



Municipality of South Bruce

DWQMS Operational Plan
South Bruce



Veolia Water Canada

**The Municipality of South Bruce
/ Veolia Water Canada**

Drinking Water Quality Management System

**Operational Plan /
QMS Manual**

**MUNICIPALITY OF SOUTH BRUCE
DRINKING WATER SYSTEMS**

**MILDMAY DRINKING WATER SYSTEM
TEESWATER DRINKING WATER SYSTEM**

**The Municipality of South Bruce
21 Gordon St. E. PO Box 540
Teeswater, Ontario
N0G 2S0**



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Operational Plan Change History Summary

OPERATIONAL PLAN CHANGE HISTORY:					
Procedure Description	Release / Revision No.	Date	Revision Description	Written By	Approved By
Operational Plan / QMS Manual	Release	Aug. 15, 2012	Initial Release	DCS / Scott Gowan	Scott Gowan
Operational Plan/ QMS Manual	Rev. 1	February, 2015	Updated format and Audit requirements	Bailey Weatherall	Scott Gowan
Operational Plan/ QMS Manual	Rev. 2	June 26, 2017	Each Element and corresponding Appendices are updated based on an individual need. The Revision No. for those documents is located in the footer. The Operational Plan Revision No. indicated when the entire format of the document was updated.	Bailey Weatherall	Scott Gowan
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DOCUMENT APPROVAL - CHANGE FORM

CHANGE INFORMATION:	NEW:	
	NEW REVISION LEVEL:	
	OBSOLETE:	
ORIGINATOR:		
DOCUMENT TITLE:		
DOCUMENT NUMBER:		
ELECTRONIC ADDRESS:		
WRITTEN / REVISED BY:		
PURPOSE OF DOCUMENT:		
DESCRIBE REVISION:		
DO ANY OTHER DOCUMENTS REQUIRE REVISION AS A RESULT OF THIS CHANGE ?		
HAVE ALL PERSONNEL AFFECTED BY THIS CHANGE BEEN ADVISED?	Employees to sign and date here as advised:	
APPROVED BY: (name & date & comments)		

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Glossary of Terms

- ANSI** - American National Standards Institute – Standard that essential suppliers of water treatment related materials and chemicals must adhere to for certain products.
- Audit** - A systematic and documented verification process that involve objectively obtaining and evaluating documents and processes to determine whether a quality management system conforms to the requirements of the DWQMS.
- Authority** - Official permission or approval to carry out a responsibility or task.
- Competence** - A combination of observable and measurable knowledge, skills and abilities which are required for a person to carry out assigned responsibilities.
- Compliance** - The fulfillment of a regulatory requirement.
- Conformance** - The fulfillment of a DWQMS requirement.
- Consumer** - The drinking water end user.
- Contingency Plan** - Operating Authority’s procedures to mitigate or control emergency situations beyond the Standard Operating Procedures.
- 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.
- Contact Time (CT)** - This value is called “Chlorine Contact Time” or CT. To calculate CT, multiply the free chlorine residual concentration (C) , in mg/l, by the contact time (T), in minutes,. CT measures the effectiveness of a disinfection process.
- 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 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.

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- Document** - Includes a sound recording, video tape, film, photograph, chart, graph, map, plan, survey, book of account, and information recorded or stored by means of any device.
- Drinking Water Health Hazard** - Means, in respect of a drinking water system,
 a) A condition of the system or a condition associated with the system's waters, including any thing found in the waters that adversely affects, or is likely to adversely affect, the health of the users of the system, that deters or hinders, or is likely to deter or hinder, the prevention or suppression of disease, or that endangers or is likely to endanger public health,
 b) A prescribed condition of the drinking water system or,
 c) A prescribed condition associated with the system's waters or the presence of a prescribed thing in the waters.
- Drinking Water Quality Management Standard (DWQMS)** - Means the quality management standard approved by the Minister in accordance with section 21 of the SDWA.
- Drinking Water System** - Means a system of works, excluding plumbing, that is established for the purposes of providing users of the system with drinking water and that includes,
 a) Any thing used for the collection, production, treatment, storage, supply or distribution of water,
 b) Any thing related to the management of residue from the treatment process or the management of the discharge of a substance into the natural environment from the treatment system, and
 c) A well or intake that serves as the source or entry point of raw water supply for the system.
- 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 customers.
- Emergency Response Plan (ERP)** - Municipal Plan or documentation of emergency response procedures.

