peterborough

Drinking Water Quality Management System

Operational Plan

For the Peterborough Municipal
Drinking Water System

Operating Authority # 145-OA2

February 18, 2025, Revision 1

TABLE OF REVISIONS

Rev Level	Date	Section	Change	Interim Approval by
1	February 18, 2025	All	Initial Release	Owner

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1.0 Quality Management System

Purpose

The purpose of this Operational Plan is to describe in detail the Quality Management System for the operation of the drinking water system owned by the City of Peterborough. The policy and procedures outlined in this Operational Plan are in accordance with the requirements of the Drinking Water Quality Management Standard (DWQMS).

Scope

The Operational Plan covers all activities and employees associated with the operations and production of safe drinking water for the City of Peterborough. The system is limited to the Water Treatment Plant located at 1230 Water Street North, Peterborough, Ontario as well as the associated storage, pumping and distribution systems. The Operational Plan has been developed to meet the requirements of the DWQMS standard and as a requirement under the Ontario Water Licensing Program directed by The Safe Drinking Water Act. To simplify references each element of the DWQMS corresponds to the section number within this Operational Plan.

Related Documents

Drinking Water Quality Management Standard – Element 1
The Safe Drinking Water Act - 2002

2.0 Quality Management System Policy

The City of Peterborough is committed to managing the drinking water system on for the City of Peterborough by effectively establishing, maintaining, and continually improving its Drinking Water Quality Management System to help ensure its customers clean, safe drinking water at all times. Consumer confidence in the drinking water quality shall be achieved through a proactive approach to meet or exceed applicable drinking water legislation, regulations, and standards. Drinking water quality is ensured by a comprehensive risk-based process control system that is staffed by competent employees who provide reliable, safe drinking water to the City of Peterborough.

3.0 Commitment and Endorsement

In accordance with section 3.0 of the Drinking Water Quality Management Standard, the City of Peterborough, as the Owner and Top Management of the drinking water system, support the implementation and maintenance of a Drinking Water Quality Management System (DWQMS), as documented in this Operational Plan. This commitment by the Owner and Top Management extends beyond agreement in principle to active participation in the development and/or review of policies that promote continual improvement. Endorsement by the Owner and Top Management acknowledges the need for and supports the provision of sufficient resources to maintain the DWQMS.

OWNER

Chief Executive Officer
Jasbir Raina — Date: Feb 03, 2025

TOP MANAGEMENT

Commissioner, Municipal Operations
Ilmar Simanovskis — Date: FEB 3, 2025

FOR Director, Water Services — Date: FEB 3, 2025

Manager, Water Utility
Michael Meyers — Date: Jan 17/25

Manager, Water Treatment Plant
René Gagnon — Date: FEB. 3/2025

4.0 Quality Management System Representative

The Program Manager, Quality Assurance, is responsible for the role of the Quality Management System Representative. As the QMS Representative, the Program Manager, Quality Assurance has both the responsibility and authority to:

- Ensure that the processes required by the DWQMS are established, implemented, and maintained.
- Ensure that the most current version of documents required by the DWQMS are always in use.
- Ensure that all personnel are aware of applicable current regulatory requirements within the operation of the drinking water system.
- Ensure the promotion of awareness and the effectiveness of the DWQMS throughout the operating authority.
- Report to Top Management on the performance of the QMS and any need for improvement.
- The Commissioner, Municipal Operations, is designated as an alternate QMS Representative.

5.0 Document and Record Control

Purpose

The purpose of this procedure is to describe the method used for the control of documents and records for the Peterborough Municipal Drinking Water System. Proper maintenance of documents and records is critical for conformance with the Drinking Water Quality Management Standard and for compliance with drinking water legislation.

Scope

This procedure is applicable to all data and documentation used or generated during the water treatment and distribution process.

General

Effective control of the issue and changes to data and documentation is essential to DWQMS. Therefore, the Program Manager, Quality Assurance will implement and maintain a system that exercises these controls throughout the water treatment and distribution process.

Current issues of documents will be made available at all locations where operations affecting the drinking water system are performed.

Documents in the scope of this procedure are:

- Operational Plan
- Drinking Water Policy
- Standard Operating Procedures relating to the DWQMS
- WTP Operator and Maintenance Manual
- WTP Emergency Response Plans
- WTP and Water Distribution Forms
- Water Treatment Process Schematic (A2392)

Records in the scope of this procedure are:

- Operator Certificates
- Municipal Drinking Water Licence (MDWL)
- Municipal Drinking Water Permit (MDWP)
- Laboratory testing results (Internal and External)
- Monitoring Records
- Legislative Regulations
- Associated meeting minutes
- Operator Logbook

Related Documents

Drinking Water Quality Management Standard - Element 5
W01-QA-104 Document and Record Control
Master List Form Distribution SharePoint List

Document Change Control Procedure

The process Document and Records Control is outlined in detail in the Water Services Operational Practice W01-QA-104.

6.0 Drinking-Water System

Purpose

The purpose of this procedure is to describe the Drinking Water System owned and operated by the City of Peterborough. This outlines a description of the drinking water system as prescribed by the DWQMS.

Scope

The City of Peterborough has ownership and full command and control of the municipal drinking water system, including the treatment plant, storage and pumping facilities, trunk and distribution water mains and individual water services

up to the private property line. Water meters within the buildings, used as consumption measurement devices for billing purposes, are owned by the City of Peterborough.

Responsibilities and Authorities

It is the responsibility of the QMS Representative to ensure that this procedure is kept up to date. Any changes to the drinking water system must be changed in accordance with the document control procedures shown in paragraph 5 of this Operational Plan.

