

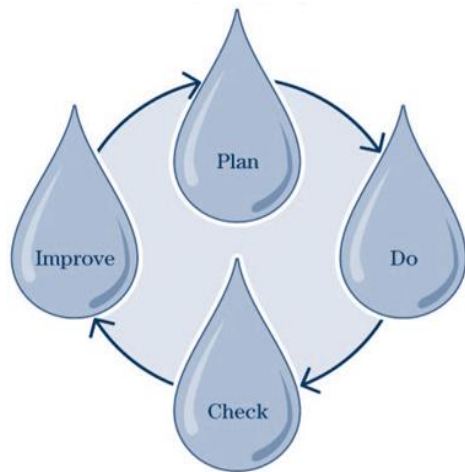


DWQMS Workshop: Making the Transition

DWQMS Program Status

April 2019

Overview



Introduction
Program Updates
DWQMS v2.0
Q&A

INTRODUCTION

Approvals & Licensing

Ministry of the Environment,
Conservation and Parks
(MECP)

Environmental Assessment and
Permissions Division
(EAPD)

Environmental Assessment and
Permissions Branch
(EAPB)

Approvals & Licensing
(A&L)

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Approvals & Licensing

A&L is responsible for the Municipal Drinking Water Licensing Program which must meet the requirements set out in the Safe Drinking Water Act, 2002 (SDWA), including:

- Drinking Water Works Permits;
- Municipal Drinking Water Licences;
- Accreditation of Operating Authorities; and,
- Financial Planning for Municipal System Owners.

Terms and Definitions

What do I mean when I say the following?

1. Operating Authority
2. Owner / System Owner
3. DWQMS / DWQMS 2.0
4. Must / Shall
5. Should
6. Imminent / Soon / In the Near Future



PROGRAM UPDATES

General Updates

DWQMS 2.0

Licence Renewals

Electronic Submission

Approvals & Licensing Contacts

O. Reg. 205/18

(Municipal Residential Drinking Water Systems in Source Protection Areas)

- Regulation took effect July 1, 2018
- Applies in source protection areas identified under the Clean Water Act and ensures that municipal residential drinking water sources are protected before drinking water can be provided to the public.

The regulation is available at:

www.ontario.ca/laws/regulation/r18205

O. Reg. 205/18

Municipal Residential Drinking Water Systems in Source Protection Areas

The regulation applies where:

- a new municipal residential drinking water system is being located within a source protection area, or
- changes are being made to an existing municipal residential drinking water system located in a source protection area that results in:
 - the establishment of a new groundwater well
 - deepening an existing well
 - increasing the capacity at an existing well
 - the establishment of a new surface water intake
 - moving an existing intake

Lead in Drinking Water

In March 2019, Health Canada published a [new guideline technical document for lead in drinking water](#).

- The guideline sets the maximum acceptable concentration (MAC) for total lead in drinking water at 0.005 mg/L (5 µg/L)
- It also indicates that, as current science cannot identify a level under which lead is no longer associated with adverse health effects, lead concentrations in drinking water should be kept as low as reasonably achievable (ALARA).

Lead in Drinking Water

The Ontario drinking water quality standard for lead is 0.010 mg/L (10 µg/L).

- Health Canada's new guideline will prompt review of the Ontario standard.

Traditional review process:

- Ontario Drinking Water Advisory Council (ODWAC) will evaluate and make a recommendation to the Minister
- Recommendation may result in updates to the standard
 - Posted on EBR for comment / consultation
 - Posted on EBR when finalized

pH for Drinking Water

In August 2015, Health Canada published a [new guideline for pH of Drinking Water](#).

- The operational guideline for the pH of finished drinking water was updated from the existing range of 6.5 – 8.5 to a range of 7.0 to 10.5
- ODWAC has recommended an update to the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines to reflect this new guideline.

Additional Guideline Consultations

Health Canada is currently undertaking consultations on three drinking water guidelines / guidance documents (posted for a 60 day period with consultations ending May 21st).

1. [Consultation – Guidance on Natural Organic Matter in Drinking Water](#)
2. [Consultation on the review of the guideline technical document – Total coliforms in drinking water](#)
3. [Consultation – Cadmium in Drinking Water](#)

Additional Guideline Consultations

Natural Organic Matter (NOM) in Drinking Water

“Health Canada completed its review of NOM in drinking water and the impact that it can have on drinking water treatment processes. This guidance document reviews and assesses risks associated with the impact of NOM on drinking water treatment processes and the safety of drinking water”

[Guidance on Natural Organic Matter in Drinking Water – Document for Public Consultation](#), Health Canada (March 15, 2019)

Additional Guideline Consultations

Total Coliforms in Drinking Water

“The available information on total coliforms has been assessed with the intent of determining the need to update the current drinking water guideline and guideline technical document on total coliforms in drinking water.”

