

"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*,

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- (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;

“**licensed operator**” means a person who holds a Class I, Class II, Class III or Class IV water treatment facility operator’s licence or water distribution facility operator’s licence issued under Ontario Regulation 435/93 (Water Works and Sewage Works) and includes a person with qualifications that are equivalent in the opinion of the Director;

“**Ontario Drinking Water Standards**” means the Ministry of the Environment publication entitled “Ontario Drinking Water Standards”, originally dated August 2000, as amended from time to time;

“**order**” means,

- (a) an order issued under the Act in respect of a drinking-water system; or,
- (b) an order or direction issued under the *Ontario Water Resources Act* in respect of a waterworks which is a drinking-water system under the *Safe Drinking Water Act*.

“**private residence**” means a dwelling place occupied for an extended period of time by the same persons,

- (a) where the residents have a reasonable expectation of privacy;
- (b) where food preparation, personal hygiene, and sleeping accommodations are not communal in nature; and
- (c) at which any amount of outdoor area and up to 25% of the indoor floor area may be used by a resident for a home occupation, trade, business, profession or craft, secondary to the use of the dwelling place as a residence;

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

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

- hydro etc not defined

“**quarter**” means the three-month period beginning on January 1, April 1, July 1 and October 1 in each year;

“**seasonal works**” means a drinking-water system that does not operate for at least 60 consecutive days in every calendar year or in every fiscal year (starting April 1 in one year and ending March 31 in the following year) and includes a works that is closed for at least 60 consecutive days in its first 365 days of operation;

“**school**” means a school as defined in the *Education Act*;

"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 made 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,

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

"trained person" means a person who, in the preceding 36 months, successfully completed a course approved by the Director relating to functions that are required by this Regulation to be performed by trained persons, and includes a licensed operator and a person described in s. 9 (4)(c)(iii).

Classes of Drinking-Water Systems

1. (2) The following are classes of drinking-water systems for the purposes of this regulation:

1. **Municipal – Residential** means municipal drinking-water systems that serve a major residential development. *possible defined - quantified*
2. **Municipal – Non-Residential – Large** means municipal drinking-water systems that do not serve a major residential development, but are capable of producing water at a rate of 250,000 Litres/day; [250,000 Litres/day is equal to 173.6 Litres/minute or 2.9 Litres/second.]
3. **Municipal – Non-Residential – Small** means municipal drinking-water systems that do not serve a major residential development and are not capable of producing water at a rate of 250,000 Litres/day; [250,000 Litres/day is equal to 173.6 Litres/minute or 2.9 Litres/second.]
4. **Non-Municipal – Commercial and Institutional – Small** means non-municipal drinking-water systems that do not serve a major residential development, are not capable of producing water at a rate of 250,000 Litres/day, and provide water to a facility that provides water to the public for commercial or institutional purposes; [250,000 Litres/day is equal to 173.6 Litres/minute or 2.9 Litres/second.]
5. **Non-Municipal – Industrial, Commercial and Institutional – Large** means non-municipal drinking-water systems that are capable of producing water at a rate of 250,000 Litres/day and that does not serve a major residential development; [250,000 Litres/day is equal to 173.6 Litres/minute or 2.9 Litres/second.]
6. **Non-Municipal – Other – Small** means non-municipal drinking-water systems that do not serve a major residential development, are not capable of producing water at a rate of 250,000 Litres/day, and do not provide water to any facility that provides water to the public for commercial or institutional purposes.
7. **Non-Municipal – Residential** means non-municipal drinking-water systems that serve a major residential development and are not a seasonal works.
8. **Non-Municipal – Seasonal Residential** means non-municipal drinking-water

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systems that serve a major residential development and are a seasonal works.

1. (3) For the purposes of this regulation a drinking-water system that obtains water from a raw water supply which is surface water, includes a drinking-water system that obtains water from a raw water supply which is ground water directly under the influence of surface water.

1. (4) The following drinking-water systems are deemed to be systems that obtain water from a raw water supply which is ground water directly under the influence of surface water:

1. A drinking-water system that obtains water from,
 - i. a well which does not have watertight casing that extends to a depth of at least 6 metres below ground level; or
 - ii. an infiltration gallery
2. A drinking-water system, not capable of producing water at a rate of 250,000 Litres/day, that obtains water from a well, any part of which is within 15 metres of surface water.
3. A drinking-water system, capable of producing water at a rate of 250,000 Litres/day, that obtains water from an overburden well, any part of which is within 100 metres of surface water, and
4. A drinking-water system, capable of producing water at a rate of 250,000 Litres/day that obtains water from a bedrock well, any part of which is within 500 metres of surface water,

what is surface water - define

water input → cracks } large rep

Well 6-7 depth + still stand in / - catch well 5 just below of S.W.

where's the cut

pond? spray

→ simple structure

→ indicators of S. water

- spare for well
- colour / feel off
- etc.
- biochemistry of water
- electric conductivity

see raw characteristics } need to be looked @ individually

non-approval → non-

* for non-m } (engineering) report for non-m

770 reads 'For critical' John Henry

1. (5) Subsection (4) does not apply to a drinking-water system in respect of which a current report made by a professional engineer, hydrologist, geologist or hydrogeologist concludes that the raw water supply is not ground water under the direct influence of surface water and includes evidence supporting such conclusion.

1. (6) For the purposes of this regulation a drinking-water system that obtains water from a raw water supply which is ground water, does not include a drinking-water system that obtains water from a raw water supply which is surface water.

1. (7) For the purposes of this Regulation, a school or private school is open on a day if, at any time during that day, there are any persons inside any school building, other than the principal, a vice-principal or other academic administrator, or a member of the teaching, custodial or security staff.

1. (8) For the purposes of this Regulation, a day nursery is open on a day if, at any time during that day, any of the children cared for are present in the day nursery.

1. (9) For the purposes of this Regulation, where a sample of water is required to be tested for more microbiological parameters than one, the test for each such parameter shall be carried out independently and it is not permissible to infer the result for one parameter from the result of a test for a different parameter.

1. (10) For the purposes of this Regulation, 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.

the test being

microbiology / chemistry

1. (11) For the purposes of this Regulation, testing for a microbiological parameter shall be deemed to be carried out in 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.

SDWA proclamation section -> roll out over

Prescribed Drinking-Water Quality Standards

2. (1) The prescribed drinking-water quality standards for the purposes of the Act are the standards set out in the Schedules entitled "Schedule 2 - 1: Chemical/Physical Standards" and "Schedule 10 - 1: Indicators of Adverse Water Quality".

2. (2) If a drinking-water system does not comply with a prescribed drinking-water quality standard, the owner or operating authority of the system is deemed to have complied with the standard if the owner or operating authority takes one of the following measures to respond to the system's failure to comply with the prescribed standard:

1. If the prescribed standard that is not complied with is found in "Schedule 10-1: Indicators of Adverse Water Quality", the owner shall be deemed to have complied with the standard if the owner takes the corrective action prescribed by section 11 for that standard and the owner's system.
2. If the prescribed standard that is not complied with is found in "Schedule 2-1: Chemical/Physical Standards", the owner shall be deemed to have complied with the standard if the owner takes the measure specified in subsection 11 (7).

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compliance reg - to deal w
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J.K.
non-
molecular

[168 (4)]

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→ 99 → need to part

Schedule 2 - 1 Chemical/Physical Standards

→ schedule will be @ end of reg as is?

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.
- Municipal – Non-Residential – Large.
- Non-Municipal – Residential.
- Non-Municipal – Industrial, Commercial and Institutional – Large.
- Non-Municipal – Seasonal Residential.
- Municipal – Non-Residential – Small.
- Non-Municipal – Commercial and Institutional – Small.

- Does Not Apply
- Schedule Applies

compare with the other standards - my tightened up

Chemical/Physical Standards			
PARAMETER	Testing Regime	MAC (mg/L)	IMAC (mg/L)
Aalachlor	OTR		0.005
Aldicarb	OTR	0.009	
Aldrin + Dieldrin	OTR	0.0007	
Arsenic	ITR		0.025
Atrazine + N-dealkylated metabolites	OTR		0.005
Azinphos-methyl	OTR	0.02	
Barium	ITR	1.0	
Bendiocarb	OTR	0.04	
Benzene	OTR	0.005	
Benzo(a)pyrene	OTR	0.00001	
Boron	ITR		5.0
Bromate			0.01
Bromoxynil	OTR		0.005
Cadmium	ITR	0.005	
Carbaryl	OTR	0.09	
Carbofuran	OTR	0.09	
Carbon Tetrachloride	OTR	0.005	

(23) - Adv. Com. should address these plus others

cf. Tracking on Top summary

→ Adv. Committee → proceed. For Discussion Purposes Only. It's fine to review the adequacy of

Chemical/Physical Standards			
PARAMETER	Testing Regime	MAC (mg/L)	IMAC (mg/L)
Chloramines		3.0	
Chlordane (Total)	OTR	0.007	
Chlorpyrifos	OTR	0.09	
Chromium	ITR	0.05	
Cyanazine	OTR		0.01
Cyanide		0.2	
Diazinon	OTR	0.02	
Dicamba	OTR	0.12	
1,2-Dichlorobenzene	OTR	0.2	
1,4-Dichlorobenzene	OTR	0.005	
Dichlorodiphenyltrichloroethane (DDT) + metabolites	OTR	0.03	
1,2-dichloroethane	OTR		0.005
1,1-Dichloroethylene(vinylidene chloride)	OTR	0.014	
Dichloromethane	OTR	0.05	
2-4-Dichlorophenol	OTR	0.9	
2,4-Dichlorophenoxy acetic acid(2,4-D)	OTR		0.1
Diclofop-methyl	OTR	0.009	
Dimethoate	OTR		0.02
Dinoseb	OTR	0.01	
Dioxin and Furan			0.000000015 ^a
Diquat	OTR	0.07	
Diuron	OTR	0.15	
Fluoride		1.5 ^b	
Glyphosate	OTR		0.28
Heptachlor + Heptachlor Epoxide	OTR	0.003	
Lead	ITR	0.01 ^c	
Lindane (Total)	OTR	0.004	
Malathion	OTR	0.19	

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Chemical/Physical Standards			
PARAMETER	Testing Regime	MAC (mg/L)	IMAC (mg/L)
Mercury	ITR	0.001	
Methoxychlor	OTR	0.9	
Metolachlor	OTR		0.05
Metribuzin	OTR	0.08	
Monochlorobenzene	OTR	0.08	
Nitrate (as nitrogen)		10.0	
Nitrite (as nitrogen)		1.0	
Nitrate + Nitrite (as nitrogen)		10	
Nitrilotriacetic Acid (NTA)		0.4	
Nitrosodimethylamine (NDMA)			0.000009
Paraquat	OTR		0.01
Parathion	OTR	0.05	
Pentachlorophenol	OTR	0.06	
Phorate	OTR		0.002
Picloram	OTR		0.19
Polychlorinated Biphenyls (PCB)	OTR		0.003
Prometryne	OTR		0.001
Selenium	ITR	0.01	
Simazine	OTR		0.01
Temephos	OTR		0.28
Terbufos	OTR		0.001
Tetrachloroethylene (perchloroethylene)	OTR	0.03	
2,3,4,6-Tetrachlorophenol	OTR	0.1	
Triallate	OTR	0.23	
Trichloroethylene	OTR	0.05	
2,4,6-Trichlorophenol	OTR	0.005	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	OTR	0.28	
Trifluralin	OTR		0.045
Trihalomethanes	OTR	0.100 ^d	
Turbidity		1.0 NTU	

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Chemical/Physical Standards			
PARAMETER	Testing Regime	MAC (mg/L)	IMAC (mg/L)
Uranium	ITR	0.02	
Vinyl Chloride	OTR	0.002	

Notes:

Short forms:

MAC - Maximum Acceptable Concentration

NTU - Nephelometric Turbidity Unit

IMAC - Interim Maximum Acceptable Concentration

mg/L - milligrams per litre

OTR - Organic Testing Regime

ITR - Inorganic Testing Regime

Footnotes:

- a. Total toxic equivalents when compared with 2,3,7,8-TCDD (tetrachlorodibenzo-p-dioxin).
- b. Where fluoride is added to drinking water, it is recommended that the concentration be adjusted to between 0.5-0.8 mg/L, the optimum level for control of tooth decay.
- c. This standard applies to water at the point of consumption.
- d. This standard is expressed as a running annual average.

