DWQMS 2.0 Operational plan

The Corporation of the Township of North Huron/ Veolia Water Canada

Drinking Water Quality Management System

Township of North Huron Water Systems
Wingham Drinking Water System
Blyth Drinking Water System

Township of North Huron
274 Josephine St,
P.O. Box 90
Wingham, Ontario, N0G 2W0

Quality Management System

"A document of policies and procedures to establish and maintain a Quality Management System for the facilities operated by Veolia Water Canada in accordance with the requirements of the Drinking Water Quality Management Standard"

The following Operational Plan is established using the following principals:

1- The Operational Plan has a separate procedure to address each individual element as set forth in the Drinking Water Quality Management Standard dated October 2006.
2- The operational plan shall document a Quality Management System that will describe how we plan to meet all standards of the DWQMS. We will demonstrate what we do to meet all these standards, we will check and continually improve this operational plan through procedures laid out in the following elements of the operational plan.
3- The scope of the Operational Plan is to apply to all the water systems owned by the Township of North Huron and Operated by Veolia Water Canada.
4- The definitions used throughout the plan are set forth as a glossary to be used as reference (Appendix A, OP-E1-1).
5- The Compliance Calendar OP-E1-2 will be used to ensure the QMS is being implemented and continually improved.

Appendices

Appendix A OP-E1-1 Glossary
Appendix A OP-E1-2 Compliance Calendar

1.0 Purpose

The operational plan shall document a Quality Management System policy that provides the foundation for the quality management system, and:

- Includes a commitment to the maintenance and continual improvement of the Quality Management System,
- Includes a commitment to the consumer to provide safe drinking water,
- Includes commitment to comply with applicable legislation and regulations, and
- Is in a form that provides for ready communication to all; Operating Authority, the Owner and the public.

2.0 Procedure/Do

2.1 The Operating Authority shall establish and maintain a Quality Management System that is consistent with the policy (See Appendix B- OP-E2-1 Policy Statement).

2.2 The Policy statement as developed by the Operating Authority and endorsed by The Owner, is to be communicated as, document OP-E2-1 in Appendix B of the Operational Plan as well as being posted at all North Huron Water Sites and to the public by posting at the Municipal Office and the North Huron Website.

3.0 Appendices

Appendix B

OP-E2-1 Policy Statement

1.0 Purpose

The operational plan will contain endorsement of its contents by The System Owner and the Operating Authority

2.0 Procedure/Do

2.1 All Changes to the Operational Plan are approved by the QMS Rep, as per the document control procedure.

2.2 On an annual basis, the results of the Internal Audit, the Management Review Report and the summary of changes are presented to The Owner.

2.3 Any significant changes that, in the opinion of the Project Manager, need to be implemented immediately and result in a major impact to the Quality Management System, The owner shall be notified and discussed as soon as reasonably possible.

2.4 The Owner' commitment to an effective QMS is evidenced by the resources provided during implementation and maintenance of the operational plan and QMS.

2.5 The System owner and Operating Authority shall provide evidence of its commitment to an effective QMS by:

a) Ensuring that a QMS is in place that meets the requirements of the standard
b) Ensuring that the Operating Authority is aware of all applicable legislative & Regulatory requirements
c) Communicating the QMS according to the procedure for communications, and
d) Determining, obtaining or providing the resources needed to maintain & continually improve the QMS

3.0 Associated Forms, Procedures or Records

Operational Plan, Document E9, titled "Organizational Structure, Roles, Responsibilities and Authorities"
Operational Plan, Document OP-E2 titled "Quality Management System Policy"
Operational Plan, Document OP-E21 titled "Continual Improvement"
Township of North Huron Council Meeting Minutes

4.0 Appendices

Appendix C
OP-E3-1 Commitment and Endorsement form

1.0 Purpose/

The operational plan shall identify a Quality Management Representative.

2.0 Procedure/Do

The Project Manager with Veolia Water Canada shall appoint and authorize a QMS Representative who, irrespective of other responsibilities, shall;

a) Administer the QMS by ensuring that processes and procedures needed for the QMS are established and maintained,
b) Report to Top Management on the performance of the QMS and any need for improvement,
c) Ensure that current versions of documents required by the QMS are being used at all times,
d) Ensure the Operating Authority are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system, and
e) Promote awareness of the QMS throughout the Operating Authority

3.0 Associated Forms, Procedures or Records

Operational Plan, Document Op-E9, titled Organizational Structure, Roles,
Operational Plan, Document OP-E2 titled Quality Management System Policy
Operational Plan, Document OP-E19 titled Internal Audit
Township of North Huron Council Meeting Minutes
Operational Plan Document E3 titled "Commitment and Endorsement".

4.0 Appendices

Appendix D

OP-E4-1 letter of Appointment of QMS Representative

Appendix H

OP-E9-1 Organizational structure flow chart

1.0 Purpose

To document a procedure that describes how:

a) Documents required by the QMS are:
   I. kept current, legible, readily identifiable
   II. Retrievable
   III. Stored, protected, and retained for the required period; and how they will ultimately be destroyed.

b) Records required by the QMS are:
   I. kept current, legible, readily identifiable
   II. Retrievable
   III. Stored, protected, and retained for the required period; and how they will ultimately be destroyed.

2.0 Procedure/Do

2.1 The Operational Plan associated documents and records will be stored in a protected environment in accordance with the North Huron Municipal file system. The Township of North Huron Wingham and Blyth Drinking water supply systems Operational Plan shall be continually improved based on staff suggestions, Top Management suggestions, Owner recommendations, DWQMS updates and the QMS Reps suggestions. The plan will also reflect any recommendations from the Management Review, Internal and External Audits. The reviewed date will be found at the top of each element, along with the revision number. The document will only be changed after being approved by the QMS Rep.

2.2 Only the Project Manager or designate and QMS Rep will have the authority to update the Operational Plan and assign a revision number. The revised plan shall be sent to the Township of North Huron to have the revised Operational plan updated on the Townships website.

2.3 A revision number shall be assigned to each individual DWQMS element and recorded on the header of the revised document and identified with the date of review. Revisions shall be documented and summarized through the document change form, continual improvement form and any CAR's that result from an audit. The Operational Plan Change Endorsement form will be signed once all revisions have been reviewed and approved at the Management review.

2.4 One Hard copy of the Operational plan will be kept at the PUC Shed (435 Minnie St Wingham, ON) where it will be continually improved, there will also be an electronic copy posted to the Township of North Huron's Website which will be updated as changes are made to the plan. The QMS Rep will be

responsible for sending the plan to the Township of North Huron to have the necessary revisions made to the online plan.