[Review of Total Coliforms in Drinking Water](#), Health Canada (March 15, 2019)

Additional Guideline Consultations

Cadmium in Drinking Water

“[This new document] provides updated data and information related to exposure to cadmium in Canada, to analytical methods and to treatment considerations at the municipal and residential scales. Based on these considerations, the document proposes to reaffirm a MAC of 0.005 mg/L (5 µg/L) for cadmium in drinking water.”

[Cadmium in Drinking Water](#), Health Canada (March 15, 2019)

MECP Policy Document

GUDI Terms of Reference

- Also known as the “Terms of Reference: Determination of Minimum Treatment for Municipal Residential Drinking Water Systems Using Subsurface Raw Water Supplies”
- The purpose of the 2001 GUDI Terms of Reference was to determine whether a communal well should be managed as being groundwater under the direct influence of surface water (GUDI).
- The draft 2019 GUDI Terms of Reference and accompanying technical support document were prepared with extensive stakeholder consultation and expert advice to incorporate most current consensus of science.

MECP Policy Document

GUDI Terms of Reference

Key Highlights:

- Microbiological indicators to determine if a pathway exists for protozoan transport (Cryptosporidium and Giardia), in addition to existing regulatory monitoring for E. coli.
- Hydrogeological studies to predict risk of protozoa in groundwater
- Turbidity testing to conclude the need for chemically assisted filtration prior to disinfection
- Ability to challenge classification or assess changing water quality by following a well-defined scope with a known cost, providing cost effective solutions to municipalities that are protective of public health.

MECP Policy Document

GUDI Terms of Reference

- Proposed revisions drafted with stakeholder working group of municipalities, experts from academia, OCWA, and MECP
- Circulated for comment to on January 31 2019, with comments due April 3rd.

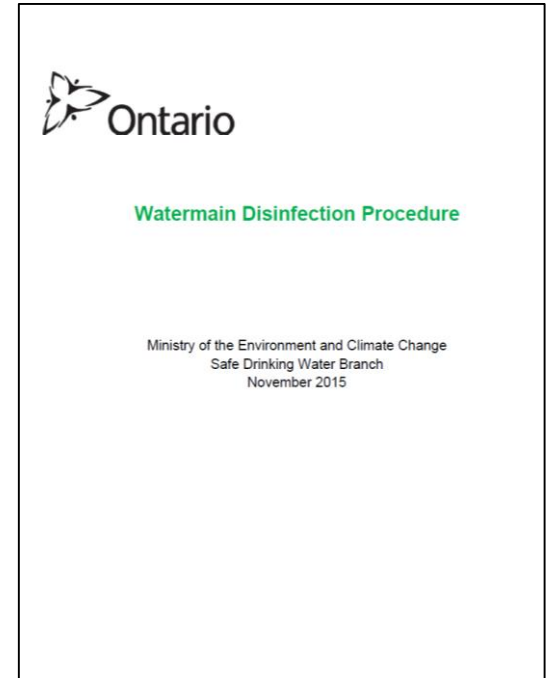
Next Steps:

- Comments to be reviewed by the working group to finalize the amended Terms of Reference and accompanying support document.

MECP Policy Document

Watermain Disinfection Procedure

The Ministry's Watermain Disinfection Procedure (WDP), first published in 2015, replaced AWWA C651 in the Drinking Water Works Permit to prescribe disinfection requirements following the addition, modification, replacement, extension, planned maintenance/inspection, or emergency repair of watermains.



MECP Policy Document

Watermain Disinfection Procedure (WDP)

Proposed Amendments:

- Proposed clarification of watermain break categorizations and disinfection requirements.
- Amendments to address public safety and constructability issues in transportation corridors.
- Clarification of disinfection, sampling, and certified operator requirements for new watermain commissioning.
- Proposed additional documentation requirements for installation of new/replacement watermains and amendments to watermain break documentation.