Schedule 2 - 2 Radiological Standards

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.
 - Municipal – Non-Residential – Large.
 - Non-Municipal – Residential.
 - Non-Municipal – Industrial, Commercial and Institutional – Large.
 - Non-Municipal – Seasonal Residential.
 - Municipal – Non-Residential – Small.
 - Non-Municipal – Commercial and Institutional – Small.
- Does Not Apply
 Schedule Applies

Radiological Standards					
Parameter	MAC (Bq/L)	Parameter	MAC (Bq/L)	Parameter	MAC (Bq/L)
Natural Radionuclides					
Beryllium-7	4000	Radium-226	0.6	Thorium-234	20
Bismuth -210	70	Radium-228	0.5	Uranium-234	4
Lead-210	0.1	Thorium-228	2	Uranium-235	4
Polonium-210	0.2	Thorium-230	0.4	Uranium-238	4
Radium-224	2	Thorium-232	0.1		
Artificial Radionuclides					
Americium-241	0.2	Iodine-125	10	Selenium-75	70
Antimony-122	50	Iodine-129	1	Silver-108m	70
Antimony-124	40	Iodine-131	6	Silver-110m	50
Antimony-125	100	Iron-55	300	Silver-111	70
Barium-140	40	Iron-59	40	Sodium-22	50
Bromine-82	300	Manganese-54	200	Strontium-85	300
Calcium-45	200	Mercury-197	400	Strontium-89	40
Calcium-47	60	Mercury-203	80	Strontium-90	5
Carbon-14	200	Molybdenum-99	70	Sulphur-35	500
Cerium-141	100	Neptunium-239	100	Technetium-99	200
Cerium-144	20	Niobium-95	200	Technetium-99m	7000
Cesium-131	2000	Phosphorus-32	50	Tellurium-129m	40
Cesium-134	7	Plutonium-238	0.3	Tellurium-131m	40
Cesium-136	50	Plutonium-239	0.2	Tellurium-132	40
Cesium-137	10	Plutonium-240	0.2	Thallium-201	2000

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Radiological Standards					
Parameter	MAC (Bq/L)	Parameter	MAC (Bq/L)	Parameter	MAC (Bq/L)
Chromium-51	3000	Plutonium-241	10	Tritium	7000
Cobalt-57	40	Rhodium-105	300	Ytterbium-169	100
Cobalt-58	20	Rubidium-81	3000	Yttrium-90	30
Cobalt-60	2	Rubidium-86	50	Yttrium-91	30
Gallium-67	500	Ruthenium-103	100	Zinc-65	40
Gold-198	90	Ruthenium-106	10	Zirconium-95	100
Indium-111	400				

Notes:

Radionuclide concentrations that exceed the MAC may be tolerated for a short duration, provided that the annual average concentrations remain below the MAC and the restriction (see immediately below) for multiple radionuclides is met.

Restrictions for multiple radionuclides - If two or more radionuclides are present, the following relationship based on International Commission on Radiological Protection (ICRP) Publication 26, must be satisfied and if not satisfied, it shall be considered to be exceedence of an MAC.

$$\frac{c_1}{C_1} + \frac{c_2}{C_2} + \dots + \frac{c_i}{C_i} \leq 1$$

where c_1 , c_2 , and c_i are the observed concentrations, and C_1 , C_2 and C_i are the maximum acceptable concentrations for each contributing radionuclide.

In this section, Act means S.D.W.A.

Application

3. (1) The following classes of non-municipal drinking-water systems are prescribed as regulated non-municipal drinking-water systems for the purposes of the provisions of the Act listed in subsection (2):

- 1. Non-Municipal – Commercial and Institutional – Small
- 2. Non-Municipal – Industrial, Commercial and Institutional – Large
- 3. Non-Municipal – Residential
- 4. Non-Municipal – Seasonal Residential

what is included? - NM. Other small water?

3. (2) The provisions of the Act referred to in subsection (1) are the following:

- 1. Subsections 11 (1) and 11 (2). [Duties on owners and operating authorities]
- 2. Section 18. [Reporting adverse test results]
- 3. Clause 52 (1) (a). [Operate in accordance with regulations]
- 4. Subsection 54 (4). [Voluntary application for approval]
- 5. Section 106. [Order – drinking water systems]
- 6. Section 108. [Minister's order – imminent drinking-water health hazard]
- 7. Section 109. [Director's order – imminent drinking-water health hazard]
- 8. Section 110 [Notice of emergency response]
- 9. Section 111. [Order to decommission]
- 10. Section 112. [Order to continue operation]
- 11. Section 113. [Appointment of interim operating authority]

Why not 11(3) re out of prov? why both operational plans?

what is excluded + why

3. (3) The following classes of non-municipal drinking-water systems are prescribed for the purposes of subsection 52 (2) [Fragmentation] and section 114 [Order to municipality to provide service], of the Act:

- 1. Non-Municipal – Residential
- 2. Non-Municipal – Seasonal Residential

with

note: municipal about cap/ 435/93 - end

*trav + operator certified
435/93
- updated
→ priority
not one to draw
w/ Skabels*

3. (4) This regulation applies to every drinking water system that falls within a class of drinking-water systems that is described in subsection 1 (2), unless the drinking-water system falls within the following class of drinking-water systems:

- 1. Non-Municipal – Other – Small

} *exclusion*

3. (5) Where the owner of a drinking-water system to which this regulation applies also owns a plumbing system that is connected to the drinking water system and the purpose of the plumbing system is to provide water to the public, to the owner's tenants or employees or to persons in a designated facility, the owner shall ensure that any of the following fixtures attached to the plumbing system are supplied with water that meet the prescribed drinking-water quality standards:

- 1. Showers
- 2. Bathtubs
- 3. Washbasins
- 4. Food preparation sinks
- 5. Water Fountains

- extend how connections?

3. (6) Subject to subsection 13 (2), subsection (5) does not apply to the owner of a drinking-water system that falls within the Non-Municipal – Commercial and Institutional – Small class of systems if,

- non-work system

- (a) the system does not serve a designated facility; and,
- (b) the owner makes an election under subsection 5 (2) and 8 (7) and posts warning notices in accordance with subsection 13 (1).

this seems to be an exemption

3. (7) Despite subsection (4), the sections of this Regulation which follow this section do not apply to a drinking-water system that obtains all of its water from another drinking-water system to which this Regulation does apply, unless:

possible way

- (a) the system that obtains the water is a municipal drinking-water system;
- (b) the system that obtains the water is a drinking water system that falls within the class of,
 - (i) Non-Municipal – Residential systems, or
 - (ii) Non-Municipal – Seasonal Residential systems;

at the municipal treatment - explain

Similar situation - full delivery

They're not

- obtain new system

For Discussion Purposes Only

through physical supply system

- (c) the system that obtains the water supplies water to or for a municipality; or
- (d) the system that obtains the water rechlorinates or otherwise treats the water.

3. (8) Despite subsection (7), section 7 [flushing] does apply to the operator of a school, private school or day nursery.

Approvals

4. (1) A person who applies for an approval shall do so in accordance with the Ontario Drinking Water Standards.

4. (2) In considering an application for an approval, the Director shall have regard to the Ontario Drinking Water Standards.

4. (3) Subsection 31(1) [approval requirement] of the *Safe Drinking Water Act* does not apply to the following classes of municipal drinking-water systems:

- 1. Municipal – Non-Residential – Large.
- 2. Municipal – Non-Residential – Small.

*why? same - of O'Connor
 treatment: [unclear] to other...*

4. (4) The owner of a drinking-water system, other than a system which is Municipal Residential, shall ensure the provision of engineering evaluation reports in accordance with the Engineering Evaluation Report Schedule appropriate to the drinking-water system which he or she owns and shall do so at such times and within such time limits as the Schedule may indicate.

only

Deemed Revocation of OWRA Approvals For Non-Municipal Systems

4. (5) An approval that has been granted to a non-municipal drinking-water system under section 52 of the Ontario Water Resources Act is deemed to be revoked,

3. min's less 10's

- (a) on the date a professional engineer submits a report to the Director that complies with subsection (7) in "Schedule 4-1: Engineering Evaluation Reports"; or
- (b) if the owner of the system is permitted under subsection 5 (2) not to provide the required minimum level of treatment and under subsection 8 (8) not to carry out the required operational checks, sampling and testing and the owner makes an election under those subsections and posts appropriate warning notices under subsection 13 (1), on the date such notices are posted in accordance with subsection 13 (1).

*any more
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 printed
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 caught*

Engineer Reports

4. (6) The owner of a drinking-water system shall ensure that written engineer's reports are prepared by a person referred to in subsection (11) in accordance with the Ministry of the Environment publication entitled "Terms of Reference for Engineer's Reports for Water Works", originally dated August 2000, as amended from time to time, if,

- (a) the system is municipal – residential and was required to prepare a report for the Ministry under section 13 of Ontario Regulation 459/00; or
- (b) reports under this subsection or under section 13 of Ontario Regulation 459/00 are required by an approval or order.

4. (7) The owner of a drinking-water system shall ensure that a first report prepared under subsection (6) is submitted to the Director not later than the date specified by Ontario regulation 459/00 or by an approval or order.

4. (8) The owner shall ensure that a second report and subsequent reports are submitted to the Ministry not later than the fifth anniversary of the date the first report or the previous report was required to be submitted.

4. (9) Subsection (8) prevails over an order or approval issued or granted before the date this regulation comes into force.

4. (10) Despite subsection (8), if reports are required by an order or approval issued or granted on or after the date this regulation comes into force, the owner shall ensure that a report is submitted to the Director not later than the date as may be specified in the order or approval.

4. (11) A report required to be prepared under subsection (6) shall 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.

Schedule 4 - 1 Engineering Evaluation Reports

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.**
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
-
- Does Not Apply
 - Schedule Applies

(1) The owner of a drinking-water system that commenced operation before the date this regulation comes into force, other than a drinking-water system that serves a designated facility to which Ontario Regulation 505/01 applies, shall ensure that, not later than December 31, 2003,

- (a) professional engineer submits a report to the Director that complies with subsection (7);
- (b) the owner submits a written notice to the Director describing the action proposed in order to achieve compliance with all applicable Minimum Treatment Requirements, as required by section 5 of the regulation, and setting out a timetable for the action; or,
- (c) the owner submits a written notice to the Director,
 - (i) if the system's raw water supply is ground water, that includes a statement by the owner that the owner intends to make an application for relief from strict compliance with all requirements to treat raw water in accordance with subsection 6 (3) and a timetable that shows how the owner will collect the necessary testing data required for the application by Schedule 6 -2 and the date the owner anticipates submitting an application to the Director under that subsection; or,
 - (ii) if the owner is permitted under subsection 5 (2) not to provide the required minimum level of treatment and under subsection 8 (8) not to carry out the required operational checks, sampling and testing, and the owner intends to make an election under those subsections and posts appropriate warning notices under

subsection 13 (1), that includes a statement by the owner that the owner intends to do so.

(2) If a notice is submitted under clause (1) (b), the owner of the drinking-water system shall ensure that, not later than 30 days after the date the owner is required to provide Minimum Treatment, a professional engineer submits a report to the Director, and to the interested authority for each designated facility served by the system, that complies with subsection (7).

(3) The owner of a drinking-water system that serves a designated facility to which Ontario Regulation 505/01 applies shall ensure that, not later than July 31st, 2003, a professional engineer submits a report to the Director, and to the interested authority for each designated facility served by the system, that complies with subsection (7).

(4) If a report of a professional engineer has been submitted with respect to a drinking-water system pursuant to s. 5 of Ontario Regulation 505/01, the submission of such report is deemed to constitute compliance with subsection (3).