Related Documents

Drinking Water Quality Management Standard – Element 6

Procedure

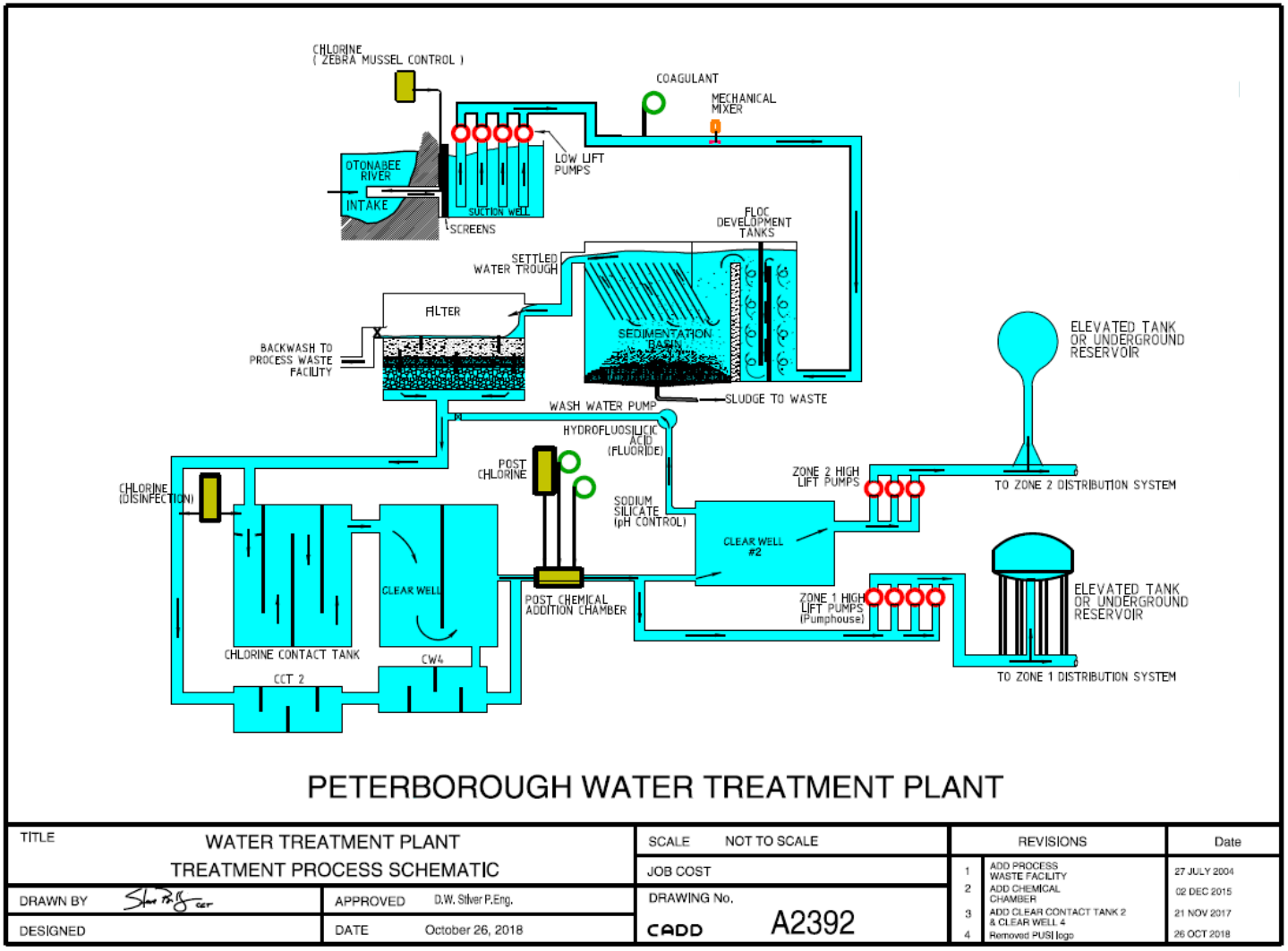
6.1 Water Treatment Plant

The plant is located on the west shore of the Otonabee River at 1230 Water Street North, Peterborough, adjacent the Riverview Park and Zoo. The plant was initially built in 1922 and expanded in 1952, 1965 and 1995. Dual intakes draw water from the Otonabee River (surface water) into the low lift pumping area where the raw water is coarse screened and pumped into the plant for full treatment. The conventional treatment process includes coagulation, flocculation, sedimentation, filtration, and chlorine disinfection (see Schematic A).

Aluminum sulphate is used as the primary coagulant. Chlorine is used for primary and secondary disinfection. Other chemicals used are sodium silicate (pH control), and fluoride (dental benefits).

The current rated capacity of the plant is 104 ML/day. The Permit to Take Water currently authorizes water taking at 190.68 ML/d (132,743 L/m).

Schematic A (Water Treatment Plant)



6.2 Water Storage Tanks and Reservoirs

Treated water is stored at various locations throughout the City of Peterborough in underground reservoirs and elevated storage tanks. Storage is used to supplement supply during times of high-water demand and in emergency situations such as firefighting. The water storage capacity in the system is 48.15 Mega Litres (ML) as follows:

♦ Pressure Zone 1	High Street Elevated Tank Clonsilla Avenue Buried Reservoir	22.7 ML
♦ Pressure Zone 2	Towerhill Buried Reservoir	22.7 ML
♦ Pressure Zone 3	Sherbrooke Street Elevated Tank Milroy Drive Elevated Tank	2.75 ML

6.3 Water Pumping Stations

There are three individual pressure zones in Peterborough. Water supply is pumped from the plant or from the Water Street Pumphouse. Approximately one half of the City's water supply is pumped using water-driven turbine pumps powered by the Otonabee River flow. There are four water booster pumping stations around the city which pump water from lower pressure zones to higher pressure zones. Two of the most critical stations have diesel-powered backup in case of an electrical power outage.