2.5 Site specific reference materials shall be available electronically at the site to which they pertain and copies shall be stored on The Township of North Huron's server. These documents and or Records include:

- Facility Certificates,
- Drinking Water Works Permit
- Permits to Take Water,
- Engineering drawings.
- Operational License Certificates
- Training Record Summary

2.6 Records that demonstrate compliance with applicable legislation shall be stored in chronological order in site respective binders, separated with monthly tabs at the PUC Office (435 Minnie St Wingham, ON) to include the following:

- Flowmeter calibration
- Annual Performance
- MECP Inspection
- Adverse Water Quality Reports
- Laboratory Chains of Custody
- Laboratory Analysis Certificates
- Completed facility monthly records

Current and previous years will be stored as stated above, and then will be moved to the Municipal records building to be stored until destroyed. All of the above documents and records will be digitally copied and stored in electronic format on the North Huron Server.

2.7 All Documents/ records will be stored for a period of 5 years with the exception of DWQMS records that were subject to an accreditation body auditor and Laboratory Analysis Certificates which will be retained for 15 years.

2.8 All digital records will be stored on the Municipal Server where they are routinely backed up. Hard copies of digital records shall be archived according to the Municipal filing system.

2.9 All documents will be reviewed as needed or as requested by the operating authority through the Document Change Form (see appendix E form G12-7). The completed form will be reviewed by the QMS Rep or Project Manager and will either be left as found, or updated and replaced with the old copy destroyed if deemed obsolete. The Document change form will then be filed to record the Changes made to the documents.

2.10 Appendix E - The Document and Records Master List will be updated to ensure the Operating Authority are using the most up to date version of a document. This list will be updated if there are any changes made to any document. The QMS Rep will be responsible for performing an annual document verification of all water sites; on-site inspections will ensure operators have access to all required documents and information this includes but is not limited to, SOP's, Contingency plans, documents and forms. This verification will also ensure operators are accessing current documents as well as following all procedures associated with the document and records control element. On-site checks will be documented using Document OP-E5-2 Annual document verification site checks.

2.11 Internal and External Audits will be kept for 5 years, the previous 3 years internal audits will be kept on site and readily available to encourage continual improvement as well to show compliance with External Audits who Audit for the 3 year period. External Audits will be kept on site. Both Internal and External will be saved electronically to the System Server for the minimum 5 years

2.12 Documents and records will be kept legible by ensuring indelible ink is used, where space is given there will not be blank spots left, in place of a blank spot Operating Authority can write N/A etc. There will be no "ditto" marks it must be written in full. Signature must be easily identifiable. If there has been a mistake made there will be no correction made without an explanation of what happened, and the signature of who made the correction and corresponding date. To make a correction the error is to have a single strike through the error so that it is still legible, no white out will be used as it is important to see the original entry. Everything should be written in a way that is clear for others to understand the meaning, Jargon and Slang words will not be used.

2.13 Documents and forms that pertain to the DWQMS that the Operating Authority require regular access to and Data Entry sheets will be made current and available using the app Google-Drive. Operators will be given limited access, so they can view/print or perform data entry determined by the permissions settings on each document, this way we can ensure Current documents/records are not being edited or altered without following the proper protocol. These documents/records will be updated as needed by the QMS rep.

4.0 References

QMS Overview and Policy Statement
OP-E9 Organizational Structure, Roles, Responsibilities and Authorities

5.0 Appendices

Appendix E- G12-7 Document Change form
Appendix E-Document and Record Master List
Appendix E-OP-E5-2 Annual Document Verification site checks

1.0 Purpose/Objectives/Plan

To generally describe; the systems owned by the Township of North Huron, to provide an overview and foster a basic understanding of the drinking water system and it' water source.

This document shall include:

The Operational Plan shall document, as applicable:

a) For the Subject System:

i. the name of the Owner and Operating Authority,

ii. If the system includes equipment that provides Primary Disinfection and/or Secondary Disinfection:

A. a description of the system including all applicable Treatment System processes and Distribution System components,

B. a Treatment System process flow chart,

C. a description of the water source, including:

I. general characteristics of the raw water supply,

II. Common event-driven fluctuations, and

III. Any resulting operational challenges and threats.

iii. If the system does not include equipment that provides Primary Disinfection or Secondary Disinfection:

A. a description of the system including all Distribution System components, and

B. a description of any procedures that are in place to maintain disinfection residuals

b) if the Subject System is an Operational Subsystem, a summary description of the Municipal Residential Drinking Water System it is a part of including the name of the Operating Authority(ies) for the other Operational Subsystems.

c) if the Subject System is connected to one or more other Drinking Water Systems owned by different Owners, a summary description of those systems which:

i. indicates whether the Subject System obtains water from or supplies water to those systems,

ii. Names the Owner and Operating Authority (ies) of those systems, and

iii. Identifies which, if any, of those systems that the Subject System obtains water from are relied upon to ensure the provision of safe drinking water.

2.0 Procedure

The water system is owned by the Township of North Huron while being Maintained and operated by Veolia Water Canada. The System consists of two standalone well supplies and distribution systems located in the Village of Blyth and the Town of Wingham and are not connected to any other water system. The operating authority shall ensure that the description of the drinking water system is kept current.

For both the Wingham and Blyth Drinking Water systems operator are required to take a daily chlorine residual from the distribution system, the distribution residual results are first recorded on the operators Distribution residual field sheet and then transferred to the appropriate system Distribution Sheets located at Well 4 for

Wingham, Well 1&2 for Blyth, this information is also transferred to the electronic copy excel sheet. On a monthly basis the operators will gather all the sheets and bring them to the Office to be stored in the Wingham and Blyth Water binders.

2.1 The **Blyth** water supply system consists of three wells fitted with pumps capable of pumping the volume specified in the Permit to Take Water. At Wells 1 and 2, the raw water consistently has substantial hardness and relatively high iron content that requires sequestering to prevent discoloration in the distribution system. The raw water also has fluoride concentrations that hover at or just above the maximum allowable concentration in O.Reg 169/03. Chlorine and an iron sequestering agent are added to the raw water prior to entry into a baffled contact tank with a baffle factor of 0.7 that satisfies the chlorine contact time required with adequate chlorine residual to disinfect.

From the contact tank/reservoir the water flows to the high lift building that houses two electrically driven high lift pumps, as well as a diesel engine driven fire pump, that are capable of maintaining adequate system pressure. The water level in the reservoir is maintained by a level controller that starts and stops the well pumps. Also housed in the building is a standby emergency generator that allows operation of the equipment during extended power interruptions. The building contains cushion tanks that absorb hydraulic shocks and maintain pressure during brief power interruptions. The treated drinking water is monitored for chlorine residual and turbidity by on-line equipment connected to an auto dialer. The monitoring system will alert the on-call operator to respond if the set points are breached. The chlorine and turbidity analysis data levels are stored on a data logger. The raw water has abnormally high chlorine demand, coupled with sequestering agent and high background sodium levels that result in elevated sodium in the treated water just above the maximum allowable concentrations in O.Reg 169/03. The only event driven fluctuation is abnormally high flows when hydrants are used that temporarily raises turbidity due to unusual velocities in the system. There are no known challenges or threats with the up and downstream critical processes are maintenance of adequate chlorination and maintenance of system pressure.