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- Gap Analysis** - The process of determining and evaluating the variance between the requirements of the DWQMS, and the methods and documents in place in your drinking water system.

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

- Hazardous Events** - An incident or situation that can lead to the presence of a hazard.

- Implementation Action Plan** - The product of a gap analysis which identifies the tasks required for implementing a QMS. The implementation action plan should include tasks, target dates, and people assigned to task duties.

- 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 transportation or communication.

- Monitoring** - Includes any checks or systems that are available to detect hazards or the potential for hazards.

- Municipal Drinking Water System** - Means a drinking water system or part of a drinking water system,
 - a) That is owned by a municipality or by a municipal service board established under section 195 of the *Municipal Act, 2001*,
 - b) That is owned by a corporation established under section 203 of the *Municipal Act, 2001*,
- Municipal Drinking Water System (Cont.)**
 - c) From which a municipality obtains or will obtain water under the terms of a contract between the municipality and the owner of the system, or
 - d) That is in a prescribed class.

- Municipal Residential Drinking Water System** - Means a large municipal residential system or a small municipal residential system as defined in O. Reg. 170/03.

- Non-Compliance** - A failure under the *Safe Drinking Water Act, 2002*, the *Ontario Water Resources Act*, or any regulations or instruments under these Acts which are associated with drinking water.

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- NSF** - National Sanitary Foundation - Standard that essential suppliers of water treatment related materials and chemicals must adhere to for certain products.
- Non-Conformance** - The non-fulfillment of a DWQMS requirement.
- Operating Authority** - Means, in respect of a subject system, the person or entity that is given responsibility by the owner for the operation, management, maintenance or alteration of the subject system.
- Operational Plan** - Means, in respect of a subject system, the operational plan required by the Director's Direction.
- Owner** - Includes, in respect of a drinking water system, every person who is a legal or beneficial owner of all or part of the system.
- Permit To Take Water (PTTW)** - Authorizes the withdrawal of water in accordance with the Permit granted to the system.
- PLC** - Programmable Logic Controller or Programmable Controller is a digital computer used for automation of electromechanical processes, such as control of equipment.
- Public** - Subject system consumers and stakeholders.
- Quality Management System (QMS)** - A system to:
 - a) Establish policy and objectives, and to achieve those objectives, and
 - b) Direct and control an organization with regard to quality.
- Record** - A document stating results achieved or providing proof of activities performed.
- Resources** - Tangible inputs that are required to deliver safe drinking water.
- Responsibility** - A charge, trust, or duty for which one is responsible.
- Retrievable** - For documents, "retrievable" means the documents must be readily available for personnel to refer to, especially in emergency situations, or in areas where operational procedures would need to be promptly referenced. For example, sampling procedures should be available for reference where sampling activities are performed. For records, "retrievable" is a slightly more flexible term. Usually, a record is considered to be retrievable if it can be produced on

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request by the end of the business day. This definition stems from audits and inspections – if a record can be provided by the end of the audit, it is usually considered to be retrievable.

- Risk** - The probability of identified hazards causing harm, including the magnitude of that harm or its consequences.
- Risk Assessment** - An orderly methodology of identifying hazards or hazardous events that may affect the safety of drinking water and evaluating their significance
- SCADA** - The abbreviation for Supervisory Control And Data Acquisition. It generally refers to an industrial control system: a computer system monitoring and controlling a process.
- Standard Operating Procedures (SOP)** - Standardized operating procedures compiled in an Operations Manual
- Supplier** - An organization or person that provides a product or service that affects drinking water quality
- SDWA** - Means *Safe Drinking Water Act, 2002, S.O. 2002, c. 32*, as amended.
- Top Management** - A person, persons or a group of people at the highest management level within an operating authority that makes decisions about the QMS and makes recommendations to the owner about the subject system or subject systems
- Water Treatment Plant (WTP)** - Operating Authority's treatment system location

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1 Quality Management System

The Drinking Water Quality Management Standard (DWQMS) requires an Operating Authority to establish a Quality Management System (QMS) for each system that it operates, consisting of the MILDMAY DRINKING WATER SYSTEM and the TEESWATER DRINKING WATER SYSTEM.

