



Small Drinking Water Systems: Who Does What in Manitoba?

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The *director* refers to the Director of the Office of Drinking Water.

1.0 Source Water Protection

1.1 Who has a stewardship role related to water source protection (lead agency)?

Manitoba Department of Conservation and Water Stewardship created the *Office of Drinking Water* to carry out the province's drinking water program, including regulatory and advisory roles, with the mission to assure the provision of safe, adequate, aesthetically pleasing and acceptable drinking water supplies "from source to tap" within the province.¹

Office of Drinking Water is intended to:

- administer and enforce the Act and regulations, licences, permits, advisories and orders made under it;
- provide guidance, technical expertise, and up-to-date information and educational materials regarding drinking water safety to water suppliers and the public;
- communicate with government departments and agencies (federal, provincial, local) and with others to share expertise and facilitate co-operative efforts in drinking water programs and policies.

Lieutenant Governor in Council may make regulations related to water source protection; respecting the protection of drinking water sources, groundwater recharge zones, and areas adjacent to drinking water sources.²

The *Drinking Water Safety Act* addresses the construction, operation and monitoring of drinking water systems in Manitoba. The *Lieutenant Governor in Council* appoints a *minister* to administer the act and this minister may designate one or more persons as a *director*, and may appoint any person as a *drinking water officer*.

The *Environment Act* addresses facility operators through the Water and Wastewater Facility Operators Regulation. The Water and Wastewater Facility Operators Regulation is

¹ <http://www.gov.mb.ca/waterstewardship/odw/>

² http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_01009_01

administered through the Environmental Approvals Branch of Manitoba Conservation and Water Stewardship.³

The *Manitoba Water Council* was established in February 2007 under the authority of *The Water Protection Act* as the senior advisory body to the Minister of Manitoba Conservation and Water Stewardship.⁴ The Water Council coordinates the work of all provincial advisory bodies on water protection, and plays an important role in province-wide water issues. The Water Council members represent the regional diversity of Manitoba including local, government, agricultural and environmental perspectives. The Water Council builds consensus among Manitobans on sustainable solutions that will help protect and manage the province's water quality and water quantity.

The *Manitoba Clean Environment Commission* provides opportunities for the Manitoba public to play a part in ensuring the protection of our environment.⁵

1.2 Who oversees liquid and solid waste management?

Manitoba Department of Conservation and Water Stewardship has responsibilities in these areas and is guided by the Protection of Water Sources Regulation under the *Public Health Act*.^{6,7}

“No person shall deposit or discharge into, or onto the back of, any river, stream, lake, creed, spring, coulee, reservoir, pond, or dugout, or on the ice thereof, any manure, excreta, filth, or refuse of any nature, or permit the fouling or contamination of ice or water on any such body of water by the congregating or watering of stock at any water hole or place.

No person shall commit any act that will or may contaminate any underground water supply by the discharge of any sewage, surface drainage, liquid waste, or filth into any well, abandoned well, hole, or other opening, and no person shall fill or replenish any existing well, except with water from an approved source satisfactory to the *medical officer of health*.

Where, in the case of a particular well or group of wells, a person who has been specifically authorized by *The Oil and Natural Gas Conservation Board* to do so, may:

- Dispose of salt water produced from wells in salt water disposal wells;
- Inject salt water or fresh water into water injection wells;
- Follow such other oil drilling and oil production practices as may be authorized from time to time by The Oil and Natural Gas Conservation Board;
- Dispose of all refinery wastes in an oil well approved by The Oil and Natural Gas Conservation Board, under such terms and conditions as may be specified by that board.

No person shall dam or obstruct the flow of any natural watercourse by the deposit of manure or other unclean or offensive material.

No person, without the written permission of the *Minister (Manitoba Health)*, shall discharge into any water course any raw or untreated sewage, or any creamery, trade, or mine waste that is of such a nature as will, or may, create any dangerous or offensive condition or nuisance, or impair any waters used for any municipal or private domestic supply or render them dangerous or unfit for use.

³ <http://www.gov.mb.ca/conservation/eal/contact.html>

⁴ <http://manitobawatercouncil.ca/>

⁵ <http://www.cecmanitoba.ca/>

⁶ <http://web2.gov.mb.ca/laws/regs/pdf/p210-326.88r.pdf>

⁷ <http://www.gov.mb.ca/waterstewardship/odw/reg-info/acts-regs/>

Where any accumulation of manure, filth, or refuse is found on the banks of, on the ice of, or in close proximity to, any water course, or any act is being committed that, in the opinion of the *medical officer of health* or *health inspector*, causes contamination or pollution, or creates a nuisance or offence, or affects injuriously any public or private water supply, the *medical officer of health*, the *health inspector*, or the *minister (Manitoba Health)* shall order the person responsible for the accumulation of any such material or the commission of any such act to desist from any such practice and to clean up and remove all such material. Where the person responsible refuses or neglects to remove any such accumulation as ordered, the removal may be done at the expense of the person responsible.”

1.3 Who is responsible for land use planning activities (from livestock to farming practices, including activities addressing drinking water concerns)?

Manitoba Department of Conservation and Water Stewardship (Sustainable Resource and Policy Management) has responsibility for land use planning and policy development with respect to Crown land, and assists municipalities and planning districts with the preparation of development plans and zoning by-laws as they relate to Crown lands, natural resources, environment and protected areas.⁸

Lieutenant Governor in Council may make regulations:

- respecting the siting, construction, maintenance, decommissioning, sealing, abandonment, and use of water from wells constructed for domestic purposes;
- respecting sources of water used in the production of pre-packaged water for consumptive purposes, including the approval of sources by the *director* and the monitoring of sources.

Wells constructed for domestic purposes shall be so located, constructed, and maintained as to prevent contamination of the water.

