

ODW Guideline 2016-04

GUIDELINE FOR PREPARING COMPLIANCE PLANS FOR PUBLIC WATER SYSTEMS

As per regulations supporting
The Drinking Water Safety Act

April 2016

Prepared by
The Office of Drinking Water
Manitoba Water Stewardship

Guideline for Preparing Compliance Plans for Public Water Systems

Purpose:

To enhance on-going public health protection related to drinking water, Manitoba introduced new regulations for the approval, design and operation of drinking water systems on March 1, 2007. The two new regulations are Manitoba Regulation 40/2007 Drinking Water Safety Regulation and 41/2007 Drinking Water Quality Standards Regulation. They can be viewed at: www.manitoba.ca/drinkingwater.

The regulations set out new obligations for public water systems that require owners to:

- Obtain a permit for the construction or alteration of a water system
- Obtain an operating licence for the operation of a water system
- Undertake a periodic assessment of a water system's infrastructure and water source
- Adhere to water quality and treatment standards
- **Complete a plan (compliance plan) for complying with water quality and treatment standards.**

This document provides guidance to water system owners and operators on the preparation of compliance plans for public water systems in Manitoba.

What is a compliance plan?

The Drinking Water Quality Standards Regulation (MR 41/2007) under *The Drinking Water Safety Act* establishes a set of water quality standards that must be met by public water systems including: bacteriological, microbial (cryptosporidium, giardia, virus), physical (turbidity) and chemical (ex: trihalomethanes, arsenic) standards. The standards vary depending on the source of water: surface water, groundwater or groundwater determined to be under the direct influence of surface water (GUDI).

The Office of Drinking Water in collaboration with Manitoba Health may also set additional water quality standards on a site-specific basis. Similar to the MR 41/2007 standards, the site specific standards and their associated monitoring and reporting requirements are specified in the water system's operating licence.

Water systems have until March 1, 2012 (five years from the date the regulations came into force) to comply with the water quality standards stated in their operating licence. In instances where a standard is not being met, owners must clearly demonstrate a commitment to meeting the standard by preparing a plan that identifies how and when compliance will be achieved. The plan, known as the compliance plan, must be submitted to the Office of Drinking Water for review by the date specified in the system's operating licence. The Office of Drinking Water is aware that due to financial or other constraints some compliance actions may have target dates that extend past the regulatory deadline.

Are all water systems required to submit a compliance plan?

Detailed compliance plans are required where an assessment of monitoring data or the water treatment processes confirm, or suggest, that a public water system is not able to comply with a water quality and/or water treatment standard (ex: turbidity, trihalomethanes, arsenic, minimum of 20 minutes of chlorine contact time).

Of particular interest to the Office of Drinking Water is the demonstration that a surface water system is capable of meeting the provincial microbial standards (i.e., minimum 3-log reduction in cryptosporidium and giardia in the treatment process). As a result, most public water systems treating surface water are being required to prepare a compliance plan as a condition of their operating licence. The ability of your system to meet the microbial standards should have been addressed in the water system's engineering assessment.

In instances where the Operating Licence has requested that a compliance plan be submitted to address a given standard, such as the microbial standard, and an evaluation of the system demonstrates that the standard is being met, the compliance plan would be fairly straight forward. It would simply state that an assessment of the water treatment process was completed by "X" consultants that demonstrated that the microbial standard was being met and that the system would continue to operate in a manner meets the standard into the future. The assessment document would have to be referenced so that it would be available for review upon request from the Office of Drinking Water.

Please note, it is the water system owner's responsibility to notify the Office of Drinking Water if circumstances exist or are anticipated, that would compromise the ability of the water system to continue to achieve compliance with the water quality standards identified in their operating licence.

If you are unsure of whether your system is required to complete a detailed compliance plan, or contact your regional Drinking Water Officer.

What is the deadline for submitting a compliance plan?

The deadline dates for detailed Compliance Plan submissions are specified in Section 9 of MR 41/2007 and identified in operating licences. The deadlines vary based on the number of people served by a water system and the operating licence issuance date. Larger water systems must meet stricter deadlines.

Water systems serving **up to 5000** people must submit their compliance plan within **18 months** of the date on which their operating licence is issued.

Water system serving **5001 to 10,000** people must submit their compliance plan within **12 months** of the date on which their operating licence is issued.

Water systems serving **more than 10,000** people must submit their compliance plan within **6 months** of the date on which their operating licence is issued.

Can water system owners apply for an extension to this deadline?

No, the Office of Drinking Water will not be approving extensions for compliance plans.

In some cases, water system owners may question the need to submit a compliance plan because they are planning to complete a water system assessment (engineering assessment) or some other action they feel is critical to the development of the compliance plan (ex: construct a new water plant). In fact, this is the very type of action that the compliance plan should contain ex. a time lined plan of the actions that will be taken to achieve compliance.

Compliance plans are expected to be dynamic in nature. The owner is responsible to revise and resubmit their compliance plan if major setbacks or delays are experienced, or major changes are required to the compliance strategy (ex: based on the results of an engineering assessment or study, inability to secure funding).

