

Element 1 Quality Management System 2020

PURPOSE

The Town of Midland, as the Owner and Operating Authority of the Drinking Water System, is required to attain conformance to the Drinking Water Quality Management Standard (DWQMS) developed by the Ministry. This Operational Plan has been developed to represent the Operating Authority's Quality Management System (QMS) that conforms to DWQMS and serves as a Quality Management System (QMS) for the Town of Midland's Wastewater Services.

SCOPE

The Quality Management System as described in this Operational Plan applies to all of the requirements prescribed in the DWQMS 2.0.

PROCEDURE

The ultimate goal of achieving DWQMS compliance must be fully understood, and activities must strive to meet the requirements of the standard. An organization is a network of interdependent, value-adding processes, and improvement is achieved through understanding and changing these processes to enhance the total system. To facilitate long-term improvements, a mindset of continuous improvement that is fostered by preventative rather than corrective measures should be applied to eliminate the root causes of non-conformances. Decisions are made based upon measured data, internal and external comparisons, and an understanding of the cause and effect mechanisms at work, not simply on the basis of instinct, authority or anecdotal data. A focus on continuous improvement is the cornerstone for breakthrough thinking and innovation. No matter how much improvement has been accomplished, there are always practical and innovative ways of doing even better, providing improved water quality to the consumer and quality wastewater to the environment.

RELATED DOCUMENTS

- 4.1 DWQMS Element 1
- 4.2 Drinking Water Quality Management Standard

PURPOSE

Identifying the Quality Management System Representative(s) and outline their specific responsibilities.

RESPONSIBILITIES

This procedure applies to the appointment of QMS Representative(s) for the Quality Management System related to the provision of safe drinking water and wastewater treatment.

PROCEDURES

1.1 Appointment Process

- 1.1.1 Management appoints and provides authority to the Quality Management System Representative(s), irrespective of their other responsibilities. The authority, roles and responsibilities are provided in WWO-QMS-09.
- 1.1.2 A letter of appointment of the QMS Representative(s) has been signed by Management and is included in Letter of Appointment of QMS Representative(s)

REFERENCE DOCUMENTS

WWO-QMS-09: Organizational Structure, Roles, Responsibilities and Authorities

Letter of Appointment of QMS Representative(s)

Element 5 Document and Record Control

PURPOSE

The purpose of this procedure is to describe the methods used for identification, storage, protection, retrieval, retention time and disposal of documents and records.

SCOPE

This procedure is applicable to staff within Water and Wastewater Services who manage or perform work related to the water supply, treatment, distribution, wastewater collection and treatment system. This procedure includes all QMS documents and records that are included and/or referenced in the Operational Plan.

PROCEDURE

3.1 Documents

- 3.1.1 A controlled document is a policy, procedure, Standard Operating Procedure, form, exhibit, flowchart or other document that is subject to revision and is maintained on the Document Master List.
- 3.1.2 All electronically controlled documents (excluding drawings) for the QMS are available on the network drive.
- 3.1.3 Internal and External documents have a date or revision level listed on them to identify the current version.
- 3.1.4 QMS procedures are identified with a unique number and revision date. QMS forms are considered to be documents when they are blank and are identified with a unique form number and revision date.
- 3.1.5 Controlled documents of both internal and external origin (excluding drawings) are listed on the Document Master List. The QMS Representative(s) are responsible for maintaining the electronic list and including hard copies in the issued Operational Plan.
- 3.1.6 Controlled documents (internal) for the Quality Management System are reviewed by the QMS Representative(s) and approved by the Manager of Water and Wastewater Services.
- 3.1.7 The QMS Representative(s) determine the point of use that controlled documents are to be available and the locations are recorded on the Document Master List
- 3.1.8 All staff is responsible for ensuring that documents remain legible and easily identifiable. If a document has been damaged or made illegible, request a replacement copy from the QMS Representative(s).
- 3.1.9 Drawing documents are maintained in the Shared on Server 5 file on the network drive and are backed up on a regular basis.

- 3.1.10 The drawings are electronically entered by the user and are protected with “read only” access. Hard copies of the service drawings are filed and maintained in accordance with The Ontario Municipal Records Management System (TOMRMS).
- 3.1.11 Documents are protected as “read only” on the network drive. If the document is from a read only file then the document is considered uncontrolled and not subject to revision.
- 3.1.12 Any employee can make a request for the creation or a change to a document. Changes to documents can be a result of change in procedure, results of an audit or suggestion for improvement.
- 3.1.13 Prior to processing document changes, the QMS Representative will be responsible for ensuring that the changes will not affect the integrity of the QMS or the processes.
- 3.1.14 The QMS Representative(s) will review the Document Master List at a minimum of once every calendar year to verify that any documents that have not been revised since the previous review are still adequate.
- 3.1.15 Changes or updates to documents will be communicated to staff through Monthly Staff Meetings

3.2 Records

- 3.2.1 The Record Master List identifies all of the records that this procedure applies to. The Records Retention By-law is based on TOMRMS which provides information on filing of records, including how records are to be stored, protected, retained and disposed of. Records may be electronic and/or paper copy.
- 3.2.2 Electronic records associated with the QMS that are maintained on the network drive are backed up on a regular basis.
- 3.2.3 The person completing the record must ensure the record is legible, accurate and complete with regards to recording requirements.
- 3.2.4 The person responsible for disposing of records decides on the appropriate methods of disposal.
- 3.2.5 Records are retrievable when requested.

RELATED DOCUMENTS

- 4.1 Document Master List - F 05-01
- 4.2 Record Master List- F 05-02

1.0 Categorization and Classification of Midland's Drinking Water System

- 1.1 The Town of Midland owns and operates a Drinking Water System that is defined as a Large Municipal Residential Drinking Water System in accordance with Ontario Regulation 170/03, as it supplies drinking water to approximately **17,000** residents within the Town of Midland. The Ministry of the Environment has classified the Water System as a Class 3 Water Distribution and Supply Sub-System and a Class 1 Water Treatment Sub-System.

2.0 Description

- 2.1 The Drinking Water System consists of **10** groundwater wells, **4** treatment systems, **5** storage facilities, **5** booster stations, distribution water mains and all associate hydrants and valves as outlined on the Water Infrastructure Map maintained by the Town of Midland's Engineering Department.
- 2.2 The GUDI sites, which are the Highway 12 Treatment System and the Vindin St Treatment System, are designed and operated utilizing UV Primary Disinfection and a Sodium Hypochlorite Chemical Feed System (for both primary and secondary disinfection) which includes contact chambers to achieve the appropriate chlorine contact time (CT) and four log removal prior to the first customer.
- 2.3 Treatment of the raw water from the remaining Hanly St and Penetanguishene Rd Treatment Systems are designed and operated utilizing UV Primary Disinfection along with Sodium Hypochlorite Chemical Feed Systems for secondary disinfection. Process Schematics are maintained by the Water & Wastewater Operations.
- 2.4 The distribution grid consists of approximately **562** hydrants and approximately **114** kilometers of water mains and transmission mains ranging in sizes from **50mm** to **400mm**. Key processes within the water supply, treatment and storage facilities are continuously monitored, recorded and alarmed through the SCADA system.