Medical officer of health or *health inspector* may direct the methods of construction or the materials, or both methods and materials, that may be used to protect a water supply. Where a well is no longer in use or is permanently abandoned, the owner shall protect the water bearing formation against possible pollution as directed by the *medical officer of health*.

Note: All engineering design, with regard to Public Water Systems or Semi-Public Water Systems and sewerage projects, shall be done by engineers competent in the field, and those engineers must be persons who are *professional engineers* certified to practice in Manitoba within the meaning of *The Engineering and Geoscientific Professions Act* (APEGM).⁹

1.4 Who is responsible for ensuring that activities, such as construction of highway infrastructure, logging or mining, neither degrade source waters nor introduce contaminants into the water supply?

Manitoba Conservation and Water Stewardship (Forestry Branch) is one of several resource branches responsible for ensuring sustainable resource management.¹⁰

Manitoba Infrastructure and Transportation is responsible for the development of transportation policy and legislation, and for the management of the province's infrastructure network.¹¹

The *Lieutenant Governor in Council* may make regulation (*Water Protection Act*):

⁸ <http://www.gov.mb.ca/conservation/susresmb/crownland/>

⁹ Association of Professional Engineers and Geoscientists of Manitoba

¹⁰ <http://www.gov.mb.ca/conservation/forestry/>

¹¹ <http://www.gov.mb.ca/mit/>

- governing, regulating, or prohibiting the discharge or other release of a pollutant into water;
- governing, regulating, or prohibiting the access of livestock to water bodies or areas adjacent to water bodies;
- prescribing water management principles that are consistent with the purposes of the *Water Protection Act*;
- respecting any other matter that the Lieutenant Governor in Council considers necessary or advisable to carry out the purposes of this Act.

The *director* may issue an order only if he or she is satisfied that issuing an order will not result in activities that place a drinking water source or public health at risk (*Water Protection Act*).

1.5 Who delivers permits to draw water?

Manitoba Department of Conservation and Water Stewardship through the Water Use Licensing Branch, which provides a “Water Rights Licence.”¹²

1.6 Who has control over the watershed and delineates the watershed/aquifer area?

Manitoba Department of Conservation and Water Stewardship (Watershed Management Branch) has mandated that all Conservation Districts submit an integrated Watershed Management Plan.¹³

A watershed management plan (*Water Protection Act*) must identify issues relating to the protection, conservation or restoration of water, aquatic ecosystems, and drinking water sources in the watershed.

1.7 Who is responsible for the watershed/aquifer management plan? (The plan establishes measures to reduce risks. The watershed management plan may also include an incident and emergency response plan, plan for water conservation, and contingency plans for dealing with water scarcity emergencies).

Manitoba Department of Conservation and Water Stewardship (Watershed Management Branch) is responsible and requires that Conservation Districts submit an integrated Watershed Management Plan.¹⁴

A Watershed Management Plan (*Water Protection Act*) must:

- identify issues relating to the protection, conservation or restoration of water, aquatic ecosystems, and drinking water sources in the watershed
- contain objectives, policies, and recommendations respecting:
 - the protection, conservation or restoration of water, aquatic ecosystems, and drinking water sources;
 - activities in water quality management zones, riparian areas, wetlands, flood areas, flood plains, and reservoir areas;
 - water demand management, water use practices and priorities, the conservation of water supplies, and the reduction of water use and consumption during droughts and other periods of water shortage;
 - the supply, distribution, storage and retention of water, including measures to ensure persons in the watershed have access to clean potable water;

¹² <http://www.gov.mb.ca/conservation/waterstewardship/licensing/wlb/index.html>

¹³ <http://www.gov.mb.ca/conservation/waterstewardship/iwmp/index.html>

¹⁴ <http://www.gov.mb.ca/conservation/waterstewardship/iwmp/index.html>

- emergency preparedness to address spills, accidents, and other emergencies that may affect water, an aquatic ecosystem or a drinking water source;
- specify linkages between water management and land use planning so as to facilitate the adoption, in a development plan or other planning instrument, of some or all of the provisions of the watershed management plan;
- identify ways in which the plan can be implemented, monitored, and evaluated, recognizing the need to implement the plan with the assistance of individuals, groups, and organizations.

1.8 Any source vulnerability assessment and ranking?

Public/semi-public water supplier must, at least once in every five-year period:

- conduct, or cause to be conducted, an assessment of the water's infrastructure and its water supply source;
- provide the director with a written report of the assessment.

Note: each assessment and written report must be done by a professional engineer who is experienced in sanitary engineering relating to drinking water systems and who is not an employee of the water supplier (for a semi-public system, a person who is not a professional engineer may conduct the assessment and prepare the report, if the person is not an employee of the water supplier and the director considers that person to be suitably qualified).

The *director* may, upon receiving a written report, order the *public or semi-public water supplier* to perform any further investigation and any repair upgrade, or other work that is needed to address matters that present, or may present, a risk to water safety.

The *director* may require a *public/semi-public water supplier* to conduct, or cause to be conducted, an assessment of the water system's infrastructure or its water supply source at any time, if:

- the director believes the infrastructure or the water supply source presents, or may present, a risk to the safety of water obtained;
- the water system has been altered.

The *medical officer of health* may order the reconstruction, disinfection, or closing of a well where, in his or her opinion, the water is unsafe or the well is improperly located, constructed, or protected. This falls under the Groundwater Management section and the *Groundwater and Water Well Act*.¹⁵

2.0 Water Treatment and Distribution

2.1 Any lead funding organization for water system planning and infrastructure improvements?

The lead funding organization is the *Water Services Board*, part of Local Government.¹⁶ The last major funding programme was the Build Canada Fund for infrastructure upgrades.