The Operating Authority (Veolia North America), must develop a QMS to conform to the requirements that are laid out in the Drinking Water Quality Management Standards. Accomplishing this will help reduce or eliminate negative situations that may occur as a result of non-conformance.

A QMS is a system to establish policies and objectives, achieve those objectives, and assist in the direction and control of the organization with regard to quality.

An Operational Plan is a document or series of documents that outlines the policies, processes and procedures for the overall quality management of the drinking water system, and is the documentation of the QMS.

The QMS is documented in this Operational Plan as part of the effort to ensure clean, safe, and reliable drinking water is supplied to all customers served.

The QMS shall be reviewed annually to ensure that the procedures are correct and current. The review will include the QMS Representative, Owner, Operating Authority and Operators of the system.

This Drinking Water Quality Management System (DWQMS) may be found in the QMS Representative's Office, the South Bruce Municipality Office, or on the Municipality's Website by clicking [here](#).

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Municipality of South Bruce

DWQMS Operational Plan
South Bruce



Veolia Water Canada

2 Quality Management System Policy

The Municipality of South Bruce (Owner) utilizes the services of Veolia Water Canada (Operating Authority) to operate and maintain the water supply and distribution system.

Together the Municipality of South Bruce and Veolia Water Canada are committed to:

- Providing the consumer with a consistent supply of clean, safe drinking water
- Complying with all applicable legislative and regulatory requirements
- Managing and operating the water supply system in a responsible manner in accordance with documented Quality Management System (QMS) policies and procedures
- Maintaining and continually improving its Quality Management System (QMS)

Veolia Water Canada – Operating Authority Representatives

_____ date
Mark Rupke
Area Manager
 Veolia Water Canada

_____ date
Scott Gowan
Project Manager
 Veolia Water Canada

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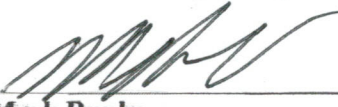
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Together the Municipality of South Bruce and Veolia Water Canada are committed to:

- Providing the consumer with a consistent supply of clean, safe drinking water
- Complying with all applicable legislative and regulatory requirements
- Managing and operating the water supply system in a responsible manner in accordance with documented Quality Management System (QMS) policies and procedures
- Maintaining and continually improving its Quality Management System (QMS)

Veolia Water Canada – Operating Authority Representatives


_____ *Sept 28/16*
Mark Rupke date
Area Manager
Veolia Water Canada


_____ *Sept. 28/16*
Scott Gowan date
Project Manager
Veolia Water Canada

Location: C:\Users\bailey.weatherall\Desktop\South Bruce DWQMS\Elements\Element 2 - Quality Management System Policy

Author: D. Scott - QMS Rep.

Date: 08/15/12

Updated By: D. Scott - QMS Rep.

Approved By: S. Gowan - PM

Date: 08/15/12

Rev. Level: 0



3 Commitment and Endorsement

The system owner, the Municipality of South Bruce, and the Operating Authority, Veolia Water Canada, support the implementation, maintenance, and continual improvement of a drinking water Quality Management System (QMS) for the Municipality of South Bruce Water Supply System, as documented in the Operational Plan. Top Management shall also ensure that the Operating Authority is aware of all applicable Legislative and Regulatory requirements.

Endorsement by the Owner - the Municipality of South Bruce and the Operating Authority - Veolia Water Canada, acknowledges the need for, and supports the provision of sufficient resources to implement, maintain, and continually improve the Quality Management System (QMS).

Endorsed by:

Robert Buckle date
Mayor
Owner Representative
Municipality of South Bruce

Mark Rupke date
Area Manager
Operating Authority
Veolia Water Canada

Kendra Reinhart date
Administrator Treasurer
Owner Representative
Municipality of South Bruce

Scott Gowan date
Project Manager
Operating Authority Representative
Veolia Water Canada

Gary Pipe date
Manager of Operations
Owner Representative
Municipality of South Bruce

Bailey McGarrity date
QMS Representative
Operating Authority Representative
Operator – Veolia Water Canada

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MUNICIPALITY OF SOUTH BRUCE


3. Commitment and Endorsement


The system owner, the Municipality of South Bruce, and the Operating Authority, Veolia Water Canada, support the implementation, maintenance, and continual improvement of a drinking water Quality Management System (QMS) for the Municipality of South Bruce Water Supply System, as documented in the Operational Plan. Top Management shall also ensure that the Operating Authority is aware of all applicable Legislative and Regulatory requirements.