3.0 Source Water

- 3.1 Based on the GUDI Hydro Geological Study for the Town of Midland Municipal Wells Final Report – July 2002; results and analysis concluded that all the wells in the Midland Water Supply System, excluding Well 15 and Well 9 are under the direct influence of surface water. The conclusion of this report was based on the geological setting that was revealed through an aquifer test analysis, well water temperatures, characterization of groundwater and surface water chemical signature, characterization of groundwater and surface water chemical signature, considerations of vertical and horizontal migration rates and the history of good bacteriological quality.

4.0 Raw Water

The Town of Midland draws water from deep groundwater wells and the raw water quality is generally below the standards set out in the Ontario Drinking Water Quality Standards with the exception of trace sodium levels found throughout the system.

There are no critical upstream or downstream processes relied upon.

5.0 Common Event-Driven Fluctuations

5.1 Through regular mandatory Bacteriological and Chemical testing of the Town of Midland's Wells and Points of Entry, consistent results indicate that there are no common event driven fluctuations. Any changes in quality take place over a time frame of years and are generally gradual in nature.

6.0 Operational Challenges and Threats

6.1 The Midland Waterworks Master Plan – identified that the Town's combined available storage capacity did not meet the current guidelines (MOE "ABC" storage capacity formula). Construction of two new storage facilities identified in the Master Plan recommendations (0-20 years) is pending.

7.0 Related Documents

7.1 Water Infrastructure Map

7.2 Process Schematics: F6-01

7.3 GUDI Hydro Geological Study for the Town of Midland Municipal Wells Final Report – July 2002

Element 7 Risk Assessment

PURPOSE

To document the procedure used to complete a risk assessment for the drinking water system.

The risk assessment process:

- a) considers potential hazardous events and associated hazards, as identified in the Ministry document titled “Potential Hazardous Events for Municipal Residential Drinking Water Systems”,
- 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 the equipment.

DEFINITIONS

Critical Control Limit (CCL) – the point at which a Critical Control Point response procedure is initiated.

Critical Control Point (CCP) – an essential step or point in the system at which control can be applied by the Operating Authority to prevent or eliminate a drinking water health hazard or to reduce it to an acceptable level.

Hazard – is a biological, chemical, physical or radiological agent that has the potential to cause harm.

Hazardous event – is an incident or situation that can lead to the presence of a hazard.

Risk – is the likelihood of identified hazards causing harm in exposed populations in a specified time frame, including the magnitude of that harm, or the consequences.

RESPONSIBILITIES

The QMS Representative facilitates the assessment of risks, verification of currency of information and validity of assumptions used in the risk assessment at least once every twelve months. The QMS Representative is also responsible to ensure that documents are updated and records are maintained related to the risk assessment activities (e.g. minutes, risk assessment outcomes, changes to this procedure or related forms).

The Staff with a number of different functions participate in the annual risk assessment.

Top Management is responsible to review and approve the risk assessment at least once every twelve months.

PROCEDURES

1. Review Process

1.1 At least once per calendar year, Water Services conducts a review of the currency of the information and validity of the assumptions used in the risk assessment. The updated Risk Assessment Outcomes are presented at the next Management Review meeting.

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

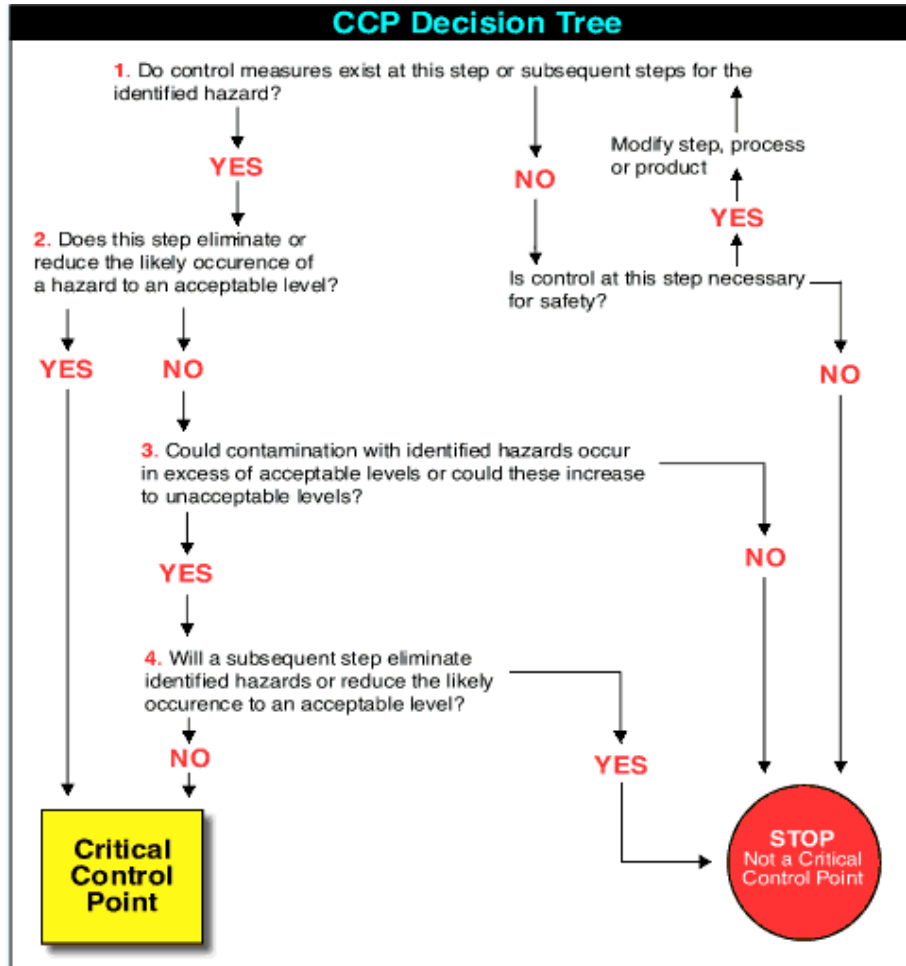
- a) process changes;
- b) reliability and redundancy of equipment;
- c) emergency situations;
- d) critical control point deviations; or
- e) QMS non-conformances related to standard operating procedures.

2. Risk Assessment Methodology

2.1. The risk assessment is completed by using the previous years' completed risk assessment as a template during the annual review: newly identified hazards are inserted and the columns are completed and updated as described below. For ease of review and updates, the Hazard Identification and Risk Assessment form was created to represent each row in the full risk assessment table. The output of this process is the Risk Assessment Outcome. Additionally, identified hazards and Critical Control Limits are summarized in Summary of Hazards and Critical Control Limits.

