

The Corporation of the Town of Kingsville



OPERATIONAL PLAN

for the Corporation of the Town of
Kingsville

Revision 8, 26-Nov-19

DISCLAIMER STATEMENT

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This Operational Plan has been developed with OCWA's assistance.

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1. **Kingsville Environmental Services Department Quality Management System (QMS)**

The Corporation of the Town of Kingsville, referred to hereafter as the Town of Kingsville, is the Owner of the Kingsville Water Distribution System. The Town of Kingsville is also the Operating Authority of the Kingsville Water Distribution System (WDS), which is operated by its water services department referred to in this Operational Plan as Kingsville Environmental Services Department.

This document is the drinking water Quality Management System (QMS) Operational Plan for the Kingsville Environmental Services Department and is structured and documented with the purpose of:

1. Establishing policy and objectives with respect to the effective management and operation of the distribution system.
2. Understanding and controlling the risks associated with the distribution system's activities and processes.
3. Achieving continuous improvement of the QMS and the distribution system's performance.

The Operational Plan for the above noted facility fulfils the requirements of the MOECC's DWQMS version 2.0. The 21 QMS procedures within this Operational Plan align with the 21 elements of the DWQMS.

2. **Quality Management System (QMS) Policy**

The Kingsville Environmental Services Department, its management and entire staff are committed to the principles and objectives set out in our Quality Management System (QMS) Policy. The Town of Kingsville is committed to providing safe drinking water to its drinking water system customers.

This commitment shall be fulfilled by Kingsville Environmental Services Department with adherence to the following:

-
- Operate and maintain the drinking water supply system in accordance with all applicable legislation and regulation
 - Ensure that all staff are well trained, competent to undertake the duties assigned them and certified appropriately
 - Provide its customers with safe drinking water
 - Maintain and continually improve the Quality Management System
-

Our water system operational employees will be trained in the implementation of the QMS Policy. The QMS Policy will be given to Municipal Council and made available to the public on the municipal website and upon request.

3. Commitment & Endorsement of the Kingsville Environmental Services Department QMS & Operational Plan

This Operational Plan supports the overall goal of Kingsville Environmental Services Department and the Kingsville Water Distribution System to develop, implement and continuously improve its Quality Management System for the Kingsville Distribution System.

Top management of both the Kingsville Environmental Services Department and the Town of Kingsville has approved the QMS for the drinking water system as documented in this Operational Plan.

Operating Authority Approval

*Andrew Plancke, C. Tech (Env.)
Director of Municipal Services*

Date

*Tim Del Greco, P.Eng
Manager of Municipal Services*

Date

*Shaun Martinho, H.B.Sc., C.E.T.
Manager of Public Works*

Date

Owner Endorsement & Approval

CAO

Date

Mayor

Date

4. Quality Management System Representative

All personnel have a role and associated responsibilities within the Kingsville Environmental Services Department's QMS.

The role of the QMS Representative(s) for the Kingsville Distribution System is shared between the Director of Municipal Services, the Manager of Municipal Services and the Manager of Public Works.

The Director of Municipal Services is responsible for:

- Establishing and maintaining processes and procedures required for the overall administration of the facility's QMS
- Reporting to the owner on QMS performance and identified improvements
- Monitoring the QMS performance and identifying opportunities for improvements
- Approving revisions to the SOP's

The Manager of Municipal Services is responsible for:

- Monitoring the QMS performance and identifying opportunities for improvements
- Maintaining Control of Master Operational Plan and Procedures Electronic File
- Ensuring that current versions of the documents are in use

The Manager of Public Works is responsible for:

- Reviewing processes and standard operating procedures
- Distribution and updating of revisions to Operational Plan and Procedures
- Operation of the drinking water system
- Monitoring the QMS performance and identifying opportunities for improvements
- Ensuring that personnel are aware of all applicable legislation and regulatory requirements that pertain to their operational duties
- Promoting awareness of the QMS to all water system personnel

In the absence of either QMS representative noted above, the alternate QMS representative assumes the combined roles and responsibilities.

5. Document and Records Control

All documents and records required by this Quality Management System to demonstrate compliance with Kingsville Environmental Services' QMS Policy are maintained in accordance with Kingsville Environmental Services procedures in the **Procedure 5:01 in Appendix A**.

All documents and records required by this Quality Management System are:

- i. Kept current, legible and readily identifiable
- ii. Retrievable
- iii. Appropriately stored, protected, retained and disposed of

6. Drinking Water System

6.1 General

The Town of Kingsville is the Owner and Operating Authority of the Kingsville Water Distribution System (WDS) where it supplies water to residents, institutions and businesses in the municipality. The population served is approximately 21,800.

6.2 System Overview

The Kingsville WDS is a stand-alone water distribution system which is a single operational system. The Kingsville WDS is also connected to several other water systems. It receives all of its water from a water treatment plant (WTP) located in the municipality and owned by the Union Water Supply System (UWSS). There are several connections to the following municipal water distribution systems in addition to, various private water systems:

- Municipality of Leamington Union Water Distribution System
- Town of Essex Union Water Distribution System
- Town of Essex Harrow-Colchester South Water Distribution System
- Town of Lakeshore Union Water Distribution System

The water supplied by the UWSS supplies sufficient secondary disinfection to meet all the regulatory requirements within the Kingsville WDS so no re-chlorination is practiced within the Town of Kingsville.

6.3 Water Source

The Kingsville WDS obtains all of its drinking water from the UWSS.

The UWSS is:

- 1) owned by four municipalities being Essex, Kingsville, Lakeshore and Leamington;
- 2) managed by a Joint Board of Management; and
- 3) operated by the Ontario Clean Water Agency (OCWA).

The raw water is obtained from Lake Erie and is treated by a conventional surface-water treatment plant.

6.4 Critical Control Processes

- 6.4.1 Upstream The UWSS controls the treatment of the raw water and the secondary disinfection of the treated water. It is responsible for operating the treatment plant to ensure that safe drinking water is produced. The UWSS monitors and controls the combined chlorine residual leaving the WTP to ensure that it is high enough to result in a proper residual in the most remote part of the distribution system. The UWSS controls the pressure in the system by the operation of the WTP pumps and the water towers. The UWSS monitors and controls the water level in the Leamington Water Tower and the Kingsville Water Tower to ensure a proper pressure in the Kingsville WDS.

- 6.4.2 Downstream The Kingsville WDS operates a backflow prevention program through its Building Department to ensure that backflow preventers are installed, maintained and operated at all business premises connected to the water distribution system where a threat from backflow exists.

6.5 Connections to Other Systems

There are four (4) interconnections between the Kingsville WDS and other municipal water systems. The Kingsville WDS is connected to the UWSS at a number of points. The Kingsville WDS receives water from the UWSS at these points:

1. The Kingsville WDS is connected to the Leamington (Union) WDS at a number of points. With one exception these connection points are at valves which are normally closed. The valves are routinely maintained however will only remain open in an emergency.
2. The Kingsville WDS is connected to the Essex (Union) WDS. The connection points are at valves which are closed. The valves are routinely maintained however will only remain open in an emergency.
3. The Kingsville WDS is connected to the Town of Essex Harrow-Colchester South WDS. The two connection points are at valves which are closed. The valves are routinely maintained however will only remain open in an emergency.
4. The Kingsville WDS supplies water to the Lakeshore (Union) WDS. The valves are routinely maintained and remain open.

Current interconnections are shown on the system map located in the geographic information system.

6.6 Water Distribution System Components

The Kingsville WDS is comprised of approximately 365 kilometers of watermains from 100mm (4inch) to 300mm (12inch) in diameter. There are approximately 1100 fire hydrants in the system. There are approximately 7250 residential service and commercial service connections.

6.7 Related Documents


Water System Distribution Map – located in Environmental Shop

6.8 Operational Challenges

Currently, there are no significant operational challenges in the daily maintenance of the system.

Future challenges that are being reviewed consist of the following:

- the large demand for water by the growing greenhouse industry;
- pressures throughout the system are adequate for drinking water however are insufficient for fire protection; and
- dead end waterlines where residential consumption exists have automatic flushers and are considered for annual looping initiatives.



Ministry of the Environment
and Climate Change

Schedule C – Director’s Directions for Operational Plans (Subject System Description Form)

Municipal Residential Drinking Water System

Fields marked with an asterisk (*) are mandatory.

Owner of Municipal Residential Drinking Water System *

The Corpooation of the Town of Kingsville

Name of Municipal Residential Drinking Water System *

Kingsville Distribution System

Subject Systems

☐ Check here if the Municipal Residential Drinking Water System is operated by one operating authority. Enter the name of the operating authority in the below table.

| | Name of Operational Subsystems(if Applicable) | Name of Operating Authority * | DWS Number(s) * | |
|---|---|---------------------------------------|-----------------|---|
| 1 | Kingsville Distribution System | Corporation of the Town of Kingsville | 220003403 | - |

Add item (+)

Provide the information outlined in the 'Contact Information' section for each Operational Subsystem.

Contact Information 1

Remove

Last Name *

Plancke

First Name *

Andrew

Middle Initial

Title *

Director of Municipal Services

Phone Number *

519 733-2305

Email Address *

aplancke@kingsville.ca

Contact Information 2

Remove

Last Name *

Martinho

First Name *

Shaun

Middle Initial

Title *

Public Works Manager

Phone Number *

519 733-2305

Email Address *

smartinho@kingsville.ca

Contact Information 3

Remove

Last Name *

Del Greco

First Name *

Tim

Middle Initial

Title *

Manager of Municipal Services

Phone Number *

519 733-2305

Email Address *

tdelgreco@kingsville.ca

Add item (+)

Save Form

Print Completed Form

Clear Form

7. Risk Assessment

Refer to **Appendix A, Procedure 7/8:01** Risk Assessment and Risk Assessment Outcomes.