2.2 Any construction permits?

Public and semi-public water systems are regulated under the *Drinking Water Safety Act*. This Act has two accompanying regulations: the Drinking Water Safety Regulation (MR

¹⁵ <https://web2.gov.mb.ca/laws/statutes/ccsm/g110e.php>

¹⁶ <http://www.gov.mb.ca/ia/mwsb/mwsb.html>

40/2007), and the Drinking Water Quality Standards Regulation (MR 41/2007).¹⁷ Under these regulations, systems must meet construction, operation, and monitoring of drinking water systems in Manitoba. The *Lieutenant Governor in Council* appoints a *minister* (Department of Conservation and Water Stewardship) to administer the Act and this minister may designate one or more persons as a *director*, and may appoint any person as a *drinking water officer*.

Lieutenant Governor in Council may make regulations respecting the issuance, amendment, renewal, suspension, and cancellation of permits to construct or alter water systems, including design and construction requirements to be met by applicants.

The Approvals Unit of the Office of Drinking Water receives the permit applications. The Unit must receive, from an applicant requesting a permit to construct or alter a water system, the following:

- a completed application in a form satisfactory to the Director/Unit;
- a design brief, project specifications, and a copy of the engineering design plans (for a public water system). If the Public or Semi-Public Water System is groundwater, the permit application must also include a well log;
- a design brief and copy of the engineering design plans or schematic drawings (for a semi-public water system).

Note: Many small system alterations do not require engineering involvement. If, for instance, a water system is adding a holding tank, or a UV unit certified to NSF standard 55A, there is no requirement for an engineer. The idea is that the installed equipment has already been engineered and will only improve the drinking water quality and safety. Adding more than one type of unit does require engineering involvement.

The *director*, upon receipt of an application, may do one or more of the following:

- Require the applicant to provide additional information;
- Require the applicant to conduct bacteriological, chemical, radiological, physical, or microbial tests of the water from the proposed water supply source(s) and provide the director with analyses;
- Require information that a proposal has been filed (under Section 11 – the *Environment Act*);
- By written notice, waive the requirement to obtain a permit, if the application proposes minor alteration and the director is satisfied that the requirements are met;
- Approve the application and issue a permit, subject to any terms and conditions the director considers necessary;
- Refuse the application, if the director reasonably believes that the proposed work cannot provide:
 - the safety of water obtained from the water system;
 - effective environmental management.

A permit can be amended, suspended, or cancelled, at the discretion of the director.

2.3 Any fee collected for water distribution?

The *Water Use Licensing Section of Manitoba Water Stewardship* has the responsibility for allocating the use of water resources within the province. Any individual or corporation who wishes to use water for agricultural, municipal, industrial, irrigation, or other purposes must obtain a license.¹⁸

Use of surface water and groundwater for domestic purposes does not require a Water Rights Licence unless consumption exceeds 25,000 litres, the equivalent of 5,500 imperial

¹⁷ <http://www.gov.mb.ca/waterstewardship/odw/public-info/general-info/index.html>

¹⁸ <http://www.gov.mb.ca/waterstewardship/licensing/wlb/obtaining.html>

gallons, per day. Fees are collected only from utilities in larger areas, and the fees are addressed by Water Use Licensing.

Lieutenant Governor in Council may make regulations respecting water used for bulk distribution for consumptive purposes.

2.4 Any operator permit? Any training? How are new policies disseminated?

Manitoba Department of Conservation and Water Stewardship manages licensing, regulation and policy.¹⁹ Water use licensing information and training and operator information is available here: <http://www.gov.mb.ca/conservation/eal/certification/> and http://www.gov.mb.ca/tce/apprent/mb_trades/water_wastewater_tech.html.

The *Drinking Water Safety Act* has two accompanying regulations: the Drinking Water Safety Regulation and the Drinking Water Quality Standards Regulation, both enacted in 2007, indicate the following²⁰:

No person shall operate a public/semi-public water system unless the person obtains an operator's certification (the *Environment Act*) and holds a current operating licence for the water system, issued by the *Director of the Office of Drinking Water* and subject to terms and conditions necessary to provide for:

- the safety of water obtained from a water system;
- effective environmental management;

with an expiry date and binding on a person who purchases or becomes an *owner* of the water system.

The *director* must receive, from an applicant, a completed application form and the director may take any of the following actions:

- require the applicant to provide additional information;
- inspect the water system to which the applicant relates;
- approve the application and issue an operating licence;
- refuse the application if the director reasonably believes the applicant will be unable to provide for:
 - the safety of water obtained from the water system;
 - effective environmental management.

A licence can be amended, suspended, or cancelled, at the discretion of the director.

Within 60 days before the expiry of an operating licence, the licence holder may apply for renewal by providing the *director* with a completed application.

2.5 Any assessment of treatment system? Any license of treatment system? By whom?

The *Manitoba Department of Conservation and Water Stewardship* is involved with water licensing.²¹ Criteria for licensing and maintaining water standards are provided.

The *Lieutenant Governor in Council* may make regulations respecting the manner in which assessments of water system infrastructure and water supply sources are to be conducted.

Public/semi-public water supplier must, at least once in every five-year period:

- conduct, or cause to be conducted, an assessment of the water's infrastructure and its water supply source;

¹⁹ <http://www.gov.mb.ca/waterstewardship/licensing/index.html>

²⁰ <http://web2.gov.mb.ca/laws/statutes/ccsm/d101e.php>

²¹ <http://www.gov.mb.ca/conservation/waterstewardship/licensing/index.html>

- provide the *director* with a written report of the assessment.

The *director* may, upon receiving a written report, order the *public/semi-public water supplier* to perform any further investigation and any repair upgrade, or other work that is needed to address matters that present, or may present, a risk to water safety.

The *director* may require a *public/semi-public water supplier* to conduct, or cause to be conducted, an assessment of the water system's infrastructure or its water supply source at any time, if:

- the director believes the infrastructure or the water supply source presents, or may present, a risk to the safety of water obtained;
- the water system has been altered.

2.6 Who is responsible for the maintenance and upgrade of water treatment?

The *owner* may designate a *manager* or *operator(s)* to conduct day-to-day operations of a water system, but the owner is ultimately responsible for providing safe drinking water and meeting all public responsibilities and regulatory requirements that apply to the water system.