3. Determination of Critical Control Points (CCP's)

The MECP has mandated disinfection CCP's related to primary and secondary disinfection.



4. Thirty-Six Month Review Process

4.1 Water and Wastewater Services carries out the DWQMS requirement to assess risks at least once every twelve months, as described in section 2 of this procedure.

5. Document and Records Management

5.1 The updated Risk Assessment Outcomes are presented at the next Management Review meeting for review and approval.

5.2 The QMS Representative ensures minutes are taken during risk assessment meetings and makes any necessary document changes/updates related to this procedure.

REFERENCE DOCUMENTS

Risk Assessment Rating

Hazard Identification and Risk Assessment

Risk Assessment Outcomes

Summary of Critical Control Points and Critical Control Limits

Control Measure Descriptions

Element 8 Risk Assessment Outcomes

1.0 PURPOSE

To set the procedure established by the Water and Wastewater Services for detailing and documenting the outcomes of the Risk Assessment Process.

2.0 SCOPE

To establish an effective and organized approach to conducting, assessing and improving hazard risks associated with the Town of Midland's Drinking Water and Wastewater Systems.

3.0 PROCEDURE

3.1 Risk Assessment Outcomes

The completed Risk assessment Table contains the output from the risk assessment and becomes the Risk Assessment Outcomes Table.

The identified CCPs are listed on the Summary of Critical Control Points along with the respective critical control limits (CCL), control measures and procedures for responding to deviations from the CCLs and procedures for reporting and recording deviations. Control measures for identified risks and CCPs are found in the Water Services Emergency Response Plan.

3.2 Document and Records Management

The completed Risk Assessment Outcomes Table is forwarded to the Manager of Water and Wastewater Services for review and approval.

The QMS Representative(s) are responsible for ensuring that the annual and three year review meetings are documented and the records are maintained in accordance with WWO-QMS-05.

The QMS Representative(s) are responsible for maintaining and making any necessary changes/updates to the Risk Assessment Outcomes Table as per WWO-QMS-05.

The QMS Representative(s) are responsible for ensuring that any necessary changes are made to the training requirements, Standard Operating Procedures, and/or other aspects of the Quality Management System resulting from changes to the Risk Assessment.

3.3 36 Month Review Process

Every 36 months, a more comprehensive review of the drinking water system risk assessment process is conducted. This is an opportunity to review the risk assessment process and outcomes. For example, the reviewers could consider changes in microbial risks based on new research, or changes to the risk assessment process as a continual improvement feature. To undertake this more comprehensive review, the QMS Representative(s) facilitates a team comprised of (at a minimum) the Manager of Water and Wastewater Services and one QMS Representative.

The Manager of Water and Wastewater Services, in consultation with the QMS Rep(s), may include others (e.g. other Municipal Departments, consultants and/or other utilities) in this review. In the years where the once every 36 months review process is completed, the annual risk assessment review will be completed at the same time or at the management review.

4.0 RELATED DOCUMENTS

- 4.1 Table (T08-01) Summary of Critical Control Points
- 4.2 WWO-QMS-05 Document and Records Control
- 4.3 Water Operations Emergency Response Plan

1.0 PURPOSE

To set the procedure established by the Water and Wastewater Services for ensuring that the Owner, Operating Authority and Top Management are defined, the organizational structure of the Operating Authority is described and the roles, responsibilities and authorities of Top Management and key positions within the Operating Authority are identified.

2.0 SCOPE

This procedure applies to the owner and all designated staff working within the drinking water system and wastewater system.

3.0 PROCEDURE

3.1 Identifying Key QMS Roles

- 3.1.1 The members of Top Management (within the Operating Authority), the Owner, Operating Authority and the QMS Representative are defined in the Table of Key QMS Roles.
- 3.1.2 Top Management is responsible for ensuring that management reviews are conducted in accordance with WWO-QMS-20.

3.2 Organizational Structure

- 3.2.1 The organizational structure of the Operating Authority is outlined in the Organizational Chart.

3.3 Organizational Roles, Responsibilities and Authorities

- 3.3.1 Specific responsibilities and authorities for positions with key roles in the Quality Management System is detailed in the various system procedures and Standard Operating procedures as referenced in the Operational Plan.
- 3.3.2 The QMS Roles, Responsibilities and Authorities Table provide a summary of the overall roles, responsibilities and authorities related to the provision of safe drinking water and wastewater treatment.

4.0 RELATED DOCUMENTS

- 4.1 DWQMS Element 9
- 4.2 WWO-QMS-20 Management Review
- 4.3 Organizational Chart (F09-01)
- 4.4 Table (F09-02) Key QMS Roles

Element 10 Competencies 2020

PURPOSE

This procedure identifies how the Town of Midland Water and Wastewater Services ensure that personnel whose roles and responsibilities affect drinking water quality and wastewater treatment remain competent in order to ensure the ongoing operation of its water treatment, water supply/distribution, wastewater collection and wastewater treatment system.

SCOPE

This procedure applies to the performance and management of all Water and Wastewater Services personnel who are involved in the operation of the water treatment, water supply/distribution, wastewater collection and wastewater treatment system.

PROCEDURE

- 1.1 The Water and Wastewater Services staff, who perform duties directly affecting drinking water quality or have the potential to cause a significant environmental impact, are hired based on possession of appropriate skills, ability, experience and efficiency.
- 1.2 New Water and Wastewater Services staff, during orientation, are made aware of the importance of conformity with the QMS policy and procedures and with requirements of the QMS. They are also made familiar with the Drinking Water System, and Wastewater System and their responsibilities and duties and how they affect the provision of safe drinking water and the environment.
- 1.3 The Water and Wastewater Services ensures competency of its staff, which affect the provision of safe drinking water and wastewater treatment with the potential to cause a significant environmental impact, by maintaining a competency requirement table and training and awareness record.
- 1.4 Staff is made aware of their required competencies through communication with the Manager of Water and Wastewater Services. Additional competencies are outlined in O. Reg. 128/04: Certification of Drinking Water System Operators and Water Quality Analysts, and O. Reg. 129/04 licensing of sewage works operators.

RELATED DOCUMENTS

- 4.1 DWQMS Element 10
- 4.2 Competency Table (T10-01)
- 4.3 O. Reg. 128/04
- 4.4 O. Reg. 129/04
- 4.5 New Hire Orientation Presentation
- 4.6 WWO – QMS-5
- 4.7 Current Collective Agreement
- 4.8 QMS Training Form (TR-01)

Element 11 Personnel Coverage 2020

PURPOSE

To set the procedure identifying how the Town of Midland Water and Wastewater Services ensures that competent individuals are available to fulfill the responsibilities needed for the ongoing operation of the Town of Midland's Drinking Water and Wastewater Systems.

SCOPE

This procedure applies to staff working within the water supply/distribution, water treatment, wastewater treatment, wastewater collection system who perform duties and/or have responsibilities that directly affect drinking water quality or wastewater effluent quality.