8. Risk Assessment Outcomes

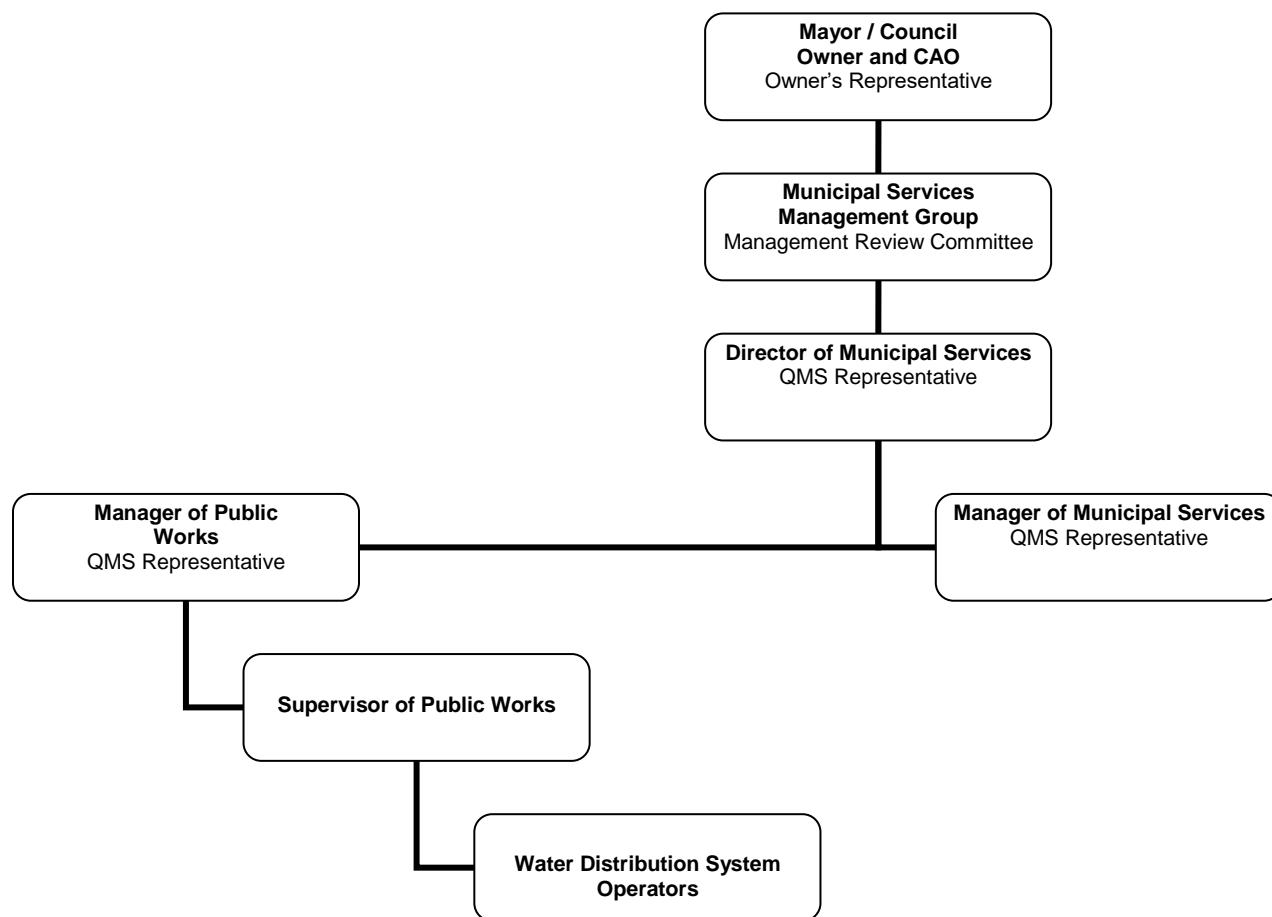
Refer to **Appendix A, Procedure 7/8:01**, for summary tables of Risk Assessment Outcomes.

9. Organizational Structure, Roles, Responsibilities, and Authorities

The Director of Municipal Services (QMS Representative) will keep the organizational structure, roles, responsibilities, and authorities current and will communicate this information to the Operating Authority's personnel and the Owner. The Director of Municipal Services (QMS Representative) is the Top Management for Kingsville Environmental Services. The Owner of this system is The Corporation of the Town of Kingsville.

The following flow chart represents the Organizational Structure for The Corporation of the Town of Kingsville.

Organizational Chart



The Corporation of the Town of Kingsville

The following table lists the Position Titles, the responsibilities of each position, and their respective authorities.

Roles, Responsibilities, and Authorities Table

| TITLE | RESPONSIBILITIES | AUTHORITIES |
|---|--|---|
| <i>Mayor, Council and CAO, through the Director of Municipal Services</i> | <ul style="list-style-type: none">▪ Complete oversight of the entire distribution system and the QMS▪ Ultimate responsibility for the provision of safe drinking water▪ Ensure compliance with applicable legislation and regulations | <ul style="list-style-type: none">▪ Financial & administrative authority related to the distribution of safe drinking water |
| <i>Director of Municipal Services</i> | <ul style="list-style-type: none">▪ Complete oversight and operation of the entire distribution system▪ Responsibilities of QMS representative as outlined in Element 4▪ Provide and/or obtain resources for the QMS and necessary infrastructure and resources to operate and maintain the drinking water system safely and efficiently▪ Ensure the system is operated in accordance with applicable legislation and regulations▪ Responsible for leading Management Review▪ Communication with Mayor & Council about the QMS and the water distribution system▪ Communication/liaison with the Manager of Municipal Services and the Manager of Public Works▪ Reviews Risk Assessment annually▪ Keeps Roles and Responsibilities Table current▪ Determines schedule for internal audit and management review and develops action plans from audit▪ Recommendation of system improvements▪ Develop procedures and processes for assuring water quality▪ Emergency response planning & training▪ Overall responsible Operator for both water distribution and wastewater collection▪ Ensures that all municipal studies are kept up to date▪ Other duties as assigned | <ul style="list-style-type: none">▪ Financial, administrative and technical authority related to the distribution of safe drinking water▪ Make changes to the QMS▪ Respond to public inquiries and complaints▪ Is top management for Kingsville Environmental Services |

The Corporation of the Town of Kingsville

| TITLE | RESPONSIBILITIES | AUTHORITIES |
|--------------------------------------|---|---|
| <i>Manager of Municipal Services</i> | <ul style="list-style-type: none"> ▪ Provide project management coordination and contract management of all municipal work projects using municipal computer software ▪ Attend construction meetings when necessary ▪ Provide coordination of all capital projects by controlling project work scheduling, financing and effectively communicating project data ▪ Ensures requirements are met for storage, protection, retrieval, retention and disposition of documents ▪ Control of Operational Plan and Procedures Revisions Electronic Master File ▪ Other duties as assigned | <ul style="list-style-type: none"> ▪ Attend Council meetings as required ▪ Make changes to the QMS ▪ Recommends rehabilitation & renewal activities for annual budget ▪ Project Management |
| <i>Manager of Public Works</i> | <ul style="list-style-type: none"> ▪ Preparation of budget and planning materials ▪ Works with supervisor on annual assessments of operator personnel performance ▪ Back-up Overall Responsible Operator for both water distribution and wastewater collection ▪ Administers and records all requests for vacation, time off, training schedules and work schedules of personnel in the Municipal Services Department ▪ Develop and implement maintenance programs and ensure compliance with the SDWA and DWQMS ▪ Review Risk Assessment with the Director on an annual basis ▪ Coordination and participation in the QMS Management Review ▪ Other duties as assigned | <ul style="list-style-type: none"> ▪ Financial, administrative and technical authority related to the distribution of safe drinking water ▪ Staffing within the guidelines of the municipality and its collective agreement ▪ Oversee adverse water quality incidents and responses ▪ Activity/program scheduling within Kingsville Environmental Services ▪ Identify and oversee staff training ▪ Attend council meetings as required ▪ Respond to public inquiries and complaints ▪ Alternate contact in the absence of the Director of Municipal Services for Environmental Services |
| <i>Supervisor of Public Works</i> | <ul style="list-style-type: none"> ▪ Schedule and oversee the day-to-day activities relating to the water distribution system ▪ Supervision and completion of all work orders received, dispatch to appropriate departments, provide follow-up (as required) and provide on-site supervision of municipal employees until work order has been completed ▪ Other duties as assigned | <ul style="list-style-type: none"> ▪ Direct operators in day-to-day operation and maintenance of the water distribution system ▪ Orders day-to-day supplies and equipment as needed ▪ Ensure that all work is performed in compliance with the OHSA |

The Corporation of the Town of Kingsville

| | | |
|--|---|--|
| <i>Water Distribution Operators</i> | <ul style="list-style-type: none">▪ Regular maintenance of the water distribution system▪ Report any incidents of non-compliance▪ Respond to repair directed from Director/Manager/Supervisor | <ul style="list-style-type: none">▪ Maintenance of the water distribution system▪ Respond to public complaints as relayed from the Director or Supervisor |
| <i>Municipal Services Management Group</i> | <ul style="list-style-type: none">▪ Management Review Committee | |

10. Competencies

The following table illustrates the competencies required by personnel whose duties directly affect drinking water quality.