The *Owner* must:

- understand terms and conditions of Operating Licence or other approval conditions for their drinking water system;
- understand the obligations under the *Drinking Water Safety Act* and regulations;
- hire competent and certified operators;
- allocate sufficient financial resources for source water protection, proper system operation and maintenance, future upgrades or replacement of the water treatment works, and operator training;
- ensure that system operating reports and records are maintained and provided to regulators upon request.

The *operator* is responsible for ensuring the system is operated in accordance with all conditions outlined in their Operating Licence and any other conditions set out by the *Office of Drinking Water*. *Operators* must:

- deliver drinking water to water quality standards;
- operate all water system facilities in accordance with licence conditions;
- protect drinking water sources, taking all reasonable steps;
- maintain and submit records to the regulatory agency as required and immediately report to the Office of Drinking Water violations of the Operating Licence or other operational conditions noting corrective actions taken;
- immediately report to the Owner and the Office of Drinking Water any concerns with water system operations that may compromise water quality or public health and document steps taken, or to be taken, and to address the issue;
- maintain their provincial operator certification requirements.

The *public/semi-public water supplier* with a system serving 1,000 or more persons or less than 1,000 persons, with new or altered water filtration equipment, must ensure:

- that the new/altered equipment has a filter-to-waste feature, or other method of disposal acceptable to the *director* and that operates automatically on filter start-up or after filter backwash;
- at start-up/after a filter backwash cycle, the water is wasted and not discharged into a treated water storage reservoir or any other part of a water distribution system until water turbidity levels have stabilized at an acceptable level.

The *Office of Drinking Water, Manitoba Conservation and Water Stewardship* provides “Best Practices Manual for Small Drinking Water Systems”²² that includes recommendations, with appropriate checklists, for:

- decommissioning a well (well abandonment);
- wellhead protection;
- surface water intake structures;
- basic filter operation and maintenance;
- chemical feed systems;
- ultraviolet disinfection;
- general plant maintenance;
- asset management;
- treated storage reservoirs;
- storage reservoir disinfection;
- watermain repair and disinfection;
- system drawing and sample siting plan;
- distribution system flushing;
- valve maintenance;
- cross connections and backflow prevention;
- leak detection program;
- water quality monitoring program;
- emergency planning.

2.7 Any requirements for the water supply system?

The *Lieutenant Governor in Council* may make regulations:

- respecting disinfection requirements for water systems;
- respecting testing for disinfection residuals, including the prescribing of time intervals for the performing of such tests;
- prescribing requirements respecting records of tests for disinfection residuals, including the manner in which they are to be made and retained.

The *public water system/semi-public water system supplier* must disinfect for the purpose of meeting bacteriological and microbial standards for the drinking water system and must use one of the following methods of disinfection:

- Chlorine disinfection, with a minimum contact time of 20 minutes under peak demand conditions;
- A method or combination of methods of disinfection approved by the director.

The *public/semi-public water supplier* who uses a method or combination of methods of disinfection must comply with the disinfection requirements stated in the operating licence for the water system.

The *semi-public water system supplier* must disinfect the water system’s water supply if the source of that supply is:

- surface water;
- groundwater under the direct influence of surface water (GUDI).

The *semi-public water system supplier* must disinfect the water system’s water supply if the source is groundwater and the water system provides water to one or more of the following:

- a hospital;
- a personal care home;

²² http://www.gov.mb.ca/waterstewardship/odw/reg-info/operations-monitor/best_practices_for_small_drinking_water_systems-manual.pdf

- a residential care facility;
- a public school or private school;
- a child care facility;
- a day care centre or day care home;
- a children's camp, recreational or athletic camp;
- a restaurant, cafeteria, food court, or other food handling establishment that requires a licence, permit, or approval;
- a business, institution, or other facility designated by a *drinking water officer* after consultation with a *medical officer of health*.

Note: A Semi-Public Water System Supplier need not disinfect its water supply if the operating licence for the system states that disinfection is not required.

The *Director* may state that disinfection is not required if there is:

- no history or evidence of bacteriological contamination in the water system;
- no evidence that the water system has been improperly constructed or maintained;
- no distribution system to convey water to users that is external to the main building or premises served by the water system.

Note: The director may consult with the medical officer of health about the safety of water obtained from the system.

The *public/semi-public water supplier* required to disinfect shall ensure that:

- all equipment and machinery is maintained in effective working order;
- spare parts, as may be necessary to ensure continuous disinfection in case of equipment or machinery failure, are kept available for immediate use; including, if necessary, a spare chlorinator or disinfection unit.

The *public/semi-public water supplier* required to disinfect shall ensure that a disinfectant residual of at least:

- 0.5 mg of free chlorine per litre of water; or
- mg of chloramine per litre of water, measured as monochloramine
- is detectable at the point where water enters the water distribution system, after the minimum contact time specified. The *director* may waive, in writing, if potable water or an alternative method of disinfection has been approved.

The *water supplier/semi-public water supplier* required to disinfect must ensure that a disinfectant residual of at least:

- 0.1 mg of free chlorine per litre of water; or
- 0.3 mg of chloramine per litre of water
- is detectable at all times at any point in the water distribution system, unless otherwise stated in the operating licence for the system.

The *public/semi-public water supplier* required to disinfect must ensure that the disinfected water supply is tested for disinfectant residuals at the following times and locations:

- at least once per day before the water enters the water distribution system;
- periodically, at representative points in the water distribution system selected in accordance with guidelines approved by the *director*.

The *drinking water officer* may require the *public/semi-public water supplier* to test more/less frequently or at different points, if satisfied that it is necessary to ensure the safety of water obtained from a water system.

Note: The *public/semi-public water supplier* must install and operate continuous disinfectant monitoring equipment, if specified in the operating licence for a water system.