PROCEDURE

1.1 Establishment of Personnel Coverage:

- 1.1.1 Town of Midland Water and Wastewater Services will ensure that a competent individual is available at all times to fulfill the duties that affect drinking water quality and wastewater treatment. The identified person will be documented in the current Operator On-Call List affecting all water distribution and supply, water treatment, wastewater collection and wastewater treatment.
- 1.1.2 The On-Call List addresses both after-hours as well as weekend and holiday coverage, and is updated on an annual basis at a minimum.
- 1.1.3 The Town of Midland's Water Services will ensure that all personnel included in the On-Call List have the necessary skills and knowledge to perform the required responsibilities. These expectations are defined in the Competencies Table-T10-01.
- 1.1.4 In the event of a labour dispute (such as but not limited to a Strike, or Lock-out) Owner/Top Management/ORO will ensure the following: The Town of Midland Water System is properly maintained, and continue to provide our consumers with a consistent, safe supply of drinking water. Also, continue meeting all applicable regulations and legislation for the treatment, distribution/supply of drinking water in Ontario.
- 1.1.5 Owner/Top Management/ORO will also ensure the Town of Midland Wastewater System is properly maintained, and continue to provide quality effluent to the environment. Also, continue to meeting all applicable regulations and legislation for the collection, and treatment of wastewater.

RELATED DOCUMENTS

- 1.2 DWQMS Element 11
- 1.3 Collective Bargaining Agreement
- 1.4 Competencies Table-T10-01
- 1.5 Operator On-Call List
- 1.6 Vacation Schedule

PURPOSE

To describe how the relevant aspects of the Quality Management System (QMS) are communicated between Top Management and the owner, water and wastewater services staff, suppliers and the public.

SCOPE

This procedure applies to internal and external communications regarding the relevant aspects of the QMS that have been developed and implemented within Water Wastewater Services as documented in the Operational Plan.

PROCEDURE

1.1 Owner

- 1.1.1 Communication between Top Management and the Owner is administered by the Owner Representative through the use of, but not limited to, e-mails (i.e. between Managers, Directors and Councillors). Communication during emergency situations may be made directly between Top Management and the Mayor. Communication from the Owner back to Top Management could be through direction memos from the Clerk(s).

1.2 Water and Wastewater Services Personnel

- 1.2.1 Communication between Top Management and personnel within the Water Wastewater Services is administered through meetings held between the Manager of Water Wastewater Services and applicable staff.
- 1.2.2 Meetings are documented (except the daily meetings between the OIC, Environmental Supervisor, and staff where only key operational issues are discussed that relate to work schedules) and records are distributed or made accessible to meeting participants.
- 1.2.3 E-mails are another form of communication and are common between staff and the Manager, and Environmental Supervisor of Water Wastewater Services.
- 1.2.4 The Manager of Water Wastewater Services contact the OIC's to apprise them of information (both corporate and operational) and results of meetings outside of the department. The Manager and Environmental Supervisor of Water and Wastewater Services is responsible for relaying specific information to staff.
- 1.2.5 Minutes are filed electronically and maintained as per WWO-QMS-05

1.3 **Suppliers**

- 1.3.1 Communication between Town of Midland Water Wastewater Services and Suppliers is in accordance with WWO-QMS-13 (i.e. purchase orders, contracts).

1.4 **Public/Consumers**

- 1.4.1 Communication may be carried out through inserts in the water bills, the Town of Midland website (i.e. annual reports, policies), staff reports shown live on local TV, direct telephone calls and/or e-mails, local radio stations (i.e. full water usage bans), Town of Midland social media platforms (i.e. Facebook, Instagram, Twitter), education activities through special events and direct contact from a bylaw officer (Ontario Builders Code - CSA B-64 - Backflow).
- 1.4.2 Regularly update the Town of Midland's Website with current Operation Plan and QMS Policy. Remove obsolete information.

1.5 **Quality Management System (QMS) Policy**

- 1.5.1 The QMS Policy is made available to all operating authority personnel, the owner and the public by posting the policy in the manned water facilities and on the Town of Midland's intranet and internet websites. It is also displayed at the Town of Midland's Town Hall. A copy of the QMS policy is available to the public upon request.

RELATED DOCUMENTS

- 1.6 DWQMS Element 12: Communications
- 1.7 Quality Management System Policy
- 1.8 WWO-QMS -20 – Management Review
- 1.9 WWO-QMS -13: Essential Supplies and Services

Element 13 Essential Supplies and Services 2020

PURPOSE

To set the procedure that ensures the suppliers and service providers meet all requirements of the Town of Midland Water and Wastewater Services to provide safe and reliable drinking water to all customers within the municipality, as well as properly treated wastewater effluents to the environment.

SCOPE

This procedure applies to all products, services and suppliers listed in the Essential Supplies and Services List.

PROCEDURE

- 1.1 The Town of Midland's Water and Wastewater Services staff are required to follow By Law 2004-96, with regards to the procurement of Goods and Services. A list of Essential Supplies and Services is maintained to ensure the supply of safe and reliable drinking water, and properly treated wastewater. The Essential Supplies and Services are made aware through Element 12 of the Operational Plan to ensure quality, quantity and emergency requirements.
- 1.2 Assurance of the quality of essential suppliers and services is achieved through documentation of applicable accreditation, licenses, certifications and associated regulations and standards provided on initial acceptance of the above contracts.

RELATED DOCUMENTS

- 1.3 DWQMS Element 12
- 1.4 DWQMS Element 13
- 1.5 Procurement of Goods and Services Bylaw 2004-96
- 1.6 Essential Suppliers & Services Table: T13-01

PURPOSE

To set the procedure established by the Town of Midland Water Wastewater Services, on how the adequacy of the infrastructure needed for the efficient operation, reliability and maintenance of its water treatment, distribution, supply and wastewater collection and treatment systems are reviewed, and how the provision of this infrastructure is ensured.

SCOPE

This procedure applies to all processes associated with the review and provision of infrastructure needed for the operation of the water treatment, distribution, supply and wastewater collection and treatment systems. This also establishes how Town of Midland's Water Wastewater Services personnel are involved in these processes.

PROCEDURE

3.1 Infrastructure Review

- 3.1.1 Top Management will review infrastructure used for the operation and maintenance of the water treatment, distribution and supply, wastewater collection and treatment systems on an annual basis.
- 3.1.2 The appropriate personnel will monitor trends and the performance of existing water treatment, distribution and supply, wastewater collection and treatment systems infrastructure in order to create a plan for Infrastructure management. Other inputs for the review will include:
 - 3.1.2.1 Key Performance Indicators (KPI's);
 - 3.1.2.2 Master Waterworks Plan;
 - 3.1.2.3 Master Wastewater Plan;
 - 3.1.2.4 Customer Complaints;
 - 3.1.2.5 Capital Plan Projects;
 - 3.1.2.6 Deficiency List;
 - 3.1.2.7 Well Maintenance Plan;
 - 3.1.2.8 Water Storage Facility Maintenance Plan
 - 3.1.2.9 E11 Complaint Portal
- 3.1.3 Summaries of infrastructure reviews are documented and stored in the information database. The information database will be stored in the Records Management System in a file named Infrastructure. As these reviews are frequently modified, a revision format is used to ensure currency of the documents.