Endorsement by the Owner - the Municipality of South Bruce and the Operating Authority - Veolia Water Canada, acknowledges the need for, and supports the provision of sufficient resources to implement, maintain, and continually improve the Quality Management System (QMS).


Endorsed by:



Robert Buckle date
Mayor
Owner Representative
Municipality of South Bruce


Mark Rupke Sept 28/16 date
Area Manager
Operating Authority
Veolia Water Canada


Kendra Reinhart Sept 21/16 date
Administrator Treasurer
Owner Representative
Municipality of South Bruce


Scott Gowan Sept. 23/16 date
Project Manager
Operating Authority Representative
Veolia Water Canada


Gary Pipe Sept. 20/16 date
Manager of Operations
Owner Representative
Municipality of South Bruce


Bailey Weatherall Sept. 23/16 date
QMS Representative
Operating Authority Representative
Operator – Veolia Water Canada



4 Quality Management System Representative

The QMS Representative, in conjunction with the Project Manager and will establish, implement, and maintain the policies, processes, and procedures required for the QMS. In addition the QMS Representative will report on the performance of the QMS and any need for improvement to Top Management.

The responsibilities of the of the QMS Representative are listed in the Responsibilities Table in Appendix E, as part of Element 9, Organizational Structure, Roles, Responsibilities, and Authorities.

Appendix E

APPENDIX E1: Organization Chart – Veolia North America

APPENDIX E2: Responsibilities Table – Veolia North America

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Veolia Water Canada

4 Quality Management System Representative

NOTICE OF APPOINTMENT QMS Representative

Top Management for the Operating Authority (Veolia Water Canada) at the Municipality of South Bruce has appointed the Quality Management System Representative to be:

Name	Title
------	-------

- The Quality Management System (QMS) Representative who, irrespective of other responsibilities, shall:
- a) administer the Quality Management System by ensuring that processes and procedures needed for the Quality Management System are established and maintained,
 - b) report to Top Management on the performance of the Quality Management System and any need for improvement,
 - c) ensure that current versions of documents required by the Quality Management System are being used at all times,
 - d) ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system, and
 - e) promote awareness of the Quality Management System throughout the Operating Authority.

 Scott Gowan
 Project Manager – Veolia North America

 Date

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Municipality of South Bruce

DWQMS Operational Plan
Brockton



NOTICE OF APPOINTMENT

QMS Representative


Top Management for the Operating Authority (Veolia Water Canada) at the Municipality of South Bruce has appointed the Quality Management System Representative to be:

Bailey Weatherall
Name

Operator
Title

The Quality Management System (QMS) Representative who, irrespective of other responsibilities, shall:

- a) administer the Quality Management System by ensuring that processes and procedures needed for the Quality Management System are established and maintained,
- b) report to Top Management on the performance of the Quality Management System and any need for improvement,
- c) ensure that current versions of documents required by the Quality Management System are being used at all times,
- d) ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system, and
- e) promote awareness of the Quality Management System throughout the Operating Authority.



Scott Gowan
Project Manager – Veolia Water Canada

Feb. 9, 2015
Date

File: C:\DWQMS\South Bruce\ - 4 – QMS Representative – Appointed

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Note: To be reviewed annually or when a QMS change occurs



5 Documents and Records Control

A process is in place for the control and management of the documents and records required by the Quality Management System (QMS).

This process is to ensure that documents are kept up to date with applicable legislation and regulations, and changes in operations. The process also ensures that documents and records are legible, are properly stored, and can be easily located and identified. Retention times and disposal methods are listed in the Document and Records Control Table.

The procedure for Document and Records control can be found in Appendix A.

Appendix A

APPENDIX A1: Procedure for Document and Records Control

APPENDIX A2: Document and Records Control Table

APPENDIX A3: Document Approval – Change Form

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6 Drinking Water System

System Descriptions

Please see the appropriate Appendix section tab at the back of this document for details on the individual systems for the Municipality of South Bruce.