At Well 5, the raw water also has substantial hardness and relatively high iron content that requires sequestering to prevent discoloration in the distribution system. The raw water has fluoride concentrations that are below the maximum allowable concentration in O.Reg 169/03. Chlorine and an iron sequestering agent are added to the raw water prior to entry into a contact loop with a baffle factor of 1.0 that satisfies the chlorine contact time required with adequate chlorine residual to disinfect. Chlorine residuals are monitored with on line chlorine analysers. System pressure is maintained through a variable frequency drive on the well pump at pressure setpoints. The monitoring system will alert the on-call operator to respond if the set points are breached. There are no known challenges or threats with the up and downstream critical processes are maintenance of adequate chlorination and maintenance of system pressure.

The distribution system has no elevated storage and relies on the pumps and cushion tanks to maintain pressure. Critical processes to ensure safe water are adequate chlorination and maintenance of system pressure. The monitors activate an alarm through the auto-dialer if the set points are breached.

The raw water has slightly lower chlorine demand than Wells 1 and 2, coupled with lower background sodium levels that meet the maximum allowable concentrations in O.Reg 169/03.

For plant Schematics see Appendix F

2.2 The **Wingham** water supply system consists of two wells fitted with pumps capable of pumping the volume specified in the respective Permits to Take Water. The raw water has consistent substantial hardness and relatively high iron content that requires sequestering to prevent discoloration in the distribution system. Chlorine and iron sequestering agent is added to the raw water prior to entry into baffled chlorine contact tanks with a baffle factor of 0.7 that satisfies the time required with adequate chlorine residual to disinfect.

At well #4, treated water is pumped from the contact tank/reservoir to the distribution system by three electrically driven high lift pumps and the reservoir/contact tank water level is maintained by a level controller. Emergency power is supplied by an automatic standby diesel generator.

Well #3 pumps directly through the pressurized contact tank to the distribution system. At well #3 emergency power is supplied by a portable emergency generator.

Pressure is maintained in the distribution system by an elevated storage tank. The water level in the standpipe is controlled by two parallel pressure transducers connected to the Supervisory Control and Data Acquisition (SCADA) system that controls the high lift pumps and the well 3 pump. Both well supplies are fitted with on line turbidity and chlorine residual monitors that will issue an alarm for the on call operator to respond when set points are breached.

Both wells supply consistent quality water with low chlorine demand with adequate chlorination being the only current critical process to ensure safe water. The SCADA system is located at the Well #4 high lift pump building and generates alarms to the auto-dialer for chlorine residuals, turbidities, pump failure, pressure and standpipe level. The SCADA and auto-dialer system are equipped with an Uninterruptible Power Supply (UPS).

Plant Schematics See Appendix F

3.0 Associated Forms, Procedures or Records

QMS Overview and Policy Statement

Blyth PTTW

Wingham PTTW
O.Reg. 169

4.0 Appendices

Appendix F
Op-E6-1 Well Supply Schematics

1.0 Purpose/Objective/Plan

This procedure defines the method used for identifying hazardous events and associated hazards, ranking hazardous events, identifying critical points and control limits. The outcome of this task is presented Appendix G OP-E8-1 and the associated CCP procedures Appendix G OP-E8-2.

This shall document a risk assessment process that;

a) Considers potential hazardous events and associated hazards, as identified in the Ministry of the Environment and Climate Change document titled Potential Hazardous Events for Municipal Residential Drinking Water Systems, dated February 2017 as it may be amended. A copy of this document is available at www.ontario.ca/drinkingwater.
b) identifies additional potential hazardous events and associated hazards,
c) assesses the risks associated with the occurrence of hazardous events,
d) ranks the hazardous events according to the associated risk,
e) identifies control measures to address the potential hazards and hazardous events,
f) identifies Critical Control Points,
g) identifies a method to verify, at least once every calendar year, the currency of the information and the validity of the assumptions used in the risk assessment,
h) ensures that the risks are assessed at least once every thirty-six months, and
i) Considers the reliability and redundancy of equipment

Risk Assessment Outcomes procedure shall:

a) Considers potential hazardous events and associated hazards, as identified in the Ministry of the Environment and Climate Change document titled Potential Hazardous Events for Municipal Residential Drinking Water Systems, dated February 2017 as it may be amended. A copy of this document is available at www.ontario.ca/drinkingwater.
b) identifies additional potential hazardous events and associated hazards,
c) assesses the risks associated with the occurrence of hazardous events,
d) ranks the hazardous events according to the associated risk,
e) identifies control measures to address the potential hazards and hazardous events,
f) identifies Critical Control Points,
g) identifies a method to verify, at least once every calendar year, the currency of the information and the validity of the assumptions used in the risk assessment,
h) ensures that the risks are assessed at least once every thirty-six months, and
i) considers the reliability and redundancy of equipment.

2.0 Procedure

2.1 The Operating Authority shall identify; potential hazardous events and associated hazards, as identified in the Ministry of Environment document titled " potential

Hazardous Events For Municipal Residential Drinking Water Systems" Found in Appendix G, assess the risk associated with the occurrence of hazardous events, rank them according to the risk and determine CCPs and their respective critical control limits. Outline procedures/processes for monitoring and responding to deviations from the critical control points.

2.2 At least once per year, or following a major process change, the QMS Rep or project Manager will facilitate a review of the currency of the information and validity of the assumptions used in the risk assessment process for the drinking water system. This will be done with the input of the Operators and a member of Top management. After any emergency situation there will be a staffing debrief and reporting to Top management as well as monitoring the effectiveness of the response.

When reviewing the currency of the risk assessment information, the following may be considered:

- Process changes
- Reliability and redundancy of equipment
- Emergency situations
- Critical control point deviations (including adverse)
- QMS non-conformances related to standard operating procedures

2.3 Every 3 years a more comprehensive review will be done of the drinking water system risk assessment. This is an opportunity to review the risk assessment process and outcomes. In the year where the 3 year review process is completed, the annual risk assessment review will be considered complete. During the 3 year Risk Re-Assessment a review of "Best Management Practices" will be conducted with a review of any best management practice identified by the Ministry of Environment and Climate Change

2.4 The completed risk assessment is taken to top management for review and approval. The QMS Rep or project Manager is responsible for maintaining and making any necessary changes or updates to the risk assessment. The QMS rep is also responsible for ensuring that any necessary changes are made to the training requirements, standard operating procedures, system procedures or other parts of the QMS resulting from changes to the risk assessment, as well as ensuring all operating staff are aware of the changes.

2.5 The risk assessment is completed by editing Appendix G, OP-E8-1 Risk Assessment and Appendix G, OP-E8-2 Critical control points table R. The previous year's table is used for the annual review with newly identified hazards inserted into the table with columns as described below, The Meeting notes will be recorded on Appendix G OP-E8-3 Risk Assessment Meeting.