6.4 Water Distribution Piping System

The water distribution system consists of approximately 472 kilometers of pipe (water mains), 2,462 hydrants and 27,818 individual water services. Hydrants are colour-coded according to the Ontario Fire Code requirements to indicate the available flow rate at a 20-psi residual pressure.

6.5 Monitoring

The following parameters are monitored on a continuous basis at the WTP:

- Flow
- pH
- Temperature
- Raw water Flow
- Turbidity
- Chlorine dosage and residuals
- Fluoride

- Pressure
- Tank Water Level

6.6 Raw Water Supply

The watershed area supplying the Otonabee River upstream of the Peterborough Water Treatment Plant is illustrated in Appendix 2

The watershed covers a portion of the Haliburton Highlands and extends as far north as Algonquin Park. This diverse watershed traverses the Oak Ridges Moraine, Peterborough Drumlin Field, Canadian Shield and the Kawartha and Haliburton Lakes.

The Otonabee River originates in Lakefield at the outlet of Lake Katchewanooka and flows south to Rice Lake. The river flows through the municipalities of Smith-Ennismore-Lakefield, the City of Peterborough, Cavan-Millbrook-North Monaghan, and Otonabee-South Monaghan.

The Otonabee River is 45 km in length and has 25 tributaries including Jackson Creek, Meade Creek, Bears Creek, and Squirrel Creek. The Otonabee River drains an area of approximately 945 square kilometers.

The source of raw (untreated) water for Peterborough's drinking water is the Otonabee River. The Otonabee River water is of excellent quality and can be described as a moderately coloured water of low turbidity. The river water temperature ranges from 0°C (winter) to approximately 27°C (summer). The raw river water is a surface water supply, which means that it is considered to be an unprotected source. Accordingly, we assume that raw water always requires full treatment at the Peterborough Water Treatment Plant to make it drinkable or potable.

6.7 General Characteristics of Raw water

A brief description of the water characteristics as outlined below in the table:

Parameter	Units	Common Low Value	Normal Value	Common High Value
Turbidity	NTU	0.2	0.6	3.5
Colour	Colour unit	0	13	90
Temperature	°C	0	---	27
Hardness	mg/L $CaCO_3$	90	105	250
Dissolved Organic Carbon	µg/L	4.0	5.0	5.6
Alkalinity	µg/L	75	90	95

Parameter	Units	Common Low Value	Normal Value	Common High Value
Sulfate	µg/L	8.0	8.5	9.0
Sodium	µg/L	5.0	6.0	6.5
Geosmin	µg/L	< 5	15	38
MIB	µg/L	< 5	10	25
E. coli	count/100 mL	0	15	200

6.8 Connections to other Drinking Water system

The Water Treatment Plant supplies potable water to the Township of Selwyn's subdivision of Woodland Acres. The subdivision is located off Water Street North on Woodland Drive and is connected directly to the Peterborough Water distribution system. The Township of Selwyn is the owner of this system as defined by the DWQMS. The distribution system supplies water to approximately 221 homes.

6.9 Historical, seasonal, or common event-driven fluctuations

Type of Fluctuation	Description	Operational Challenges/ Threats
Historical Variation	Introduction of zebra mussels into source waters have decreased the level of turbidity. The penetration of sunlight further into the water column allows deep-water algae to proliferate.	Algae and zebra mussel decay can cause geosmin and 2MIB formation. These are known to cause taste and odour complaints.
Seasonal Variation	With warmer source water there is an increase in taste and odour complaints.	Filtration consideration geosmin and 2MIB.
Seasonal Fluctuation	During the summer months there is a water use increase of around 30%, as a result the plant is running at 75% of the rated capacity (104ML/Day)	Summer lawn water restrictions are in place to promote conservation. The situation needs to be monitored seasonally to ensure that if coupled with low precipitation that water requirements are met.

Type of Fluctuation	Description	Operational Challenges/ Threats
Event Driven Fluctuation	Frazil ice can occur on very cold and clear winter nights before the river freezes over.	The ice can clog the intake pipes during the night. To prevent the clogging of the intake pipes it may be necessary to adjust the pump speed according to the O & M Manual.
Event Driven Fluctuation	Upstream spill.	A short term water treatment plant shut down can occur provided that the WTP is notified by outside sources in a timely manner and that the contamination is not drawn into the treatment system.
Event Driven Fluctuation	Low amount of precipitation may cause Trent Severn Waterway (TSW) to reduce flow (min level 15-17 m^3/s) of water shed to maintain river and lake levels, this will decrease our flow, generally the TSW does this drastically.	We need to be aware of drastic flow reductions to maintain raw water flows into the plant for treatment.
Event Driven Fluctuation	Flooding, heavy rainfall or spring runoff will all cause large increases in turbidity.	The treatment of the drinking water would need to be altered to adjust for the increased turbidity. Increases in coagulant and chlorine levels as well as reducing the treatment speed to allow for greater reaction time will reduce the turbidity to normal plant effluent levels.