The Systems included are:

Mildmay Drinking Water System

Teeswater Drinking Water System

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7 Risk Assessment

A Risk Assessment Procedure has been established and implemented to determine the potential hazards and critical control points that exist in the water treatment system.

A Risk Assessment Table has been developed to list potential hazards and their effects, and the associated monitoring and control measures. Critical Control Points (CCP) and Critical Control Limits (CCL) are identified using a Risk Priority Number system described in the risk assessment procedure.

For emergency situations or hazardous events outside the regular monitoring and control process, a Contingency Plan is available for response to deviations from critical control limits.

An Operational Plan binder and Contingency Plan are readily available for employee’s reference at the Water Pump Houses.

Procedures are implemented for reporting and recording deviations from critical control limits.

An annual Management Review, as described in Element 20, takes place to ensure the system is current and the risk assessment procedure and outcomes are reviewed and maintained.

A full updated Risk Assessment is to be conducted every 36 months in addition to the annual reviews.

Appendix B

APPENDIX B 1: Risk Assessment Procedure

APPENDIX B 2: Risk Assessment Table

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8 Risk Assessment Outcomes

Risk Assessment Outcomes - Summary and Analysis

Please see the appropriate section tab at the back of this document for details on the individual systems for the Municipality of South Bruce.

The Systems included are:

Mildmay Drinking Water System

Teeswater Drinking Water System

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9 Organizational Structure, Roles, Responsibilities and Authorities

The system Owner, and the Operating Authority, Veolia Water Canada, have an organizational structure in place to ensure the management of the drinking water system by qualified staff.

Job descriptions are created for each Operating Authority and Owner position, and are outlined in the Responsibilities Table, showing title, responsibilities and authorities. Organizational Charts show the relationship of roles in the structure. These can be found in Appendix E.

An annual Management Review, as described in Element 20, takes place to ensure the system is current.

Appendix E

APPENDIX E 1: Organizational Chart - Veolia

APPENDIX E 2: Responsibilities Table - Veolia

APPENDIX E 3: Organizational Chart - Municipality of South Bruce

APPENDIX E 4: Responsibilities Table - Municipality of South Bruce

APPENDIX E 5: Job Descriptions

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10 Competencies

All personnel performing duties directly affecting drinking water quality must have adequate training and be competent in their position. This relates to legislative as well as DWQMS requirements.

Legislative Requirements:

The Water Treatment Plant Operator-In-Charge (OIC) shall, at a minimum, maintain the following classification certifications per O. Reg. 128/04, (with exceptions for relief periods as specified in the legislation):

- Mildmay - Water Distribution and Supply Class II
- Teeswater - Water Distribution and Supply Class II

Additionally, annual training is provided to ensure that personnel meet or exceed minimum standards for annual training hours and continuing education hours as established in O. Reg. 128/04.

Veolia is required to provide competent operators to maintain effective water treatment. It is required as part of the operator's responsibility to monitor and ensure he / she receives adequate annual training hours to maintain his / her operator certification for the operation of the Water Treatment Plant.

An annual review (more frequently as required) of training records and certifications is made by the Administrative Assistant to ensure classifications are current and competency is maintained. Operators are advised by the Compliance Officer of upcoming requirements.

The Project Manager may also recommend training courses and approves training registration requests as appropriate. The Compliance Officer / Project Manager assists in course arrangements and maintains and monitors the employee training matrix.

Effectiveness of outside training is evaluated by the Project Manager, after completion, by discussions with the employee. Certifications from the training, when provided, are filed with the employee training records, and added to the Training Matrix.

In-House Training Requirements

In-house training such as new employee orientation, internal systems (SCADA etc.), refresher training is provided by the Project Manager / Overall Responsible Operator or designate.

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Training session records are to be noted by the employee, signed by the trainer and trainee, and forwarded to the Administrative Assistant for filing and entering in the Training Matrix.

QMS Awareness Training Requirements

All personnel must be aware of the Quality Management System and their requirements under the QMS, especially those pertaining to their specific roles.

The QMS Operational Plan, and any changes to procedures affecting personnel, will be reviewed with employees by the Project Manager and / or QMS Representative at least prior to the accreditation audit, and as appropriate throughout the development of the Operational Plan (Document and Records Control, Risk Assessment, for example) and when changes may be made to the Operational Plan.