By undertaking the actions described above the compliance plan serves as an ongoing record of how the water system intends to comply with the water quality and treatment standards.

What can water system owners do to prepare for this requirement?

The following is a proposed course of action that should be followed by owners and operators:

- Review *The Drinking Water Safety Act*, supporting regulations, and the operating licence associated with their system so they are familiar with the water treatment and water quality standards applicable to their system.
- Review water quality and operational records and correspondence from the Office of Drinking Water, to establish compliance or non-compliance. The review should reference the annual audits received from the Office of Drinking Water.
- Review operator training plans, and operation and maintenance procedures.
- Contact the regional Drinking Water Officer to confirm compliance plan requirements.
- In some instances such as demonstrating compliance with the provincial microbial standards (i.e., minimum 3-log reduction of cryptosporidium and giardia in the treatment process), water system owners may wish to contact their engineer for assistance or advice.
- The assessment of infrastructure and water supply sources for a water system required under *The Drinking Water Safety Act* (also known as an engineering assessment) can provide the owner with recommendations on complying with regulatory requirements. Owners are encouraged to ensure that the engineering assessment adequately addresses compliance concerns. Where it has been demonstrated or suspected that the treatment process may be inadequate to achieve compliance, Owners should consider expanding the scope of engineering services to include more detailed study of upgrading options and cost estimates to support compliance.
- Determine the proposed course of action, i.e., whether operational changes and minor upgrades are required versus major capital investment.
- Small public water systems may wish to contact water treatment equipment suppliers to obtain cost estimates where installation of basic disinfection components such as chlorine contact tanks, chlorine feed systems and UV disinfection units is required.

What type of information should be included in a compliance plan?

A compliance plan should demonstrate the owner's intent and commitment to achieve compliance with regulatory standards by providing a clear indication of the steps that will be taken and the proposed schedule for these actions.

The compliance plan must focus on specific actions that will be taken to bring the water system into compliance with the water quality standards identified for their water system. The plan may include operational adjustments and/or the need for capital investments. The plan must provide evidence of commitment to resolving the compliance issues, and include realistic timelines for action. The plan must clearly identify the critical steps for achieving compliance and any back-up options if any one of these critical steps are missed, delayed or fail.

While the content, organization and length of a compliance plan may vary depending on the number and type of standards involved and the complexity of the strategy being proposed, at minimum a compliance plan should contain the following:

Water System Description

Provide general background information on the water system including:

- Location, size (number of service connections and population served) and age (year constructed)
- Water source (ex: surface, groundwater, regional water system)
- List of other water systems supplied by the system
- Operating season (year round or seasonal)
- Water system classification (ex: Level II)
- Description of the treatment process
- Status of the engineering assessment

Compliance Issues

Provide a list of the standards that the Compliance Plan is required to address. These standards will be identified in section 2 of your operating licence or outlined in separate correspondence received from the ODW. For each of the standards identified, provide the following:

- A description of the frequency and magnitude of non-compliance events (ex: consistently above turbidity standards, chlorine contact time less than 20 minutes under peak summer demands).
- A discussion of process limitations (ex: no filtration, no chlorine contact tank, no filter-to-waste capability, receive treated water from a regional plant).
- Whether addressing the issue requires capital investment (i.e., new equipment or treatment processes) or operational changes (ex: optimization of existing treatment).
- A description of actions taken to date to address the issue (ex: filter media replacement, upgraded monitoring equipment, optimized coagulant dosages) and the success of these efforts (ex: turbidity now consistently within provincial standards).

Proposed Actions

Describe the specific actions that have been or will be undertaken to achieve compliance with **each** of the standards identified.

- For operational issues, consider operator training, process optimization, instrument calibration, operation and maintenance procedures (ex: changes to filter backwashing procedures).
- For major upgrades, consider the need for a feasibility study or preliminary design report to precede detailed design and tendering.
- For treatment process and equipment upgrades (ex: installation of UV disinfection, installation of on-line instruments, installation of chemically assisted filtration system), include major planning steps including feasibility studies, tendering and construction.
- For capital investments, identify proposed funding sources (ex: federal-provincial infrastructure funding, Manitoba Water Services Board, water rates).

Compliance Schedule

Provide a summary table or list that includes the proposed compliance actions and anticipated completion date for all actions.

Supporting Information

Provide evidence to demonstrate that actions have been taken or are planned such as:

- funding request letters
- council resolutions and funding by-laws
- engineering assessment report reference or other report references
- water quality data, audits or monitoring reports
- letter of intent to retain the services of a consultant
- Public Utilities Board water rate change request
- Municipal Board ruling
- agreements with other water systems
- letter of support for a proposed regional water system plan
- letter of request for assistance to the regional water supplier

It is ultimately the owner's responsibility to ensure compliance with regulatory requirements. Water systems owners are reminded of the need to apply for and obtain approval prior to undertaking any upgrades or alterations to their water system.

How does the Owner submit a compliance plan?

Once completed, two paper copies or an electronic pdf. version of the compliance plan must be submitted to your regional Drinking Water Officer.

Regional Drinking Water Officer contact information is available on the Office of Drinking Water website at: www.manitoba.ca/drinkingwater or by phone at (204) 945-5762.