(5) If a drinking-water system is established or altered on or after the date this regulation comes into force, the owner of the system shall ensure that, not later than 30 days after the system first commences operation after the establishment or alteration, a professional engineer submits a report to the Director, and to the interested authority for each designated facility served by the system, that complies with subsection (7).

(6) If a report of a professional engineer has been submitted in respect of a drinking-water system under clause (1) (a), subsection (2), (3) or (5) or this subsection, the owner of the system shall ensure that a professional engineer submits ~~further~~ reports to the Director, and to the interested authority for each designated facility served by the system, that complies with subsection (7),

- (a) before the ~~fifth~~ anniversary of the preceding submission, with respect to a drinking-water system that obtains water from a raw water supply which is surface water; or,
- (b) before the tenth anniversary of the preceding submission, with respect to a drinking-water system that obtains water from a raw water supply which is ground water.

(7) For the purposes of clause (1) (a) and subsections (2), (3) (5) and (6), a report complies with this subsection if the professional engineer who submits the report certifies in the report that he or she has visited the drinking-water system and that, in his or her opinion,

- (a) all equipment required in order to ensure compliance with section 5 [Minimum treatment requirements] is being provided; and

- (b) all equipment required in order to ensure compliance with section 8 [Operational checks, sampling and testing] is being provided.

(8) Subsection (2) does not apply if, before the date the report is required to be submitted under that subsection, a report is submitted to the Director under subsection (5) in respect of the drinking-water system.

(9) If a report is submitted to the Director under subsection (5) in respect of an alteration to a drinking-water system before the date a report is required to be submitted under subsection (6), the owner of the drinking-water system is not required to submit further reports under subsection (6) until the fifth or tenth anniversary, as applicable, of the date the report is submitted under subsection (5).

(10) This Schedule does not apply in respect of a drinking-water system if the owner of the system has applied to the Director in accordance with subsection 6 (3) of the regulation for relief from strict compliance with all requirements to treat water and the Director has granted an approval for the relief sought.

(11) The provisions of this section that require a report or notice to be submitted to the interested authority for a designated facility do 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.

Minimum level of treatment

5. (1) The owner of a drinking-water system shall ensure the provision and operation of all facilities and equipment in accordance with the "Minimum Level of Treatment" Schedule that applies to the owner's system and shall do so,

- (a) by the date specified in the Schedule for that system;
- (b) in respect of a drinking-water system to which "Schedule 5 - 1: Minimum Level of Treatment (Municipal Residential systems)" or "Schedule 5-2: Minimum Level of Treatment (Municipal – Non-Residential – Large and Large Non-Municipal Systems)" applies, by such other date as may be specified in an approval or order issued on or after August 1, 2000; or,
- (c) in respect of a drinking-water system to which "Schedule 5-3: Minimum Level of Treatment (Small & Seasonal Systems)" applies by such other date as may be specified in an approval or order issued on or after December 19, 2001.

Posting

5. (2) This section does not apply to a drinking-water system that falls within a class of drinking-water systems listed below, if the owner elects that it shall not apply and posts appropriate warning notices in accordance with subsection 13 (1):

- 1. Non-Municipal – Commercial and Institutional – Small.
- 2. A drinking-water system that does not utilize electricity and provides water only to buildings or other structures that are not supplied with electricity.

5. (3) An election may not be made with respect to a drinking-water system under paragraph 1 of subsection (2) which supplies water to a designated facility.

Schedule 5 - 1 Minimum Level of Treatment (Municipal – Residential Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- **Municipal – Residential.**
- **Municipal – Non-Residential – Large.**
- **Non-Municipal – Residential.**
- **Non-Municipal – Industrial, Commercial and Institutional – Large.**
- **Non-Municipal – Seasonal Residential.**
- **Municipal – Non-Residential – Small.**
- **Non-Municipal – Commercial and Institutional – Small.**

- Does Not Apply
- Schedule Applies

(1) The owner of a drinking-water system that obtains water from a raw water supply which is ground water shall ensure provision of a minimum level of treatment consisting of disinfection.

(2) The owner of a drinking-water system that obtains water from a raw water supply which is surface water shall ensure provision of a minimum level of treatment consisting of chemically assisted filtration and disinfection or other treatment capable, in the Director's opinion, of producing water of equal or better quality.

(3) The owner of a drinking-water system shall ensure that no water enters a distribution system or plumbing unless it has been treated with chlorination or another treatment that, in the Director's opinion, is as effective as chlorination to provide a disinfectant residual that persists into the distribution system or plumbing.

(4) This Schedule prevails over an order issued, or an approval granted, before August 1, 2000, that provides for less stringent requirements.

(5) Subsections (1), (2) and (3) apply on the date this regulation comes into force.

(6) Despite subsection (5), if a drinking-water system commenced operation before August 1, 2000 and, immediately before that day, was not in compliance with subsection (1), (2) or (3), the owner of the system is not required to comply with that subsection until July 1, 2003.

— why?

Schedule 5 - 2 Minimum Level of Treatment (Large Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential**
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
-
- Does Not Apply
 - Schedule Applies

(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 this regulation.
3. The water treatment equipment is in operation whenever water is being obtained or supplied.
4. The water treatment equipment is operated in a manner that produces a detectable residual of chlorine or other disinfectant at every point of the distribution system.
5. The water treatment equipment is operated in a manner that achieves the capabilities it is required to have under paragraph 2.
6. The water treatment equipment is properly maintained.
7. Written operating instructions for the water treatment equipment are kept near the equipment.
8. 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.
9. Replacement parts are kept nearby for those parts of the water treatment equipment that may be expected to require periodic replacement.

10. Adjustments to the water treatment equipment are carried out only by licensed operators.

(2) If a drinking-water system obtains water from a ground water raw water supply, the owner of the system shall ensure that disinfection equipment is provided that,

- (a) in the case of chlorination equipment,
 - (i) is capable of,
 - A. providing a contact time that is capable of satisfying the requirements of clause 2.1 a and section 3 of the procedure entitled "Chlorination of Potable Water Supplies in Ontario" in the Ministry of the Environment publication entitled "Ontario Drinking Water Standards", originally dated August 2000, as amended from time to time; or
 - B. achieving at least 99 per cent inactivation of viruses in water that has a temperature of approximately 10°C and a pH of between 6 and 9, and
 - (ii) is capable of providing a minimum chlorine residual of 0.2 milligrams per litre, measured as free chlorine, at maximum flow in all water that has been treated by the equipment; or
- (b) in the case of other disinfection equipment,
 - (i) is equivalent to or better than chlorination with respect to the ability to achieve at least 99 per cent inactivation of viruses in water that has a temperature of approximately 10°C and a pH of between 6 and 9, and
 - (ii) is equivalent to or better than chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

(3) The owner of a drinking-water system that obtains water from a raw water supply which is surface water shall ensure that,

- (a) filtration and disinfection equipment is provided that is capable of satisfying the requirements of clause 2.2 a and section 3 of the procedure entitled "Chlorination of Potable Water Supplies in Ontario" in the Ministry of the Environment publication entitled "Ontario Drinking Water Standards", originally dated August 2000, as amended from time to time; or
- (b) filtration and disinfection equipment is provided that,

- (i) is equivalent to or better than filtration and chlorination with respect to the ability to achieve at least 99.99 per cent removal or inactivation of viruses in water of every temperature and pH that is likely to be encountered in the surface water raw water supply when the drinking-water system is in operation,
- (ii) is equivalent to or better than filtration and chlorination with respect to the ability to achieve at least 99.9 per cent removal or inactivation of giardia lamblia cysts in water of every temperature and pH that is likely to be encountered in the surface water raw water supply when the drinking-water system is in operation, and
- (iii) is equivalent to or better than filtration and chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

(4) Subsection (3) does not apply to the extent that an approval granted on or after December 19, 2001 imposes different requirements and provides that they apply instead of requirements that would otherwise be imposed by subsection (3).

(5) If a drinking-water system includes a distribution system or provides water to plumbing, and any part of the distribution system or plumbing is in the natural environment, the owner of the drinking-water system shall, in addition to complying with subsection (2) or (3), whichever is applicable, ensure that disinfection equipment is provided that,

- (a) in the case of chlorination or chloramination equipment,
 - (i) is capable of providing a disinfectant residual that persists into the distribution system or plumbing, and
 - (ii) is capable of providing at every point in the distribution system or plumbing, a free chlorine residual of at least 0.2 milligrams per litre if chlorination is used or a combined chlorine residual of at least 1.0 milligrams per litre if chloramination is used; or
- (b) in the case of other disinfection equipment,
 - (i) is equivalent to or better than chlorination with respect to the ability to provide a disinfectant residual that persists into the distribution system or plumbing and the ability to protect water from bacterial contamination at every point in the distribution system or plumbing, and
 - (ii) is equivalent to or better than chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

(6) Subsection (5) does not apply if the owner complies with subsection (2) or (3), whichever is applicable, and all disinfection provided in accordance with subsection (2) or (3) takes place at a point or points in the drinking-water system that is after all parts of the distribution system or plumbing that are in the natural environment.

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

(8) Subsections (1), (2), (3) and (5) apply on the date this regulations comes into force.

(9) Despite subsection (8), if a drinking-water system commenced operation before August 1, 2000 and, immediately before that day, was not in compliance with subsection (1), (2), (3) or (5), the owner of the system is not required to comply with that subsection until,

- (a) if the drinking water system obtains water from a raw water supply which is surface water, July 1, 2004; or,
- (b) if the drinking-water system obtains water from a raw water supply which is ground water December 31, 2005.

2006

Schedule 5 - 3 Minimum Level of Treatment (Small and Seasonal Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential**
- Municipal – Non-Residential – Large.**
- Non-Municipal – Residential.**
- Non-Municipal – Industrial, Commercial and Institutional – Large.**
- Non-Municipal – Seasonal Residential.**
- Municipal – Non-Residential – Small.**
- Non-Municipal – Commercial and Institutional – Small.**

- Does Not Apply
- Schedule Applies

(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 this section.
3. The water treatment equipment is in operation whenever water is being obtained or supplied.
4. The water treatment equipment is operated in a manner that produces a detectable residual of chlorine or other disinfectant at every point of the distribution system.
5. The water treatment equipment is operated in a manner that achieves the capabilities it is required to have under paragraph 2.
6. The water treatment equipment is properly maintained.
7. Written operating instructions for the water treatment equipment are kept near the equipment.
8. 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.
9. Replacement parts are kept nearby for those parts of the water treatment equipment that may be expected to require periodic replacement.

10. Adjustments to the water treatment equipment are carried out only by trained persons.

(2) If a drinking-water system obtains water from a ground water raw water supply, the owner of the system shall ensure that disinfection equipment is provided that,

(a) in the case of chlorination equipment,

(i) is capable of,

A. providing a contact time of not less than the minimum contact time set out for the system's baffling conditions in the Table that follows this subsection,

B. providing a contact time of not less than 15 minutes, as determined by a tracer study or mathematical modeling, where the contact time is determined as T_{10} , the time for 10% of the water to pass through the equipment, or

C. achieving at least 99 per cent inactivation of viruses in water that has a temperature of approximately 10°C and a pH of between 6 and 9, and

(ii) is capable of providing a minimum chlorine residual of 0.2 milligrams per litre, measured as free chlorine, at maximum flow in all water that has been treated by the equipment; or

(b) in the case of other disinfection equipment,

(i) is equivalent to or better than chlorination with respect to the ability to achieve at least 99 per cent inactivation of viruses in water that has a temperature of approximately 10°C and a pH of between 6 and 9, and

(ii) is equivalent to or better than chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

**Table: Ground Water Raw Water Supply – Chlorination –
Minimum Contact Times (subclause (2) (a) (i))**

Item	Baffling Conditions	Minimum Contact Time (minutes)
1	Unbaffled (mixed flow) separate inlet-outlet: none, agitated basin, very low length to width ratio, high inlet and outlet flow velocities	150
2	Poor: single or multiple unbaffled inlets and outlets, no intra-basin baffles	50
3	Average: baffled inlet or outlet with some intra-basin baffles	30
4	Superior: perforated inlet baffle, serpentine or perforated intra-basin baffles, outlet weir or perforated launders	22
5	Perfect (plug flow): very high length to width ratio (pipeline flow)	15

(3) The owner of a drinking-water system that obtains water from a raw water supply which is surface water shall ensure that,

- (a) filtration and disinfection equipment is provided that is capable of satisfying the requirements of clause 2.2 a and section 3 of the procedure entitled "Chlorination of Potable Water Supplies in Ontario" in the Ministry of the Environment publication entitled "Ontario Drinking Water Standards", originally dated August 2000, as amended from time to time; or
- (b) filtration and disinfection equipment is provided that,
 - (i) is equivalent to or better than filtration and chlorination with respect to the ability to achieve at least 99.99 per cent removal or inactivation of viruses in water of every temperature and pH that is likely to be encountered in the surface water raw water supply when the drinking-water system is in operation,
 - (ii) is equivalent to or better than filtration and chlorination with respect to the ability to achieve at least 99.9 per cent removal or inactivation of giardia lamblia cysts in water of every temperature and pH that is likely to be encountered in the surface water raw water supply when the drinking-water system is in operation, and
 - (iii) is equivalent to or better than filtration and chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

(4) Subsection (3) does not apply to the extent that an approval granted on or after December 19, 2001 imposes different requirements and provides that they apply instead of requirements that would otherwise be imposed by subsection (3).