3.2 Report and Action

- 3.2.1 The Drinking Water Systems Regulation (O.Reg.170/03) states that Summary Reports are to be produced annually for summarization of maintenance, operations, and capital infrastructure and is presented to Council.
- 3.2.2 Based on the infrastructure needs highlighted in the management review and the most recent Master Works Plan, Top Management will communicate to Council a summary of the findings. Council will be responsible for reviewing the findings and recommendations. Council will use this information to make the appropriate decisions related to the provision of required infrastructure and granting approval for purchases, based on staff recommendations and the budget.

RELATED DOCUMENTS

- 3.1 DWQMS Element 14
- 3.2 10 Year Capital Plan
- 3.3 Well Maintenance Plan
- 3.4 Current Budget
- 3.5 Annual Summary Report

PURPOSE

To set the procedure established by the Town of Midland Water and Wastewater Services for describing the infrastructure maintenance, rehabilitation and renewal programs for the drinking water and wastewater systems.

SCOPE

The procedure will ensure the required components are in place to address all issues that directly affect drinking water quality in the system.

PROCEDURE

1.1 Planned Maintenance-Distribution

3.1.1 All parts of the drinking water system in contact with drinking water which are: Added, modified, replaced, extended; or taken out of service for inspection, repair or other activities that may lead to contamination, shall be disinfected before being put into service in accordance with a procedure approved by the Director or in accordance with the applicable provisions of the following documents:

Ontario's Watermain Disinfection Procedure, effective June 1, 2016;
AWWA C652 – Standard for Disinfection of Water-Storage Facilities;
AWWA C653 – Standard for Disinfection of Water Treatment Plants; and
AWWA C654 – Standard for Disinfection of Wells.

Planned distribution system maintenance (e.g. hydrant maintenance, valve exercising, etc.) is documented on several work orders with in the established workorder system.

3.1.2 Some of the planned maintenance, such as main/service replacement, is completed by a 3rd party contractor. The contractor provides the Manager of Water and Wastewater Services with a report showing the work completed and any problems that were identified with the hydrants.

3.1.3 The administrative assistant enters the information from the reports into an electronic database and files the hard copy.

3.1.4 Valve exercising is completed in areas of the drinking water system in conjunction with the Uni-Directional Flushing Program.

3.1.5 Other miscellaneous maintenance is conducted upon request throughout the distribution system and is documented on various forms including, but not limited to Stakeout Requests, Hydrant Identification and Data Collection, Curb Box Repairs, Hydrant Marker Requests, Curb Box Inspections for new subdivisions and Snow Removal Requests.

3.1.6 All records are maintained in accordance with Element 5

1.2 Unplanned Maintenance – Water Distribution

3.2.1 All parts of the drinking water system in contact with drinking water which are: Added, modified, replaced, extended; or taken out of service for inspection, repair or other activities that may lead to contamination, shall be disinfected before being put into service in accordance with a procedure approved by the Director or in accordance with the applicable provisions of the following documents:

Ontario's Watermain Disinfection Procedure, effective June 1, 2016;
AWWA C652 – Standard for Disinfection of Water-Storage Facilities;
AWWA C653 – Standard for Disinfection of Water Treatment Plants; and
AWWA C654 – Standard for Disinfection of Wells.

3.2.2 Unplanned distribution system maintenance (e.g., water main repair, valve repairs, etc.) is documented on various forms (Grid Failure Reports and work orders).

3.2.3 The OIC issues the respective Work Orders and assigns the maintenance to be done to an Operator/Maintenance Technician.

3.2.4 The Operator/Maintenance Technician completes the work and records the details on the respective Work Order. Completed forms are returned to the Process Coordinator or Designate for review.

3.2.5 The process coordinator/administrative assistant closes the completed work orders.

3.2.6 All records are maintained as per Element 5.

3.3 Planned Maintenance – Water Treatment

3.3.1 The Manager of Water and Wastewater Services or designate schedules preventative maintenance associated with the water system infrastructure electronically.

3.3.2 New equipment is reviewed by the Manager of Water and Wastewater Services or designate to determine the maintenance requirements and the equipment is included in the preventative maintenance schedule.

3.3.3 The Manager of Water and Wastewater Services or designate is responsible for checking the maintenance schedule on a daily basis and developing a list of maintenance that is required for each day as applicable.

3.3.4 The OIC assigns the preventative maintenance to the Operators at the start of each day. For regular weekly and yearly maintenance the OIC distributes the applicable forms/worksheets (e.g., chlorine analyzers monthly check) to the

operators. Where applicable, a Standard Operating Procedure is copied and provided with the worksheets.

- 3.3.5 The Operator completes the work and records the details on the Work Order provided by the Manager of Water and Wastewater Services or designate and returns the forms. The completed weekly and yearly maintenance forms are closed electronically by the administrative assistant on the workorder program.
- 3.3.6 All completed maintenance is recorded by the Operator in the applicable Station Log.
- 3.3.7 Maintenance forms that have not yet been assigned to an Operator/Maintenance Technician are kept in the outstanding maintenance file and issued to an Operator/Maintenance Technician by the OIC when applicable.
- 3.3.8 The SCADA system is maintained through the daily, weekly and yearly actions that Operators undertake for the alarms, settings, etc.
- 3.3.9 All maintenance records are maintained in accordance with Element 5.

3.4 Unplanned Maintenance – Water Treatment

- 3.4.1 Unplanned maintenance work may be identified through operator inspection, customer service calls, etc. The Manager of Water and Wastewater Services or designate is responsible for approving the unplanned maintenance work and assigning the work to an Operator.
- 3.4.2 The Operator completes the work and records the maintenance activities on the respective Work Order provided by the Manager of Water and Wastewater or designate.
- 3.4.3 The completed work orders are provided to the Process Coordinator or Administrative Assistant when the work is completed.
- 3.4.4 Unplanned maintenance that is outstanding is placed in the outstanding maintenance file and assigned to Operators/Maintenance Technicians by the OIC once the work can be completed.
- 3.4.5 All maintenance records are maintained as per Element 5.

3.5 Planned Maintenance – Wastewater Treatment/Collection

- 3.5.1 The Manager of Water and Wastewater Services or designate schedules preventative maintenance associated within the wastewater treatment system infrastructure electronically.