COMPETENCY REQUIREMENTS TABLE

| Role | Required Competencies |
|--------------------------------|---|
| Director of Municipal Services | See Job Description Appropriate Certification Required |
| Manager of Municipal Services | See Job Description Appropriate Certification Required |
| Manager of Public Works | See Job Description Appropriate Certification Required |
| Supervisor of Public Works | See Job Description Appropriate Certification Required |
| Water Distribution Operators | See Job Description Appropriate Certification Required |

The competency requirements listed in the Competency Requirements Table are addressed by various means including:

- All employees listed have provided evidence of certification and other “required” competencies. All MOE required certificates or copies thereof are posted at the Kingsville Environmental Services Building Shop.
- Changes to the Distribution System and/or to the QMS are communicated, as needed, to all Kingsville Environmental Services Department staff by the Director of Municipal Services.
- Kingsville Environmental Services staff is to be provided training opportunities throughout the year. Training will be scheduled as requested and as required to meet mandated licensing and certification requirements.
- All records of training are maintained at the Kingsville Environmental Services Department office as proof that the required training has been successfully completed. The Director of Municipal Services is responsible for monitoring the completion of all identified training.

- Annual performance reviews are completed to evaluate individual competencies and make recommendations for improvements and goals for professional development.

11. Personnel Coverage

Refer to Appendix A, Procedure 11:01, for Personnel Coverage.

12. Communications

Refer to Appendix A, Procedure 12:01 Communications.

13. Essential Supplies and Services

Refer to **Appendix A, Procedure 13:01** Essential Supplies and Services.

14. Review and Provision of Infrastructure

Refer to **Appendix A, Procedure 14:01** Review and Provision of Infrastructure.

15. Infrastructure Maintenance and Rehabilitation

This Element summarizes the maintenance, rehabilitation and renewal programs that are in place for the infrastructure of the Kingsville WDS.

15.1 Planned Infrastructure Maintenance

The Public Works Manager for Kingsville in consultation with distribution staff recommends and plans maintenance activities for the annual budget. The Director of Municipal Services of Kingsville in consultation with the Public Works Manager authorizes planned maintenance activities. The planned maintenance activities are then communicated through routine meetings with staff.

Maintenance plans are developed according to the manufacturer's instructions, regulatory requirements and industry standards. Equipment Operation and Maintenance (O&M) manuals are accessible to staff at the locations specified in QMS Procedure 5:01 Document and Records Control.

15.2 Unplanned Infrastructure Maintenance

The Public Works Manager for Kingsville in consultation with staff authorizes unplanned maintenance and is responded to on an as needed or emergency basis.

Unplanned maintenance is then documented through the appropriate work orders and maintenance records. It is then reviewed annually for trends. This is achieved through a review of Kingsville WDS annual statistics.

15.3 Infrastructure Rehabilitation and Renewal

Rehabilitation and renewal activities including capital upgrades and/or recommendations are determined at least once every calendar year (refer to QMS Procedure 14:01 Review and Provision of Infrastructure). A list of required replacement or desired new equipment is compiled and prioritized by the Director of Municipal Services for Kingsville in consultation with the distribution staff. The Director of Municipal Services for Kingsville then authorizes the planned rehabilitation and renewal activities. All major expenditures require the approval of the Owner. In addition to the short-term facility needs (i.e. current year), the list also provides a long-term (i.e. rolling five-year) list of major maintenance recommendations.

Planning with other departments, projected growths and the results of unplanned maintenance trends are also considered when planning rehabilitation activities.

The infrastructure needs and approved plans are communicated through management and staff meetings.

15.4 Program Monitoring

To assist in monitoring the effectiveness of the program the Director of Municipal Services, Manager of Public Works and Manager of Municipal Services meet regularly to determine the status of the capital upgrades and/or recommendations, planned maintenance and unplanned maintenance activities.

Maintenance plans are developed for the distribution system according to a combination of the manufacturer's instructions, regulatory requirements, industry standards and equipment operating history. Equipment Operation and Maintenance (O&M) manuals are accessible to staff at the locations specified in QMS Procedure 5:01 Document and Records Control.

Maintenance activities are also reviewed annually for trends through a review of the Kingsville Environmental Service's annual statistics.

The Town of Kingsville's infrastructure maintenance, rehabilitation and renewal program is communicated to the Owner through council meetings. The Town's program is also communicated to the Owner at a minimum of at least once every calendar year through the submission of the capital upgrades recommendations report and through the results of the Management Review.

16. Sampling, Testing, and Monitoring

Refer to **Appendix A, Procedure 16:01** Sampling, Testing, and Monitoring.

17. Measurement and Recording Equipment Calibration & Maintenance

Refer to **Appendix A, Procedure 17:01** Measurement and Recording Equipment Calibration & Maintenance.

18. Emergency Management

Refer to **Appendix A, Procedure 18:01** Emergency Management.

19. Internal Audits

Refer to **Appendix A, Procedure 19:01** Internal Audits.

20. Management Review

Refer to **Appendix K, Procedure 20:01** Management Review.

21. Continual Improvement

Kingsville Environmental Services strives to continually improve the effectiveness of its QMS for this distribution system through the identification and implementation of corrective/preventive actions and, as appropriate, through review and consideration of applicable Best Management Practices (BMPs).

1. Corrective Actions

- a. Non-conformances may be identified through an internal and/or external QMS audit(s) conducted for this drinking water system. They may also be identified as a result of other events such as:
 - an incident/emergency;
 - customer complaint; or
 - other review.
- b. The QMS Representative(s) investigates the need for a corrective action to eliminate the root cause(s) so as to prevent the non-conformance from reoccurring. The investigation may also include input from the operators and other stakeholders and the consideration of BMPs as appropriate.
- c. The QMS Representative(s) determines the corrective action needed based on this consultation and then assigns responsibility and a target date for resolution.
- d. The QMS Representative(s) ensures corrective actions are documented using the Kingsville Environmental Services NC-OFI Tracking form. The QMS Representative(s) monitors the progress of corrective actions(s) and provides status updates to Top Management.
- e. The implementation and effectiveness of corrective actions are verified during subsequent internal QMS audits and are considered during the Management Review. If there is evidence that the action taken was not effective, the QMS Representative(s) initiates further corrective action and assigns resources as appropriate until the non-conformance is fully resolved.


2. Preventive Actions

- a. Potential preventive actions may be identified through an internal and/or external QMS audit as Opportunities For Improvement (OFIs), during the Management Review or through other means such as:

- staff/Owner suggestions;
 - regulator observations;
 - evaluation of incidents/emergency response/tests; and
 - a result of considering a BMP.
- b. The QEMS Representative(s) considers whether a preventive action is necessary. The review may also include input from the operators and other stakeholders and the consideration of BMPs as appropriate.
- c. If it's decided that a preventive action is necessary, the QMS Representative(s) determines the action to be taken and assigns responsibility and a target date for implementation.
- d. The implementation of preventive actions is tracked by the QMS Representative(s) using the Kingsville Environmental Services NC-OFI Tracking form.
- e. The implementation and effectiveness of preventive actions are verified during subsequent internal QMS audits and are considered during the Management Review. If there is evidence that the action taken was not effective, the Operations Management (or designate) may consider further preventive actions and assigns resources as appropriate.
- f. The QMS Representative(s) monitor corrective/preventative actions on an ongoing basis and review the status and effectiveness of the actions during subsequent Management Review meetings.
3. Best Management Practices (BMPs)
- a. The QMS Representatives(s) will review and consider applicable internal and/or external BMPs identified by internal and/or external sources as part of the Management Review and in the corrective and preventative action processes described above.
- b. BMPs may include, but are not limited to:
- Facility developed and adopted as a result of changes to legislative or regulatory requirements, trends from audit findings or drinking water system performance trends;
 - Drinking water industry based standards/BMPs or recommendations; or
 - Those published by the Ministry of the Environment and Climate Change.
- c. At a minimum, applicable BMPs must be reviewed and considered once every 36 months.



Appendix A

| | | |
|---|--|--|
|  | <p style="text-align: center;">Kingsville Environmental Services Procedure 5:01 Documents and Records Control</p> | <p>Element: 5:01 Issued: 26-Nov-19 Rev.#: 4 Pages: 1 of 5</p> |
| <p>Reviewed by: Public Works Manager</p> | | <p>Approved by: Director of Municipal Services</p> |

DOCUMENTS AND RECORDS CONTROL

1.0 Purpose

The purpose of this procedure is to describe the methods for identification, storage, protection, retrieval, review, updating, retention time and disposition of Documents and Records

2.0 Scope

This procedure is applicable to Kingsville Environmental Services employees who manage or perform work related to the Kingsville Water Distribution System operations. This procedure covers all QMS Documents and Records identified in Table 1.

3.0 Responsibilities

3.1. All employees of Kingsville Environmental Services are:

- Responsible for complying with this procedure
- Responsible for requesting changes to existing QMS Documents

3.2. QMS Representative(s) is(are):

- Responsible for activities related to maintaining control of and updating documents
- Responsible for ensuring that the requirements of this procedure are met for storage, protection, retrieval, retention time and disposition of documents and records
- To ensure independent review, the QMS representative reviewing a document will be a separate individual than the QMS representative approving that document.
- To ensure updated documents are current and employees are informed of all revisions.

4.0 Definitions

Document – includes a written page, sound recording, video tape, film, photograph, chart, graph, map, plan, survey, book of account and any other information recorded or stored by means of any device

Record – a document stating results achieved or providing proof of activities performed

QMS Document – any document required by the QMS as identified in this procedure

QMS Record – any record required by the QMS as identified in this procedure

Controlled – the method of tracking changes, revisions and implementation of the document

Retention Period – length of time that a document or record must be kept; see Table 2

5.0 Procedure

5.1 Documents and Records

- Documents are either internal QMS documents or external QMS documents.
- Documents and Records required by the QMS are listed in Table 1.