(5) If a drinking-water system includes a distribution system or provides water to plumbing, and any part of the distribution system or plumbing is in the natural environment, the owner of the drinking-water system shall, in addition to complying with subsection (2) or (3), whichever is applicable, ensure that disinfection equipment is provided that,

- (a) in the case of chlorination equipment,
 - (i) is capable of providing a disinfectant residual that persists into the distribution system or plumbing, and
 - (ii) is capable of providing a free chlorine residual of at least 0.2 milligrams per litre at every point in the distribution system or plumbing; or
- (b) in the case of other disinfection equipment,
 - (i) is equivalent to or better than chlorination with respect to the ability to provide a disinfectant residual that persists into the distribution system or plumbing and the ability to protect water from bacterial contamination at every point in the distribution system or plumbing, and
 - (ii) is equivalent to or better than chlorination, having regard to reliability, ease of use and minimization of the formation of disinfection by-products.

(6) Subsection (5) does not apply if the owner complies with subsection (2) or (3), whichever is applicable, and all disinfection provided in accordance with subsection (2) or (3) takes place at a point or points in the drinking-water system that is after all parts of the distribution system or plumbing that are in the natural environment.

(7) This Schedule prevails over an order issued, or an approval granted, before December 19, 2001 that provides for less stringent requirements.

(8) Subsections (1), (2) (3) and (5) apply on the date this regulation comes into force.

(9) Despite subsection (8), if a drinking-water system does not serve a designated facility and commenced operation before the day this regulation comes into force and, immediately before that day, was not in compliance with subsections (1), (2), (3) and (5), the owner of the system is not required to comply with that subsection until,

- (a) the drinking water system obtains water from a raw water supply which is

surface water, July 1, 2005; or,

- (b) if the drinking-water system obtains water from a raw water supply which is ground water December 31, 2006.

(10) Despite subsection (8), if a drinking-water system does not serve a school, but does serve a designated facility of another class except for those classes mentioned in subsection (11), and the system commenced operation before December 19, 2001 and, immediately before that day, was not in compliance with subsections (1), (2), (3) and (5), the owner of the system is not required to comply with that subsection until July 1, 2003 or such other date as may be imposed in an approval or order issued after the date this regulation comes into force.

(11) Despite subsection (8), if a drinking water system serves a children's camp or the type of health care facility mentioned in subsection (12) and the system commenced operation before the day this regulation comes into force and, immediately before that day, was not in compliance with subsection (1), (2) (3) and (5), the owner of the system is not required to comply with that subsection until July 1, 2004.

(12) The type of health care facility mentioned in subsection (11) is a non-commercially operated residence for seniors or retired persons, or any other similar non-commercially operated residence, where attainment of a mature age is a factor in being accepted for occupancy.

Application for Relief from Treatment Requirements

6. (1) This section applies to an application for relief from strict compliance with a requirement to treat water specified in section 5 that is made by an owner of a municipal drinking-water system under section 38 of the Act or an owner of a regulated non-municipal drinking-water system under subsection 54 (4) of the Act.

fine but + conditions to be imposed

6. (2) An owner of a municipal drinking-water system that falls within the Municipal – Residential class of drinking-water systems and that obtains water from a raw water supply which is ground water may apply to the Director for relief from strict compliance with all requirements to treat raw water specified in section 5 and the owner shall include in the application all the information, confirmations and other matters described in the "Schedule 6 - 1: Application for Relief (Municipal – Residential Systems)."

of 10

6. (3) An owner of a drinking-water system, other than a drinking-water system referred to in subsection (2), that obtains water from a raw water supply which is ground water may apply to the Director for relief from strict compliance with all requirements to treat raw water specified in section 5 and the owner shall include in the application all the information, confirmations and other matters described in the "Schedule 6 - 2: Application for Relief (Municipal – Non-Residential and Non-Municipal Systems)."

range from 10

6. (4) If, after considering an application under subsection (2) or (3), the Director decides to impose a condition in an approval that grants relief from strict compliance with all requirements to treat water specified in section 5, the Director is prohibited from granting the relief beyond five years from the date the condition is imposed, and before the expiry of the condition granting the relief, the owner of the drinking-water system to which the approval relates may apply to the Director for an extension to the condition.

can case caught in half stayed further

6. (5) Subsections (2) and (3) apply with necessary modifications to the application for an extension mentioned in subsection (4) and the Director may only permit an extension that is five years or less.

both why up to 10 years except

6. (6) The Director is prohibited from including in an approval for a drinking-water system that obtains water from a raw water source which is surface water a condition that provides relief from strict compliance with all requirements to treat raw water specified in section 5.

6. (7) If an owner of a drinking-water system intends to treat raw water, but the treatment will not strictly comply with one or more of the requirements specified in section 5, the owner may apply to the Director for relief from strict compliance with one or more of the treatment requirements and the application shall include a description of how the system's treatment system or process deviates from the treatment requirements specified in section 5 that apply to the system.

AMRA MRE info/adv

6. (8) For greater certainty, the gathering of information and the preparation of an application for relief in accordance with Schedule 6-2 does not relieve the an owner of a drinking water system from any requirement to sample and test water in accordance with section 8.

AMARA new to be completed

Schedule 6 - 1 Application for Relief (Municipal – Residential Systems)

- **Municipal – Residential.**
- **Municipal – Non-Residential – Large**
- **Non-Municipal – Residential**
- **Non-Municipal – Industrial, Commercial and Institutional – Large**
- **Non-Municipal – Seasonal Residential**
- **Municipal – Non-Residential – Small**
- **Non-Municipal – Commercial and Institutional – Small**

- Does Not Apply
- Schedule Applies

(1) An application for relief from strict compliance mentioned in subsection 6 (2) of the regulation shall include,

- (i) A copy of a resolution of the municipal council approving the application,
- (ii) the written consent of the medical officer of health for the health unit in which the water treatment and distribution system is located,
- (iii) results of all water sampling and analysis required by subsection 7 (1) of Ontario Regulation 459/00 and/or required by subsections 8(2) and 8(3) of the regulation during the 24 months before the application is made,
- (iv) a report prepared by a hydrogeologist, assessing the aquifer, the well, the well head protection and the impact of existing and anticipated land uses,
- (v) confirmation that reasonable notice was given of a public meeting to inform users and prospective users of water from the water treatment and distribution system of the application and to obtain their comments on it,
- (vi) a summary of the comments made at the public meeting mentioned in subclause (v) and the owner's responses to them, and
- (vii) confirmation that, for every well in the water treatment and distribution system, standby disinfection equipment and a supply of appropriate chemicals will be readily available for immediate use in case disinfection is required.

other interview

Schedule 6 - 2 Application for Relief (Municipal – Non Residential and Non-Municipal Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.** *Handwritten: 2/2/03?*
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
-
- Does Not Apply
 - Schedule Applies

(1) An application for relief from strict compliance mentioned in subsection 6 (3) of the regulation shall include a report prepared by a Professional Engineer on the drinking-water system that is the subject of the application and such report shall include all documents and information set out in the following subsections in this Schedule.

(2) A written statement from the Engineer confirming that,

- (a) the Engineer has requested and received all information in the possession of the applicable local health unit and the municipality that relates to the drinking-water system or its raw water supply; and,
- (b) the Engineer has consulted with the Medical Officer of Health and the Medical Officer of Health has advised the Engineer that he or she is presently unaware of any related health issues or potentially water-borne illnesses that might be associated with the system or its raw water supply.

(3) Results of a characterization of the raw water supply and the system's raw water that includes,

- (a) results from all microbiological sampling and testing carried out on the drinking-water system during the 24 months that precede the month the application is made;
- (b) results from a testing program on the system's raw water supply that includes at least one sample taken per month for 24 consecutive months that precede the month the application is made and is analyzed for,
 - (i) *Escherichia coli* or fecal coliforms; and,

- (ii) total coliforms
 - (c) a confirmation by the Engineer that there are no significant and rapid shifts in water characteristics in relation to the following parameters:
 - (i) pH,
 - (ii) turbidity,
 - (iii) temperature,
 - (iv) conductivity.
 - (d) records the Engineer has obtained from the owner, the health unit, the municipality or any other person or entity that shows past evidence of the presence of the following organisms or chemicals in the system's raw water supply:
 - (i) viruses;
 - (ii) chlorophyll a
 - (iii) protozoan cysts
 - (iv) macroorganisms
- (4) Surveys and assessments prepared by or under the supervision of the Engineer that analyzes the potential risks of microbiological contamination for each of the following:
- (a) well construction and well-head protection;
 - (b) well-head vicinity and recharge zone; or,
 - (c) the system's distribution system and plumbing
- (5) If the application relates to a system that serves private residences or a designated facility, a statement from the owner that the owner has carried out public consultations on the application with the private residences or designated facility served by the drinking-water system, including evidence that the private residences were notified of the application and invited to review and comment on the application and a summary of any comments received during the consultation period.
- (6) If the application relates to a system that does not serve a private residence or a designated facility, a statement from the owner that, while the drinking-water system was in operation, notice of the application was posted in a conspicuous location at the premises or facility served by the drinking-water system and the notice invited users to review and comment on the application, including a summary of any comments received during the consultation period.

(7) A proposed management plan that provides guidance for operations related to managing and reducing microbiological risks, and includes the following:

- (a) written procedures describing seasonal "start up" and / or scheduled routine maintenance activities surrounding flushing and disinfecting of the system;
- (b) written procedures for increased monitoring activities following heavy rainfall, flood, or other adverse weather event;
- (c) logs for recording samples taken, including locations, times, signatures, results;
- (d) protocol for notification of affected population, the Ministry, and the Medical Officer of Health, including contact lists;
- (e) a procedure for corrective action to be taken upon receipt of adverse sampling results that is consistent with the Ministry procedure entitled "Procedure Related to Corrective Action for Systems Not Currently Providing Minimum Treatment"; and,
- (f) a procedure for recording summaries of any corrective actions taken, the results that were achieved, and resolution of any issues that gave rise to the corrective actions.

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(8) Test results from one or more samples taken from the raw water supply on a day before the application is made that is analyzed for the following parameters:

- (a) fluoride
- (b) sodium
- (c) Inorganics, Table C, Ontario Drinking Water Standards
- (d) Volatile Organics, Table B, Ontario Drinking Water Standards
- (e) Pesticides and PCBs, Table D, Ontario Drinking Water Standards.

(9) If an application for relief from strict compliance is made under subsection 6 (3) of the regulation for a new drinking-water system, the Engineer in his or her report is not required to provide the information described in clause 3 (a), subsection (5) and (6) of this Schedule, but all the other provisions of this Schedule continue to apply to the report.

Schools, private schools and day nurseries, weekly flushing

7. (1) If a drinking-water system serves a school, private school or day nursery, the operator of the school, private school or day nursery shall ensure that,

- (a) the plumbing is flushed on the first day that the school, private school or day nursery is open each week; and
- (b) the flushing required by clause (a) continues until the temperature of the water stabilizes and is completed before the school, private school or day nursery opens for the day.