2.6 For each hazard/hazardous event the Likelihood of Occurrence, Consequence on the water supply safety, and Detectability of Occurrence shall be determined and ranked

on a scale of 1 to 5 as per Table 5.1. The rankings shall be multiplied to provide a total risk rating for each hazard.

2.7 Determine a threshold value for high risk events which must be considered further. The threshold should be set to capture all events which are sufficiently severe to require that they be "managed".

2.8 Critical Control Deviations will be recorded as "Error Codes" on daily spreadsheets, they will be reviewed annually during the Management review Process, during that time if a persistent issue is identified corrective actions will be initiated and recorded on the CAR Log/ Root Cause Analysis sheets. Critical control deviations can also be addressed after adverse water observations or emergency scenarios.

Table 5.1 – Hazard Ranking

Likelihood		Consequences		Detectability	
1	**Rare** – requires exceptional circumstances to occur	1	**Insignificant** – little operational disruption	1	**High** - immediately detectable, SCADA alarms
2	**Unlikely** – could occur at some point	2	**Minor** – impact on small portion of population, easily managed operationally	2	**Moderate** - indicated by alarm or lab results
3	**Possible** – will occur at some point	3	**Moderate** - minor impact on large population, managed operationally	3	**Detectable** - visually detectable, rounds or maintenance
4	**Likely** – will occur during normal circumstances	4	**Major** - significant impact on large population, difficult to manage	4	**Poor** - would not be detected until problem occurs
5	**Certain** – expected to occur in most circumstances	5	**Catastrophic** - major impact on population, complete systems failure	5	**Undetectable** - cannot be detected under any circumstances

2.9 Critical Control Point Evaluation

2.9.1 For each of the events the existing hazard monitoring and control measures shall be identified.

2.9.2 For each of the events, potential recommended Additional Monitoring and Control Measures shall be identified.

2.9.3 Based on the threshold calculation and the evaluation of existing control measures available, hazards will be identified as being CCPs or not. If the calculated Total CCP Threshold = 9 or more, or is one of the MOE "recommended minimum CCPs", then the hazardous event is considered to be a Critical Control Point. If the hazardous event cannot be controlled it is not a CCP.

3.0 Associated Forms, Procedures or Records

QMS Overview and Policy Statement
OP-E6 Systems Description
OP-E21 Continual Improvement
Ministry Identified Best Management Practices

4.0 Appendices

Appendix G
OP-E8-1 Risk Assessment
OP-E8-2 Critical control points Table R
MECP- Potential Hazardous Events for Municipal Residential Drinking Water systems
Appendix Q OP-E20-1 Management Review Template
Appendix P G13-2 Corrective Action Report Log
Appendix P G13-3 Corrective Action Report
Appendix P G13-5 Root Cause Analysis

1.0 Purpose/Objectives/Plan

To document the Organizational Structure, Roles, Responsibilities and Authority related to providing the municipal water supply for the Township of North Huron. Describe the organizational structure of North Huron and the Operating Authority including respective roles, responsibilities and authorities. This document shall:

- Describe The Township of North Huron's structure including respective roles, responsibilities and authorities
- Describe the structure of the Operating Authority including respective roles, responsibilities and authorities
- Delineate corporate oversight roles, responsibilities and authorities in the case where the operating authority operates multiple subject systems
- Identify the person, persons or group of people within the management structure of The Township of North Huron and the Operating Authority responsible for undertake of the management review,
- Identify the person, persons or group of people having Top Management responsibilities required by this standard, along with their responsibilities, and
- Identifying the Owner of the system.

2.0 Procedure

The following are roles and responsibilities with respect to the QMS; the QMS Rep shall keep current the description of the organizational structure including respective roles, responsibilities and authorities, and shall communicate this information to operating authority personnel and the Owner:

Owner- Township of North Huron

Reeve and Council (Owner Representative)

The Reeve and Council are the elected representatives of the Owners of the North Huron Waterworks, and as such, bear the roles and responsibilities of the Owner of the system having the responsibility to:

1. Ensure that the Township of North Huron waterworks meets all legislated and regulatory requirements.
2. Allocate the necessary resources for the safe operation of the works based on the recommendations of Top Management (CAO and Director of Public Works).

CAO (Owner Representative)

The CAO has the role of:

1. Ensuring that administrative support and resources are available to the Operating Authority.
2. Providing direction to the Director of Public Works with regard to legislative communication needs, budgeting and other administrative matters.
3. Ensuring reports on the performance of the waterworks are delivered to the Owner in a timely manner.
4. In conjunction with the Director of Public Works, making recommendations to the Owner concerning the works based on input from interested parties.

Director of Public Works (Owner Representative)

This role is to:

1. Provide direction to Operating Authority in carrying out operation and maintenance of the water supply system.
2. Providing oversight of the activities of the Water supply system.
3. Provide a communications link between the Operating Authority and the Owner.
4. Maintain the level of technical and regulatory knowledge required to ensure the efficient operation of the works in accordance with regulatory requirements.
5. Work in partnership with the CAO in communicating information regarding the water supply system.
6. Actively participate and contribute to the Management review

Emergency Planning Coordinator (Owner Representative)

This role has authority to and responsible for:

1. Being a primary contact for the initiation of emergency planning (Reference Element 18-OP-E18)

Operating Authority

Veolia Water Canada Responsibilities and Authorities Chart in Appendix H

3.0 Appendices

Appendix H

OP-E9-1 – Organizational structure flow chart

OP-E9-2 – Veolia Water Canada Responsibilities and Authority Chart

1.0 Purpose/Objectives/Plan

The Operational plan shall document:

a) competencies required for personnel performing duties directly affecting drinking water quality,
b) activities to develop and maintain competencies for personnel performing duties directly affecting drinking water quality, and
c) activities to ensure personnel are aware of the relevance of their duties and how they affect safe drinking water

2.0 Training Plan

2.1 The Top Management and the Operators discuss at the end and/or beginning of each year to plan out the training for various positions affecting drinking water quality for the next year in conjunction with the individual's performance review (form OP-E10-3 Employee Training Request) This form can also be filled out at any point when the operator has found an opportunity to take a course/ training that shows there commitment too and understand their role in providing safe quality drinking water. They refer to the following tools: required competencies (See appendix O Op-E10-1 Competencies), the completed training from previous years, and other currently available courses to develop the training plan for that year. Document OP-E10-1 is a guide for the level of competency that staff should obtain and provides the Top Management with some guidance on the type of courses that staff may need to take in order to maintain the level of competency.

2.2 The Operators review the training schedule to determine additional requirements (e.g. CEU's on-the-job training, Ministry of Environment Director approved courses) and to assist in monitoring the required training hours for positions with duties directly affecting Drinking Water Quality.

2.3 Copies of current licenses or certificates issued from training and training records are maintained as per OP-E5 Document and Records Control.

2.4 Competency requirements can be satisfied through the use of in-house training, off-site, or online training, and attendance at seminars / conferences, presentations by subject matter experts or on-the-job practical training (OP-E10-2 on-the-Job Practical Training Appendix I). On the job training may include working with an experienced operator to demonstrate and monitor how to perform various job duties using the appropriate documented procedures.