5.2 Currency & Legibility

- QMS records are filed at the Kingsville municipal office, Environmental Services Department.
- QMS records are stored in such a manner as to prevent deterioration.
- QMS records in retention are filed in the vault at the Kingsville municipal office
- Records older than the age noted in Table 2 are archived, on Laserfiche.
- Documents are edited in a timely manner, as changes occur, by the QMS representative responsible.
- Manager of Municipal Services controls the master electronic copy documents and modifications to them.
- Director of Municipal Services reviews and approves any and all updates to the QMS documents prior to distribution and use.
- Manager of Municipal Services distributes hard copies of documents as updated for staff reference and review.
- All QMS documents are reviewed by the QMS representative on an annual basis, to ensure that the information is still correct and current.
- All manual documents and records shall be clearly visible and legible. Pencil or any other erasable marker shall not be used to record information or data.

5.3 Identification

- External Documents are identified by date stamping upon receipt and filing the document. Table 1 is then updated to reflect the addition of the new document.
- Internal Documents and Records are prepared in a consistent format, similar to this procedure in format, and are all numbered and dated to assist in managing, locating and retrieving them.

5.4 Storage & Retrieval

- The QMS Document and Record Control Centre is the office of Kingsville Environmental Services Department, and control is the responsibility of the assigned QMS Representative(s)
- Originals of all active paper records are stored in the Town of Kingsville, Environmental Services Department
- Copies of the Operational Plan and Procedures are maintained in the Town of Kingsville Environmental Services Department and Environmental Shop by the designated QMS representative
- Originals of all electronic records are stored in The Town of Kingsville's main server.
- All internal QMS documents are electronically controlled, with only the designated QMS representatives having electronic permission to modify them.
- Archived documents and records are stored in The Town of Kingsville, municipal office vault.

5.5 Protection

- Active paper documents and records are stored in file cabinets, and are thus protected from damage, deterioration and loss.
- Master Operational Plan and Procedures is a controlled electronic document maintained by a designated QMS representative.
- Electronic records are stored in a “read-only” manner on a file server remote from Kingsville Environmental Services Department Offices, and are backed up on a daily basis.
- Archived documents and records are stored on Town of Kingsville’s Laserfiche program.

5.6 Retention

- Records will be maintained for the length of time indicated in Table 2 below

5.7 Disposal

- Disposal of obsolete documents and records is the responsibility of the assigned QMS Representative
- Records older than the age noted in Table 2 are archived or destroyed as per the Town’s Record Retention Policy.

6.0 Related Documents & Records

A list of associated forms, procedures, work instructions, documents, and other records, is attached to this Procedure as Table 1.

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|--|
| 26-Jan-09 | 0 | Procedure issued |
| 28-Mar-11 | 1 | Updates following Internal Audit |
| 4-Apr-11 | 2 | Updates following CGSB Systems Audit Report – 2010 |
| 2-Dec-13 | 3 | Updates following SAI Global Audit 2013 |
| 26-Nov-19 | 4 | Updated header and formatting |

The Corporation of the Town of Kingsville

Table 1: Designated location for documents and records required by the Operating Authority's QMS


| Type of Document | Designated Document Control Location (HC = Hardcopy, E = Electronic) |
|--|---|
| Internal QMS Documents | |
| Standard Operating Procedures – related to QMS | HC – Municipal Services Department |
| Emergency/Essential Supplies and Services List | HC – Municipal Services Department |
| Master Operational Plan and Procedures | HC & E – Municipal Services Department |
| Operational Plan and Procedures | HC & E – Municipal Services Department and Environmental Shop |
| Annual Operational Budget and Capital Budget | E – Director of Municipal Services Office |
| System Map | E – GIS layers |
| External QMS Documents | |
| Applicable Acts and Regulations | E – Municipal Services Department |
| Maintenance manuals, equipment manuals | HC & E – Municipal Services Department |
| AWWA and other Standards | E – Municipal Services Department |
| Municipal By-Laws | E – Municipal Services Department |
| Collective Agreement | HC - Municipal Services Department and Environmental Shop |
| Town of Kingsville – Policy Manual | HC – Municipal Services Department |
| Town of Kingsville Emergency Response Plan | HC – Municipal Services Department |
| QMS Records | |
| Completed Work Orders/City Works | HC & E - Municipal Services Department |
| Completed Chlorine Residuals | HC – Municipal Services Department |
| Completed Hydrant Inspection Forms | HC & E – Municipal Services Department |
| Communications related to QMS, Internal and external | E – Municipal Services Department |
| Calibrations Certificates | HC& E – Municipal Services Department |
| Completed Management Review Documents | HC & E – Municipal Services Department |
| Annual Operational Budget and Capital Budget | HC & E – Municipal Services Department |
| Training records | HC & E – Municipal Services Department |
| Flushing Log | HC & E – Municipal Services Department |
| External/Internal Audit Reports, Action Plans and Checklists | HC & E – Municipal Services Department |
| Vacation Schedule | HC & E - Municipal Services Department |
| Daily Time Sheets | HC & E - Municipal Services Department |
| Monthly Overtime Summary | HC & E - Municipal Services Department |

The Corporation of the Town of Kingsville

| Type of Document | Designated Document Control Location (HC = Hardcopy, E = Electronic) |
|----------------------------------|--|
| QMS Forms | |
| Hydrant Inspection Form | HC – Municipal Services Department |
| Meter Change Out / Repair Sheets | HC – Municipal Services Department |
| Vacation Request Form | HC – Municipal Services Department |
| Daily Time Sheet | HC – Municipal Services Department |

Table 2: Record Retention: Relevant regulatory and minimum retention periods

| RECORD | RETENTION TIME / LOCATION | LEGISLATION |
|---|-------------------------------|---------------------------------------|
| DWQMS Operational Plan | 10 years / Vault | Directors' Direction under SWDA |
| Documents/records required to demonstrate compliance with Ontario legislation | As per applicable regulations | SDWA O. Reg. 170/03 O. Reg. 128/04 |
| Completed Work Orders/City Works | 7 years / Vault | By-Law 93-2003 |
| Completed Chlorine Residuals | 7 years / Vault | By-Law 93-2003 |
| Completed Hydrant Inspection Documents | 7 years / Vault | By-Law 93-2003 |
| Communications related to QMS, Internal and External | 7 years / Vault | By-Law 93-2003 |
| Calibrations Certificates | 7 years / Vault | By-Law 93-2003 |
| Completed Management Review Documents | 7 years / Vault | By-Law 93-2003 |
| Annual Operational Budget and Capital Budget | 7 years / Vault | By-Law 93-2003 |
| Training Records | 7 years / Vault | By-Law 93-2003 |
| Flushing Log | 7 years / Vault | By-Law 93-2003 |
| External/Internal Audit Reports, Action Plans and Checklists | 7 years / Vault | By-Law 93-2003 |
| Vacation Schedule | 7 years / Vault | By-Law 93-2003 |
| Completed Daily Time Sheets | 7 years / Vault | By-Law 93-2003 |
| Monthly Overtime Summaries | 7 years / Vault | By-Law 93-2003 |

| | | |
|---|--|---|
|  | Kingsville Environmental Services Procedure 7/8:01 Risk Assessment & Outcomes | Element: 7/8:01 Issued: 26-Nov-19 Rev.#: 3 Pages: 1 of 6 |
| Reviewed by: Public Works Manager | Approved by: Director of Municipal Services | |

RISK ASSESSMENT & OUTCOMES

1.0 Purpose

To define the process for conducting a drinking water risk assessment and for documenting and reviewing the results.

2.0 Scope

Applies to the Kingsville Environmental Services drinking water system and is limited to the assessment of potential drinking water health hazards. The approach to addressing other potential hazards is set out in QMS Procedure #18:01 Emergency Management.

3.0 Responsibilities

- All employees of Kingsville WDS
- QMS Representative(s)

4.0 Definitions

Critical Control Point (CCP) – an essential step or point in the subject 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

Hazardous Event – an incident or situation that can lead to the presence of a hazard

Hazard – a source of danger or a property that may cause drinking water to be unsafe for human consumption; may be biological, chemical, physical or radiological in nature

Control Measure - includes any processes, physical steps or other contingencies that have been put in place to prevent or reduce a hazard before it occurs

Likelihood – the probability of a hazard or hazardous event occurring

Consequence – the potential impact to public health and/or operation of the drinking water system if a hazard/hazardous event is not controlled

Threshold Number – numerical value assigned by the assessment team to a high risk event. Events ranked at or above this limit require further investigation to determine whether they are critical control points.

5.0 Procedure

- 5.1 The QMS Representative(s) ensures that a risk assessment is conducted at least once every thirty-six months and is also responsible for coordinating the risk assessment and ensuring that all documents and records related to the risk assessment activities are maintained.
- 5.2 For each of the system's activities/process steps, potential hazardous events and associated hazards (possible outcomes) that could impact the system's ability to deliver safe drinking water are identified. At a minimum, potential hazardous events and associated hazards as identified in the most current version of the Ministry of the

Environment and Climate Change (MOECC) document titled “Potential Hazardous Events for Municipal Residential Drinking Water Systems” (as applicable to the system type) must be considered.

- 5.3 For each of the hazardous events, specify control measures currently in place at the facility that eliminate the hazard or prevent it from becoming a threat to public health.