7. (2) At a minimum, the flushing required by subsection (1) may be accomplished by opening the last cold-water tap on the system or on each branch or each run of pipe in the system, in order to ensure that stale water is flushed from the system and is not available to users at fixtures, such as fountains or sinks, where water is commonly taken for drinking or food preparation.

7. (3) The operator of a school, private school or day nursery to which subsection (1) applies shall ensure that a record is made of the date and time of every flushing required by clause (1) (a) and the name of the person who performed the flushing.

Operational Checks, Sampling and Testing

Operational Checks

8. (1) The owner of a drinking-water system shall ensure that the operational and other checks are carried out and documented as described in the Operational Checks Schedule appropriate to the drinking-water system which the owner owns.

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Sampling and testing for microbiological parameters

8. (2) The owner of a drinking-water system shall ensure that sampling and testing for microbiological parameters is carried out and documented as described in the Microbiological Testing Schedule appropriate to the drinking-water system which the owner owns.

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inadequacy*

Sampling and testing for chemical parameters

8. (3) The owner of a drinking-water system shall ensure that sampling and testing for chemical parameters is carried out and documented as described in the Chemical Testing Schedule appropriate to the drinking-water system which the owner owns.

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8. (4) Samples shall be taken from the point at which treated water enters the distribution system or plumbing unless the appropriate Schedule directs otherwise.

8. (5) "Distribution samples" are water samples which shall be taken in the distribution system or plumbing from a point significantly beyond the point at which treated water enters the distribution system or plumbing.

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8. (6) All sampling shall be done by taking grab samples unless "continuous monitoring" is specified. Continuous monitoring implies that sampling and testing is done by continuous monitoring equipment that forms part of the drinking-water system. Continuous monitoring may always be used instead of grab samples for chlorine residual, turbidity and fluoride.

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8. (7) Despite subsection (1), the owner of a drinking-water system that does not serve a designated facility and that falls within the Non-Municipal – Commercial and Institutional – Small class of drinking-water systems is not required to comply with this section until the second anniversary from the date this regulation comes into force.

- discuss

Posting

8. (8) This section does not apply to a drinking-water system that falls within a class of drinking-water systems listed below, if the owner elects that it shall not apply and posts appropriate warning notices in accordance with subsection 13 (1):

1. Non-Municipal – Commercial and Institutional – Small.
2. A drinking-water system that does not utilize electricity and provides water only to buildings or other structures that are not supplied with electricity.

8. (9) An election may not be made with respect to a drinking-water system under paragraph 1 of subsection (8) which supplies water to a designated facility.

Schedule 8 - 1 - i Operational Checks (Municipal – Residential Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- **Municipal – Residential.**
- **Municipal – Non-Residential – Large.**
- **Non-Municipal – Residential.**
- **Non-Municipal – Industrial, Commercial and Institutional – Large.**
- **Non-Municipal – Seasonal Residential.**
- **Municipal – Non-Residential – Small.**
- **Non-Municipal – Commercial and Institutional – Small.**

- Does Not Apply
- Schedule Applies

(1) The owner of a drinking-water system shall ensure that water samples are taken and tested by a licensed operator in accordance with this Schedule, and that a record is made of the date and time the sample was tested, the name of the person who performed the test and the results of the test.

Fluoride

(2) Where the treatment process includes fluoridation, at least one sample per day shall be taken and tested for fluoride.

Turbidity

(3) Where the drinking-water system obtains water from a surface water raw water supply and the treatment process employs filtration, sampling and testing for turbidity shall be carried out by continuous monitoring on each filter effluent line.

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(4) If subsection (3) does not apply to a drinking-water system, at least one sample per day shall be taken and tested for turbidity before the raw water enters the treatment system.

Residual Chlorine

(5) Where a drinking-water system employs chlorination for primary disinfection, the water shall be sampled and tested for free chlorine residual by continuous monitoring in the treatment process at the end of the contact time.

(6) For every drinking-water system distribution samples shall be taken simultaneously with and at the same location as required for microbiological sampling and shall be tested for free chlorine residual, where chlorination is used, or combined chlorine residual, where chloramination is used.

Schedule 8 - 1 - ii Operational Checks (Large Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.**
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
-
- Does Not Apply
 - Schedule Applies

(1) The owner of a drinking-water system shall ensure that all water treatment equipment is checked at least once each week by a licensed 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.

(2) The owner of a drinking-water system shall ensure that water samples are taken and tested by a licensed operator in accordance with this Schedule, and that a record is made of the date and time the sample was tested, the name of the person who performed the test and the results of the test.

Fluoride

(3) Where the treatment process includes fluoridation, at least one sample per day shall be taken and tested for fluoride.

Turbidity

(4) Where the drinking-water system obtains water from a surface water raw water supply and the treatment process employs filtration at least one sample per day shall be taken and tested for turbidity on each filter effluent line.

(5) If subsection (4) does not apply to a drinking-water system, at least one sample per day shall be taken and tested for turbidity before the raw water enters the treatment system.

Residual Chlorine

(6) Where a drinking-water system employs chlorination for primary disinfection, a sample shall be taken at least once every day and tested for free chlorine residual in the treatment process at the end of the contact time.

(7) Where a drinking-water system employs chlorination or chloramination for secondary disinfection, but not primary disinfection, a distribution sample shall be taken

at least once every day and tested for free chlorine residual, in the case of chlorination, or combined chlorine residual, in the case of chloramination.

(8) For every drinking-water system distribution samples shall be taken simultaneously with and at the same location as required for microbiological sampling and shall be tested for free chlorine residual, where chlorination is used, or combined chlorine residual, where chloramination is used.

(9) Until the date that the owner of the drinking-water system is required to comply with section 5 of the regulation, the references in this section to licensed operators shall be deemed to be references to any person.

Schedule 8 - 1 - iii Operational Checks (Small and Seasonal Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.**
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
-
- Does Not Apply
 - Schedule Applies

(1) The owner of a drinking-water 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.

(2) Subject to subsection (5), if chlorination equipment is used in a drinking-water system to fulfill a minimum level of treatment requirement, the owner of the system shall ensure that,

- (a) a distribution sample is taken at least once every day;
- (b) the sample is tested immediately for free chlorine residual by a trained person using an electronic direct readout colourimetric or amperometric chlorine analyzer or a device described in subsection (3); and
- (c) a record is made of the date and time the sample was tested, the name of the person who performed the test and the results of the test.

(3) A device other than an electronic direct readout colourimetric or amperometric chlorine analyzer may be used to perform tests under clause (2) (b) 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 analyzer for performing those tests, having regard to accuracy, reliability and ease of use.

(4) Subject to subsection (5), if filtration is used in a drinking-water system, the owner of the system shall ensure that,

- (a) a sample of water that has not been disinfected is taken at least once every day from a point in the drinking-water system where all filtration has been completed
- (b) the sample is tested immediately for turbidity by a trained person using a turbidity meter that measures turbidity in Nephelometric Turbidity Units (NTU); and
- (c) a record is made of the date and time the sample was tested, the name of the person who performed the test and the results of the test.

(5) An owner of a drinking-water system who is required to comply with subsection (2) or (4) may instead sample and test water using automated sampling and testing equipment if the following requirements are met:

1. The automated equipment must take water samples at least as often as samples would otherwise be taken under subsection (2) or (4), as the case may be.
2. The water samples must be taken from locations from which samples would otherwise be taken under subsection (2) or (4), as the case may be.
3. The automated equipment must test the water samples, immediately after they are taken, for free chlorine residual or turbidity, as the case may be, using an analyzer or device referred to in clause (2) (b) or a meter referred to in clause (4) (b), as the case may be.
4. If any of the following circumstances arise, the automated equipment must cause an alarm to sound at a location where a person designated by the owner for the purpose of paragraph 8 is available at all times to hear the alarm:
 - i. A test of free chlorine residual under paragraph 3 shows a concentration of less than 0.05 milligrams per litre.
 - ii. A test of turbidity under paragraph 3 shows a level of more than 1.0 Nephelometric Turbidity Units (NTU).
 - iii. The automated equipment malfunctions or loses power.
5. The automated equipment must also cause an alarm to sound at each designated facility served by the drinking-water system, if any of the circumstances described in paragraph 4 arise.
6. The automated equipment must record the date, time and results of every test performed under paragraph 3 and must transmit the record to a

location where a person designated by the owner for the purpose of paragraph 8 will examine the record.

7. The record made of a test under paragraph 3 must be examined on the day of the test by a person designated by the owner for the purpose of paragraph 8.
8. A person designated by the owner for the purpose of this paragraph must promptly dispatch a trained person to the drinking-water system if an alarm sounds under paragraph 4, a record of a test result indicates that an alarm should have sounded, or a record of a test result is not available for examination when it would normally have been expected to be available.
9. A trained person must arrive at the drinking-water system within four hours after being dispatched under paragraph 8, unless the use of water from the drinking-water system has ceased.

(6) If the drinking-water system serves only schools, private schools and day nurseries, subsections (2) and (4) and paragraph 7 of subsection (5) apply only on days when a school, private school or day nursery is open.

(7) Until the date that the owner of the drinking-water system is required to comply with section 5 of the regulation, the references in this section to trained persons shall be deemed to be references to any person.

Schedule 8 - 2 - i Microbiological Testing (Municipal – Residential Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- **Municipal – Residential.**
- **Municipal – Non-Residential – Large.**
- **Non-Municipal – Residential.**
- **Non-Municipal – Industrial, Commercial and Institutional – Large.**
- **Non-Municipal – Seasonal Residential.**
- **Municipal – Non-Residential – Small.**
- **Non-Municipal – Commercial and Institutional – Small.**

- Does Not Apply
- Schedule Applies

(1) The owner of a drinking-water system shall ensure that,

- (a) a minimum of 8 distribution samples plus an additional 1 distribution sample per 1,000 population, is taken monthly, with at least one such sample being taken every week, if the system serves a population of up to 100,000,
- (b) a minimum of 100 distribution samples plus an additional 1 distribution sample per 10,000 population, is taken monthly, with at least three such samples being taken every week, if the system serves a population that exceeds 100,000,
- (c) a water sample is taken, at least once every week from the point at which treated water enters the distribution system or plumbing; and
- (d) each sample is tested for,
 - (i) total coliforms,
 - (ii) *Escherichia coli* or fecal coliforms, and
 - (iii) heterotrophic plate count or total coliform background count by membrane filter analysis.

(2) Only 25 per cent of each batch of samples taken under subsection (1)(a) or (b) needs to be tested for heterotrophic plate count or background colonies on a total coliform membrane filter analysis.

(3) The owner of a drinking-water system shall ensure that,

- (a) a water sample is taken at least once every week from the drinking-water system's raw water supply, before any treatment is applied to the water sample; and
- (b) each sample is tested for,
 - (i) total coliforms, and,
 - (ii) *Escherichia coli* or fecal coliforms.

(4) If the drinking-water system's raw water supply is ground water, a sample shall be taken under subsection (3) from each well in the system.

(5) The owner of a drinking-water system shall ensure that any additional water sampling and testing is carried out in accordance with the requirements of an approval or an order.

(6) This schedule prevails over an approval granted before August 1, 2000 that provides for less stringent sampling or testing.

Schedule 8 - 2 - ii Microbiological Testing (Large Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.**
- Municipal – Non-Residential – Large.**
- Non-Municipal – Residential.**
- Non-Municipal – Industrial, Commercial and Institutional – Large.**
- Non-Municipal – Seasonal Residential.**
- Municipal – Non-Residential – Small.**
- Non-Municipal – Commercial and Institutional – Small.**

- Does Not Apply
- Schedule Applies

(1) The owner of a drinking-water system shall ensure that,

- (a) a distribution sample is taken, at least once every week or, if chlorination is not used, at least twice every week; and
- (b) each sample is tested for,
 - (i) total coliforms,
 - (ii) *Escherichia coli* or fecal coliforms, and
 - (iii) heterotrophic plate count or total coliform background count by membrane filter analysis.