- 3.5.2 New equipment is reviewed by the Manager of Water and Wastewater Services or designate to determine the maintenance requirements and the equipment is included in the preventative maintenance schedule.
- 3.5.3 The Manager of Water and Wastewater Services or designate is responsible for checking the maintenance schedule on a daily basis and developing a list of maintenance that is required for each day as applicable.
- 3.5.4 The OIC(s) carry out maintenance as per the schedule. Where applicable, a Standard Operating Procedure is copied and/or provided within the worksheets.
- 3.5.5 The Operator completes the work and records the details on the Work Order provided by the Manager of Water and Wastewater Services or designate and returns the forms. The completed weekly and yearly maintenance forms are closed electronically by the administrative assistant on the workorder program.
- 3.5.6 Maintenance workorders that have not yet been assigned to an Operator are kept in the outstanding maintenance file.
- 3.5.7 The SCADA system is maintained through the daily, weekly and yearly actions that Operators undertake for the alarms, settings, etc.
- 3.5.8 All maintenance records are maintained in accordance with Element 5.

3.6 Unplanned Maintenance – Wastewater Treatment/Collection

- 3.6.1 Unplanned maintenance work may be identified through operator inspection, customer service calls, etc. The Manager of Water and Wastewater Services or designate is responsible for approving the unplanned maintenance work and assigning the work to an Operator.
- 3.6.2 The Operator completes the work and records the maintenance activities on the respective Workorder Request Form provided by the Manager of Water and Wastewater or designate.
- 3.6.3 The completed work orders are provided to the Manager or Supervisor for review before going to the Process Coordinator or Administrative Assistant.
- 3.6.4 Unplanned maintenance that is outstanding is placed in the outstanding maintenance file and can be assigned to Operators/Maintenance Technicians.
- 3.6.5 All maintenance records are maintained as per Element 5.

3.7 Monitoring Effectiveness of Maintenance

- 3.7.1 The Manager or Supervisor of Water and Wastewater Services shall monitor the effectiveness of the respective Maintenance Programs and report its results to Top Management annually as a minimum. The report is to be provided prior to the Management Review process.

3.7.2 The Manager of Water and Wastewater Services and Operators will meet and produce recommendations to improve the effectiveness of the Maintenance Program. These recommendations will be processed as part of the Management Review Summary Report. Assessment measures that can be used to measure the effectiveness may include;

- Total number of work orders created
- Total number of completed work orders
- Total number of uncompleted work orders
- Percentage of completed to uncompleted work orders
- Total number of planned work orders
- Total number of unplanned work orders
- Total cost of maintenance program
- Equipment failure assessment detailing reasons for failure, cost, frequency and associated trends
- Recommendations for replacement of equipment, detailing planned and unplanned maintenance cost on a yearly basis versus purchase costs
- Recommendations for improvement

RELATED DOCUMENTS

- 4.1 Drinking Water Works Permit
- 4.2 Municipal Drinking Water License
- 4.3 DWQMS Element 15
- 4.4 WWO-QMS-5
- 4.5 Management Review
- 4.6 Grid Failure Report

PURPOSE

To describe the methods used by the Town of Midland Water and Wastewater Services to sample, test and monitor the drinking water to ensure its safety and quality.

SCOPE

- 1.1 This procedure applies to all of the Town of Midland's water distribution and supply systems and all personnel performing duties related to the sampling, testing, and monitoring of drinking water.
- 1.2 This procedure also includes relevant sampling, testing and monitoring that is carried out upstream of the drinking water system.

PROCEDURE

1.3 Sampling, Testing and Monitoring

- 1.3.1 The Water Distribution and Supply Operators at the Water and Wastewater Services perform sampling, testing, and monitoring in accordance with regulatory and legislative requirements to ensure the safety and quality of drinking water for their consumers. Details of these activities are outlined in the Practices for the Collection & Handling of Drinking Water Samples, Revision 2.0 (April/09) and the appropriate annual sampling plan.
- 1.3.2 The frequency of sampling, testing, and monitoring will be increased during times of abnormal water conditions which could pose a high risk to drinking water quality. The process for addressing these situations is outlined in the Adverse Notification procedure.
- 1.3.3 All collected samples are sent to a certified laboratory for testing. The DWQMS Representatives will request copies of accreditation licenses from the laboratories that are identified on the Essential Suppliers and Services List. This documentation is kept on file for reference purposes.
- 1.3.4 Ensure a Laboratory Services Notification Schedule 6 (subsection 6-9 (4)) form is completed and faxed to the Ministry. This form is only required if changing labs.
- 1.3.5 If the sampling, testing, and monitoring indicate that results exceed acceptable limits; the Overall Responsible Operator will follow established reactive plans to address the situation. Top Management or designate will ensure that its actions comply with requirements and guidelines put forth by the Ministry or Ministries

1.4 Communication of Results

- 1.4.1 Results of the sampling, testing, and monitoring are documented in a Summary Report and included in the Drinking Water Systems Regulation O.Reg 170/03 Annual Report. The Annual Summary Report is presented to Council each year, and a copy is given to the Ministry Water Inspector during the yearly inspection.
- 1.4.2 The Annual Summary Report is also available to the public on the Town of Midland's web site at www.midland.ca
- 1.4.3 The Manager of Water and Wastewater Services or designate will be responsible for communicating the results of the sampling, testing, and monitoring to the appropriate internal personnel.

RELATED DOCUMENTS

- 1.5 DWQMS Element 16
- 1.6 Laboratory Services Notification (LSN) Form
- 1.7 Current Summary Report
- 1.8 Drinking Water Systems Regulation O.Reg. 170/03 Annual Report
- 1.9 ERP #10 Adverse Water Quality Findings/Low Chlorine
- 1.10 Sampling Plan
- 1.11 Practices for the Collection & Handling of Drinking Water Samples, Revision 2.0 (April/09)

Element 17 Measurement and Recording Equipment Calibration and Maintenance 2020

PURPOSE

To set the procedure established by the Town of Midland Water and Wastewater Services on calibrating and maintaining the measurement and recording equipment used as part of its water distribution/supply, treatment, wastewater treatment and collection systems.

SCOPE

This procedure applies to all measurement and recording equipment as listed and used for water quality testing to ensure the supply of safe drinking water, as well as protection to the environment.

PROCEDURE

1.1 Calibration and Maintenance Activities

- 1.1.1 The Water and Wastewater Services water operators are to ensure calibration and maintain measurement and recording equipment to ensure their continued operations.
- 1.1.2 The measurement and recording equipment used by the Water and Wastewater Services and associated calibration and maintenance requirements are outlined within the workorder software. This software is reviewed regularly and updated as required.
- 1.1.3 The calibration of measurement and recording equipment is managed according the Handheld Equipment Calibration and Verification Schedule and Monthly Plant Maintenance Checklist, which outlines when equipment requires service.
- 1.1.4 When possible, maintenance activities are performed by internal personnel. If external support is required, calibration and maintenance is performed by a contractor that has been certified by a national standard.
- 1.1.5 The Water and Wastewater Services requires records documenting calibration and maintenance performed by external resources. These records are stored as per the Records Management System.
- 1.1.6 The Manager of Water and Wastewater Services or designate will be responsible for ensuring that equipment within the water distribution and supply systems requiring calibration or maintenance is defined within the workorder software.