Note: Some hazards/hazardous events may have step-by-step emergency plans associated with them. These emergency plans are further described in QMS Procedure #18:01 Emergency Management.

- 5.4 Taking into consideration existing control measures (including the reliability and redundancy of equipment), assign each hazardous event a value for the likelihood and a value for the consequence of that event occurring based on the following criteria:

| Value | Likelihood of Hazardous Event Occurring |
|-------|---|
| 1 | Little or no potential (rare, low risk, has not occurred) – more than every 25 years |
| 2 | Rare (infrequent, not likely, rare) - 5 to 25 years |
| 3 | Infrequent (moderate likely, occasional, possible) – 1 to 5 years |
| 4 | Frequent (often, highly likely, routinely, occasional) - monthly to a year |
| 5 | Routine (immediate, extremely likely, frequent) – daily to weekly |

| Value | Consequence of Hazardous Event Occurring |
|-------|---|
| 1 | Insignificant – Little or no disruption to normal operations, no impact on public health |
| 2 | Minor – Significant modification to normal operations but manageable, no impact on public health |
| 3 | Moderate – Potentially reportable, corrective action required, potential public health impact, disruption to operations is manageable |
| 4 | Major – Reportable, system significantly compromised and abnormal operations if at all, high level of monitoring and corrective action required, threat to public health |
| 5 | Catastrophic – Complete failure of system, water unsuitable for consumption |

Add the likelihood and consequence values to determine the risk value (ranking) of each hazardous event and record all values in Table 1. Hazardous events with a ranking of 12 or greater are considered high risk.

- 5.5 Review the hazardous events and rankings documented in Table 1 and identify your Critical Control Points. Critical Control Points must meet all the following criteria:
- ✓ The hazardous event has a ranking of 9 or greater
 - ✓ The hazardous event can be prevented, eliminated or reduced
 - ✓ The hazardous event can be monitored

- ✓ Control limits can be assigned to a hazardous event, and
- ✓ Control of a hazardous event is essential to ensure the safety of the drinking-water.

5.6 List identified CCPs in Table 2. Document critical control limits (e.g. chlorine residuals) for each CCP. List the procedures that are developed to:

- Monitor the critical control limits
- Respond to, report and record deviations from the critical control limits.

5.7 At least once every calendar year, the QEMS Representative facilitates the verification of the currency of the information and the validity of the assumptions used in the risk assessment in preparation for the Management Review. When performing this review, the following may be considered:

- Process/equipment changes
- Reliability and redundancy of equipment
- Emergency situations/service interruptions
- CCP deviations
- Audit/inspection results

6.0 Related Documents

Standard Operating Procedures – related to QMS

Municipal Emergency Response Plan

System Map

AWWA/Industry Standards

Applicable Municipal Bylaws

Contract Agreement with UWSS

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|--|
| 26-Jan-09 | 0 | Procedure issued |
| 4-Apr-11 | 1 | Updates following CGSB Systems Audit Report - 2010 |
| 2-Dec-13 | 2 | Updates following SAI Global Audit 2013 |
| 26-Nov-19 | 3 | Updated changes as per DWQMS version 2.0 |



Kingsville Environmental Services Procedure 7/8:01 – Tables 1 & 2 Risk Assessment & Outcomes

Element: # 7/8:01
Issued: 26-Nov-19
Rev.#: 3
Pages: 4 of 6

Reviewed by: Public Works Manager

Approved by: Director of Municipal Services

Table 1: Risk Assessment Table

| Activity/ Process Step | MOECC Potential Event/Hazard Reference # (see Table 4) | Description of Hazardous Event | Possible Outcome (Hazards) | Existing Control Measures | Likelihood | Consequence | Risk Value | CCP? |
|------------------------------|--|--|---|--|------------|-------------|------------|--|
| Reservoirs, standpipes | 6 | Chemical/Biological contamination at tower/reservoir (vandalism/terrorism) | Potential for unsafe drinking water | <ul style="list-style-type: none"> Security – locked doors and fencing Under the responsibility of the UWSS | 1 | 5 | 5 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No |
| Reservoirs, standpipes | N/A | Structural/mechanical failure at reservoir/standpipe causing low pressure | Potential for unsafe drinking water | <ul style="list-style-type: none"> Inspections conducted as per regulations routine checks by operations Under the responsibility of the UWSS | 1 | 2 | 2 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No Controlled by UWSS |
| Distribution | 7 | Low System Pressure | Potential for unsafe drinking water | <ul style="list-style-type: none"> Log & monitor through customer complaints SOP #5 Water Service - Low Pressure / Service Leaks SOP #13 Emergency Interconnect | 2 | 4 | 8 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No |
| Distribution | 2, 7 | Pipeline/watermain Break | Potential for unsafe drinking water | <ul style="list-style-type: none"> Competent Staff SOP#10, SOP#11, SOP# 12 - Watermain Break Emergency Plan AWWA Standards Essential Supplies and Services Contact List | 3 | 3 | 9 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No – no control available at this point; therefore not a CCP |
| Distribution | N/A | Adverse Water Result in Distribution (Adverse as defined in O. Reg. 170/03) | Potential for unsafe drinking water | <ul style="list-style-type: none"> Procedure 16:01 for Sampling, Testing and Monitoring (including AWQI) SOP#1 and SOP#6 for Flushing Essential Supplies and Services Contact List | 2 | 3 | 6 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No - no control available at this point; therefore not a CCP |

| Activity/ Process Step | MOECC Potential Event/Hazard Reference # (see Table 4) | Description of Hazardous Event | Possible Outcome (Hazards) | Existing Control Measures | Likelihood | Consequence | Risk Value | CCP? |
|------------------------------|--|---|---|---|------------|-------------|------------|--|
| | N/A | Loss of Supply | Low pressure leading to potential contamination | <ul style="list-style-type: none"> Town of Kingsville Emergency Response Plan SOP#13 Emergency Interconnect Essential Supplies and Services Contact List | 1 | 5 | 5 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No - No Control limits Adequate control measures in place |
| Distribution | 6 | Vandalism and/or Terrorism | Potential for unsafe drinking water | <ul style="list-style-type: none"> SOP#1 and SOP#6 for Flushing Essential Supplies and Services Contact List | 1 | 4 | 4 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No – no control available at this point; therefore not a CCP |
| Distribution | N/A | Aging Infrastructure | Potential for unsafe drinking water, reduced flows, pipeline breaks | <ul style="list-style-type: none"> Infrastructure rehabilitation and Renewal (Annual Operational and Capital Budgets) Essential Supplies and Services Contact List SOP#10, SOP #11, SOP # 12 - Watermain Break | 5 | 2 | 10 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No- No Control limits Adequate control measures in place |
| Distribution | 8 | Failure of Backflow Device | Potential for unsafe drinking water | <ul style="list-style-type: none"> Back Flow Prevention By Law requiring Annual inspections Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring | 3 | 3 | 9 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No Municipality oversees back flow prevention program under Provincial Building Code |
| Distribution | 11 | Failure to maintain target secondary disinfection | Potential for unsafe drinking water | <ul style="list-style-type: none"> SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring | 3 | 3 | 9 | <input checked="" type="checkbox"/> Yes CCP <input type="checkbox"/> No – monitored by |

| Activity/ Process Step | MOECC Potential Event/Hazard Reference # (see Table 4) | Description of Hazardous Event | Possible Outcome (Hazards) | Existing Control Measures | Likelihood | Consequence | Risk Value | CCP? |
|------------------------------|--|--|-------------------------------------|---|------------|-------------|------------|---|
| | | | | <ul style="list-style-type: none"> Refer to UWSS Essential Supplies and Services Contact List | | | | OCWA therefore not a CCP |
| Distribution | 1, 4 | Bio-film Formation | Potential for unsafe drinking water | <ul style="list-style-type: none"> Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring | 3 | 2 | 6 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No |
| Distribution | 1, 3, 4 | Increased average temperature during summer months as a result of climate change | Potential for unsafe drinking water | <ul style="list-style-type: none"> Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring | 3 | 2 | 6 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No |
| Distribution | 1, 3, 4 | Sustained extreme temperatures) deep freeze) | Potential for unsafe drinking water | <ul style="list-style-type: none"> Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring | 2 | 3 | 6 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No |
| Distribution | 8 | Cross Connection to Non-Municipal water | Potential for unsafe drinking water | <ul style="list-style-type: none"> Back Flow Prevention By- Law requires annual inspections Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling, Testing and Monitoring (including AWQI) | 2 | 4 | 8 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No Municipality oversees back flow prevention program under Provincial Building Code |
| Distribution | 2, 5 | Contamination of source water at the UWSS | Water supply shortfall | <ul style="list-style-type: none"> Town of Kingsville Emergency Response Plan SOP#13 Emergency Interconnect | 1 | 5 | 5 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No |

| Activity/ Process Step | MOECC Potential Event/Hazard Reference # (see Table 4) | Description of Hazardous Event | Possible Outcome (Hazards) | Existing Control Measures | Likelihood | Consequence | Risk Value | CCP? |
|------------------------------|--|-----------------------------------|-------------------------------------|--|------------|-------------|------------|--|
| | | | | <ul style="list-style-type: none"> Essential Supplies and Services Contact List | | | | |
| Distribution | 6 | Unauthorized use of Fire Hydrants | Potential for unsafe drinking water | <ul style="list-style-type: none"> Observant staff | 3 | 2 | 6 | <input type="checkbox"/> Yes CCP <input checked="" type="checkbox"/> No |