(2) The owner of a drinking-water system shall ensure that,

- (a) a water sample is taken at least once every month from the drinking-water system's raw water supply, before any treatment is applied to the water sample; and
- (b) each sample is tested for,
 - (i) total coliforms, and,
 - (ii) *Escherichia coli* or fecal coliforms.

(3) If the drinking-water system's raw water supply is ground water, a sample shall be taken under subsection (2) from each well in the system.

(4) The owner of a drinking-water system shall ensure that any additional water sampling and testing is carried out in accordance with the requirements of an approval or an order.

(5) If, for a period of 24 consecutive months, test results obtained under clause (1) (b) never disclose an indicator of adverse water quality described in paragraph 2, 3 or 4 of the Schedule 10 - 1: Indicators of Adverse Water Quality, the owner of the drinking-water system may reduce the sampling frequency under clause (1) (a) so that samples are taken at least once every two weeks or, if chlorination is not used, at least once every week, instead of with the sampling frequency referred to in clause (1) (a).

(6) Subsection (5) ceases to apply if, for any period of 24 consecutive months, test results obtained under clause (1) (b) disclose an indicator of adverse water quality described in paragraph 2, 3 or 4 of the Schedule 10 - 1: Indicators of Adverse Water Quality on two or more occasions.

(7) If the drinking-water system is a seasonal works, sampling under subsections (1) and (2) is required only for the operating season, but the first sample taken under each subsection must be taken at a time that will ensure that test results will be received before the operating season begins.

(8) This schedule prevails over an approval granted before December 19, 2001 that provides for less stringent sampling or testing.

(9) If the drinking-water system uses disinfection equipment described in clause 2(b) or 3(b) of the "Schedule 5 - 2: Minimum level of treatment (Large Systems)", to fulfill its minimum treatment requirements, the system shall be deemed, for the purpose of clause (1) (a) and subsection (5), not to use chlorination.

Schedule 8 - 2 - iii Microbiological Testing (Small and Seasonal Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.**
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
- Does Not Apply
 Schedule Applies

(1) The owner of a drinking-water system shall ensure that,

- (a) a distribution sample is taken, at least once every two weeks or, if chlorination is not used, at least once every week;
- (b) where the system supplies water to more than 250 wash basins, food preparation sinks or water fountains, an additional distribution sample is taken each month, for each 250 sinks or water fountains after the first 250; and
- (c) each sample is tested for,
 - (i) total coliforms,
 - (ii) *Escherichia coli* or fecal coliforms, and
 - (iii) heterotrophic plate count or total coliform background count by membrane filter analysis.

(2) Where a drinking-water system supplies water to a tap, hookup or other fixture to allow connection to a trailer or camper, each such fixture shall be counted as 2.5 sinks for the purpose of clause (1)(b).

(3) The owner of a drinking-water system shall ensure that,

- (a) a water sample is taken at least once every month from the drinking-water system's raw water supply, before any treatment is applied to the water sample; and
- (b) each sample is tested for,

- (i) total coliforms, and
- (ii) *Escherichia coli* or fecal coliforms.

(4) If the drinking-water system's raw water supply is ground water, a sample shall be taken under subsection (3) from each well in the system.

(5) The owner of a drinking-water system shall ensure that any additional water sampling and testing is carried out in accordance with the requirements of an approval or an order.

(6) If, for a period of 24 consecutive months, test results obtained under clause (1) (c) never disclose an indicator of adverse water quality described in paragraph 2, 3 or 4 of the Schedule 10 - 1: Indicators of Adverse Water Quality, the owner of the drinking-water system may reduce the sampling frequency under clause (1) (a) so that samples are taken at least once every four weeks or, if chlorination is not used, at least once every two weeks, instead of with the sampling frequency referred to in clause (1) (a).

(7) Subsection (6) ceases to apply if, for any period of 24 consecutive months, test results obtained under clause (1) (c) disclose an indicator of adverse water quality described in paragraph 2, 3 or 4 of the Schedule 10 - 1: Indicators of Adverse Water Quality on two or more occasions.

(8) If the drinking-water system is a seasonal works, sampling under subsections (1) and (3) is required only for the operating season, but the first sample taken under each subsection must be taken at a time that will ensure that test results will be received before the operating season begins.

(9) This Schedule prevails over an approval granted before December 19, 2001 that provides for less stringent sampling or testing.

(10) If the drinking-water system uses disinfection equipment described in clause 2(b) or 3(b) of the "Schedule 5 - 3: Minimum level of treatment (Small & Seasonal Systems)", to fulfill its minimum treatment requirements, the system shall be deemed, for the purpose of clause (1) (a) and subsection (6), not to use chlorination.

Schedule 8 - 3 - i Chemical Testing (Large Municipal and Large Non-Municipal Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- **Municipal – Residential.**
- **Municipal – Non-Residential – Large.**
- **Non-Municipal – Residential.**
- **Non-Municipal – Industrial, Commercial and Institutional – Large.**
- **Non-Municipal – Seasonal Residential.**
- **Municipal – Non-Residential – Small.**
- **Non-Municipal – Commercial and Institutional – Small.**

- Does Not Apply
- Schedule Applies

Nitrate/Nitrite

(1) The owner of a drinking-water system shall ensure that,

- (a) a water sample is taken at least quarterly; and
- (b) every sample taken under clause (a) is tested for nitrate and nitrite.

Inorganic

(2) The owner of a drinking-water system shall ensure that,

- (a) a water sample is taken, at least annually if the system obtains water from a surface water raw water supply and at least once every 36 months if the system obtains water from a ground water raw water supply; and
- (b) every sample taken under clause (a) is tested for every parameter other than lead set out in the "Schedule 2 - 1: Chemical/Physical Standards", and identified for the Inorganic Testing Regime.

Lead

(3) The owner of a drinking-water system shall ensure that,

- (a) a distribution sample is taken at least annually if the system obtains water from a surface water raw water supply and at least once every 36 months if the system obtains water from a ground water raw water supply;
- (b) the distribution sample mentioned in clause (a) is taken from the point in the distribution system or plumbing with the greatest potential for an elevated concentration of lead; and
- (c) every sample taken under clause (a) is tested for lead.

Organic

(4) The owner of a drinking-water system shall ensure that,

- (a) a water sample is taken, at least annually if the system obtains water from a surface water raw water supply and at least once every 36 months if the system obtains water from a ground water raw water supply; and
- (b) every sample taken under clause (a) is tested for every parameter other than trihalomethanes set out in the "Schedule 2 - 1: Chemical/Physical Standards", and identified for the Organic Testing Regime.

Trihalomethanes

(5) If chlorination or chloramination is used in a drinking-water system, the owner of the system shall ensure that,

- (a) a distribution sample is taken at least quarterly;
- (b) the distribution sample mentioned in clause (a) is taken from the point in the distribution system or plumbing reflecting the maximum residence time in the system; and
- (c) every sample taken under clause (a) is tested for trihalomethanes.

Organic – increased frequency

(6) If a test result obtained under clause (4) (b) or (5)(c) shows that an organic parameter exceeds one half of the Maximum Acceptable Concentration (MAC) or Interim Maximum Acceptable Concentration (IMAC) set out for the parameter in the "Schedule 2 - 1: Chemical/Physical Standards", the owner of the system shall ensure that the frequency of sampling and testing is increased to quarterly until such time as two consecutive quarterly results, in the case of a system that obtains water from a ground water raw water supply, and four consecutive quarterly results, in the case of a system that obtains water from a surface water raw water supply, do not exceed one half of the Maximum Acceptable Concentration (MAC) or Interim Maximum Acceptable Concentration (IMAC) set out for the parameter in the "Schedule 2 - 1: Chemical/Physical Standards."

Sodium

(7) Where the drinking-water system obtains water from a ground water raw water supply, at least one sample every 60 months shall be taken and tested for sodium.

Approvals and Orders

(8) The owner of a drinking-water system shall ensure that any additional water sampling and testing is carried out in accordance with the requirements of an approval or an order.

(9) The requirements of this schedule prevail over an approval granted before August 1, 2000 that provides for less stringent sampling or testing.

(10) If a drinking-water system commences operation on or after the date this regulation comes into force, the first sample taken under clause (1) (a) shall be taken not later than three months after the system commences operations.

Schedule 8 - 3 - ii Chemical Testing (Seasonal and Small Municipal Systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.**
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
-
- Does Not Apply
 - Schedule Applies

Nitrate/Nitrite

- (1) The owner of a drinking-water system shall ensure that,
- (a) a water sample is taken at least quarterly; and
 - (b) every sample taken under clause (a) is tested for nitrate and nitrite.

Organic and Inorganic

- (2) The owner of a drinking-water system shall ensure that,
- (a) a water sample is taken at least once every 60 months; and
 - (b) every sample taken under clause (a) is tested for every parameter, other than trihalomethanes, set out in the "Schedule 2 - 1: Chemical/Physical Standards" and identified for either the Inorganic Testing Regime or the Organic Testing Regime.

Trihalomethanes

- (3) If chlorination or chloramination is used in a drinking-water system, the owner of the system shall ensure that
- (a) a distribution sample is taken at least quarterly;
 - (b) the distribution sample mentioned in clause (a) is taken from the point in the distribution system or plumbing reflecting the maximum residence time in the system; and
 - (c) every sample taken under clause (a) is tested for trihalomethanes.

Sodium

(4) Where the drinking-water system obtains water from a ground water raw water supply, at least one sample every 60 months shall be taken and tested for sodium.

Approvals and Orders

(5) The owner of a drinking-water system shall ensure that any additional water sampling and testing is carried out in accordance with the requirements of an approval or an order.

(6) The requirements of this schedule prevail over an approval granted before December 19, 2001 that provides for less stringent sampling or testing.

(7) If a drinking-water system commences operation on or after the date this regulation comes into force, the first sample taken under clause (1) (a) shall be taken not later than three months after the system commences operations.

Schedule 8 - 3 - iii Chemical Testing (Small Non-municipal Systems)

This Schedule Applies to a drinking water system that falls within the class indicated:

- Municipal – Residential.**
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
-
- Does Not Apply
 - Schedule Applies

Nitrate/Nitrite

(1) The owner of a drinking-water system shall ensure that,

- (a) a water sample is taken at least quarterly; and
- (b) every sample taken under clause (a) is tested for nitrate and nitrite.

Organic and Inorganic

(2) If a drinking-water system that falls within the class of systems to which this Schedule applies serves a designated facility, the owner of the system shall ensure that,

- (a) a water sample is taken at least once every 60 months; and
- (b) every sample taken under clause (a) is tested for every parameter, other than trihalomethanes, set out in the "Schedule 2 - 1: Chemical/Physical Standards" and identified for either the Inorganic Testing Regime or the Organic Testing Regime.

Sodium

(3) Where the drinking-water system obtains water from a ground water raw water supply, at least one sample every 60 months shall be taken and tested for sodium.

Approvals and Orders

(4) The owner of a drinking-water system shall ensure that any additional water sampling and testing is carried out in accordance with the requirements of an approval or an order.

(5) The requirements of this schedule prevail over an approval granted before December 19, 2001 that provides for less stringent sampling or testing.

(6) If a drinking-water system commences operation on or after the date this regulation comes into force, the first sample taken under clause (1) (a) shall be taken not later than three months after the system commences operations.

Testing of samples

9. (1) The owner of a drinking-water system shall ensure that testing of a water sample required under subsections 8 (2) [microbiological parameters] or 8 (3) [chemical parameters] is carried out in accordance with the following:

1. The testing must be carried out by an accredited laboratory for that parameter.
2. If the laboratory that does the testing is located outside Ontario,
 - (i) the laboratory must be provided with a copy of this Regulation, and
 - (ii) the laboratory must agree to comply with the requirements of subsection (2), paragraph 2 of subsection 18 (1) and subsection 18 (4) of the Act.

9. (2) A laboratory shall, within 14 days after carrying out the testing of a water sample required under subsection 8 (2) or (3), prepare a report of the results of the testing and send a copy of the report to the owner of the drinking-water system and to the Director.