6.10 Operational Challenges and Threats

6.10.1 **Threats**

From a water quality health perspective (not considering aesthetics), the key threats expected and contingencies for the Otonabee River are:

- E. coli

- Proper operation of the treatment multi-barriers is expected to eliminate threat

- Cryptosporidium
  - Proper operation of the treatment sedimentation and chemically assisted filtration barriers are expected to eliminate threat
- Disinfection By-Products
  - Optimization of processes to minimize organic content of water prior to disinfection using free chlorine

7.0 Risk Assessment

Purpose

The purpose of the Risk Assessment Operational Practice is to describe the method used for the Peterborough Municipal Drinking Water System to analyze risks associated with the drinking water system. This includes a process-based system for risk identification and risk assessment, Critical Control Point (CCP) and CCP threshold limits.

Scope

This procedure is applicable to the risk identification, risk assessment and critical control points in the drinking water system including treatment, storage, pumping and distribution.

Related Document

Drinking Water Quality Management Standard -Element 7
W01-QA-106 Risk Assessment

Procedure

The Water Services Operational Practice for Risk Assessment is outlined in detail in W01-QA-106.

8.0 Risk Assessment Outcomes

Purpose

The purpose of this procedure is to detail the outcomes from the Risk Analysis procedure in paragraph 8 of this Operational Plan. The results include a list of ranked hazards with appropriate control measures, Critical Control Point's, Control limits for CCP's, monitoring methods and method used for recording and reporting deviation from CCP limits.

Scope

This procedure is applicable to the risks identified by the Risk Analysis process as outlined in paragraph 7 of this Operational Plan, which covers the drinking water system including treatment, storage, pumping and distribution.

Related Documents

Drinking Water Quality Management Standard - Element 8
W01-QA-106 Risk Assessment

Procedure

Once a drinking water risk has been defined in paragraph 7 as a Critical Control Point it shall be monitored and controlled according to the individual Water Services Operational Practices (WSOP). The WSOP's shall include a description of the associated hazards and risk of the CCP, establish a critical control limit, define procedures to monitor the CCP, document the procedure for a deviation and the associated reports required for a deviation.

The following drinking water risks have been identified as a Critical Control Point:

- Secondary Disinfection Failure W03-WTP-109
- Filtered Water Turbidity W03-WTP-110
- Primary Disinfection failure W03-WTP-111
- Loss of Coagulant W03-WTP-112
- Chemical Supply Contamination W03-WTP-113

If a hazardous event is not considered a CCP then the method to control the hazardous event must be documented on the Risk Analysis Matrix (Appendix to W01-QA-106).

9.0 Organizational Structure, Roles, Responsibilities and Authorities

Purpose

The purpose of this procedure is to outline the organizational structure of the drinking water system. It is also to define the roles, responsibilities and authorities used to ensure the drinking water system is adequate.

Scope

This procedure is applicable to the outlined roles and responsibilities within the Operational Plan governed by the DWQMS. This covers the entire water treatment and distribution process as well as the interrelation between Quality Assurance and Material Management.

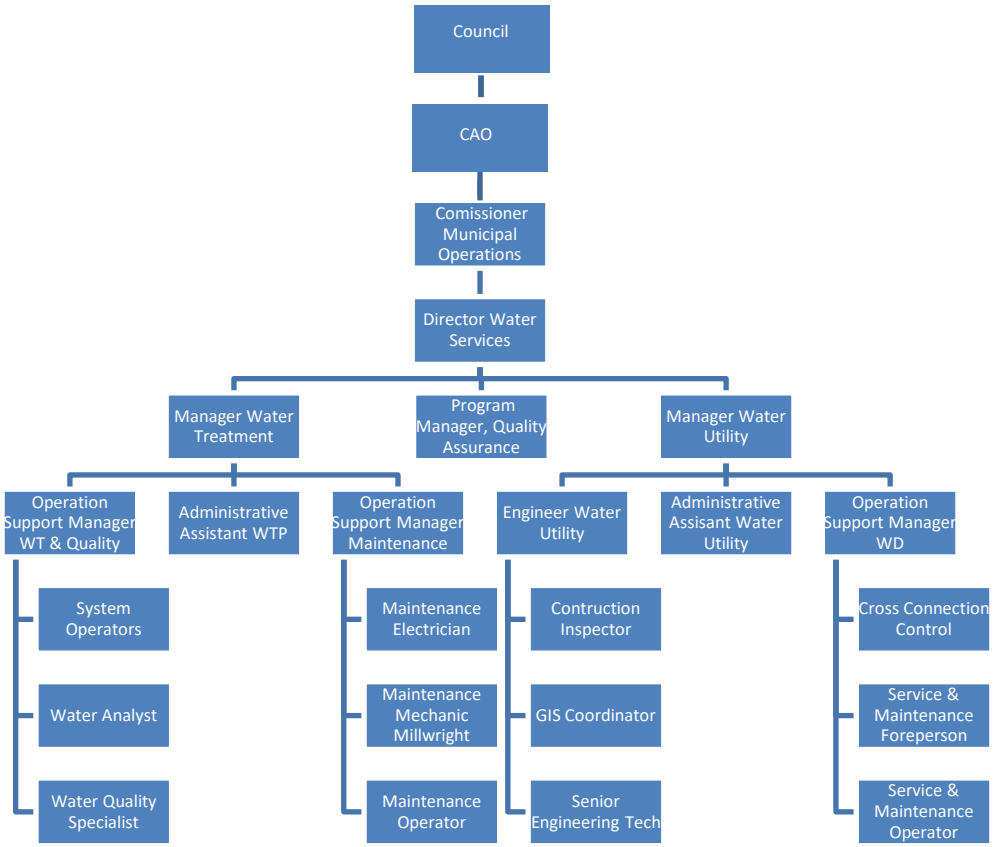
Responsibilities and Authorities

The Program Manager, Quality Assurance, is responsible for ensuring that the roles and responsibilities outlined in this procedure are reviewed annually to ensure accuracy. This is usually completed as part of the Internal Audit procedure in paragraph 19.0 but may be updated because of organizational or staff changes.