The *public/semi-public water supplier* must test for disinfectant residuals in accordance with a method specified in the latest edition of Standard Methods for the Examination of Waste and Wastewater (published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation) or a method approved by the *director*.

The *public/semi-public water supplier* must make a record of all tests and:

- give the original and one copy to a *drinking water officer* assigned to the region, within seven days after the end of the calendar month during which the test was taken;
- retain one copy for at least 24 months after the date of the test.

3.0 Drinking Water Quality and Monitoring

3.1 Who is the lead agency for drinking water quality?

The *Department of Conservation and Water Stewardship* is the lead agency and manages the following programs:

- Water Branch;
- Regional Water Operations;
- Fisheries Branch;
- Regional Fisheries Operations;
- The *Office of Drinking Water*, which has central and regional staff available to carry out the Province of Manitoba's drinking water program, including regulatory and advisory roles.

The *Office of Drinking Water* is intended to:

- administer and enforce the *Act* and regulations, licences, permits, advisories and orders made under it;
- provide guidance, technical expertise, and up-to-date information and educational materials regarding drinking water safety to water suppliers and the public;
- communicate with government departments and agencies (federal, provincial, local) and with others to share expertise and facilitate co-operative efforts in drinking water programs and policies.

Manitoba Infrastructure and Transportation operates the Flood Proofing Program.

3.2 Who defines water quality standards?

Manitoba's guidelines and standards are based on the federal Guidelines for Canadian Drinking Water Quality (GCDWQ).

Lieutenant Governor in Council may make regulations specifying:

- drinking water quality standards;
- respecting the adoption, development, application, implementation, and revision of drinking water quality guidelines and objectives.

3.3 Who is responsible for administering drinking water regulations, if any?

The *Office of Drinking Water* and *drinking water officers* are responsible for administering drinking water regulations.²³

²³ <http://www.gov.mb.ca/conservation/waterstewardship/odw/reg-info/acts-regs/index.html>

The *public/semi-public water supplier* must:

- disinfect the water system's water supply in accordance with regulations;
- test the disinfected water supply for disinfectant residuals – before disinfected water leaves the treatment plant and after disinfected water has left the treatment plant, at prescribed time intervals and at representative points in the distribution system;
- make a record of all tests performed and retain each record for at least 24 months after the test date.

3.4 Who enforces regulations, if any?

The *Office of Drinking Water* and *drinking water officers* are responsible for enforcing drinking water regulations.²⁴

The *public/semi-public water supplier* must, at least once in every five-year period:

- conduct, or cause to be conducted, an assessment of the water's infrastructure and its water supply source;
- provide the *director* with a written report of the assessment.

Note: each assessment and written report must be done by a *professional engineer* who is experienced in sanitary engineering relating to drinking water systems and who is not an employee of the water supplier (for semi-public system, a person who is not a professional engineer may conduct the assessment and prepare the report, if the person is not an employee of the water supplier and the director considers that person to be suitably qualified).

The *director* may, upon receiving a written report, order the *public/semi-public water supplier* to perform any further investigation and any repair upgrade, or other work that is needed to address matters that present, or may present, a risk to water safety.

The *director* may require a water supplier to conduct, or cause to be conducted, an assessment of the water system's infrastructure or its water supply source at any time, if:

- the director believes the infrastructure or the water supply source presents or may present a risk to the safety of water obtained;
- the water system has been altered.

3.5 Who ensures the accountability of government and water suppliers?

The *public/semi-public water supplier* (in relation to a public water system that serves 1,000 or more persons) must provide a report to the *director* no later than March 31 of each year, about the operation of the water system in the immediately preceding calendar year (see 32-1: Drinking Water Safety Regulation under *Drinking Water Safety Act* C.C.S.M. c D101 for items included in annual report).

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The *director (Office of Drinking Water)* prepares (within six months after the end of the government's fiscal year) a report about the Office's activities during that fiscal year submitted to *Minister (Department of Conservation and Water Stewardship)*

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Copy laid before Legislative Assembly (within 15 days after receipt if Assembly is sitting or within 15 days after next sitting begins).

Directed by the *medical officer health*, the *owner* of any public or private water supply system shall undertake remedial measures, if the system is found to be defective or the water unsatisfactory for domestic purposes.

²⁴ <http://web2.gov.mb.ca/laws/statutes/ccsm/d101e.php>

The *medical officer of health* may order a boil water advisory on any water system if there is a risk or possible risk to human health.

All surface water shall be considered unsafe for domestic purposes unless boiled, chlorinated, or otherwise disinfected to the satisfaction of the *medical officer of health*. All drinking water derived from shallow wells shall be disinfected to produce microbiologically safe water, but disinfection is not required in the absence of erratic or high level coliform contamination or other contaminating factors.

3.6 Who is responsible for the assessment of public water supply systems? (Identify critical points within the treatment process for effective monitoring, control, and management including determining treatment efficiency in the removal or inactivation of harmful agents found in the source water.)

The *public/semi-public water supplier* must submit to the *director*, for approval, a plan that details how the water supplier will, on and after the compliance date, comply with:

- microbial standards;
- each chemical standard;
- each additional chemical standard or each radiological standard;
- each physical standard.

This compliance plan must be submitted to the *director*:

- within 18 months after the day on which the operating licence for the water system was issued, if the water system serves no more than 5,000 individuals;
- within 12 months after the day on which the operating licence for the water system was issued, if the water system serves no more than 10,000 individuals;
- within six months after the day on which the operating licence for the water system was issued, if the water system serves more than 10,000 individuals.

Each time samples are required, they must be collected:

- at the source before any treatment or disinfection occurs;
- immediately after any required treatment, disinfection, and contact time sufficient to inactivate bacteria and viruses occurs:
 - prior to the water entering the water distribution system;
 - at the location otherwise recommended for the parameter being sampled (Guidelines for Canadian Drinking Water Quality – Health Canada).