Table 2: Identified Critical Control Points (CCPs)

| CCP | Critical Control Limits | Monitoring Procedures | Response, Reporting and Recording Procedures |
|---|--|---|---|
| Failure to maintain target secondary disinfection | Union Water (chloraminated) Trigger total Chlorine Residual 0.5 mg/L Target total Chlorine Residual 1.0 mg/L | Sampling & monitoring by UWSS & Municipal Operating Authority | SOP# 4 - Sampling and Monitoring SOP# 6 - Flushing |

Table 3: Record of Annual Review/36-Month Risk Assessment

The Drinking Water Quality Management Standard (DWQMS) requires that the currency of the information and the validity of the assumptions used in the risk assessment be verified at least once every calendar year. In addition, the risk assessment must be conducted at least once every thirty-six months.

| Date of Activity | Type of Activity | Summary of Results |
|------------------|--------------------------|--|
| 2019-09-11 | 36-Month Risk Assessment | All Activities/Process Steps were re-assessed and new hazardous events and hazards identified (including those in the MOECC's "Potential Hazardous Events for Municipal Residential Drinking Water Systems") and ranked according to OP-07 (revision 0). Results captured in Revision 4 of this Summary of Risk Assessment Outcomes. |
| | | |


Table 4: Potential Hazardous Event/Hazard Reference Numbers (based on MOECC's "Potential Hazardous Events for Municipal Residential Drinking Water Systems" dated February 2017)

If the hazardous event/hazard is not applicable to this drinking water system (DWS), it will be noted in the first column of this table.

| System Type (indicate all that apply to this DWS) | | Reference Number | Description of Hazardous Event/Hazard |
|--|---|---------------------|---|
| X | All Systems | 1 | Long Term Impacts of Climate Change |
| X | All Systems | 2 | Water supply shortfall |
| X | All Systems | 3 | Extreme weather events (e.g., tornado, ice storm) |
| X | All Systems | 4 | Sustained extreme temperatures (e.g., heat wave, deep freeze) |
| X | All Systems | 5 | Chemical spill impacting source water |
| X | All Systems | 6 | Terrorist and vandalism actions |
| X | Distribution Systems | 7 | Sustained pressure loss |
| X | Distribution Systems | 8 | Backflow |
| N/A | Treatment Systems | 9 | Sudden changes to raw water characteristics (e.g., turbidity, pH) |
| N/A | Treatment Systems | 10 | Failure of equipment or process associated with primary disinfection (e.g., coagulant dosing system, filters, UV system, chlorination system) |
| X | Treatment Systems and Distribution Systems providing secondary disinfection | 11 | Failure of equipment or process associated with secondary disinfection (e.g., chlorination equipment, chloramination equipment) |
| N/A | Treatment Systems using Surface Water | 12 | Algal blooms |

Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|--|
| 26-Jan-09 | 0 | Initial risk assessment conducted |
| 28-Mar-11 | 1 | Updates following Internal Audit |
| 02-Dec-13 | 2 | Updates following SAI Global Audit |
| 26-Nov-19 | 3 | Updated as per DWQMS version 2.0 and added Table 3 and 4 |

| | | |
|---|--|---|
|  | <p style="text-align: center;">Kingsville Environmental Services Procedure 11:01 Personnel Coverage</p> | <p>Element: # 11:01 Issued: 26-Nov-19 Rev.#: 2 Pages: 1 of 2</p> |
| <p>Reviewed by: Public Works Manager</p> | <p>Approved by: Director of Municipal Services</p> | |

PERSONNEL COVERAGE

1.0 Purpose

To describe the procedure for ensuring that sufficient and competent personnel are available for duties that directly affect drinking water quality.

2.0 Scope

Applies to operations personnel at Kingsville Environmental Services Department.

3.0 Responsibility

- All employees of Kingsville Environmental Services Department
- QMS Representative(s)

4.0 Definitions

Competence – The combination of observable and measurable knowledge, skills, and abilities which are required for a person to carry out assigned responsibilities.

Facility Log Book – The combination of all individual operator's log books constitutes the facility log book.

5.0 Procedure


- 5.1 The Director of Municipal Services ensures that personnel meeting the competencies identified in the Competency Requirements Table are available for duties that directly affect drinking water quality.
- 5.2 Kingsville Environmental Services is staffed by personnel Monday to Friday, 7:30 a.m. to 4:00 p.m.
- 5.3 The Director of Municipal Services is the primary Overall Responsible Operator (ORO). The Public Works Manager is the designated Operator-in-Charge (OIC) and the alternate ORO in the absence of the Director. The designated ORO is recorded in the facility logbook.
- 5.4 The Director of Municipal Services (or designate) assigns an on-call operator based on the Overtime (OT) schedule during the time that the facility is un-staffed (i.e., evenings, weekends and Statutory Holidays).
- 5.5 In the event of a work stoppage, the Director of Municipal Services and the Public Works Manager will perform day-to-day operations and maintenance.

6.0 Related Documents

Facility Logbook
Overtime Schedule
Vacation Schedule
Collective Agreement

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|---|
| 26-Jan-09 | 0 | Procedure issued |
| 2-Dec-13 | 1 | Updates following SAI Global Audit 2013 |
| 26-Nov-19 | 2 | Updated template and format |

| | | |
|---|---|---|
|  | Kingsville Environmental Services Procedure 12:01 Communications | Element: #12:01 Issued: 26-Nov-19 Rev.#: 6 Pages: 1 of 2 |
| Reviewed by: Public Works Manager | Approved by: Director of Municipal Services | |

COMMUNICATIONS

1.0 Purpose

To describe the Kingsville Environmental Services procedure for QMS-related communications between top management and the Owner, Operating Authority personnel, Suppliers and the public.

2.0 Scope

Applies to the internal and external communications regarding the Quality Management System (QMS) implemented at Kingsville Environmental Services

3.0 Responsibility

- QMS Representative(s)
- Operators

4.0 Definitions

Public – includes subject system consumers and stakeholders

5.0 Procedure


- 5.1 The status of the QMS and its effectiveness shall be communicated to the owner with the results from the Management Review.
- 5.2 The operational plan and procedures will be made available to all employees.
- 5.3 Director of Municipal Services will communicate the QMS to all employees as part of the implementation process.
- 5.4 New hires will receive QMS awareness training during orientation.
- 5.5 Daily communications occur with operators using the Cityworks Service Request system of tracking and recording information. Hard copies of the Service Requests are distributed to the operators and the operators provide feedback written on the documents, which is entered electronically into the master Cityworks system.
- 5.6 Communications with Union Water System Operators and staff will be as required through email and telephone contact and are documented accordingly.
- 5.7 Where appropriate, information regarding the QMS, operation and maintenance of the drinking water system will be communicated by means of:
 - mail or email submissions to regulatory agencies
 - mail or email submissions to vendors and service providers included in the Essential Supplies & Services Contact List
 - Media releases, website posting and/or water/tax bill inserts
 - Providing access to the current Kingsville Water Specifications on the Town website
 - Updated tender and/or contract packages
- 5.8 The QMS policy will be posted on the Owner's website and available upon request.

6.0 Related Documents

Management Review Documents

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-------------|-------------------|--|
| 26-Jan-09 | 0 | Procedure issued |
| 28-Mar-11 | 1 | Updates following Internal Audit |
| 28-Apr-11 | 2 | Updates following CGSB Systems Audit Report – 2010 |
| 30-Sep-11 | 3 | Updates following CAR Review |
| 27-Feb-12 | 4 | Updates following CAR Review |
| 2-Dec-13 | 5 | Updates following SAI Global Audit 2013 |
| 26-Nov-19 | 6 | Updated template and format |

| | | |
|---|--|--|
|  | Kingsville Environmental Services Procedure 13:01 Essential Supplies & Services | Element: # 13:01 Issued: 26-Nov-19 Rev.#: 5 Pages: 1 of 4 |
| Reviewed by: Public Works Manager | Approved by: Director of Municipal Services | |

ESSENTIAL SUPPLIES & SERVICES

1.0 Purpose

To describe the Kingsville Environmental Services procedure for procurement and for ensuring the quality of essential supplies and services.

This procedure identifies the supplies and services deemed essential to the delivery of safe drinking water and how to ensure the quality of essential supplies and services that can affect water quality.

2.0 Scope

Applies to essential supplies and services pertaining to Kingsville Environmental Services, as identified in this procedure.

3.0 Responsibilities

- QMS Representative(s)
- Operators

4.0 Definitions

Essential Supplies and Services – are goods and people coming in from outside of the drinking-water system that are essential for the quality and safety of drinking water.

Supplier – an organization or person that provides an essential supply product or service.

5.0 Procedure

5.1 Emergency/Essential Supplies & Services Contact List for Kingsville Environmental Services are listed Table 1 – following this procedure. The list is reviewed at least once every calendar year and is updated as required by the Director of Municipal Services, or delegated QMS Representative.

5.2 An approved list of suppliers and contractors is maintained throughout the year. All suppliers and contractors must adhere to municipal policies and procedures.

Products and Services are obtained in accordance with the municipality's procurement policy manual for contractors, equipment, supplies, and services.

Previous history and reliability of particular contractors and suppliers is used to ensure reliability of service. Selected Contractors have demonstrated commitment to the Town to be available for and to perform emergency services.

- 5.3 All process components/equipment provided by the supplier must meet applicable regulatory requirements and industry standards for use in the drinking water system prior to their installation.

Historical data regarding quality of supplies is also used to select suppliers and provide confidence in the reliability of product.

- 5.4 All third party drinking water services are provided by accredited and licensed laboratories. Sampling is performed by certified operators.