MECP Policy Document

Watermain Disinfection Procedure (WDP)

- Proposed revisions drafted with stakeholder working group of municipalities, OCWA, OWWA, and MECP to ensure updated document reflects current state of knowledge and a seamless transition to updated WDP by the regulated community.
- Circulated for comment in December 2018
- Over 240 comments from 25 organizations received

Next Steps:

Comments are currently being reviewed by the working group in order to finalize the revised WDP.

Wastewater Management Standard (WWMS)

CSA Group Led Initiative

- Involves the development of a sector-specific management system standard for Ontario's municipal wastewater systems.
- Based on the Drinking Water Quality Management Standard and ISO 14001 (environmental management systems)
- Scope to include municipal operations of sanitary wastewater collection, treatment and disposal systems (stormwater management is not part of the initiative)

Wastewater Management Standard (WWMS)

Work to frame and scope the initiative began in December 2018, with support from:

- Water Environment Association of Ontario
(Edgar Tovilla – Chair, Government Affairs Committee)
- Ministry of the Environment, Conservation & Parks
(Aziz Ahmed – Approving Director, SDWA, OWRA, EPA)
(Christopher Manning – DWQMS/Licensing Program Coordinator)

Wastewater Management Standard (WWMS)

Why Develop a Standard?

- All municipalities already have management systems experience through the DWQMS
- Many municipalities have already transferred some elements of their DWQMS management system to their wastewater system (e.g., documented procedures, training, financial planning, record keeping, management of essential suppliers, infrastructure maintenance, emergency protocols)
- Some municipalities have voluntarily adopted elements of ISO 14001, achieved full certification under ISO 14001, or their developed their own environmental management system.

Wastewater Management Standard (WWMS)

Why is this important?

- There will be opportunities to contribute knowledge and experience to the development of the standard
- This is intended as an industry lead initiative, and the product is intended as a voluntary standard
- There is strong support from the MECP
- It will provide consistency, direction and improvements for anyone that has partially or fully adopted QMS or EMS principles

Wastewater Management Standard (WWMS)

This initiative is not intended to:

- Develop a mandatory standard for all municipal systems (like the DWQMS)
- Result in changes to the regulatory or compliance framework, although implementation may provide mechanisms for demonstrating compliance.
- Replace any existing standards

Note: additional mandatory requirements (i.e., regulation) become less likely and less necessary when things are working well.

Wastewater Management Standard (WWMS)

Next Steps

- CSA is forming an advisory group that will provide guidance and support on development of the WWMS. Members will be thought leaders with significant overall knowledge about management systems and wastewater capabilities / requirements in Ontario.
- CSA will be forming a technical committee to develop the standard. Members will include representatives from industry, government, non-governmental organizations and academia.

Wastewater Management Standard (WWMS)

Next Steps

- For more information about the Wastewater Management Initiative, please contact Edgar Tovilla (edgar.tovilla@peelregion.ca).
- If you're interested in participating in the technical committee, please contact Jeff Walker (jeff.walker@csagroup.org).
- Note that to maintain a fair balance on the technical committee, not everyone that expresses an interest may be selected to participate.

Filtration Process Technical Bulletin

- Available on the Ministry website at <https://www.ontario.ca/page/filtration-processes-technical-bulletin>
- Originally published in March 2010
- Provides clarification on how the Ministry interprets Schedule 16 under O. Regulation 170/03.
- Updates are being reviewed with the intention of clarifying and simplifying the interpretation.
- Questions, comments or concerns regarding the bulletin can be sent to MDWLP@Ontario.ca

SCADA Best Practices

- Small working group established that includes representation from the Ministry and the OWWA automation committee.
- Objective of working group is to review the development of an Automation Systems Best Practice document.

Key Focus on:

- Best practice contents
- Standard presentation of digital data to demonstrate compliance
- Verification of standard / implementation (e.g., auditing)

Procedure for Disinfection

of Drinking Water in Ontario

- Available on the Ministry website at <https://www.ontario.ca/page/procedure-disinfection-drinking-water-ontario>
- Update / refresh has been initiated.
- Expected to include more guidance / clarity on items like UV disinfection and membrane filtration.
- Alignment with other policies and technical bulletins (e.g., GUDI Terms of Reference)
- More information / consultation coming in near future.

DWQMS 2.0

General Overview

1. Clarified the requirements for different types of systems (e.g., treatment systems vs distribution only systems).
2. Added more detail for items that are subjective, so that it is easier to demonstrate conformance. (e.g., measuring continual improvement).
3. Enabled flexibility in DWQMS timeframes, to allow for alignment with other regular municipal activities.
4. Consideration of climate change impacts.