9. (3) If testing of a water sample for a parameter is required by subsection 8 (2) or (3), the owner of the drinking-water system shall ensure that written notice of the identity of the laboratory that will carry out the testing is delivered to the Director at least three working days before the sample is tested, unless the Director has previously been notified under this subsection that a water sample from the drinking-water system will be tested for that parameter by that laboratory.

9. (4) The requirement to use an accredited laboratory does not apply to,

- (a) testing that is carried out by continuous monitoring equipment that forms part of the drinking-water system;
- (b) testing that is carried out in accordance with an approval or order, if the testing is for a parameter that is not total coliforms, *Escherichia coli*, fecal coliforms, heterotrophic plate count or total coliform background count by membrane filter analysis and is not mentioned in the "Schedule 2 - 1: Chemical/Physical 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 carried out by a Ministry of the Environment laboratory or by a laboratory that, in the Director's opinion, is proficient in carrying out tests for that parameter; or
- (c) testing for fluoride, turbidity or residual chlorine, if the testing is carried out in the drinking-water system, or in a facility served by the system, by,
- (i) a licensed operator, or
 - (ii) a trained person, or
 - (iii) 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, in the preceding 36 months, 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.

9. (5) If testing of a water sample mentioned in clause 9 (4)(b) is carried out and the parameter is identified in the approval or order as a health-related parameter, the owner of the drinking-water system shall ensure that the laboratory that carries out 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.

Reporting adverse test results and other problems

10. (1) If a sample of drinking water to which subsection (15) applies is tested, the following results are prescribed as adverse results of a drinking-water test for the purposes of subsection 18 (1) of the Act:

1. An indicator of adverse water quality described in "Schedule 10 - 1: Indicators of Adverse Water Quality".
2. An exceedance of the Maximum Acceptable Concentration (MAC) or Interim Maximum Acceptable Concentration (IMAC) set out for a parameter in "Schedule 2 - 1: Chemical/Physical Standards".
3. An exceedance of the maximum concentration of a health-related parameter identified in an approval or order and that is not a parameter mentioned in "Schedule 2 - 1: Chemical/Physical Standards".

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10. (2) If any observations disclose an indicator of adverse water quality described in the "Schedule 10 - 1: Indicators of Adverse Water Quality", the owner shall report it immediately to,

- (a) the medical officer of health for the health unit in which the drinking-water system is located; and,
- (b) the Ministry.

10. (3) An owner of a drinking-water system required to report under paragraph 1 of subsection 18 (1) of the Act or under subsection 10 (2), other than an owner of a system that falls within the Municipal – Residential class of drinking-water systems, must report the prescribed adverse test result or observations, as the case may be, to the operator of each designated facility served by the drinking-water system, if the owner of the system is not the operator of a designated facility served by the drinking-water system.

10. (4) Any person required to give a report under subsection 18(1) of the Act or by subsection (2) or (3) shall do so by giving immediate notice and written notice in accordance with this section.

Immediate Notice

10. (5) Immediate notice must be given by speaking in person or by telephone with a person referred to in subsection (6).

10. (6) For the purpose of subsection (5), the immediate notice 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 a person is required under subsection (3) to report to the operator of a designated facility, the person shall report to the operator of a designated facility by speaking with a responsible individual at the facility.

10. (7) Any person required to give a report under subsection 18 (3) of the Act shall do so by giving immediate notice to the owner by speaking with a person designated by the owner for the purpose of receiving such reports.

10. (8) Any person required to give a report under subsection 18 (4) of the Act shall do so by giving immediate notice to the owner or accredited operating authority by speaking with a person designated by the owner or accredited operating authority for the purpose of receiving such reports.

10. (9) If a school, private school or day nursery is closed at a time when subsections 18(1), (3) and (4) of the Act and subsection (3) of this section requires notice to be given to the operator of the school, private school or day nursery, the notice must be given not later than the time that the school, private school or day nursery re-opens.

Written Notice

10. (10) Within 24 hours after a person has given an immediate notice required by subsection 18(1) of the Act or by subsection (2) or (3), the person must give a written notice to,

- (a) the medical officer of health for the health unit in which the drinking-water system is located 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;
- (c) the operator of each designated facility served by the drinking-water system by delivering the written notice to the facility; if the owner of the drinking-water system is not the operator of the designated facility; and
- (d) the interested authority for each designated facility served by the drinking-water system by delivering the written notice to,
 - (i) the minister responsible for the ministry or a person designated by the minister, if the interested authority is a ministry, or
 - (ii) the head of the interested authority, if the interested authority is not a ministry,

but written notice is not required with respect to a designated facility that

is,

- (iii) a private school;
- (iv) 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; or,
- (v) a children's camp.

10. (11) Despite subsection (10), the following persons are not required to give a written notice to the operator of a designated facility served by the drinking-water system under clause 10 (c) or to the interested authority under clause 10 (d):

1. The person operating a laboratory referred to in paragraph 2 of subsection 18 (1) of the Act.
2. The owner of a municipal drinking-water system that falls within the Municipal – Residential class of drinking-water systems.

10. (12) A notice given under this section by the owner of a drinking-water system must indicate,

- (a) what actions are being taken in response to the adverse test results that is the subject of the notice; and,
- (b) if section 11 requires that a corrective action be taken in respect of the adverse test result, whether the corrective action is being taken.

10. (13) If a notice is given under this section and the issue that gave rise to the notice is resolved, the owner shall ensure that, within 7 days of resolving the issue, written notice, summarizing the action taken and the results achieved, is given to,

- (a) the medical officer of health for the health unit in which the drinking-water system is located 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.

10. (14) If notice is given under this section to the interested authority for a designated facility and the issue that gave rise to the notice is resolved, the owner shall ensure that, within 30 days, written notice is given to the interested authority summarizing the action taken and the results that were achieved.

10. (15) A sample of water is a sample for the purposes of section (1) if it is:

- (a) a sample of water that is taken to fulfill requirements of this Regulation,
- (b) a sample of water that is taken as directed by the owner of a drinking-water system or as directed by a licensed operator or trained person employed by the owner,
- (c) a sample of water that is taken as directed by a provincial officer designated under section 8 of the Act, the medical officer of health or a member of the staff of the medical officer of health for the health unit in which the drinking-water system is located, or a person employed in the Ministry of Health and Long-Term Care or the Ministry of Labour.

10. (16) Despite subsection (15), subsection (1) does not apply to a sample of water that is not intended to be used as drinking water.

Schedule 10 - 1
Indicators of Adverse Water Quality

This Schedule Applies to a drinking water system that falls within the classes indicated:

- **Municipal – Residential.**
 - **Municipal – Non-Residential – Large.**
 - **Non-Municipal – Residential.**
 - **Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - **Non-Municipal – Seasonal Residential.**
 - **Municipal – Non-Residential – Small.**
 - **Non-Municipal – Commercial and Institutional – Small.**
- Does Not Apply
- Schedule Applies

Each of the following is an indicator of adverse water quality:

1. **No Disinfection**
Water that has not been disinfected is directed to users, if disinfection is used or required.
2. **E. coli**
Escherichia coli (E. coli) or fecal coliform is detected in any required sample of drinking water.
3. **Total coliforms**
Total coliforms are detected (but *Escherichia coli* or other fecal coliforms are not detected) in any required sample of drinking water.
4. **Heterotrophic Plate Count**
More than 500 colonies per millilitre are detected on a heterotrophic plate count analysis (but *Escherichia coli* or other fecal coliforms are not detected) in any required sample of drinking water.
5. **Background Colonies**
More than 200 background colonies are detected on a total coliform membrane filter analysis in any required sample of drinking water.

6. Sodium

Sodium concentration exceeds 20 mg/L in any required sample of drinking water. Notification need not occur more frequently than once in five years. The aesthetic objective for sodium in drinking water is 200 mg/L, but the local Medical Officer of Health must be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

7. Pesticide

A pesticide not listed in the "Schedule 2 - 1: Chemical/Physical Standards" is detected in any required sample of drinking water. Drinking water should be free of pesticides and every effort should be made to prevent pesticides from entering raw water supplies. Pesticides may be reported by their most common trade name, a listing of which, called the Compendium of Scheduled Pesticides, is accessible on the Internet through the web site of the Ontario Pesticides Advisory Committee at www.opac.gov.on.ca or the web site of the Ministry of the Environment at www.ene.gov.on.ca.

8. Chlorine Residual in the Distribution System

If chlorination is used, the concentration of free chlorine residual is less than 0.05 mg/L in any required distribution sample, or, if chloramination is used, the concentration of combined chlorine residual is less than 0.25 mg/L in any required distribution sample of drinking water.

9. Aeromonas, etc.

Aeromonas spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp. or fecal *streptococci* (Group D *streptococci*) are detected in any required sample of drinking water.

10. Turbidity

If filtration is used, the turbidity is more than 1.0 Nephelometric Turbidity Units (NTU) in any required sample, unless the trained or licenced operator determines that the source of high turbidity is due to an analyzer malfunction, if continuous monitoring is used, or is due to the addition of chemicals that is part of the normal operation of the treatment system.

Corrective action

11. (1) If a report is required to be made under section 18 of the Act or section 10 with respect to an indicator of adverse water quality described in the "Schedule 10 - 1: Indicators of Adverse Water Quality", the owner of the drinking-water system shall ensure that the corrective action specified in the Corrective Action Schedule appropriate to the drinking-water system which he or she owns, is taken for the relevant indicator.

11. (2) The owner of a drinking-water system is deemed to have complied with subsection (1) with respect to an indicator of adverse water quality described in item 2, 3, 4, 5 or 9 of "Schedule 10 - 1: Indicators of Adverse Water Quality", if the corrective action described in the Ministry procedure mentioned in subsection (4) for that indicator is taken.

11. (3) Subclause 12 (1) (b) (i) does not apply with respect to an indicator of adverse water quality described in item 2, 3, 4, 5 or 9 of "Schedule 10 - 1: Indicators of Adverse Water Quality" if the corrective action described in the Ministry procedure mentioned in subsection (4) for that indicator is taken.

11. (4) For the purposes of subsections (2) and (3), the Ministry procedure is the procedure in the Ministry publication known as the "Procedure Related to Corrective Action for Systems Not Currently Providing Minimum Treatment", as amended from time to time.

11. (5) Subsections (2) and (3) apply only with respect to a non-municipal drinking-water system that is not yet in compliance with the applicable requirement to provide the minimum level of treatment in accordance subsection 5(1).

11. (6) In a Corrective Action Schedule, "resample and test" means that a minimum of three water samples shall immediately be collected and tested for the parameter which caused the indicator of adverse water quality: one sample at the same location; one at an adjacent location on the same distribution line; and a third sample some distance upstream on a feeder line toward the raw water supply. The chlorine residual and the time of sampling should also be noted at each sampling location. The measurement of the chlorine residual in the vicinity of the positive sampling site may assist in determining the extent of the contamination within the distribution system.

11. (7) If a report is required to be made under section 18 of the Act as a result of an adverse result of a drinking-water test prescribed by paragraph 2 or 3 of subsection 10 (1), the owner of the drinking-water system shall ensure that another sample is taken and tested for the parameter that gave rise to the adverse result.

Schedule 11 - 1 Corrective Action (Large Municipal and Large Non-Municipal)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- **Municipal – Residential.**
- **Municipal – Non-Residential – Large.**
- **Non-Municipal – Residential.**
- **Non-Municipal – Industrial, Commercial and Institutional – Large.**
- **Non-Municipal – Seasonal Residential.**
- **Municipal – Non-Residential – Small.**
- **Non-Municipal – Commercial and Institutional – Small.**

- Does Not Apply
- Schedule Applies

1. **No Disinfection**

Restore disinfection immediately and follow instructions as directed by the local Medical Officer of Health.

2. **E. coli**

Increase the chlorine or chloramine dose and flush the mains to ensure that a free chlorine residual of at least 0.2 milligrams per litre, if chlorination is used, or a combined chlorine residual of at least 1.0 milligrams per litre, if chloramination is used, is achieved at all points in the affected part(s) of the distribution system or plumbing. Resample and test. Corrective action should begin immediately and continue until E. coli and fecal coliforms are no longer detected in two consecutive sets of samples or as instructed by the local Medical Officer of Health.