The *public/semi-public water supplier* for a public water system serving more than 5,000 persons must:

- conduct continuous monitoring for water turbidity using equipment that allows each filter to be monitored continuously;
- periodically report the continuous monitoring results to a *drinking water officer*, in the manner and frequency specified in the operating licence for the system.

The *public/semi-public water supplier* must ensure that all water in the water distribution system meets the following bacteriological standards:

- less than one *E.coli* detectable per 100 ml;
- less than one total coliform detectable per 100 ml;
- where membrane filtration analysis is the primary method to test the bacteriological safety of the water:
 - background bacteria concentrations on a total coliform membrane filtration plate of less than 200 organisms per 100 ml
 - heterotrophic plate counts of less than 500 HPC colonies per ml.

If water in a water distribution system does not meet a standard specified, the water supplier is deemed to have complied with the standard if corrective action is taken (specified in Schedule A – Drinking Water Quality Standards Regulation).

Note: The laboratory must give immediate notification to the owner of a water system AND the regional drinking water officer or the drinking water officer on-call where an analysis indicates that a sample does not meet a drinking water quality standard.

The *public/semi-public water supplier* in relation to a water system that uses surface water or GUDI as its water supply source must ensure that it has in place, and maintains in effective working order, filtration and disinfection equipment and controls designed to ensure that all water entering the water distribution system meets the following microbial standards:

- reduction or inactivation of 99.9% of “Cryptosporidium oocysts” and “Giardia lamblia cysts”;
- reduction or inactivation of 99.99% of viruses.

The *director’s* variation of the standard for a water system is not valid unless it is included in the operating licence for that water system.

If water in a water distribution system does not meet a standard specified, the water supplier is deemed to have complied with the standard if corrective action is taken (specified in Schedule C – Drinking Water Quality Standards Regulation).

Note: The laboratory must give immediate notification where an analysis indicates that a sample does not meet a drinking water quality standard.

The *public/semi-public water supplier* must ensure that all water in the water distribution system meets the following chemical and radiological standards:

- each chemical standard specified in Schedule B (Drinking Water Quality Standards Regulation) that applies to the water system;
- the additional chemical standards, or radiological standards, if any, specified in the operating licence for the water system.

If water in a water distribution system does not meet a standard specified, the water supplier is deemed to have complied with the standard if corrective action is taken (specified in Schedule C – Drinking Water Quality Standards Regulation).

Note: Laboratory must give immediate notification where an analysis indicates that a sample does not meet a drinking water quality standard.

The *public/semi-public water supplier* that uses surface water or GUDI as its water supply source must ensure that all water entering the treated water reservoir, and at each other location in the water system as may be specified in the operating licence for the system, meets the following physical standards:

- in the case of a water treatment plant employing chemically assisted filtration, water turbidity levels must:
 - be less than or equal to 0.3 NTU in at least 95% of the measurements made in a month;
 - be less than or equal to 0.3 NTU at least 95% of the time in a month;
 - not exceed 0.3 NTU for more than 12 consecutive hours;
 - not exceed 1.0 NTU at any time;
- in the case of a water treatment plant employing membrane filtration, water turbidity levels must:
 - be less than or equal to 0.1 NTU in at least 99% of the measurements made in a month;
 - be less than or equal to 0.1 NTU at least 99% of the time in a month;

- not exceed 0.3 NTU at any time;
- in the case of slow sand filtration or diatomaceous earth filtration, water turbidity levels must:
 - be less than or equal to 1.0 NTU in at least 95% of the measurements made in a month;
 - be less than or equal to 1.0 NTU at least 95% of the time in a month;
 - not exceed 1.0 NTU for more than 12 consecutive hours;
 - not exceed 3.0 NTU at any time.

If water in a water distribution system does not meet a standard specified, the water supplier is deemed to have complied with the standard if corrective action is taken (specified in Schedule C – Drinking Water Quality Standards Regulation).

Note: A standard that is inconsistent with the Guidelines for Canadian Drinking Water Quality may be specified in an operating licence only if it is recommended by a medical officer of health.

3.7 Any approval process for newly built water treatment systems?

The *director* (Office of Drinking Water) authorizes a permit for construction or alteration of a public water system or a semi-private water system, subject to terms and conditions the Director considers necessary for:

- safety of water obtained from a water system;
- effective environmental management.

Minor alterations that will not adversely affect water safety obtained from the water system, may not require a permit.

3.8 Who is responsible for monitoring the water system? Any source water monitoring?

The *public/semi-public/private water supplier* must sample and submit water samples from the water system to a *laboratory* for bacteriological and other prescribed analyses.

The *water supplier* must collect, handle, and submit bacteriological samples (all) and quarterly trihalomethane (THM) samples²⁵ (surface water) in a manner satisfactory to:

- the *laboratory*, if submitted to a lab;
- the *director*, if submitted to a testing facility.

The *laboratory*:

- conducts analysis of water sample;
- submits results of analysis for a bacteriological, chemical, radiological, physical, or microbial standard to the *director* within the following times:
 - for a bacteriological standard – no later than seven days after the date the sample was received by the laboratory
 - for a chemical, radiological, physical, or microbial standard – no later than 30 days after the date that the sample was received by the laboratory;
- must immediately notify the *director, medical officer of health, or drinking water officer* if:
 - results indicate a serious health risk to users of the system exists or may exist;
 - results indicate non-compliance with a specified drinking water quality standard;

²⁵ THM sample frequency is based on population size.

- must, in an emergency situation, give notice in person to or by live telephone conversation with the person to be notified.

The *director*, *medical officer of health*, or *drinking water officer* must, upon receipt of a *laboratory* notice, notify the water supplier of the results. The *water supplier* must take follow-up measures and remedial action and the Director, Medical Officer of Health, or Drinking Water Officer may issue an order to the water supplier (see 3.9 – drinking water safety order).