RELATED DOCUMENTS

- 1.2 DWQMS Element 17
- 1.3 Workorder Software
- 1.4 WWO-QMS-5
- 1.5 Monthly Plant Maintenance Checklist
- 1.6 Plant Log Books
- 1.7 Handheld Equipment Calibration and Verification Schedule

Element 18 Emergency Management 2020

PURPOSE

To describe the procedure for ensuring effective emergency preparedness and emergency response within the Water and Wastewater Services and at what point the level of emergency requires support under the Town of Midland Emergency Response Plan.

SCOPE

- 1.1 This procedure applies to potential or actual emergency situations that develop within the Water and Wastewater Services.
- 2.2 Situations that have been deemed to be serious operations emergencies will be managed and controlled through the Town of Midland Emergency Response Plan.

PROCEDURE

1.2 Identification of Emergency Situations

- 1.2.1 The Corporation has developed and maintains the Town of Midland Emergency Response Plan as part of their Emergency Management Program required under the Emergency Management and Civil Protection Act.
- 1.2.2 On an annual basis the Manager of the Water and Wastewater Services, and the QMS Representative shall meet to review the list of emergency situations.
- 1.2.3 The QMS Representative is responsible for maintaining and updating the potential emergency situations.
- 1.2.4 The Town of Midland Emergency Response Plan outlines communication protocols and the roles and responsibilities of the Owner and the appropriate Water and Wastewater Services depending on the level of emergency.
- 1.2.5 After hours emergencies related to water operations are directed to Huronia Alarms Answering Services and messages are forwarded to be received by the operator on-call. The communications operators refer to the Operator On-Call List. Communications are currently contracted to Huronia Alarms.

1.3 Emergency Response Training and Testing Requirements

- 1.3.1 The Manager of the Water and Wastewater Services is responsible for ensuring that the emergency response training is undertaken by appropriate staff and that records of this training are maintained as per WWO-QMS-05.
- 1.3.2 In addition, a debriefing may be undertaken after larger scale emergencies that affect the drinking water system. These debriefing will be led by Manager and others as determined by the Manager or Top Management.

- 1.3.3 Results or lessons learned during the de-briefings are recorded in the Emergency De-briefing Form and listed in the Continual Improvement Report Spreadsheet

RELATED DOCUMENTS

- 1.4 DWQMS Element 18: Emergency Management
- 1.5 Town of Midland Emergency Response Plan
- 1.6 WWO-QMS-05 - Document and Records Control
- 1.7 Operator On-Call List
- 1.8 Water Services Emergency Response Plan and Procedures
- 1.9 Continual Improvement Report Spreadsheet
- 1.10 Emergency De-Brief

PURPOSE

To describe the procedure set by the Water and Wastewater Services for conducting internal audits to evaluate conformity of the Quality Management System (QMS) with the requirements of the Drinking Water Quality Management Standard (DWQMS).

SCOPE

This procedure applies to all activities and processes within the scope of the QMS as documented in the Operational Plan.

PROCEDURE

Auditor Team Structure and Roles

1.1.1 The auditing team roles are as follows:

- The QMS representatives may act as Auditing Team.
- The QMS representatives are responsible for overseeing the internal audit process and ensuring qualified auditors conduct the internal audits.
- The QMS representative is responsible for managing the internal audit process of a specified element or process.
- Auditors work with the Audit Team Leader to prepare for and conduct the internal Audits
- Audit may be facilitated by a qualified third-party independent auditor

1.2 Auditor Qualifications and Selection

1.2.1 Auditors and/or guest auditors must meet the following criteria:

- Have knowledge of the DWQMS and Midland's QMS;
- Be independent of the work that is going to be audited (if possible);
- The ability to make objective observations and record the results;

1.3 Audit Process

1.3.1 The Manager of Water and Wastewater Services ensures that internal audits are conducted, at a minimum once every calendar year. Each element of the QMS for the drinking water system must be audited a minimum of once per year. Additional audits can be scheduled based on the importance of the process or area, or in response to previous audit results (internal and/or external). The internal audit usually focuses on the results of the previous calendar years audit(s).

1.3.2 The QMS Representative creates an Internal Audit Schedule or Audit Plan.

1.3.3 Guest auditors are selected prior to the commencement of each scheduled audit.

1.3.4 A copy of the approved schedule is forwarded to the Manager of Water and Wastewater Services and a copy is maintained on the network drive.

1.4 **Audit Checklist**

1.4.1 QMS representatives are to prepare an Internal Audit Checklist or other similar document that records questions asked and points verified. The checklist defines the scope (i.e., applicable area of the QMS, time period to be audited, organizational unit and/or facility) and audit criteria (i.e. applicable manuals and standards).

1.4.2 The checklist reflects the current policies and procedures of the area(s) being audited.

1.5 **Audit**

1.5.1 The audit is performed using the checklist or applicable document. Observations that provide evidence of conformance or nonconformance are noted on the Internal Audit Checklist.

1.5.2 A closing meeting may be held where the results of the audit are presented. At a minimum, the QMS representative(s) would attend.

1.6 **Audit Findings**

1.6.1 The results of the audit are reviewed by the QMS representative(s) and guest auditor(s) and conclusions are drawn based on the findings. The Auditors complete a summary of findings that will be included in the report.

1.6.2 The QMS representatives record non-conformances from the internal audits on the Continual Improvement Report Spreadsheet (Element 21) that includes the Report Date, and a brief description of the Nonconformance.

1.6.3 Management ensures action is taken without undue delay to eliminate detected non-conformances and their causes. Management reports back to the QMS representative on the action taken for recording on the Continual Improvement Spreadsheet.

1.6.4 The QMS representative tracks the internal audit non-conformances by recording the information in the Continual Improvement Report Spreadsheet along with a description of the nonconformance and information related to actions taken for resolution.

1.7 **Audit Report**

1.7.1 The Lead Auditor generates an Internal Audit Report and fills out a Corrective Action Reports (CAR), if required, as a result of the audit findings. The CAR is signed by the QMS representative.

- 1.7.2 A copy of the report is given to the Director of Engineering, the Manager of Water and Wastewater Services, and the QMS representative; the original is kept by the Lead Auditor(s) and used for follow-up. The report is filed in accordance with WWO-QMS-05.
- 1.7.3 The NCR (s) is given to the Manager of Water and Wastewater Services. The Manager of Water and Wastewater Services initiate corrective action(s) for the CAR(s) raised in accordance with WWO-QMS-21.

1.8 Audit Follow-up and Review

- 1.8.1 The QMS Representatives make sure that follow-up audits are carried out to verify that action has been taken and that it is effective.
- 1.8.2 The QMS Representative records the results of the follow up on the original Internal Audit Report and on the Continual Improvement Report Spreadsheet Log (including the date closed).
- 1.8.3 The results of the internal audits, including follow-up audits are included on the agenda for Management Review as per WWO-QMS-20.