All equipment utilized by Kingsville Environmental Services staff shall be maintained and calibrated as specified in the Manufacturers Specifications or provincial regulations. Only qualified personnel shall provide calibration services.

Certified operators supervise contracted services.

- 5.5 The supplies and services requirements will be communicated to all relevant personnel in Kingsville Environmental Services.

- 5.6 Purchasing policies and requirements will be communicated to suppliers and service providers.

6.0 Related Documents

Town of Kingsville - Procurement Policy


7.0 Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|--|
| 26-Jan-09 | 0 | Procedure issued |
| 28-Apr-11 | 1 | Updates following CGSB Systems Audit Report – 2010 |
| 30-Sep-11 | 2 | Update following CAR Review |
| 2-Dec-13 | 3 | Updates following SAI Global Audit 2013 |
| 3-Mar-19 | 4 | Updates to Table 1 |
| 26-Nov-19 | 5 | Updated template and format |

Table 1
Emergency/Essential Supplies Contact List

| SERVICE PROVIDER CONTACT INFO | | |
|---|--|--|
| SERVICE | PRIMARY | SECONDARY |
| Construction/ Excavation | Pro-Bid Contracting Inc Ruthven On, Office – 519 324-9166 Manuel Santos Cell 519-791-1399 | Dimenna Excavating Contractors Ruthven ON, N0P 2G0 Office 519-322-4605 Dino Dimenna Cell 519-776-5109 |
| Trucking | Pro-Bid Contracting Inc Ruthven On, Office – 519 324-9166 Manuel Santos Cell 519-791-1399 | Dimenna Excavating Contractors Ruthven ON, N0P 2G0 Office 519-322-4605 Dino Dimenna Cell 519-796-1359 |
| Construction/ Maintenance Vacuum Excavation/ pipe camera | Hurricane SMS 6930 6th Conc. N, Amherstburg, ON. N9V 2Y9 Shop 519-726-6388 Justin Cell 519-796-9259 | Sewer Technologies Inc Windsor Office, ON Office 519-969-1466 Ken Muir Cell 519-990-4808 |
| OCWA – sampling service provider on behalf of Union Water Supply system | OCWA 1615 Union Ave Ruthven Ontario. N0P 2G0 Dale Dillen 519-326-4447 | |
| Lab Testing | Caduceon Environmental Laboratories 5 – 3201 Marentette Ave. Windsor, Ontario N8X 4G3 Tel: 519-966-9541 Email: Lmerko@caduceonlabs.com | |
| Meter Calibration | Coulter Service 180 Whiting St Ingersoll, Ontario, N5C 3B5 Tel: 1-647-746-0044 Email: taylor.heard@coulterservice.com | KTI Limited 33 Isaacson Crescent Aurora, Ontario L4G 0A4 Tel: 905-727-8807 Fax: 905-727-6077 |
| Calibration of Portable Analyzers | Hach Service Plus 3020 Gore Road London Ontario N5V 4T7 Tel: 1-800-665-7643 Email: techhelp@hach.com | |
| Police | OPP 41 Division Street Kingsville, Ontario N9Y 1P4 519-733-2345 administrative 1-888-310-1122 Reports 911 for emergencies | OPP 116 County Rd 34 W Cottam, Ontario N0R 1B0 |
| Fire | 1720 Division Rd North Kingsville, Ontario 519-733-2314 Chuck Parsons, Fire Chief 911 for emergencies | 120 Fox Street Cottam, Ontario |
| Ambulance | 911 for emergencies | |

| SUPPLIER CONTACT INFO | | |
|---|--|---|
| SUPPLIERS | PRIMARY | SECONDARY |
| WECHU | 1005 Ouellette Ave. Windsor, Ontario N9A 4J8 519-258-8672 Dr. Aziz Ahmed | |
| MOE | Spills Action Centre 1-800-268-6060 | |
| Distribution Components Piping, hydrants, fittings, etc | Evans Utility Supply 338 Neptune Crescent London, ON. N6M 1A1 Office 1-800-268-8309 | |
| OCWA – sampling service provider on behalf of Union Water Supply system | OCWA 1615 Union Ave Ruthven Ontario. N0P 2G0 Gary Dunmore 519-326-4447 | |
| Miscellaneous Suppliers | Fastenal Company 2 Iroquois Rd. Unit # 4 RR#4 Leamington On. Office 519-322-1800 | Windsor Factory Supply 213 Talbot St West Leamington, ON. N8H 1N8 Counter 519-326-5767 |
| | TSC Store 235 Talbot Street East Leamington, Ontario N8H 1N8 Counter 519-324-9658 | |

| | | |
|---|--|---|
|  | <p style="text-align: center;">Kingsville Environmental Services Procedure 14:01 Review and Provision of Infrastructure</p> | <p>Element: # 14:01 Issued: 26-Nov-19 Rev.#: 1 Pages: 1 of 2</p> |
| <p>Reviewed by: Public Works Manager</p> | <p>Approved by: Director of Municipal Services</p> | |

REVIEW AND PROVISION OF INFRASTRUCTURE

1.0 Purpose

To describe Kingsville Environmental Services procedure for reviewing the adequacy of infrastructure necessary to operate and maintain the drinking water distribution system.

2.0 Scope

Applies to review and provision of infrastructure at Kingsville Environmental Services

3.0 Responsibility

- QMS Representative(s)

4.0 Definitions

Infrastructure – the set of interconnected structural elements that provide the framework for supporting the operation of the drinking water system, including buildings, workspace, process equipment, hardware and software and supporting services, such as transport or communication.

Rehabilitation – the process of repairing or refurbishing an infrastructure element.

Renewal – the process of replacing the infrastructure element with new elements.

5.0 Procedure


- 5.1 At least once every calendar year, the Director of Municipal Services conducts a review of the drinking water system's infrastructure to assess its adequacy for the operation and maintenance of the system.
- 5.2 The outcomes of the risk assessment documented as per Procedure 7/8:01 are also considered as part of this review.
- 5.3 A summary of maintenance and capital recommendations (Annual Maintenance Budget) will be submitted to the owner for review and comment. Upon authorization, timelines and responsibilities for implementation of items identified will be documented and scheduled.
- 5.4 The Director of Municipal Services will include the results of the recommendations and proposed timelines at the Management Review.

6.0 Related Documents

Annual Operational Budget and Capital Budget
Management Review Documents

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|----------------------------------|
| 26-Jan-09 | 0 | Procedure issued |
| 26-Nov-19 | 1 | Updated as per DWQMS version 2.0 |

| | | |
|---|---|--|
|  | Kingsville Environmental Services Procedure 16:01 Sampling, Testing & Monitoring | Element: # 16:01 Issued: 26-Nov-19 Rev.#: 1 Pages: 1 of 2 |
| Reviewed by: Manager of Municipal Services | | Approved by: Director of Municipal Services |

Sampling, Testing & Monitoring

1.0 Purpose

To describe the Kingsville Environmental Services procedure for sampling, testing and monitoring for process control and finished drinking water quality.

2.0 Scope

Applies to sampling, testing and monitoring for the Kingsville's Environmental Service Department.

3.0 Responsibilities

- QMS Representative(s)
- Operators

4.0 Definitions

None

5.0 Procedure

- 5.1 All sampling, monitoring and testing is conducted at a minimum in accordance with SDWA O. Reg. 170/03. Adverse water quality incidents are responded to and reported as per regulations.
- 5.2 Samples are submitted to an accredited and licensed laboratory. The sampling schedule is maintained by the Union Water Supply System. OCWA performs that service on behalf of the Union Water Supply System and a hardcopy of the reports are maintained at the Union Water Supply System.
- 5.3 Samples, testing and monitoring results are presented to the Owner by means of Annual and Summary Reports.
- 5.4 In-house sampling and flow monitoring activities are conducted on an as-needed basis by a certified operator and as shown in Table 1. The results of these tests are recorded in the Flushing Log Book at the Kingsville Environmental Services Department.

Table 1 – In-House Sampling and Testing Schedule

| <i>Parameter</i> | <i>Location</i> | <i>Frequency</i> |
|--|------------------------|--|
| Target chlorine residual (Non regulatory) as per Table 2, CCP, in Procedure 7/8:01 | Identified dead ends | As required by Kingsville Environmental Services SOP |

- 5.5 Pressures and secondary disinfectant residuals are continuously monitored by Union Water Supply System.

-
- 5.6 Additional sampling for target chlorine residual is conducted in accordance with Table 1 above.
- 5.7 Upstream adverse sample results at the Union Water Treatment Plant are communicated using the OCWA Adverse Sample Results Protocol on behalf of Union Water Supply System.
- 5.8 Sampling, testing and monitoring results are readily accessible at the Union Water Supply System.

6.0 Related Documents

SOPs

Flush Log (Chlorine Residual)

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-------------|-------------------|-----------------------------|
| 26-Jan-09 | 0 | Procedure issued |
| 26-Nov-19 | 1 | Updated template and format |

| | | |
|---|--|---|
|  | <div>Kingsville Environmental Services</div> <div>Procedure 17:01</div> <div>Measurement & Recording</div> <div>Equipment Calibration &</div> <div>Maintenance</div> | <div>Element: # 17:01</div> <div>Issued: 26-Nov-19</div> <div>Rev.#: 1</div> <div>Pages: 1 of 2</div> |
| <div>Reviewed by: Public Works Manager</div> | <div>Approved by: Director of Municipal Services</div> | |

MEASUREMENT & RECORDING EQUIPMENT CALIBRATION AND MAINTENANCE

1.0 Purpose

To describe the Kingsville Environmental Services procedure for the calibration and maintenance of measurement and recording equipment.