Appendix F

APPENDIX F 1: Competency Requirements Table

APPENDIX F 2: Training Matrix

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Note: To be reviewed annually or when a QMS change occurs.



11 Personnel Coverage

The Operating Authority shall implement and conform to the following procedure:

The South Bruce Facilities are staffed from Monday to Friday from 7:30 a.m. until 4:00 p.m. and attended on weekends for normal daily rounds.

The Project Manager, or delegate, is the primary Operator-In-Charge (OIC).

There is an assigned on-call water operator during off-hours. The schedule is posted in the office of the Operating Authority.

The on-call operator conducts a physical verification of conditions at the pumphouse once per day during weekends and statutory holidays.

The normal on-call schedule for water system operators shall be from start time on Thursday to start time the following Thursday. The Project Manager establishes and maintains the on-call schedule.

At all times the pump houses are monitored by a SCADA or data logger system. The SCADA or data logger system has an auto-dialer that has been programmed to contact personnel whenever conditions warrant.

The on-call Operator is the designated Operator-In-Charge and will respond to, and investigate all alarms within 60 minutes. After evaluating the situation, the Operator will correct the problem or will call the ORO who will then provide help, whether that mean by him/herself or calling another Operator at his/her discretion based on the situation.

An Overall Responsible Operator (ORO), is available by cell phone when not physically at the system.

Veolia North America is a non-unionized operation and labour disputes are unlikely, although management personnel are trained in operations if backup operators are required.

In the event that the required number of competent, trained personnel are unavailable for any reason, appropriate action must be taken. For further detail and procedure regarding the resolve of the situation, please refer to Contingency Plan # 17 in the Operations Manual, located at each site and the Main Office.

APPENDIX G1: After Hours Dispatch and Response to Auto-Dialer Alarm Procedure

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12 Communications

The Project Manager / ORO shall ensure that the Owner is provided with a current copy of the Operational Plan. The owner shall also be advised of any changes to the Quality Management System, following revisions, and a status update shall be communicated following Management Reviews. This communication may take place during the regular annual report to Council by the Project Manager, or separate meetings arranged as necessary.

In addition to the Operational Plan, potential changes and Management Reviews, other relevant information could include audit reviews, risk assessment changes, and provision for infrastructure information. The procedure for this information to be communicated to the Owner will be by the Project Manager to the Owner through the Owner’s liaison, at Council Meetings, or Committee Meetings, as applicable.

Operating Authority Personnel will be informed of the QMS and any changes or updates through staff meetings with the Project Manager and/or QMS Representative following the original implementation, and thereafter following the Management Review, or as changes occur. The QMS Policy and Operational Plan are to be posted in the Operations Room for access by all employees.

Essential Suppliers shall receive information regarding the QMS from the Operating Authority as required for purchasing as described in Element 13.

Consumers or the General Public will have access to the QMS policy at the Operating Authority’s Water Treatment Plant (WTP) site, as well as at the Municipal Office.

The Owner shall make the Operational Plans available for viewing by the public at the principal office of the owner and at one other publicly accessible location in the geographical area served by the subject system.

Information about the QMS may be added to the Municipal website, as decided by the Owner.

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Note: To be reviewed annually or when a QMS change occurs.



13 Essential Supplies and Services

All essential Chemical, Material, Equipment, and Part Suppliers, and Service Providers must meet the Quality and Performance standards suitable for the production and delivery of safe drinking water to the customer.

Essential suppliers of chemicals and materials must meet NSF / ANSI (National Sanitary Foundation / American National Standards Institute) standards.

Ontario legislation requires that Laboratories performing drinking water testing must be accredited for the parameters being tested, and Operating Authorities must use accredited labs as required for testing.

Documentation on quality and other supplier requirements are provided to all essential suppliers and service providers indicated in Appendix HI: Essential Suppliers and Services Table, via letter. These *Supplier Letters* are distributed once a supplier or service becomes essential to help guarantee that safe drinking water is constantly provided to the consumer.

The QMS Representative reviews the requirements annually, or more frequently as may be required for changes. The suppliers are then informed by the Project Manager, QMS Representative, Administrative Assistant, or designate.

Meetings are held with contractors and service providers prior to work being carried out on water treatment equipment. They are accompanied by a Water Operator to ensure water plant and distribution system requirements are understood and met prior to performing their task.