Related Documents

Drinking Water Quality Management Standard - Element 9
W05-ADM-008 Operator-In-Charge and Overall Responsible Operator Designation

9.1 Water Services Organizational Chart



9.2 Responsibility and Authorities - Owner

9.2.1 The Corporation of the City of Peterborough

The City of Peterborough has ownership and full command and control of the municipal drinking water system, including the treatment plant, storage and pumping facilities, trunk and distribution water mains and individual water services up to the private property line. Water meters within the buildings, used as consumption measurement devices for billing purposes, are also owned by the municipality.

The City of Peterborough shall establish service levels and expectations by means of:

- Approving the annual budget.
- Approving annual water rates.
- Establishing bylaws and policies.

9.3 Responsibility and Authorities - Top Management

Top Management is described by the DWQMS as a person, or group of people at the highest level within an operating authority that makes decisions respecting the QMS and recommendations to the Owner respecting the drinking water system.

It is the responsibility of Top Management to demonstrate a commitment to the implementation of the DWQMS by:

- Ensuring that the QMS is in place and meets the DWQMS.
- Ensuring that the Operating Authority is aware of applicable legislation and regulations.
- Communication according to paragraph 12.0.
- Participation in the Management Review as per paragraph 20.0.
- Determine, obtain, or provide the resources needed to maintain and continually improve the QMS.
- Encourage participation in industry associations and committees (AWWA, AWWARF, OMWA, OWWA.)
- To provide an annual budget for training and attendance at conferences, workshops, and seminars.

Top Management consists of the following people:

- Commissioner, Municipal Operations
- Director, Water Services
- Manager, Water Utility
- Manager, Water Treatment Plant

9.4 Responsibility and Authorities - Operational Management and Staff

Chart 1 in the Appendix gives a detailed description of the Key Responsibilities and Authorities of the Operational and Management Staff.

10.0 Competency

Purpose

The purpose of this procedure is to describe the competencies of personnel whose job activities directly affect the quality of the drinking water.

Scope

This procedure applies to the personnel identified by this procedure as personnel whose job can directly affect the quality of the drinking water of Peterborough.

Related Documents

Drinking Water Quality Management Standard - Element 10
W05-ADM-008 Operator-In-Charge and Overall Responsible Operator Designation
W05-ADM-114 Satisfying Competencies.

Procedure

The following personnel perform duties that directly affect the quality of the drinking water. The competencies are described in W05-ADM-114.

- Water Treatment Operator
- Water Distribution Operator
- Manager Water Treatment
- Manager Water Utility
- Operations Support Manager Water Distribution
- Operations Support Manager Water Treatment & Maintenance
- Operations Support Manager Water Treatment & Quality

10.1 Satisfying competencies

10.1.1 The detailed procedure describing competencies for employees whose job directly affects the drinking water is outlined in W05-ADM-114.

11.0 Personnel Coverage

Purpose

The purpose of this procedure is to document the procedure used to ensure that sufficient personnel meeting the outline competencies in paragraph 10 are available to perform duties that directly affect the drinking water quality system.

Scope

This procedure applies to water treatment and distribution system for the City of Peterborough

General

The City of Peterborough Water Services Division employs licensed water operators, all of whom are required to have and maintain licenses (distribution or treatment or Water Quality Analyst) according to the Certification of Drinking Water System Operators and Water Quality Analysts (O. Reg. 128/04).

Call out for additional staff to cover emergency or sick time is done as per the "Standby Schedule." The schedule is prepared weekly by payroll. Each department submits information based on their department's annual standby schedule. This information is collated into a single document for the after-hours call out through the answering service.

Related Documents

Drinking Water Quality Management Standard - Element 11
Operational Plan paragraph 10, Competencies
W05-ADM-008 Operator-In-Charge and Overall Responsible Operator Designation
W05-ADM-116 Personnel Coverage
W05-ADM-117 Business Continuity

Procedure

The detailed procedure to ensure that sufficient competent personnel are available for duties that directly affect drinking water is contained in W05-ADM-116.

Collective Agreement

Employment for the WTP and distribution system is according to the terms and conditions of a collective agreement between the City of Peterborough and IBEW Local 636. During a strike/lock-out the business continuity is maintained according to W05-ADM -117 Business Continuity – Water Utility.

12.0 Communication

Purpose

The purpose of this procedure is to identify the method for communicating the Quality Management System to all stakeholders.

Scope

The procedure applies to the communication of relevant aspects of the Operational Plan between Top Management and the Owner, Water Services Personnel, suppliers, and the public.

Related Documents

Drinking Water Quality Management Standard – Element 12
W01-QA-102 DWQMS Communication

Procedure

The Communication procedure is outlined in detail in the Water Services Operational Practice W01-QA-102

13.0 Essential Supplies and Services

Purpose

The purpose of this procedure is to identify essential suppliers and services that may affect quality of drinking water and to ensure availability of those supplies and services.

Scope

This procedure applies to the following essential supplies and services:

- Chlorine Gas
- Aluminum Sulphate
- Laboratory Services
- SCADA Services

Related Documents

Drinking Water Quality Management Standard – Element 13
W00-WTP-005 Chemical Deliveries to the WTP
W05-ADM-115 Essential Supplies and Services

Critical supplies and services list

The procedure by which City of Peterborough Water Services ensures the quality and availability of essential supplies and services are outlined in W05-ADM-115.