DWQMS 2.0

Have you Transitioned your Operational Plan
to DWQMS 2.0?

DWQMS 2.0

Have you been through a DWQMS 2.0 Audit?

DWQMS 2.0

Have you evaluated the mandatory hazardous events / hazards?

Transition

- Your operational plan must be updated to reflect any relevant changes to the DWQMS.
- Scope and scale of this activity will vary depending on the impact (if any) that changes have on your operational plan.

Best Practice

If you don't have a documented change management process, this transition might offer a good opportunity to create one.

Transition Timing

Operational Plan / QMS

- Must be implemented prior to your first audit in 2019
- You should complete an internal audit and management review using your updated procedures prior to your 3rd party accreditation audit.

Things to Consider

- Did you conduct your internal audit to DWQMS 2.0?
- What do you do non-conformance is identified in your transition audit?

Transition Timing

Updates to Risk Assessment / Risk Assessment Procedure

- You must update your procedure prior to your next scheduled risk assessment.
- Your procedure should be updated to demonstrate how you will consider the hazardous events listed in the document “Potential Hazardous Events for Municipal Residential Drinking Water Systems”.
- Your next risk assessment should include these mandatory risks.

Transition Timing

Things to Consider

- Why to / why not to update the risk assessment procedure with the rest of the operational plan?
- Alignment of the risk assessment procedure with other related areas (e.g., infrastructure review)
- How the mandatory hazardous events / hazards will be assessed, how they will be documented, what evidence will exist that you have assessed them.

Potential Transition Issues

1. Not ready / not transitioned
2. No evidence
3. Scope of updates too large / too narrow
4. Change management
5. Verification insufficient

Making the Transition

Step 1: Gap Analysis

- What's new and how does it impact your QMS?
- Is the change Major (update necessary) or Minor (administrative)?

Step 2: Evaluate and Identify Changes

- Where there's an impact on your QMS, what updates need to be made to ensure conformance?

Making the Transition

Step 3: Implement

- Make the changes
- Approve the changes
- Communicate the changes

Making the Transition

Step 4: Evaluation

- Did all the identified changes get made and approved?
- Did the changes introduce failure?
- Have any necessary changes been reflected in implementation?
- Does the updated operational plan conform to DWQMS 2.0?

Making the Transition

Reminder: Documentation

- Do you have a records of the activities undertaken for transition?
- Do you have a record of any associated decision?
- Was the transition considered in your internal audit and/or management review?

Updating the Operational Plan

Definitions

- New definitions are included in DWQMS 2.0

Element 1: Quality Management System

- No updates in DWQMS 2.0

Element 2:

- Minor changes, potential for administrative updates but unlikely to require re-development of the QMS Policy

Updating the Operational Plan

Element 3

- No updates in DWQMS 2.0
- What does your Operational Plan require (re-endorsement)?
- Best Practice:
 - Consider the scope and impact of updates and evaluate whether re-endorsement is needed.
 - Have a procedure in the operational plan that outlines when and for what reason(s) re-endorsement is needed.

Updating the Operational Plan

Element 4

- Administrative updates to DWQMS
- Unlikely to significantly impact operational plan

Element 5

- Administrative updates to DWQMS
- Unlikely to significantly impact operational plan

Updating the Operational Plan

Element 6

- Significant re-wording and re-structuring, intended to clarify previous requirements for various system types.
- Unlikely to require complete re-development of documentation, but your description should be reviewed to ensure / verify that all of the applicable information is included.

Updating the Operational Plan

Element 7

- Addition of mandatory hazardous events / hazards
 - Documented risk assessment process should be updated BEFORE first DWQMS 2.0 risk assessment
- Update to once every calendar year for verifying the currency of information and the validity of the assumptions
 - Identified dates / mechanism should be reviewed to ensure conformance

Updating the Operational Plan

System Type	Description of Hazardous Event / Hazard
All systems	Long Term Impacts of Climate Change
All systems	Water supply shortfall
All systems	Extreme weather events (e.g., tornado, ice storm)
All systems	Sustained extreme temperatures (e.g., heat wave, deep freeze)
All systems	Chemical spill impacting source water
All systems	Terrorist and vandalism actions
Distribution Systems	Sustained pressure loss
Distribution Systems	Backflow
Treatment Systems	Sudden changes to raw water characteristics (e.g., turbidity, pH)
Treatment Systems	Failure of equipment or process associated with primary disinfection (e.g., coagulant dosing system, filters, UV system, chlorination system).
Treatment Systems and Distribution Systems providing secondary disinfection	Failure of equipment or process associated with secondary disinfection (e.g., chlorination equipment, chloramination equipment)
Treatment Systems using Surface Water	Algal blooms

Updating the Operational Plan

Element 8

- Administrative updates to DWQMS.
- Should be evaluated in the context of Element 7 updates.
- After first DWQMS 2.0 Risk Assessment, documentation should be included regarding mandatory hazardous events / hazards.