3. **Total coliforms**

Resample and test. If confirmed to be positive, increase the chlorine or chloramine dose and flush the mains to ensure that a free chlorine residual of at least 0.2 milligrams per litre, if chlorination is used, or a combined chlorine residual of at least 1.0 milligrams per litre, if chloramination is used, is achieved at all points in the affected part(s) of the distribution system or plumbing. Corrective action outlined should begin immediately and continue until total coliforms are no longer detected in two consecutive sets of samples or as instructed by the local Medical Officer of Health.

4. **Heterotrophic Plate Count**

Resample and test. On confirmation, call the local Medical Officer of Health again and consult.

5. **Background Colonies**
Resample and test. On confirmation, call the local Medical Officer of Health again and consult.
6. **Sodium**
Normal use of the water may continue. Resample and test. On confirmation, call the local Medical Officer of Health again.
7. **Pesticide**
In respect of the detection of a pesticide not listed in the "Schedule 2 - 1: Chemical/Physical Standards" in any required sample of drinking water, normal use of the water may continue. Resample and test. Take a corresponding raw water sample and test. On confirmation, call the local Medical Officer of Health again and consult.
8. **Chlorine Residual in the Distribution System**
Stop water use or bring water to a rapid, rolling boil for at least one minute. Restore chlorination immediately and follow instructions as directed by the local Medical Officer of Health.
9. **Aeromonas, etc.**
Resample and test. On confirmation, call the local Medical Officer of Health again and consult.
10. **Turbidity**
Check the filters and review and correct upstream operational processes.

Schedule 11 - 2 Corrective Action (Small and Seasonal systems)

This Schedule Applies to a drinking water system that falls within the classes indicated:

- Municipal – Residential.**
 - Municipal – Non-Residential – Large.**
 - Non-Municipal – Residential.**
 - Non-Municipal – Industrial, Commercial and Institutional – Large.**
 - Non-Municipal – Seasonal Residential.**
 - Municipal – Non-Residential – Small.**
 - Non-Municipal – Commercial and Institutional – Small.**
-
- Does Not Apply
 - Schedule Applies

1. **No Disinfection**

Stop water use or bring water to a rapid, rolling boil for at least one minute. Restore disinfection immediately. The local Medical Officer of Health may give further instructions and may authorize resumption of normal use of the water.

2. **E. coli**

Stop water use or bring water to a rapid, rolling boil for at least one minute. Increase the chlorine dose and flush the distribution system and plumbing to ensure a free chlorine residual of at least 0.2 mg/L at all points in the affected part(s) of the distribution system and plumbing. Resample and test. Corrective action should begin immediately. The local Medical Officer of Health may give further instructions and may authorize resumption of normal use of the water.

3. **Total coliforms**

Normal use of the water may continue. Resample and test. If confirmed to be positive, stop water use or bring water to a rapid, rolling boil for at least one minute, increase the chlorine dose and flush the distribution system and plumbing to ensure a free chlorine residual of at least 0.2 mg/L at all points in the affected part(s) of the distribution system and plumbing, and call the Medical Officer of Health again and consult. Corrective action should begin immediately. The local Medical Officer of Health may give further instructions and may authorize resumption of normal use of the water.

4. **Heterotrophic Plate Count**
Normal use of the water may continue. Resample and test. If confirmed to be positive, stop water use or bring water to a rapid, rolling boil for at least one minute and call the local Medical Officer of Health again and consult. The local Medical Officer of Health may give further instructions and may authorize resumption of normal use of the water.
5. **Background Colonies**
Resample and test. On confirmation, call the local Medical Officer of Health again and consult.
6. **Sodium**
Normal use of the water may continue. Resample and test. On confirmation, call the local Medical Officer of Health again.
7. **Pesticide**
In respect of the detection of a pesticide not listed in the "Schedule 2 - 1: Chemical/Physical Standards" in any required sample of drinking water, normal use of the water may continue. Resample and test. Take a corresponding raw water sample and test. On confirmation, call the local Medical Officer of Health again and consult.
8. **Chlorine Residual in the Distribution System**
Stop water use. Resample and test again. If the free chlorine residual is still less than 0.05 mg/L, increase the chlorine dose and flush the distribution system and plumbing to ensure the free chlorine residual is at least 0.2 mg/L at all points in the distribution system and plumbing. Resample and test again. If the free chlorine residual is less than 0.05 mg/L, stop water use until otherwise directed by the local Medical Officer of Health. Corrective action should begin immediately.
9. **Aeromonas, etc.**
Resample and test. On confirmation, call the local Medical Officer of Health again and consult.)
10. **Turbidity**
Normal use of the water may continue. Review and correct the operation of all upstream treatment processes and,
 - (a) follow the manufacturer's recommendations for servicing or backwashing the filter and flush the distribution system and plumbing; or
 - (b) replace the filter cartridge or filter element and flush the distribution system and plumbing.

Warning notice, Non-compliance

12. (1) The owner of a drinking-water system shall ensure that a warning notice is posted if,

- (a) the owner is not currently complying with the sampling or testing requirements of subsection 8(2) [microbiological parameters]; or
- (b) the owner is required to report an adverse test result under section 18 of the Act or is required to report an observation disclosing an indicator of adverse water quality under subsection 10(2) with respect to a microbiological parameter, and,
 - (i) the corrective action specified in the applicable Corrective Action Schedule for the relevant indicator of adverse water quality is not taken, or
 - (ii) the corrective action specified in the applicable Corrective Action Schedule for the relevant indicator of adverse water quality indicates that water use be stopped or that water be boiled.

12. (2) The warning notice required by subsection (1) must be posted in a prominent location where it is likely to come to the attention of users of water from the drinking-water system.

12. (3) Where the drinking-water system serves a designated facility, the warning notice required by this subsection (1) shall be posted at each designated facility in a prominent location where it is likely to come to the attention of persons who enter the facility, and, if the facility consists of more than one building, a copy of the warning notice shall be posted in every building that persons other than staff of the facility are allowed to enter at a prominent location where it is likely to come to the attention of those persons.

12. (4) If the owner of a drinking-water system provides the operator of a designated facility with a copy of a warning notice required by this subsection (1), the operator of the facility shall ensure that the warning notice is posted at the facility in accordance with subsection (3).

12. (5) If a warning notice required by this section is not posted in accordance with this section, the warning notice may be posted by,

- (a) a provincial officer designated under section 8 of the Act;
- (b) a public health inspector under the *Health Protection and Promotion Act*, or
- (c) an officer or agent of the interested authority for the designated facility.

12. (6) Clause (5) (c) 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.

Warning Notice, Election

13. (1) The owner of a drinking-water system who is permitted under subsection 5 (2) not to provide the required minimum level of treatment and under subsection 8 (8) not to carry out the required operational checks, sampling and testing, and elects to post appropriate warning notices shall ensure that warning notices are posted in accordance with the "Schedule 13 - 1: Posting".

13. (2) If an Act, regulation, order or other document issued under the authority of any Act requires an owner of a drinking-water system to provide potable water to the users of the system or if the owner is required to provide water that meets the prescribed drinking-water quality standards to a plumbing fixture under subsection 3 (5), the posting of warning notices does not relieve the owner of the duty to comply with that requirement.

Schedule 13 - 1 Posting

This Schedule applies to a drinking water system to which subsection 13(1) applies.

1. Warning notices must be legible and contain the following words:

PUBLIC NOTICE

**This water has not been tested and treated for drinking purposes
according to O. Reg. xxx/03**

2. Warning notices must include a pictogram that clearly warns the user against using the water for drinking purposes.
3. The owner shall check all notices weekly when the system is operating to ensure they continue to meet the requirements of this schedule. The owner shall keep records of all checks onsite for five years.
4. Warning notices (full size – minimum of 8 inches by 11 inches) are required to be posted in a prominent location where they are likely to come to the attention of users and potential users of water from the system and at each facility served by the system which offers water to the public.
5. Warning notices (half size – minimum of 5 inches by 7 inches) are also required to be posted at each tap or drinking-water fountain where they are likely to come to the attention of users and potential users of water from the system.

Information to be available

14. (1) The owner of a drinking-water system shall ensure that the following information is available for inspection:

1. A copy of every record or report made under subsection 8 (1). [operational checks]
2. A copy of every test result with respect to testing required under subsections 8 (2) and 8 (3). [Microbiological and chemical testing]
3. A copy of every approval and every order that applies to the system and is still in effect, if the approval or order was issued after December 31, 2002.
4. A copy of every annual report prepared under section 15.
5. A copy of this Regulation.

14. (2) Paragraphs 1 and 2 of subsection (1) do not apply to a record or report until the day after it comes into the owner's possession.

14. (3) Paragraphs 1, 2 and 4 of subsection (1) do not apply to a record or report that is more than two years old.

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

- (a) 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.

14. (5) Where the drinking-water system serves a designated facility, the information must be 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.

14. (6) 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.

Annual report

15. (1) The owner of a drinking-water system shall ensure that an annual report is prepared in accordance with this section and submitted to the Director, and to the interested authority for each designated facility served by the system, on or before September 1 in each year.

15. (2) The annual report must cover the period from August 1 in the previous year to July 31 in the year in which the report is due.

15. (3) The annual report must,

- (a) contain a brief description of the drinking-water system;
- (b) summarize any reports or notices submitted to the Director during the period covered by the report;
- (c) summarize the results of tests done under subsection 8(1) [operational checks] during the period covered by the report;
- (d) summarize the results received of tests of water samples taken under subsection 8(2) [microbiological testing] during the period covered by the report;
- (e) summarize the results received of tests of water samples taken under subsection 8(3) [chemical testing] during the period covered by the report or, if no samples were taken under that section during that period, summarize the results received of tests of the most recent water samples taken under that section;
- (f) describe any corrective actions taken under section 11 during the period covered by the report;
- (g) describe any major expenses incurred during the period covered by the report to install, repair or replace required equipment.

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15. (4) 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. *too much*

15. (5) Subsection (4) does not apply to an annual report that is more than two years old.

15. (6) 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 the system and persons allowed to enter each designated facility served by the system that copies of the report are available, without charge, and of how a copy may be obtained.

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15. (7) If a drinking-water 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 website on the Internet.

15. (8) The provisions of this section that require a report to be submitted to the interested authority for a designated facility do 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.

Retention of documents and other records

Record retention for Drinking Water Systems – 5 years

16. (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 related to the testing of a water sample, other than for a chemical parameter, required under section 8.
2. Every annual report prepared under section 15.

Record retention for Drinking Water Systems – 15 years

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

1. Every record related to the testing of a water sample for a chemical parameter required under section 8.
2. Every engineering evaluation report prepared under subsection 4(4).
3. Every engineer's report prepared under subsection 4 (6).

16. (3) The owner of a drinking-water system shall ensure a document or other record referred to in subsection (1) or (2) is submitted to the Director within seven days after the Director makes a request for it.

Record retention for laboratories

16. (4) A laboratory that carries out the testing of a water sample required under subsections 8 (2) or 8 (3) shall ensure that the following documents and other records are kept for at least five years:

1. All documents related to the submission, receipt, storage, handling of the water sample.
2. The test results, including working papers.
3. The report of the results of the testing prepared under subsection 9(2).

16. (5) The operator of a school, private school or day nursery shall ensure that every record made under section 7 [flushing] is kept for at least five years.

Forms

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

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

Purpose of notice to interested authorities

18. 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.

Other Regulations Under the OWRA:

The following regulations are proposed under the *Ontario Water Resources Act* as part of the implementation of the *Safe Drinking Water Act* and this draft regulation:

1. Ontario Regulation 459/00 will be revoked.
2. Ontario Regulation 505/01 will be revoked.
3. A regulation will be made under the *Ontario Water Resources Act* that exempts the following water works from section 52 of that Act:
 - A. A water works that is a municipal drinking-water system within the meaning of the *Safe Drinking Water Act*.
 - B. A water works that is a non-municipal drinking-water system within the meaning of the *Safe Drinking Water Act*.