2.5 When external trainers conduct courses, the trainer may review verify training effectiveness through various means (e.g. mini quiz or mini workshops are undertaken for CEU courses). If the employee is knowledgeable and able to

demonstrate the skills, then the external trainer often issues a certificate to indicate the training was effective.

2.6 When internal training courses are conducted, the top management talks to staff following completion of the course to determine the effectiveness of the training. In addition, the person setting up the training may ask the instructor to provide feedback on the trainee' understanding of the information.

2.7 Training needs may be identified through the Performance reviews, continual improvement process (OP-E21). For these training needs, the employee's QMS Rep is responsible for ensuring the training is completed and competency is achieved. The QMS Rep is to track the hours and CEU's training of the Operators and file accordingly.

3.0 Reference

2014 Staff Training Record- Google Drive
Op-E21 Continual Improvement
OP-E19 Internal Audits
OP-E5 Document and Records Control

4.0 Appendices

Appendix I
OP-E10-1 Competencies
OP-E10-2 On-The Job practical Training form
OP-E1-3 Employee Training Request

1.0 Purpose/Objectives/Plan

To document a procedure to ensure sufficient personnel meeting the identified competencies are available for duties that directly affect drinking water quality

2.0 Procedure

2.1 Coverage – Regular Hours of Operation

The water supply and distribution systems are staffed 7 days a week, Regular hours are 0700 hrs to 1530 hrs Monday to Friday, 0700 hrs to 1100 hrs on Saturday, Sunday and Statutory Holidays.

2.2 Non Regular Hours

All after hours calls are directed to the on-call Operator cell phone.

2.3 Alarm Response

The drinking water systems are monitored by equipment that initiates the auto-dialer, the auto-dialer calls the on call cell phone with the On Call Operator responding.

2.4 On Call Designation

Only licensed Operators are employed to provide continuous primary response. The On Call rotation cycles every 4 weeks and begins every Thursday at 0700 hrs for a 7 day period. The on-call operator shall be available to respond within 15 minutes to initiate the necessary action to investigate and address the alarm condition, with direction as required by the ORO. A request to modify the schedule can be made to the Project Manager where alternates may be substituted. On call schedule is scheduled on Veolia Gmail NH Calendar, Operators are notified every Thursday of the on-call designate through Gmail reminders.

2.5 Shift Changes are tracked by being added as an event on the NH calendar through Gmail.

2.6 Overall Responsible Operator

The Overall Responsible Operator is chosen by the Project Manager please reference Emergency phone list where it is listed who the current ORO is, Appendix O-OP-E18-1, as well as a Back-up. In the absence of both ORO and Back-up, the Operator with an operating license equal to the highest level of facility (Water Distribution and Supply, Class 3) shall be designated by the Project Manager.

2.7 Operators in Charge

The Operator visiting the facility is, by default, the Operator in Charge. In the Case where an OIT is employed, they will NOT be considered the OIC at any point; rather they will report directly to the ORO or be accompanied by an approved OIC.

3.0 Associated Forms, Procedures or Records

Appendix O, OP-E18-1 Emergency phone list
QMS Overview and Policy Statement
O.Reg. 128

1.0 Purpose

To document a procedure for communications that describes how the relevant aspects of the quality management system are communicated between top management and:

a) The owner
b) Operating authority personnel
c) Suppliers that have been identified as essential under plan (a) of element 13 of the DWQMS 2.0, and
d) The public

2.0 Procedure

2.1 As documents directly related to the QMS are developed or revised by the QMS Representative or Project Manager, the QMS Rep will ensure the operating authority understands the changes or developments and where to find all applicable documentation.

2.2 As documents directly related to the QMS are developed or revised by the QMS Representative or Project Manager that directly impact essential services or supplies, they will be distributed either by hardcopy, fax or electronically to affected Essential Suppliers.

2.3 Billing inserts will be utilized to inform the public on QMS matters on an "as needed" basis. Relevant portions of the QMS will be posted on the website at www.northhuron.ca. Sensitive portions of the Operational Plan that could potentially jeopardize the security or safety of the drinking water supply may not be posted.

2.4 The Project Manager or QMS Rep will communicate with the system owners on the frequency laid out in the contract between The Township of North Huron and Veolia water Canada. Communication from the Owner may be through emails, letters or motions of Council. There will be an annual DWQMS presentation; annual capital cost review as well as monthly reports to the Owner.

2.5 New policies/procedures or substantial changes to existing policies/procedures are communicated to personnel through information meetings or scheduled time in their regular work week to review the QMS, or electronically through e-mail.

2.6 The QMS Policy Statement is posted at www.northhuron.ca, Blyth Water High Lift Building, Wingham Well 4, Veolia Wingham Office and at the Township Office in a location which is clearly visible to the Public, General Employees and Operational Personnel.

2.7 Current copies of the Operational Plan and associated policies/procedures are located at the Veolia Wingham office (Shed at 435 Minnie St) and on the

Township of North Huron's website to be available to the Owner. Documents can be utilized from sharepoint website for operators access.

2.8 Essential suppliers and service providers are listed in OP-E13-2 Appendix J. An information package will be sent to these firms by the QMS Rep by letter or electronically with the QMS Policy Statement and details of the Operational Plan which are relevant to the relationship between the supplier and the Operating Authority.

2.9 The Annual Reports will be posted at www.northhuron.ca . The public will be notified through billing inserts where the Annual Reports are available. The inserts will also include the link for the Town's website where further information pertaining to the QMS will be provided.

2.10 Consumer water complaints may be reported verbally to The Operating Authority, the receptionist at the Township office or the Veolia Wingham office and the www.northhuron.ca website. Once a complaint is made the appropriate form will be filled out, after the operating authority has resolved the issue and completed the appropriate form the complaint form will be sent to either the Town hall receptionist or directly to the Veolia administrative assistant to be filed. After the Town hall receptionist gets a copy it will be sent to the Veolia administrative assistant where a log is kept of any water complaints and actions that are taken to resolve any problems. Forms G11-1 customer complaint form; G11-2 Customer Inquiry form and form G11-3 Customer high consumption form are found in Appendix J, and helps ensure communication with the public

2.11 Information pertaining to the QMS will be posted on the Township website at www.northhuron.ca

2.12 OP-E18 identifies communication procedures during emergencies

3.0 Appendices

Appendix J

OP-E13-1 Letter to suppliers
OP-E13-2 Table ES & Table P
G11-1 Customer complaint form
G11-2 Customer Inquiry form
G11-3 High Consumption form

1.0 Purpose

The operational plan shall:

a) Identify all supplies and services essential for the delivery of safe drinking water and shall state, for each supply or service, the means to ensure its procurement, and

b) Include a procedure by which the operating authority ensures the quality of essential supplies and services, in as much as they may affect drinking water quality.