14.0 Review and Provision of Infrastructure

Purpose

The purpose of this procedure is to outline the method used at the City of Peterborough Water Services to annually review the infrastructure of the drinking water system. This review shall determine if the infrastructure is adequate to operate and maintain the drinking water system.

Scope

This procedure applies to the infrastructure relating to the provision of drinking water.

Related Documents

Drinking Water Quality Management Standard - Element 14
Paragraph 20 Management Review
W05-ADM-118 DWQMS Infrastructure

Procedure

The infrastructure is reviewed annually during the Management Review process outlined in paragraph 20 of the Operational Plan, additional details on the review and provision of infrastructure are provided in W05-ADM-118.

15.0 Infrastructure Maintenance, Rehabilitation and Renewal

Purpose

The purpose of this procedure is to summarize the Capital Planning Approach that is used to maintain the City of Peterborough's drinking water system's infrastructure maintenance, rehabilitation, and renewal programs.

Related Documents

Drinking Water Quality Management Standard - Element 15
W05-ADM-118 DWQMS Infrastructure
5-10 Year Capital Forecast

Procedure

A summary of water utility infrastructure maintenance program of rehabilitation and renewal is described in W05-ADM-118.

16.0 Sampling, Testing and Monitoring

Purpose

The purpose of the following procedure is to describe the sampling and monitoring and testing activities at the WTP and distribution system to ensure compliance with applicable drinking water legislation and for the provision of safe drinking water.

Scope

This procedure is applicable to the water treatment plant and water distribution operations.

Related Documents

Drinking Water Quality Management Standard – Element 16
Water Treatment Plant Operator and Maintenance Manual
Water Treatment Plant Laboratory Analysis Book
W00-WTP-103 Sampling and Monitoring
W00-ADM-009 Procedure to Respond to Adverse Water Quality Results

Procedure

The procedure developed to meet the requirements of element 16; Sampling, Testing and Monitoring are described in W00-WTP-103.

17.0 Measurement & Recording Equipment Calibration Maintenance

Purpose

The purpose of this procedure is to describe the process used to calibrate and maintain measuring and recording devices used within the water treatment process.

Scope

This procedure is applicable to the measuring and recording devices used by the Water Treatment Plant for monitoring raw, in-process and potable drinking water from intake, through treatment, storage, pumping and distribution.

Related Documents

Drinking Water Quality Management Standard – Element 17
W00-WTP-103 Sampling and Monitoring Procedure
Instrumentation manuals

Procedure

The procedure that describes the water utility activities for the calibration and maintenance of measurement and recording equipment is outlined in W00-WTP-103.

18.0 Emergency Management

Purpose

The purpose of this procedure is to describe the process to maintain a state of emergency preparedness for the City of Peterborough Water Services.

Scope

This procedure shall include all potential emergency situations or service interruptions for the water treatment and water distribution system for the City of Peterborough.

Related Documents

Drinking Water Quality Management Standard – Element 18
W05-ADM-108 Emergency Preparedness and Response
Municipal Emergency Plan for City of Peterborough

Procedure

The Emergency Management procedure is outlined in W05-ADM108.

19.0 Internal Audit

Purpose

The purpose of the Internal Audit procedure is to describe the method used at the City of Peterborough Water Services to verify conformance to the Operational Plan and to the Drinking Water Quality Management System. Internal auditing is also a tool to be used to be initiative-taking and continually improve the water quality management system.

Scope

This procedure is applicable to the City of Peterborough Drinking Water System operations that are described within this Operational Plan.

Related Documents

Drinking Water Quality Management Standard – Element 19
Continual Improvement paragraph 21 of Operational Plan
W01-QA-101 Internal Audit Procedure
W00-QA-119 Internal Audit Summary and Checklist

Procedure

The Internal Audit Procedure is outlined in detail in the W01-QA-101.

20.0 Management Review

Purpose

The purpose of this Management Review Procedure is to outline the method used within the City of Peterborough Water Services. to evaluate the continuing suitability, adequacy, and effectiveness of the Drinking Water Quality Management System.

Scope

The scope of this procedure includes management activities, water treatment plant opearations and water distribution activities identifed in the Operational Plan.

Responsibilities and Authorities

The Program Manager, Quality Assurance, is responsible to the Commissioner, Municipal Operations, for ensuring that the necessary documentation and records are maintained and made available for review by Management.

The QMS Representative is responsible for communicating the results of the Management Review to Top Management.

Top Management shall ensure a management review is conducted every calendar year.

Related Documents

Drinking Water Quality Management Standard – Element 20
Operational Plan paragraph 21 Continual Improvement
W01-QA-100 Management Review

Procedure

The Management Review Procedure is outline in detail in W01-QA-100.

21.0 Continual Improvement

Purpose

The purpose of this procedure is to describe the system used at the City of Peterborough, Water Utility, to continually improve the effectiveness of the DWQMS by initiating timely corrective action on deficiencies identified in the Drinking Water Quality Management System, and to take preventative action where potential problems are identified.

Scope

This procedure applies to the correction of actual or potential non-conformities in the drinking water QMS, or other systemic problems affecting the drinking water quality.