Updating the Operational Plan

Element 9

- Administrative updates to DWQMS.

Element 10

- Administrative updates to DWQMS.

Element 11

- Administrative updates to DWQMS.

Updating the Operational Plan

Element 12

- New focus on Essential Supplies and Services.
- Does not mean that other suppliers should be unaware of applicable QMS aspects
- Communications procedure should be reviewed and updated where applicable

Updating the Operational Plan

Element 13

- No updates to DWQMS, but note linkage established in Element 12 (linkage to ensuring the quality of essential supplies and services and communicating relevant aspects of the QMS).
- Best Practice
 - Have clearly defined criteria for what is “essential”
 - Have a procedure that identifies how items are added, updated or removed on the list (and at what frequency)

Updating the Operational Plan

Element 14

- New requirement to consider outcomes of risk assessment
- Procedure should be reviewed and where necessary updated to ensure conformance
- Update to once every calendar year reviewing the adequacy of infrastructure

Updating the Operational Plan

Element 15

- New requirement for long term forecast of major infrastructure maintenance, rehabilitation and renewal programs
- New requirement to review forecast once every calendar year
- Procedure should be reviewed and where necessary updated to ensure conformance
- Best Practice
 - Make it worthwhile: utilize, incorporate or align with existing processes

Updating the Operational Plan

Element 16

- Administrative updates to DWQMS.

Element 17

- No updates to the DWQMS.

Element 18

- No updates to the DWQMS.

Updating the Operational Plan

Element 19

- Update to once every calendar year for internal audit
- Minor administrative updates

Updating the Operational Plan

Element 20

- Update to once every calendar year for management review
- Minor administrative updates
- Things to consider:
 - How have you previously communicated the impacts of DWQMS 2.0?
 - How will you communicate the updates resulting from DWQMS 2.0?

Updating the Operational Plan

Element 21

- New requirements for tracking and measuring continual improvement
 - Review of Best Management Practices
 - Corrective Actions
 - Preventive Actions
- It is important to have repeatable procedures that produce consistent records.

Guidance Material & Support

1. DWQMS Pocket Guide
2. WCWC – Drinking Water Resource Library
3. Municipal Water & Wastewater Committee
4. Accreditation Body
5. Ministry

Are you Ready for DWQMS 2.0?

- Have you reviewed your operational plan to verify that references to portions of the DWQMS have been updated to reflect any administrative updates to language or numbering of the requirements?
- Have you verified that your operational plan conforms to the requirements of Element 6, and includes all of the information required for the type(s) of drinking water system included in the plan?

Are you Ready for DWQMS 2.0?

- Does your procedure for reviewing the adequacy of the infrastructure necessary to operate and maintain the system (Element 14) consider the outcomes of your risk assessment?
- Does your operational plan include a long term forecast of major infrastructure maintenance, rehabilitation and renewal activities (Element 15)?
- Does your operational plan include a procedure or process for reviewing and considering best management practices?
- Does your operational plan include a procedure or process for identification and management of corrective actions?

Are you Ready for DWQMS 2.0?

- Does your operational plan include a procedure or process for identifying and implementing preventive actions?
- Have any necessary revisions to your operational been adopted / approved and implemented in accordance with any established policy or procedure in your operational plan?
- If necessary based on your operational plan, has the operational plan been re-endorsed by top management and by the owner?
- Have you contacted your accreditation body or auditor to indicate that your operational plan has been updated to conform to DWQMS 2.0?

Q&A / Questions?



MECP General Mailbox

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How can Top Management demonstrate a commitment to the Quality Management System?

- A) Taking the QMS Representative out for lunch.
- B) Being available for QMS related meetings
- C) Engaging staff to contribute to the effectiveness of the QMS
- D) Approving a raise for the QMS Representative
- E) Both B and C