On receipt of goods and services, materials and packing slips are checked against the Purchase Order or invoice by appropriate Personnel with knowledge of the goods, services, materials or parts to ensure requirements are met. If an issue is noted the supplier is contacted by the appropriate person. Operators are sufficiently trained and knowledgeable to ensure the proper materials are received and available.

Appendix H lists the Essential Suppliers and Services, Procurement information, and Quality expectations.

Appendix H

APPENDIX H1: Essential Supplies and Services Table

File: Google Drive \ QMS Rep. - Files and Documents \ DWQMS \ Operational Plan \ South Bruce \ Element 13 - Essential Supplies and Services

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Note: To be reviewed annually or when a QMS change occurs.



14 Review and Provision of Infrastructure

On an annual basis a summary of the Water Treatment System is prepared by the Operating Authority’s Project Manager / Overall Responsible Operator and is submitted to the Owner. Included in the Summary Report is a review and updates on the Operating Authority’s infrastructure and related programs.

The procedure will be for the Project Manager / Overall Responsible Operator to compile information received from the Maintenance Lead and Operators throughout the year based on work orders and observations relating to the infrastructure of the water treatment system. This information will be summarized in an Infrastructure section of the annual summary report and presented to the Owner on an annual basis. The Annual Summary is required to be submitted to the MOE by March 1st, and to the Owner by March 30th of each year.

The report shall cover the infrastructure in place - the water system infrastructure necessary to operate and maintain the system includes buildings, workspace, associated utilities, process equipment, supporting services, vehicles, distribution system and elevated storage. The report will advise on the adequacy or condition of the infrastructure, with recommendations were warranted.

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

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Note: To be reviewed annually or when a QMS change occurs.



15 Infrastructure Maintenance Rehabilitation and Renewal

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

The summary is kept current, and is communicated to the Owner at least annually, or as deemed required by the Operating Authority’s Project Manager / Overall Responsible Operator, in presentations to the local council, and committee, if applicable or required.

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

The Maintenance Request system can be initiated by any employee by filling in a Maintenance Request Form. This request is then forwarded to be assessed by the Maintenance Manager or Project Manager / ORO. Maintenance Requests are filed and reviewed as required to assess or confirm trends and issues are reported in the annual summary.

A Computerized Maintenance system also generates work orders for routine equipment servicing and preventive maintenance for designated equipment in the water treatment and distribution system.

A summary of key infrastructure material and equipment from (the Computerized Maintenance Management System - CMMS or Jobs Plus, etc) is generated by the Project Manager / ORO and also added to the annual infrastructure summary.

Longer term initiatives such as capital plan requirements or renewal programs are communicated to the Owner in the Annual Summary report or presented to council as required.

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16 Sampling, Testing and Monitoring

The Operating Authority maintains a sampling, testing, and monitoring process as required by the Ontario Regulation 170/03, including under conditions challenging to the system, as shown in the Table in each *System Tab*.

Specific sampling and monitoring procedures are established for operating the water facilities, and are listed in the Operations Manual.

Test results are reported to the Operating Authority by the Accredited Lab and Operator Test Results are recorded in the logbook in the pump houses by the Operator.

All sampling and test records from the SCADA and data logger systems, laboratories, and Operators are recorded, properly filed and maintained according to procedures as outlined in the Document and Records Control Procedures, and the Operations Manual.

The procedure is for test results to be provided to the Owner on a monthly basis by the Operating Authority, who compiles the data and forwards the results to the Owner. The accredited Lab also forwards test results to the Owner on a monthly basis, unless otherwise requested by the Owner to forward the results to the Operating Authority only.

A summary of the sampling and monitoring requirements of the various pump house process steps, including frequency, location, quality targets, challenging conditions, and records, is shown in the appropriate system section tab at the back of this document.

The Systems included are:

Mildmay Drinking Water System

Teeswater Drinking Water System

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17 Measuring and Recording Equipment Calibrations

The Operating Authority maintains a calibration and maintenance process, as required for the measurement and recording equipment used in the water systems. Procedures are established for calibration and maintenance of this equipment, and are listed in the Operations Manual.

Specific equipment procedures are available in the Equipment Manufacturer’s Manuals and Users Manuals are available for Operators as required.