Related Documents

Drinking Water Quality Management Standard – Element 21
W01-QA-107 Continual Improvement

Procedure

The Corrective Action (Continual Improvement) Procedure is outline in detail in W01-QA-107

Appendix 1 Responsibilities and Authorities

Chart 1 Responsibilities and Authorities Chart

Category 1	Staff who can have day-to-day direct effect on the water quality reaching the customer's premise	
Position	Key Responsibilities	Key Authorities
Manager WTP	• Regulatory compliance with treated water and operations at the WTP • Monitor water quality and demand. • Supervision of operating staff and supervisors • Schedule work, allocate projects and resources, monitor progress. • Develop procedures to optimize water quality and reliability. • Assist in selecting staff and their training and development. • Work safety program. • Report issues to the Director, Water Services Utility, as necessary. • ORO (when present during business hours)	• Day-to-day operations of the WTP • Direct supervisors and staff • Overseeing adverse water quality incidences • Develop departmental practices. • Administer union agreement • Arrange for training of supervisors and staff. • Schedule construction activities as they affect the WTP operations • Expenditures up to $5000 without supervisor approval
Operation Support Manager, Water Treatment & Quality	• Assist with regulatory compliance particularly as it applies to water quality. • Assist in monitoring water quality and demand. • Supervise WQA and other staff. • Assume Manager WTP duties and responsibilities when the Manager WTP is absent. • Assist in training and development of staff. • Report issues to the Manager WTP, as necessary. • ORO when Manager WTP is absent (when present during business hours) • Purchasing Chemical Suppliers for WTP	• Direct staff in day-to-day operations and maintenance activities • Recommend to the Manager WTP ways to improve water quality and operational effectiveness. • Function as Manager WTP when the Manager WTP is absent. • Expenditures up to $1500 without supervisor approval

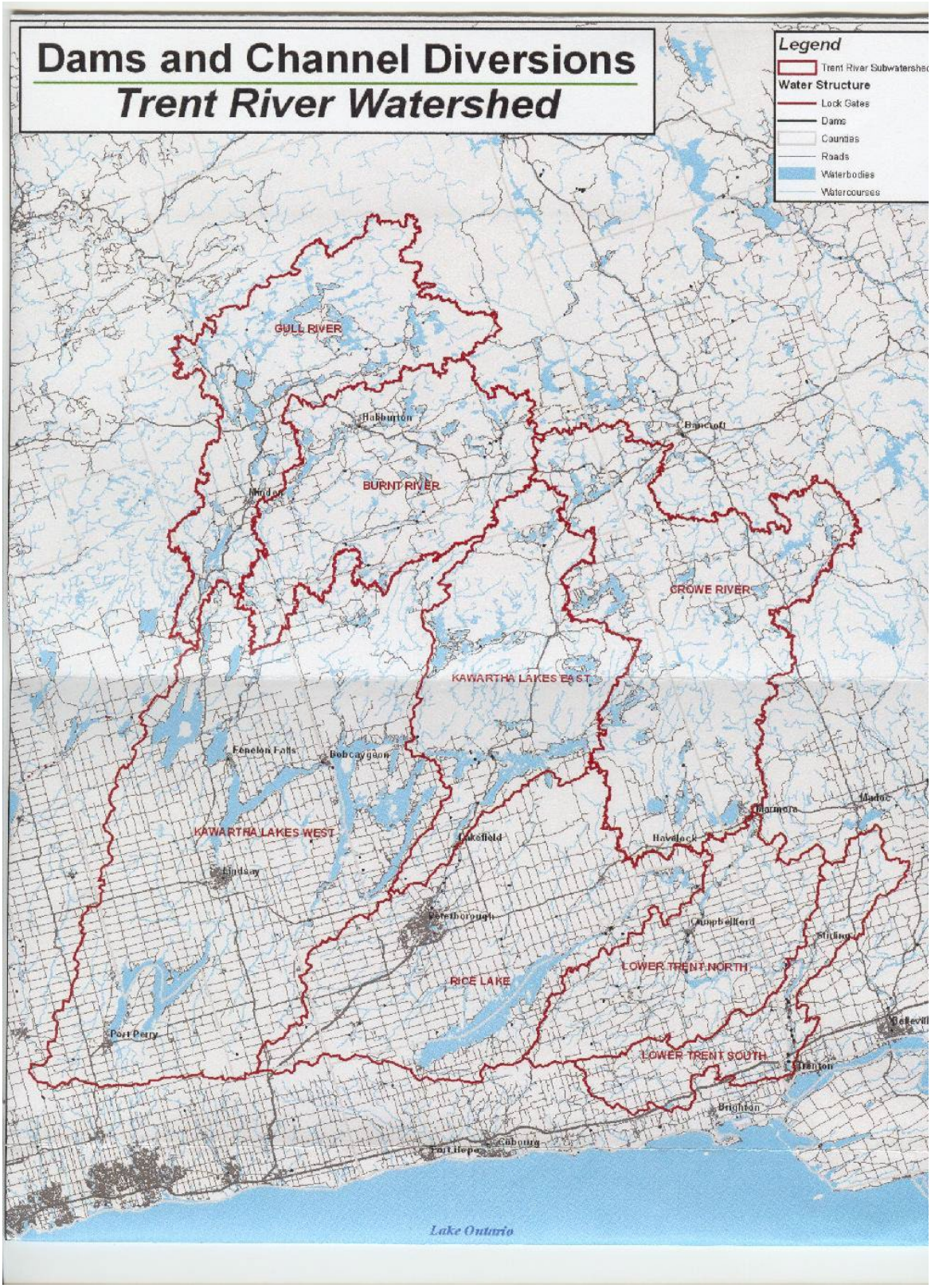
Category 1	Staff who can have day-to-day direct effect on the water quality reaching the customer's premise	
Position	Key Responsibilities	Key Authorities
Operations Support Manager, Water Treatment & Maintenance	• Supervise staff work, safety, and progress. • Report issues to the Manager WTP, as necessary. • ORO, as required (when present during business hours)	• Direct staff in day-to-day operations and maintenance activities • Recommend to the Manager WTP ways to improve operational effectiveness. • Expenditures up to $1500 without supervisor approval
WTP Operator	• Perform specified duties as instructed within established parameters for operating the WTP. • OIC • ORO as assigned (non-business hours)	• Operational discretion as delegated by the Manager WTP
WTP Maintenance Operator	• Perform specified duties as instructed within established parameters for operating the WTP. • OIC • ORO as assigned (non-business hours)	• Operational discretion as delegated by the Manager WTP
Manager Water Utility	• Oversee the daily operations and maintenance of the water distribution system. • Overall daily planning of work related to the operations and maintenance of the water distribution system. • Coordinate work with capital program. • Develop procedures to optimize the effectiveness of department. • Assist in selecting staff and their training and development. • Work safety program. • Report issues to the V.P. Water Utility as necessary	• Day-to-day operations of the Water Distribution Dept. • Direct supervisors and staff • Overseeing adverse water quality incidences for tests taken by WD staff • Develop departmental practices. • Administer union agreement • Arrange for training of supervisors and staff. • Schedule construction activities as they affect the water distribution operations. • Expenditures up to $5000 without supervisor approval
Operations Support Manager Water Distribution	• Supervise staff work, safety, and progress. • Report issues to the Manager Water Utility, as necessary. • ORO as assigned during business hours	• Direct staff in day-to-day operations and maintenance activities • Recommend to the Manager Water Utility ways to improve operational effectiveness. • Expenditures up to $1500 without supervisor approval