2.0 RELATED DOCUMENTS

- 2.1 DWQMS Element 19: Internal Audits
- 2.2 Management Review: WWO - QMS-20
- 2.3 Continual Improvement: WWO-QMS-21
- 2.4 Continual Improvement Report Spreadsheet

PURPOSE

To describe the procedure set by the Water and Wastewater Services for conducting a Management Review to assess and ensure the continuing suitability, adequacy and effectiveness of the Quality Management System (QMS).

SCOPE

- 1.1 The Management Review applies to functions and activities within the Water and Wastewater Services that fall under the scope of the QMS as documented in the Operational Plan.
- 1.2 The role of Top Management for the purpose of the QMS has been assigned to the Manager, and the Executive Director Environment and Infrastructure.

PROCEDURE

1.3 Management Review

1.3.1 The Manager of Water and Wastewater Services is responsible for ensuring that a Management Review is conducted at least once every calendar year.

1.3.2 The QMS representative, or designate, is responsible for:

- scheduling the Management Review;
- notifying attendees, and
- forwarding the Management Review Agenda to attendees prior to the meeting.

At a minimum, the Management Review will include the Manager of Water and Wastewater Services, the QMS representative from within the WWS.

1.3.3 Representatives from other divisions within the corporation may be invited to attend a Management Review at the discretion of Management.

1.4 Management Review Input

1.4.1 The review will include, at a minimum:

- 1.4.2
 - a) Incidents of Regulatory Non-compliance
 - b) Incidents of Adverse Drinking Water Tests
 - c) Deviations from Critical Control Point Limits and Response Actions
 - d) Efficiency of the Risk Assessment Process
 - e) Results of Audits (internal and external)
 - f) Results of Relevant Emergency Response Testing
 - g) Operational Performance

- h) Raw Water Supply and Drinking Water Quality Trends
- i) Status of Management Action Items Identified Between Reviews
- j) Follow-up of Action Items from Previous MOE Inspection Report
- k) Changes that Could Affect the QMS
- l) Summary of Consumer Feedback
- m) Resources Needed to Maintain the QMS
- n) Results of the Infrastructure Review
- o) Operational Plan Currency, Content and Updates
- p) Summary of Staff Suggestions

1.4.3 Summary of Corrective Action Reports

1.4.3.1 New Business – Other Issues that May Impact the QMS

1.5 Management Review Output

1.5.1 Management Review outputs will reflect the review inputs noted on the meeting agenda and will include the identification of action items to address deficiencies, personnel responsible for delivering the action items and proposed implementation timelines. During Management Reviews, Management will provide a record of any decisions and actions related to:

- Improvement of the QMS and Related Procedures
- Improvement of the Operating Authority's ability to consistently maintain the QMS
- Human and Financial Resource Needs

1.5.2 A summary of the output will be documented in a summary report communicated as a means of reporting to council (the Owner). The information to be reported to the Owner includes:

- Summary of Management Review
- Deficiencies Identified
- Decisions Made
- Action Items
- Other QMS issues identified (including a summary of corrective actions)

1.6 Recording Management Reviews

1.6.1 Minutes of the Management Reviews will be recorded on the Management Review Agenda/Minutes/Action Plan and will be maintained as per WWO-QMS-05.

- 1.6.2 The QMS representatives or designate will distribute copies of the minutes to all attendees.
- 1.6.3 The Top Management will ensure that the results of all Management Reviews are reported to the Owner.
- 1.6.4 The Management Review report will be sent to Council as an addendum to the Council Information Package.

RELATED DOCUMENTS

- 1.7 DWQMS Element 20
- 1.8 Management Review Agenda/Minutes/Action Plan
- 1.9 WWO-QMS-05: Document and Records Control

PURPOSE

To describe Water Services procedure for tracking and measuring continual improvement of its Quality Management System (QMS) by:

- a) reviewing and considering applicable best management practices, including those [when] published by the Ministry at least once every thirty-six months;
- b) documenting a process for identification and management of corrective actions; and
- c) documenting a process for identification and implementation of preventive actions to eliminate the cause of potential issues of non-compliance or non-conformity.

DEFINITIONS

Corrective Action – action taken to eliminate the cause of a detected non-compliance or non-conformity with legal, DWQMS and other requirements or other undesirable situation.

Preventive Action – action taken to eliminate or prevent the cause of potential non-compliance or non-conformity with legal, DWQMS and other requirements or other undesirable situation.

RESPONSIBILITIES

QMS Representatives - assess and prevent future non-compliance through risk management and ensure adequate resources (e.g. workload management, lack of resources) to address responses to issues as presented from sources of non-compliance, non-conformance and opportunities for improvement (see “Procedures” section 1).

PROCEDURES

1. Issues of non-compliance, non-conformance, and opportunities for improvement are presented through:
 - a) Ministry’s best management practices document (when published, at least 1:36 months)
 - b) Ministry’s Compliance Inspections
 - c) Adverse Water Quality Incidents
 - d) External DWQMS Accreditation Audits
 - e) Internal Audits
 - f) Management Review
 - g) Staff Suggestions (presented verbally or in writing, etc.)
 - h) Customer Calls
 - i) Actions requiring longer-term projects
 - j) Other means (e.g. near-misses, Water Services historical or other utilities non-compliance)

2. Using *Continual Improvement Report (CIR) Spreadsheet*, complete the following information:

- a) Issue Date:
- b) Issued by:
- c) CIR #:
- d) Issue source:
 - i. Compliance_AWQI
 - ii. Compliance_General
 - iii. Compliance_Inspection
 - iv. Compliance_Health & Safety
 - v. Conformance_General
 - vi. Conformance_Internal Audit
 - vii. Conformance_External Audit
 - viii. Conformance_Health & Safety
 - ix. Drinking Water System_Infrastructure
 - x. Drinking Water System_Process
 - xi. Feedback_Customer Calls
 - xii. Feedback_Management Review
 - xiii. Feedback_Staff
 - xiv. Feedback_Other
- e) Assigned to:
- f) Response:
 - i. Accept
 - ii. Deferred
 - iii. Decline (if decline, need to include comment why)
 - iv. Delete (if delete, need to include comment why)
- g) Issue Description:
- h) Corrective Action: [To describe action(s) that will be taken to correct the issue and prevent it from re-occurring]
- i) Preventive Action: [To describe action(s) that will be taken to eliminate or prevent causes of potential issues; whether corrective actions could be applied elsewhere]
- j) Date Closed:

3. Through regular staff meetings and the Continual Improvement Report database, the QMS Representatives report on the progress and status of Continual Improvement Reports.

REFERENCE DOCUMENTS

Continual Improvement Report
Adverse Notification Procedure
Water Services' Continual Improvement Report Database