2.0 Procedure

2.1 Essential supplies and serves are purchased by the Operating Authority on behalf of the Owner under the direction of the Project Manager. The project Manager/ORO reviews the requirements annually, or as may be required for changes and suppliers are informed (as required as noted below), by the Project Manager, Administrative Assistant or designate.

2.2 Process Chemicals

The Operating Authority will ensure all suppliers of process chemicals and materials are certified for potable use (Meets NSF/ ANSI standards and/ or AWWA standards), and shall notify the Operating Authority of any issues with their certification designation. Operators will initial on packing slips once they have confirmed the supplies delivered are appropriate quality and up to standard as well as record the chemical "lot" number where applicable.

2.3 Distribution Supplies and Contractors

All equipment, materials and supplies used in the delivery of potable water shall be meant for that purpose. All work performed on the distribution system shall conform to applicable AWWA guidelines or its equivalent. All work being completed by Contractors must have a valid WSIB Clearance Certificate, and WSIB account number. Meetings are held with contractors and service providers prior to work being carried out on water treatment equipment. They are accompanied by a water treatment operator to ensure water plant and distribution system requirements are understood and met prior to performing their task.

2.4 Supplier Notification

Primary suppliers will be notified by mail or electronically defining their responsibilities under the QMS Operational Plan and will be re-notified as required or if a new supplier is utilized. See Appendix J for Document OP-E13-1 letter to supplier. Ontario legislation requires that Laboratories performing drinking water testing must be accredited for the parameters being tested, and operating authorities must use accredited labs as required for testing.

2.5 List of Suppliers

A list of suppliers is identified in the attached OP-E13-2 Table "ES & P" in Appendix J

2.6 Procurement

As noted above, the Operating Authority will purchase essential supplies and services on behalf of the owner under direct supervision of the project manager. The contract between The Township of North Huron and Veolia Water Canada will be used as a guideline and the Township of North Huron Procurement procedure will be followed for any expenses required under the contract.

Procurement insurance plans for essential supplies and services are listed in OP-E13-2 Table ES & P, Appendix J.

3.0 Associated Forms, Procedures or Records

QMS Overview and Policy Statement

Appendix J-OP-E13-1 Letter to suppliers

Appendix J- OP-E13-2 Table 'ES: List of essential Supplies and Services

Appendix J- OP-E13-2 Table P Essential supplies and services Procurement plan

1.0 Purpose/Objective/Plan

To document a procedure for reviewing the adequacy of the infrastructure necessary to operate and maintain the subject system that:

a) Considers the outcomes of the risk assessment documented under element 7/8, and
b) Ensures that the adequacy of the infrastructure necessary to operate and maintain the subject system is reviewed at least once every Calendar Year

The Operating authority shall implement and conform to the procedure and communicate the findings of the review to the owner

2.0 Procedure

2.1 On an annual basis a summary of the water distribution and supply systems for Wingham and Blyth is prepared by the Operating Authority's Project Manager/ Overall Responsible Operator and is submitted to the Owner. A review and updates on the Operating Authority's infrastructure and related programs will be included in the summary.

2.2 The project Manager/ Overall Responsible Operator will compile information received from the Operators and maintenance manager throughout the year based on work orders and observations relating to the infrastructure of the water systems. The summary of the infrastructure will be presented to the owner on an annual basis in the infrastructure report section of the annual summary. The annual summary is to be reported to the MECP by March 1st, and to the Owner by March 30th of each year.

2.3 The report will cover the infrastructure in place- the water system infrastructure necessary to operate and maintain the system includes buildings, workspace, associated utilities, process equipment, supporting services, vehicles, distribution system and elevated storage. The report will advise on the adequacy or condition of the infrastructure, with recommendations where warranted. The report will also take into account any outcomes found during the annual Risk assessment review and outcomes

2.4 An annual Management review (reference Element 20) is carried out as part of the DWQMS requirements, and the results of the infrastructure review are also considered at that time for deficiencies and action items.

3.0 Appendices

QMS Overview and Policy Statement

1.0 Purpose

PLAN – The Operational Plan shall document:

a) A summary of the Operating Authority's infrastructure maintenance, rehabilitation and renewal programs for the Subject System, and

b) A long term forecast of major infrastructure maintenance, rehabilitation and renewal activities.

DO – The Operating Authority shall:

a) Keep the summary of the infrastructure maintenance, rehabilitation and renewal programs current,

b) Ensure that the long term forecast is reviewed at least once every Calendar Year,

c) Communicate the programs to the Owner, and

d) Monitor the effectiveness of the maintenance program

2.0 Procedure

2.1 The Operating Authority maintains a documented summary of the Operating Authority's infrastructure maintenance, rehabilitation and renewal programs for the water treatment and distribution systems. This assists in ensuring the infrastructure required is in place and is adequately maintained, or plans for improvement are in place for continued safe drinking water to be supplied to the customer.

2.2 The summary or list of relevant infrastructure maintenance items, is kept current, and is communicated to the Owner at least on an annual basis, or as deemed required by the Operating Authority's project Manager/ Overall Responsible Operator, this summary can be communicated by; presentations to the local council or a report to the Director of Public works or through e-mail communication or telephone communication.

2.3 Monitoring of the effectiveness of the maintenance, rehabilitation and renewal program is a requirement of the DWQMS and is carried out by monitoring the maintenance work order system and assessing the amount of planned versus unplanned maintenance activity.

2.4 A "Jobs Plus" maintenance system also generates work orders for routine equipment servicing and preventative maintenance and is monitored by the project manager.

2.5 Longer term initiatives such as capital plan requirements / renewal programs are communicated to the Owner on an annual basis or presented to council as required. Once the Owner is provided with the Annual Capital Suggestions

(appendix L OP-E15-4 Infrastructure review meeting for capital planning) they will be required to "approve" or "postpone" the suggestions for that year. (Note: this may not happen until April or May when council finalizes their annual Budget.) Once the suggestions are "approved" or "postponed" the Owner will return the completed OP-E15-4 record to Veolia to begin the work that has been approved. All Approved Capital Suggestions will be added to the Current Management Review Actions Items where it will be kept current as work/improvements/projects are completed.

2.6 Each year the previous OP-E15-4 capital suggestions document will be used to report what was completed and to add any further suggestions going forward.

6.0 Appendices

QMS Overview and Policy Statement

Appendix L

Appendix L-OP-E15-1 Maintenance Schedule

Appendix L OP-E15-4 Infrastructure review Meeting for Capital Planning

Current Management Review Action Items

1.0 Purpose/Objective/Plan

To document a procedure for adequate sampling, testing and monitoring for process control and to ensure the water quality standards as set out in O.Reg 169 are met under the most challenging conditions. The Operational plan shall document:

a) A sampling, testing and monitoring procedure for process control and finished drinking water quality including requirements for sampling, testing and monitoring at the conditions most challenging to the subject system.
b) A description of any relevant sampling, testing and monitoring activities that take place upstream of the subject system, and
c) A procedure that describes how sampling, testing and monitoring results are recorded and shared between the Operating Authority and the Owner, where applicable.