Category 1	Staff who can have day-to-day direct effect on the water quality reaching the customer's premise	
Position	Key Responsibilities	Key Authorities
Distribution Operator	• Perform specified duties as instructed within established parameters for operating the water distribution system. • OIC/ORO assigned (non-business hours)	• Operational discretion as delegated by the Manager, Water Utility

Category 2	Staff who can have day-to-day indirect effect on the water quality reaching the customer's premise	
Position	Key Responsibilities	Key Authorities
Water Quality Analyst	• Daily operational water quality testing • Communication of water quality testing results to appropriate management and staff • Customer concern response	• Maintain and calibrate analytical equipment according to manufacturer or industry standards. • Respond to customer water quality complaints
WTP Maintenance Mechanic	• Installation, maintenance and troubleshooting of mechanical equipment.	• Conduct work in an efficient manner that has minimal impact on operations
WTP Maintenance Electrician	• Installation, maintenance and troubleshooting of electric and electronic equipment.	• Conduct work in an efficient manner that has minimal impact on operations
Director Water Services	• Establish water utility capital budget and review/approve annual operating budgets. • Monitor regulatory framework and advise managers of critical issues. • Report to owner. • Manage overall budget and expenditures.	• Provide day-to-day directions for the water utility. • Approved expenditure up to $50,000 in accordance with purchasing policy • Approve budget changes within the approved budget amount. • Authority to declare a water utility emergency
Water Utility Engineer	• Establish a distribution system capital program and monitor progress. • Contract administration • Coordinate capital work with operating departments.	• Manage staff who oversee field activities for distribution system capital program.

Category 3	Staff who can have an occasional indirect effect on the water quality reaching the customer's premise	
Position	Key Responsibilities	Key Authorities
Senior Engineering Technician	• Design of linear infrastructure and associated facilities • Supervise field construction.	• Ensure construction activities are in accordance with specifications and standards
Commissioner Municipal Operation	• Communicate Corporate direction	• Review 5 10-year Capital Budget • Provide day-to-day direction for the water Service department. • Approving major expenditure in accordance with purchasing policy
City of Peterborough CEO	• Corporate direction	• Authority to declare an emergency. • Authority to alter outside water use restrictions.
Chief Financial Officer	• Corporate direction and overall financial positioning	• Provide financial direction for the entire corporation
City of Peterborough Procurement	• Arrange for purchase of supplies, equipment, and materials.	• Establish purchasing criteria and award contracts in consultation with operating departments
Program Manager, Quality Assurance	• Development of DW Operational Plans • Internal Audit • Operational plan update and Maintenance • Training in Operational Plan and DWQMS • Consult with the Registrar to schedule audits, respond to audit findings, provide documentation. • Management Review • QMS Representative	• Issue Corrective Action • Update Operating Procedures

Appendix 2 Watershed



APPENDIX 3 Subject System Description Form

Ontario

Ministry of the Environment, Conservation and Parks

Print Form

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 *

Corporation of the City of Peterborough

Subject Systems

Name of Drinking Water System (DWS) *	Licence Number *	Name of Operating Subsystems (if applicable)	Name of Operating Authority *	DWS Number(s) *
1. Peterborough Drinking Water System	145-101		City of Peterborough	220000497

Add item (+)

Contact Information for Questions Regarding the Operational Plan

Primary Contact

Last Name *	First Name *	Middle Initial
Skopelianos	Patricia	

Title *	Telephone Number *	Email Address *
Quality Assurance Program Manager	705-760-1091 ext.	pskopelianos@peterboroughutilities.ca

Secondary Contact

Last Name	First Name	Middle Initial
Simanovskis	Ilmar	

Title	Telephone Number	Email Address
Commissioner, Municipal Operations	705-742-7777 ext. 1549	isimanovskis@peterborough.ca

Save Form | Print Completed Form | Clear Form

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