Certified subcontractors are used as required for maintenance and calibration of flow meters, and records maintained.

All calibration and maintenance records are properly filed and maintained according to procedures as outlined in the Document and Records Control Procedures, and the Water Systems Operations Manual.

A summary of the calibration and maintenance requirements, for the pump house measurement and recording instruments, including method, frequency, and records is shown in Appendix J - Measurement and Recording Equipment Calibration Table. The Table is maintained by the Operating Authority as revisions are required.

Appendix J

APPENDIX J1: Measurement and Recording Equipment Calibration Table

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Note: To be reviewed annually or when a QMS change occurs.



18 Emergency Management

An emergency, with regard to drinking water, is 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.

Some emergency situations that could occur include chemical, biological, or radiological contamination, major distribution line or watermain breaks, interruptions in pressure, or loss of power. The Risk Assessment Outcomes, and Risk Assessment Table in Section 8 reference potential emergency situations. Procedures or Contingency Plans related to potential emergency situations can be found in the Operations Manual or Contingency Plan.

A Contingency Plan (Emergency Response Plan) for the Operating Authority is available at the Water Pump Houses listing potential emergencies and the appropriate measures for response, contacts, and how to restore the system to normal operation. Water System Operators and staff are kept up to date with annual reviews of the Operations Manual and Contingency Plan, or as required if changes occur.

It is the responsibility of the Project Manager to ensure that employees are aware of the Contingency Plan and are trained in their responsibilities with regard to emergency preparedness.

A list of emergency contacts and essential suppliers and services is kept with the Contingency Plan.

In addition to the above, the Owner has an Emergency Response Plan, in accordance with current legislation and regulations, at the municipal office that provides information and contact information in the case of a water related emergency situation.

Emergency Response Testing is accomplished by review of one or more Contingency Plan procedures on a regular basis (minimum annually) in the form of a meeting with Operators and employees to ensure awareness of the procedures and allow discussion and input on situations that could arise as an emergency situation.

Appendix K

APPENDIX K1: Emergency Procedures

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Note: To be reviewed annually or when a QMS change occurs.



19 Internal Audits

An Internal Audit procedure has been established by the Operating Authority to comply with the DWQMS standard. The intent of the procedure is to evaluate conformity of the QMS with the requirements of the Standard.

The Procedure, found in Appendix L1, identifies the internal audit criteria, the frequency recommended for the audit schedule, the scope, method and requirement for documentation of the audits.

The procedure also describes how Corrective Action Reports (CARs) are initiated and addressed to provide irreversible corrective actions to deficiencies found in the audits.

Previous internal and external audit results should be reviewed for consideration when planning the internal audit.

An Internal Audit Checklist is also included as Appendix L2 to assist with the audit.

Internal Audits are required to be completed at least once every 12 months.

Appendix L

APPENDIX L1: Internal Audit Procedure and Schedule

APPENDIX L2: Internal Audit Checklist

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20 Management Review

A Management Review procedure has been established by the Operating Authority to comply with the DWQMS standard. The intent of the procedure is to provide a structured mechanism for Top Management to perform an annual review of prescribed topics covering compliance, consumer, performance, and audit information based on the Quality Management System.

Top Management for the Operating Authority is defined, in Element 9 Organizational Structure, Roles, Responsibilities and Authorities, and Appendix E2, as the Area Manager and Project Manager. A Municipality representative is also included in the management review.

The Procedure, found in Appendix M1, identifies the management review process and specific topics to be assessed.

Management Reviews are required to be completed at least once every 12 months.

A report of the results of the management review is reported to the Owner by the Project Manager on an annual basis.

Appendix M

APPENDIX M1: Management Review Procedure

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21 Continual Improvement

The Operating Authority shall strive to continually improve the effectiveness of its Quality Management System through the use of corrective actions.

The review of the Operations Plan by a third party represents the first step in improving the effectiveness of the QMS. Ongoing annual Management Reviews and resulting corrective actions will be the basis for further improvement.

Continual improvement of the DWQMS will be scheduled within the calendar year to concentrate on specific elements each month. Each element within the agenda is subject to change depending on schedule conflicts of the QMS Rep. and those whom may be involved. A sample schedule is provided in the appendix shown below.

Appendix N

APPENDIX N1: DWQMS Review and Revise

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