The Operating Authority shall implement and conform to the procedures.

2.0 Procedure

2.1 The Operating Authority has developed and will maintain a sampling program ensuring sampling requirements listed in O.Reg. 170 are met and summarized in "Appendix M OP-E16-1 Table S" listed under "Regulatory Sampling". Immediately following any amendments to regulatory requirements or circumstances dictating additional sampling, the QMS Rep will update Appendix M OP-E16-1 Table"S", if necessary, and communicate changes to the appropriate personnel.

2.2 All samples are to be tested using accredited labs, or suitably licensed or trained operators.

2.3 Static well level measurements are to be performed as specified in the relevant Permit to Take Water, and summarized in Appendix M OP-E16-1 Table "S", recorded on the monthly data sheet and stored on site until month end when the records will be stored at the PUC shed.

2.4 A summary of sampling and testing results are documented in the Annual Operations Report. A copy of the report is provided to The Owner for their review and is available on the Municipal Website. All regulatory sampling will be directly e-mailed to the Director of Public works from the accredited lab as the results come in. On a monthly basis the Operating Authority will compile data on the test results and submit a summary to the Owner.

2.5 All lab results will be stored electronically on the Owners Server as well as by hardcopy at the Veolia Water Wingham Office in the appropriate site specific binder.

3.0 Appendices

QMS Overview and Policy Statement
Monthly Data Sheets
Appendix M
OP-E16-1Table S

1.0 Purpose/Objectives

To document a procedure for the calibration and maintenance of measurement and recording equipment

2.0 Procedure

2.1 Portable hand held analyzers are to be checked and recalibrated monthly if required within tolerances listed in O.Reg 170, with calibration standards and the results being documented on the appropriate Calibrations sheets(Form OP-E17-1 Calibration Readings). Record when completed work order. Operating Authority will record the lot number and expiration dates of Standards on Form OP-E17-1 as well as the actual readings for each hand held analyzer. They will be calibrated at the Veolia Water Canada Wingham office; the forms will be kept in a binder at the Veolia Water Canada Wingham office where they will be stored.

2.2 On line analyzers are to be checked weekly during routine microbiological sampling events with portable units to verify accuracy using comparison, and calibrated within tolerances listed in O.Reg.170 as required. Results are to be documented on the monthly data sheets. The Monthly data sheets are stored on site until the month expires and are then transferred to the appropriate binder at the Veolia Water Canada Wingham office. Additionally, on-line analyzers are checked with an independent instrumentation contractor annually to verify accuracy of analysis, signal output SCADA trending and data logs. A copy of the Calibration Certificate is stored in the appropriate binder at the Veolia Water Canada Wingham office.

2.3 All flowmeters, required by regulation are calibrated annually by an independent instrumentation contractor to verify accuracy is within tolerances listed in O.Reg 170. The Calibration Certificates are stored in accordance with OP-E5 Documents and Records Control.

3.0 Appendices or references

QMS Overview and Policy Statement
Monthly Calibration Sheets
OP-E5 Document and Records control
OP-E17-1 Calibration Readings

1.0 Purpose/Objective/Plan

To document a procedure to maintain a state of emergency preparedness. The role of the Owner, Emergency management coordinator and The Operating Authority is to prevent or mitigate danger to life, property and environment during emergencies through development, testing and maintenance of contingency plans. This document shall include:

- A list of potential emergency situations or service interruptions,
- The process for emergency response and recovery,
- A procedure for emergency response training and testing,
- Setting North Huron's Owner and Veolia Water Canada Operating Authority responsibilities during emergency situations,
- Appropriate references to the North Huron Emergency Response Plan,
- An emergency communication protocol and procedure for maintenance of the emergency contact list.

2.0 Procedure

2.1 To simplify access, a list of potential emergency situations is included in the "Contingency Plan" section of this Plan and on the risk assessment.

2.2 In case of emergencies, the Overall Responsible Operator must be notified by the Operating Authority immediately and procedures identified in the relevant contingency plan must be enacted.

2.3 All components of the "Contingency Plan" will be reviewed annually with operating Authority (OP-E18-3 Contingency plan review checklist) and will be updated as required. A desk-top exercise will be conducted when time permits and before any new contingency plans are implemented, to test selected procedures to ensure adequacy, accuracy and training (OP-E18-2 contingency plan testing).

2.4 The Operators will be required to sign off that the Contingency Plan information has been presented to them, reviewed and it is understandable. All new licensed operators will be required to review the plan and a sign off sheet will document the transfer of information. (Form OP-E18-3)

2.5 In the event of an Emergency failure of the system that presents an imminent danger to life, property or environment, the Emergency Management Coordinator, (see OP-E18-1 Emergency Phone List) is to be contacted to activate the North Huron Emergency Plan. A copy of the plan which defines all Staff and Owner roles and responsibilities during emergency events is at the Municipal Office.

2.6 Once an Emergency Event is consider contained or resolved, and Emergency Exercise/ Debriefing will occur with Operations Staff, this event will be recorded on Appendix O, OP-E18-7 Emergency Exercise/ Debriefing form, if improvements are required the Corrective Action Process will be initiated tracking changes on the CAR

form/ CAR log and Root Cause analysis form, If required/necessary appropriate SOP's and Contingency plans will be developed and included in the plan.

3.0 Appendices and References

QMS Overview and Policy Statement
North Huron Contingency Plans
North Huron Standard Operating Procedures
North Huron Emergency plan

Appendix O

Appendix O OP-E18-1 Emergency Phone List
Appendix O OP-E18-2 contingency plan testing
Appendix O OP-E18-3 Contingency plan review checklist
Appendix O OP-E18-4 SOP Review Checklist
Appendix O OP-E18-5 Adverse Reporting
Appendix O OP-E18-6 Watermain Break Report
Appendix O OP-E18-7 Emergency Exercise/ Debriefing

1.0 Purpose/Objectives

To document a procedure for the Internal Audits that:

- evaluates conformity of the QMS with the requirements of this standard,
- identifies the internal audit criteria, frequency, scope, methodology and record keeping requirements,
- considers previous internal and external audit results, and
- Describes how Quality Management System corrective actions are identified and initiated.

2.0 Procedure

2.1 The Internal Auditor must have training as specified in the "Competencies OP-E10" to perform the internal audit.

2.2 The Operational Plan shall be internally audited at least once every calendar year on all 21 Elements with a visit to all North Huron Water Sites to ensure conformity with the Standard and OP-E2 – Policy Statement in accordance with the "Program Handbook for the Accreditation of Operating Authorities – Municipal Drinking Water Systems", document AP-608 as revised from time to time.

2.3 The Lead Auditor shall take into consideration, previous internal and external audit results, current operational practices and the most recent operational guidelines and legislation.