2.0 Scope

Applies to the measurement and recording equipment in the Kingsville Environmental Services Department.

3.0 Responsibility

- QMS Representative(s)
- Operators

4.0 Definitions

None

5.0 Procedure

5.1 All measurement and recording equipment calibration and maintenance activities are performed by appropriately trained and qualified personnel of OCWA on behalf of Union Water Supply System.

5.2 OCWA, on behalf of Union Water System, establishes and maintains a list of all measurement and recording devices and associated calibration schedules.

Calibration and maintenance activities are carried out in accordance with procedures specified in the manufacturer's manual and frequency is documented in Table1.

**Table 1 - Measurement and Recording Equipment
Calibration and Maintenance Information**

| Sampling/Testing or Monitoring Parameter | Equipment | Method | Frequency | Schedule | Results |
|---|-------------------|---|------------------|-------------------------|----------------|
| Chlorine Residuals | Hand held Hach | Manufacturer's Manual recommendations | Annually | As per Work Order | Flush Log |


5.3 Calibration and maintenance records and maintenance/equipment manuals are maintained as per 5:01 Document and Records Control.

6.0 Related Documents

Calibration Certificates
Flush Log (Chlorine Residual)

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-------------|-------------------|-----------------------------|
| 26-Jan-09 | 0 | Procedure issued |
| 26-Nov-19 | 1 | Updated template and format |

| | | |
|---|---|---|
|  | <div>Kingsville Environmental Services Procedure 18:01 Emergency Management</div> | <div>Proc.: #18:01 Issued: 26-Nov-19 Rev.#: 2 Pages: 1 of 2</div> |
| <div>Reviewed by: Public Works Manager</div> | <div>Approved by: Director of Municipal Services</div> | |

EMERGENCY MANAGEMENT

1.0 Purpose

To describe the Kingsville Environmental Services procedure for maintaining a state of emergency preparedness.

2.0 Scope

Applies to potential emergency situations or service interruptions identified for the water system operated by Kingsville Environmental Services.

3.0 Responsibility

- Owner
- QMS Representative(s)
- Operators

4.0 Definitions

Municipal Emergency Plan – The emergency plan required by the Emergency Management and Civil Protection Act and adopted as a by-law by council, governing the provision of necessary services during and emergency and the procedures under and the manner in which employees of the municipality and other persons will respond to the emergency.

Emergency – a potential situation or service interruption that may result in the loss of the ability to maintain a supply of safe drinking water to consumers.

Emergency Response – the effort to mitigate the impact of an emergency on consumers.

5.0 Procedure

- 5.1 The Director of Municipal Services maintains the Emergency Response Plan and Emergency Management Procedure.
- 5.2 Table 1 describes the list of potential emergency situations or service interruptions. For each of these emergency situations/service interruptions, a step-by-step SOP defining the processes for response and recovery is in place.

TABLE 1

| POTENTIAL EMERGENCIES | |
|---|--|
| Description of Emergency | Potential Outcome |
| Contamination of water either from the source or in the distribution system (i.e. low pressure, main break, loss of supply, etc.) | Health risk, contamination of treated water or environment, service disruption. Please refer to SOP Index to obtain appropriate SOP to be used. |

- 5.3 Appropriate personnel are trained on this procedure and on specific emergency situations on an ongoing basis. Personnel are also trained by reviewing and testing the SOPs (used for emergencies). All training/testing is documented.
- 5.4 Operating Authority and Owner roles and responsibilities for Emergency Management are set out in the Roles and Responsibilities table in Element 9.
- 5.5 Relevant sections of the Town of Kingsville's Emergency Plan, which may also contain additional information on emergency roles and responsibilities, for those situations which affect drinking water are contained in the Town of Kingsville Municipal Offices.
- 5.6 An emergency/essential supplies and services contact list is maintained and available to all staff and updated at least annually.
- 5.7 As appropriate, communications during emergency situations or service interruptions are set out in the Town of Kingsville Emergency Plan/ SOPs/ communication protocol.
- 5.8 Any and all communications relative to the QMS and water distribution system during an emergency situation or service interruption will be the responsibility of the Director of Municipal Services or the ORO.

6.0 Related Documents

Municipal Emergency Response Plan
Records of Training/testing/plan updates
Emergency/Essential Supplies and Services Contact List
SOPs – index for SOPs

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|----------------------------------|
| 26-Jan-9 | 0 | Procedure issued |
| 28-Mar-11 | 1 | Updates following Internal Audit |
| 26-Nov-19 | 1 | Updated template and format |

| | | |
|---|---|---|
|  | <div>Kingsville Environmental Services Procedure 19:01 Internal Audit</div> | <div>Proc.: #19:01 Issued: 26-Nov-19 Rev.#: 1 Pages: 1 of 2</div> |
| Reviewed by: Public Works Manager | | Approved by: Director of Municipal Services |

INTERNAL AUDIT

1.0 Purpose

To describe the Kingsville's Environmental Services Department procedure for conducting internal audits at the facility level that evaluates the conformance to the requirements of the Drinking Water Quality Management Standard (DWQMS).

2.0 Scope

This procedure applies to the process of conducting internal audits at the Kingsville WDS.

3.0 Responsibility

- QMS Representative(s)

4.0 Definitions

Audit – a systematic and documented verification process that involves objectively obtaining and evaluating documents and processes to determine whether a quality management system conforms to the requirements of this Standard.

Non-conformance – the non-fulfillment of a DWQMS requirement

5.0 Procedure

- 5.1 The Director of Municipal Services or designate maintains the Internal Audit Procedure and schedules the internal QMS audit that addresses all DWQMS elements conducted for the facility at least once every calendar year. The Director of Municipal Services selects personnel to perform the audit considering adequate skills, training and/or experience.
- 5.2 The auditor evaluates conformity of the QMS with the requirements of the DWQMS by asking questions which are designed to encompass all of the requirements of the DWQMS.
- 5.3 The auditor will use a checklist developed from MOECC DWQMS and supporting documentation, to ensure all 21 elements of the DWQMS are addressed. Audits will include interviews with select staff of the Operating Authority, observation of operating practices, and review of documents. The auditor will document the audit findings in written reports to the Operating Authority.
- 5.4 The auditor reviews the facility's approved policies and procedures, the results of previous internal and external QMS audits, the status of corrective and preventive actions and other QMS-related documentation prior to the audit.

- 5.5 When nonconformity is identified through the internal audit process, an action plan to rectify the issue is developed by the Director of Municipal Services, specifying responsibility and a target date for resolution. The Director of Municipal Services monitors progress of the action plan related to the identified nonconformity until it is fully resolved.
- 5.6 The QMS Representative(s) ensures that results of the audit are included as input to the management review process.

6.0 Related Documents

Audit Reports
Action Plans

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|-----------------------------|
| 26-Jan-09 | 0 | Procedure issued |
| 26-Nov-19 | 1 | Updated template and format |

| | | |
|---|--|---|
|  | <div>Kingsville Environmental Services Procedure 20:01 Management Review</div> | <div>1</div> <div>Element: # 20:01 Issued: 26-Nov-19 Rev.#: 3 Pages: 1 of 2</div> |
| <div>Reviewed by: Public Works Manager</div> | <div>Approved by: Director of Municipal Services</div> | |

MANAGEMENT REVIEW

1.0 Purpose

To describe the Kingsville WDS procedure for a Management Review of the Quality Management System (QMS) at the facility level.

2.0 Scope

Applies to the review by Top Management for Kingsville Environmental Services of the QMS implemented for Kingsville WDS.

3.0 Responsibility

- QMS Representative(s)

4.0 Definitions

Management Review – a process where a higher level of managers in the operating authority considers various indicators within the QMS.

5.0 Procedure

5.1 The Director of Municipal Services determines a suitable frequency for Management Review meetings for the drinking water system. As a minimum, reviews must be conducted at least once every calendar year.

5.2 The standing agenda for Management Review meetings is as follows:

- a) Incidents of regulatory non-compliance;
- b) Incidents of adverse drinking water tests;
- c) Deviations from critical control limits and response actions;
- d) The effectiveness of the risk assessment process;
- e) Internal and third-party audit results (including any preventive actions implemented to address Opportunities for Improvement (OFI) or rationale as to why OFIs were not implemented);
- f) Results of emergency response testing (including any OFIs identified);
- 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 QEMS;
- l) Consumer feedback;
- m) The resources needed to maintain the QEMS;
- n) The results of the infrastructure review;
- o) Operational Plan currency, content and updates; and
- p) Staff suggestions.

The QMS Representative(s) coordinates the Management Review and ensures that the agenda with identified responsibilities is distributed to all participants in advance of the Management Review meeting along with any related reference materials.

- 5.3 The Management review participants review all data presented and make recommendations and/or initiate action plans to address identified deficiencies as appropriate.
- 5.4 The QMS Representative ensures that minutes of and action plans resulting from the Management Review meeting are prepared and distributed to the management in the Kingsville Environmental Services and to the owner.
- 5.5 The Director of Municipal Services monitors the progress and documents the completion of action plans resulting from the Management Review.

6.0 Related Documents

Management Review Documents
Audit Reports

7.0 Revision History

| Date | Revision # | Reason for Revision |
|-----------|------------|---|
| 26-Jan-09 | 0 | Procedure issued |
| 28-Mar-11 | 1 | Updates following Internal Audit |
| 2-Dec-13 | 2 | Updates following SAI Global Audit 2013 |
| 26-Nov-19 | 3 | Updated template and format |