Every *public/semi-public water supplier* must make and retain written records relating to the operation of the water system, sampling, and other prescribed matters and provide periodic reports to the *director* or *drinking water officer*.

The *public/semi-public water supplier* must make a record of all tests and:

- give the original and one copy to a *drinking water officer* assigned to the region, within seven days after the end of the calendar month during which the test was taken;
- retain one copy for at least 24 months after the date of the test.

The *director* may establish and maintain provincial drinking water quality database to assist in monitoring and tracking drinking water analyses and in identifying drinking water quality trends and risks.

(Note: See also 3.6.)

3.9 In case of adverse quality standards, who notifies whom (government, public, water supplier)?

The laboratory (where samples are tested) notifies the owner and then notifies the *drinking water officer* immediately after. The *drinking water officer* then contacts, by live phone conversation, the owner and operator regarding a re-sample and possible cause of the positive sample result. The *drinking water officer* can contact a *medical officer of health* to recommend a boil water advisory, if necessary.

The *director*, *medical officer of health*, or *drinking water officer* may make a “drinking water safety order” if:

- water obtained from a water system is, may be, or may become a risk to the health of persons;
- an order is necessary to investigate, prevent, remedy, mitigate or otherwise deal with the risk.

A drinking water safety order may be directed to any person and may require the person to one or more of the following:

- investigate the situation, undertake tests, examinations, analyses, monitoring or recording, and provide the person issuing the order with the information required;
- construct, alter, install, replace, remove, reconstruct, repair or do any other work (i) in relation to a water system or to any other thing, or (ii) in an area of the environment;
- cleanse, disinfect, or destroy any thing specified in the order;
- stop delivery of water from the water system;
- provide users of the water system with an alternate supply of water for domestic purposes;
- stop any activity, or remove or remediate any contaminant or other material that is adversely affecting or may adversely affect the source of water for a water system.

The *director* or the *drinking water officer* must obtain approval of a *medical officer of health* before making a drinking water safety order that:

- affects the availability of potable water to users of a water system;
- requires the water supplier to provide an alternate supply of potable water;
- addresses an issue relating to the safety of water currently being obtained from the water system.

If in the time necessary for the *director* or *drinking water officer* to obtain the approval of a *medical officer of health*, the health risk to users of the water system could increase, the *director* or the *drinking water officer* may make an order without obtaining that approval. But the person making the order must notify a *medical officer of health* of the circumstances as soon as is practicable.

The *medical officer of health* may revoke or amend the order; order may require standards to be exceeded.

The *director* may revoke or amend an order made by a *drinking water officer*.

The *minister* may, in addition to an order, also order a *public/semi-public water supplier* to enter into an agreement/arrangement with another person to take control of, operate, and manage a water system or any part of a water system for a specified period and in compliance with the licence and *Act*, at the water supplier's expense.

The order may contain financial terms and conditions, specify a deadline, and action for non-compliance. Appeals are made to the minister who may refer the matter to the *Clean Environment Commission* (the *Environment Act*) before making a decision.

The *medical officer of health* (or *director/drinking water officer*) may issue a boil water advisory if the issuer reasonably believes that water from a water system is or may be unsafe for domestic purposes unless it is boiled or otherwise disinfected. Approval is not required if time is a concern, but a medical officer must be notified of the circumstances as soon as is practicable.

The person issuing the advisory may give notice, or require the *public/semi-public water supplier* to give notice, to users of the water system, which may include:

- delivering copies of the advisory to users;
- publishing the advisory in a newspaper distributed in the user area;
- broadcasting the advisory on a radio or television station in the user area;
- posting copies of the advisory in publicly accessible locations in the user area;
- a method prescribed by regulation.

The *medical officer of health* must terminate the boil water advisory and give termination notice to the *public/semi-public water supplier*, once the medical officer believes the water from the water system is safe for domestic purposes without being boiled or otherwise disinfected.

The *director* or *medical officer of health* may require the water supplier to pay the costs incurred by the government in (i) giving notice, or (ii) sampling, testing/analyzing water from the water system to determine whether a boil water advisory should be issued/terminated.

4.0 Waste Management (also part of source water protection)

(Note: See also 1.2)

Responsibilities of *Municipal Councils*: a municipality, sanitary district, water district, or person having control of a sewerage system, sewage disposal or treatment works or plant, or public water system, is responsible for managing, operating, working, or controlling the system, works, or plant in an efficient and safe manner in conformity with the requirements of the *minister (Department of Health)* or the *Environment Act/Regulations*, and every such system, works, or plant shall be under competent supervision.

5.0 Surveillance

There is routine monitoring by the *public/semi-public water supplier*.

5.1 Any process in place to respond to health complaints?

The *regional drinking water officer* is responsible for complaints.

5.2 Any outbreak surveillance system in place?

Routine monitoring is conducted according to the current operating licence issued to the *public/semi-public water supplier* by the *Office of Drinking Water*.

Disease surveillance is health-related and surveillance is done in each region with the *Medical Officer of Health* involved (if necessary), who reports to *Office of Drinking Water*.

5.3 Any system in place to link outbreaks to source or system characteristics?

The reporting system involves the *Chief Medical Officer of Health* and the regional *Medical Officers of Health*. The Office of Drinking Water will look at possible links to surface water quality at specific sites.

Through the operating licence, the *system owner* is responsible overall. Some indirect methods of disease control could also come into play.

5.4 Who is responsible for managing outbreaks?

The *Medical Officer of Health* through Manitoba Health.

6.0 What is the Role of the Community in the Provision of Safe Drinking Water?

The *Lieutenant Governor in Council* may make regulations respecting information that the *public/semi-public water supplier* are required to make publicly available and the manner in which information is to be made available, including requirements for the posting of permits, licenses, orders and advisories

The *director* may provide the database information to any of the following, for the purpose of preventing, controlling, or dealing with risks to public health:

- the *medical officer of health* or *drinking water officer*;
- government department or government agency;
- a municipality, local government district, school division/district established under the *Public School Act*, regional health authority or other local authority;
- a band as defined in the *Indian Act* (Canada);
- a government department/agency of Canada or of another province or territory of Canada, the government/agency of a foreign country or of a state, province or territory of a foreign country.