2.4 Form "G13-4 Internal Audit Checklist," must be completed as documentation of the audit.

2.5 Documents revised must be in accordance with OP-E5 – Documents and Record Control.

2.6 Once the internal audit checklist is completed the internal auditor shall inform top management, The Owner and operating authority of the findings through the internal audit report and closing meeting.

2.6 Where a non-conformance to the DWQMS is found during the internal audit, this shall be communicated within the audit checklist as well as a DWQMS Internal Audit report. After the report is submitted the Internal Auditor will issue all CAR's for the non-conformances. It is the responsibility of the QMS representative to ensure that all CAR's (corrective action reports) are followed up and responses to the CAR's are provided to the internal auditor within 30 days of the internal audit. The QMS Rep will Log all CAR's on Form G13-2 Corrective Action Report Log.

2.7 After the Lead Auditor has completed the internal audit report and filled out the CAR's the QMS Rep will finish the CAR's and root cause analysis (G13-5)

2.8 The internal audit shall be considered closed when all CAR' have been closed off. The Lead Auditor will then send the Report to The Project Manager to be kept on file as proof of continual improvement, as well as to send the findings to the Owner. The Internal Audit will be filed in accordance with Element #5 Document and records control.

3.0 Reference

QMS Overview and Policy Statement
OP-E5 – Documents and Record Control
OP-E2 – Policy Statement
OP-E20 Management Review
OP-E21- Continual Improvement
"Program Handbook for the Accreditation of Operating Authorities – Municipal Drinking Water Systems", document AP-608
OP-E10- competencies

4.0 Appendix P

Appendix P G13-3 Corrective Action Report
Appendix P G13-4 Internal Audit Checklist
Appendix P G13-1 Internal Audit Report
Appendix P G13-2 Corrective Action report log
Appendix P G13-5 Root Cause Analysis

1.0 Purpose/Objective/Plan

The operational plan shall document a procedure for management review that evaluates the continuing suitability, adequacy and effectiveness of the Quality Management System and that includes consideration of:

a. Incidents of regulatory non-compliance,
b. Incidents of adverse drinking-water test,
c. Deviations from critical control point limits and response actions,
d. The efficacy of the risk assessment process,
e. Internal and third part audit results,
f. Results of emergency response testing,
g. Operational performance
h. Raw water supply and drinking water quality trends
i. Follow-up on action items from previous management reviews
j. The status of management action items identified between reviews,
k. Changes that could affect the quality management system,
l. Consumer feedback,
m. The resources needed to maintain the quality management system,
n. The results of the infrastructure review,
o. Operational plan currency, content and updates, and
p. Staff suggestions
q. Review of Element 21- Corrective Actions and Preventative Actions Implementation and Effectiveness

2.0 Procedure

2.1 ensure that a management review is conducted at least once every Calendar Year

2.2 Consider the results of the management review and identify deficiencies and action items to address the deficiencies, action items will be recorded on OP-E20-2 Management review Action items.

2.3 Provide a record of any decisions and action items related to the management review including the personnel responsible for delivering the action items and the proposed timelines for their implementation, and

2.4 Report the results of the management review the identified deficiencies, decisions and action items to the owner.

2.5 The operating Authority will strive to continually improve the effectiveness of it quality management system through use of corrective actions.

2.6 Consumer feedback procedure is in OP-E12 communications element.

2.7 The Project Manager will send the Management review report to the Owner on an annual basis.

2.8 As Per Element 21 During the Management Review the Corrective Actions and Preventative Actions will be evaluated for Implementation and Effectiveness

3.0 Appendix Q

Appendix Q, OP-E20-1Management review template
Appendix-Q, OP-E20-2 Management review Action Items
Appendix A, OP-E1-2 Compliance Calendar

4.0 Associated Forms, Procedures or Records

QMS Overview and Policy Statement
OP-E12 Communications
Element 21 and associated Documents

1.0 Purpose/Objectives/Plan

The Operating Authority shall develop a procedure for tracking and measuring continual improvement of its Quality Management System by:

a) reviewing and considering applicable best management practices, including any published by the Ministry of the Environment and Climate Change and available on www.ontario.ca/drinkingwater, at least once every thirty-six months;

b) Documenting a process for identification and management of Quality Management System Corrective Actions that includes:

i. investigating the cause(s) of an identified non-conformity,

ii. Documenting the action(s) that will be taken to correct the nonconformity and prevent the non-conformity from re-occurring, and

iii. Reviewing the action(s) taken to correct the non-conformity, verifying that they are implemented and are effective in correcting and preventing the re-occurrence of the nonconformity.

c) Documenting a process for identifying and implementing Preventive Actions to eliminate the occurrence of potential non-conformities in the Quality Management System that includes:

i. reviewing potential non-conformities that are identified to determine if preventive actions may be necessary,

ii. Documenting the outcome of the review, including the action(s), if any, that will be taken to prevent a non-conformity from occurring, and

iii. Reviewing the action(s) taken to prevent a non-conformity, verifying that they are implemented and are effective in preventing the occurrence of the non-conformity.

2.0 Procedure

2.1 At least once every 36 months a review of applicable best management practices, including any published by the Ministry of Environment and Climate Change will be conducted, this review will be scheduled during the same time as the 36 month Risk Assessment.

2.2 Corrective Actions/Potential Non-conformities are identified through the Audit Process, however other opportunities to identify Corrective Actions/ Potential Non-conformities will be done through scheduled reviews of the QMS, Management Reviews, SOP Reviews, Contingency plan reviews, Risk Assessment Reviews or Emergency and unplanned events.

2.3 Similar to The Corrective Action process detailed in Element 19 Internal Audits, Corrective Actions/ Potential Non Conformances will be logged on Appendix P G13-2 Corrective Action Report Log, To investigate the Causes of the Identified Corrective Action a Root Cause Analysis will be performed using Appendix P G13-5 Root Cause Analysis Form, Once the Root Cause(s) are identified Corrective Actions will be determined, as well as any Preventative Actions that can be implemented

2.4 Potential non-conformances and Corrective Actions to any non-conformity will be reviewed annually during the Management Review. During the Management review it will be noted if the Corrective actions/ preventative actions have been implemented and if they are being effective, this review will also be checked annually during the Internal Audit process and External Audit Processes.

2.5 A Continual Improvement request form (OP-E21-1) can also be used to identify any improvement/preventative action opportunities or potential for non-conformities, operators may use this form if they observe an opportunity to improve on policies or procedures. Once a Continual Improvement Request form is received by the QMS Rep a review will be conducted and Improvements will be made if approved and filed appropriately and will be logged on the Corrective Action Report Log.

3.0 Reference

QMS Overview and Policy Statement
OP-E5 – Documents and Record Control
OP-E2 – Policy Statement
OP-E19-Internal Audits
OP-E20- Management review
OP-E7&8 Risk Assessment Review and Outcomes

4.0 Appendices

Appendix R OP-E21-1Continual improvement request Form
Appendix P G13-2 Corrective Action Report log
Appendix P G13-3 Corrective Action Report
Appendix P G13-10 Root Cause analysis