The *director* may, on a periodic basis, issue public reports summarizing information contained in the database

The *public/semi-public water supplier* must ensure that effective steps are taken to:

- advise users that free copies of the annual report are available and how a copy may be obtained;
- post the annual report on the Internet;
- ensure that detailed annual report information is available for inspection by any member of the public during normal business hours without charge at:
 - the office of the water supplier
 - at a location convenient to users of the system (if the water supplier doesn't have an office).

The *director* or *medical officer of health*, when reasonably required to administer or determine compliance with the *Drinking Water Safety Act*, may enter and inspect:

- any place or premises, other than a dwelling;
- a dwelling, with owner/occupant consent;
- a dwelling, with an authorized warrant, where entry has been refused, there are reasonable grounds to believe that entry will be refused, the occupant is temporarily absent, or the dwelling is unoccupied;
- a dwelling without a warrant if the conditions for obtaining a warrant exist but, because of exigent circumstances, it would not be practical to obtain a warrant;
- a dwelling, without a warrant, in a public health emergency where there's believed to be an immediate risk to the health of persons and for the purpose of preventing, controlling or dealing with the risk.

Note: The *drinking water officer* has the same inspection authority powers as the *director* and the *medical officer of health*.

The *director*, *medical officer of health* or *drinking water officer* may also:

- inspect, investigate, examine, test, analyze or inquire as considered necessary;
- detain or cause to be detained any vehicle or container that is used as a bulk water hauler;
- require any substance, thing, solid, liquid, gas, plant, animal or other organism to be produced for inspection, examination, testing or analysis;
- seize or take samples of any substance, thing, solid, liquid, gas, plant, animal or other organism;
- require any person to provide information, including personal information, personal health information or proprietary or confidential information;
- require any person to produce any document or record, including a document or record containing personal information, personal health information or proprietary or confidential information, for examination or copying, or to retain as evidence;
- take photographs/videotapes of a place or premises, or any condition, process, substance, thing, solid, liquid, gas, plant, animal or other organism at or in it.

Note: Only a *medical officer of health*:

- or a person authorized by a medical officer, may require the production of personal health information or a document/record containing personal health information
- or the *Minister of Health*, can approve the use of water –for food handling establishments- from any source other than that provided and controlled by the local authority

- can provide written permission to sell/offer to sell or convey water for sale for domestic purposes; no water for sale for domestic purposes shall be transported or conveyed in any vehicle unless the tanks, other receptacles and equipment are maintained in sanitary condition and in good repair to the satisfaction of the medical officer of health.

The *director, medical officer of health or drinking water officer* may, in carrying out an inspection:

- use a data processing system at the place where records/documents are kept to examine any data contained in or available to the system;
- reproduce, in the form of a printout or other intelligible output, any record from the data contained in or available to a data processing system in the place;
- use any copying equipment at the place to make copies of any record/document;
- require a *public/semi-public water supplier* to pay the costs of testing, sampling or analysis.

Note: A person who has custody or control of a record/document/thing must give the *director, medical officer of health, or Drinking Water Officer:*

- all reasonable assistance to enable them to carry out their duties;
- any information reasonably required.

A *person* is guilty of an offence that:

- contravenes or fails to comply with a provision of any order, licence or permit;
- makes a false statement to the *director, medical officer of health, a drinking water officer* or any other person acting under their authority;
- provides a false statement in an application, record or any other document;
- hinders, obstructs or interferes with or attempts to hinder, obstruct or interfere with the director, medical officer or drinking water officer and any other person acting under their authority.

Any *person*, who reasonably believes that a violation has occurred or may occur, may report the circumstances leading to that belief to a *director, medical officer of health or drinking water officer*.

No *person owning or controlling a public place* shall provide drinking cups for common use or allow drinking cups for common use to be on the premises.

When drinking water is supplied in any place for the use of the public or for guests, patrons, visitors, or employees, the person controlling shall provide sanitary drinking fountains or individual drinking cups.

Water for drinking purposes in a public place shall be stored in covered containers.

References/Notes:

The *Drinking Water Safety Act* (C.C.S.M. c. D101)

- Drinking Water Safety Regulation, 40/2007 R
- Drinking Water Quality Standards Regulation, 41/2007 R

The *Public Health Act* (C.C.S.M. c. P210)

- Protection of Water Sources Regulation, 326/88 R
- Water Supplies Regulation, 330/88 R
- Water Works, Sewerage, and Sewage Disposal Regulation, 331/88 R

The *Water Protection Act* (C.C.S.M. c. W65)

And reference to:

Manitoba Conservation and Water Stewardship – Best Practices Manual for Small Drinking Water Systems (2007);

see also: *The Environment Act* (C.C.S.M. c. E 125)

- Water and Wastewater Facility Operators Regulation, 77/2003
- The *Water Rights Act* (C.C.S.M. c. W80)
- Manitoba Plumbing Code, 127/2006

Note:

Public Water System: system with 15 or more services connections, or system designated to be a public water system by the Office of Drinking Water; by the Office of Drinking Water;

Private Water System: system that supplies a single home or has been designated as a private system by the Office of Drinking Water;

Semi-Public Water System: anything in between; may include public facilities with own water supply system, or small systems (less than 15 but more than one service connection).

Note that while the National Collaborating Centre for Environmental Health has used its best efforts to ensure the accuracy and reliability of this information, it is provided as a general reference only. Please contact federal, provincial, municipal, and other agencies noted to verify the information provided.

Production of this document has been made possible through a financial contribution from the Public Health Agency of Canada through the National Collaborating Centre for Environmental Health.