

June 20, 2016

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

**Subject: Drinking Water Quality Management System (DWQMS) –  
Management Review Meeting - Endorsement by Owners**

Over the past 12 months a couple of significant milestones have been completed in regards to the Drinking Water Quality Management System and are summarized below:

- 1) **2<sup>nd</sup> External** (on-site verification) completed by SAI Global on November 4, 2015-Auditor Mr. Rod Seabrook
- 2) **5<sup>th</sup> Internal Audit** completed by Mr. Travis Rob from April 20 to May 16, 2016.
- 3) **5<sup>th</sup> Management Review Meeting** held on Monday June 20, 2016 to review the implementation of the DWQMS for the period June 2015 to May 31, 2016.

Please find attached the agenda package plus the associated documents which were reviewed at the June 20th, 2016 Management Review meeting and the corresponding meeting minutes. Presently under the process outlined in the Operational Plan Element No. 20 - Management Review (See pages No. 74 & 75 of Operational Plan) - there were four (4) action items that Council (owner) must review and endorse at this time:

Action Item No. 1) **Replace approximately 500 meters of 150mm diameter water main along Colonization Road West** (from 1302 Colonization Road West to 1448 Colonization Road West). The timeline is in accordance with the 2017 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

Action Item No. 2) **Installation of two additional valves along Sinclair Avenue between Victoria Avenue & Armit Avenue in order that the hospital facility can avoid unnecessary boil water advisories being issued.** Staff at the management review meeting on June 20, 2016 are of the opinion that the Town should send a letter to the Riverside Healthcare requesting that their internal plumbing be upgraded or upsized to ensure proper fire flow protection can be achieved from the water supplied from either Sinclair or Front Street watermains, prior to the installation of two additional isolation valves along Sinclair Avenue.

Action Item No. 3) **Ensure both Cemetery Irrigation Systems are properly plumbed to ensure the proper backflow protection c/w meter is in place.** The timeline is in accordance with the 2017 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital

expenditure to Council (owner). The Riverview Cemetery Irrigation system modifications can take place at the same time as completing action item No. 1

Action Item No. 4) – **Cancellation of Policy 4.5 - STANDARD OPERATING PROCEDURE (SOP) NO. 5 FOR HYDRO POWER OUTAGE FOR OPERATING THE WATER SYSTEM-** As a result of the new generator for the Water Treatment Plant becoming fully operational on July 28, 2015, this Standard Operating procedure is redundant going forward as the Town has the ability to manufacture and distribute potable water to its customers at all times.

The Operations & Facilities Executive Committee recommends the following;

- 1) That Council (owner) has reviewed the agenda package and minutes of the management review meeting held on June 20, 2016.
- 2) That Council (owner) has reviewed and accepted the following four (4) action items as a result of the management review meeting held on June 20, 2016

Action Item No. 1) **Replace approximately 500 meters of 150mm diameter water main along Colonization Road West** (from 1302 Colonization Road West to 1448 Colonization Road West). The timeline is in accordance with the 2017 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

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ability to manufacture and distribute potable water to the its customers at all times.

Respectfully Submitted,  
Operations & Facilities Division



D. Brown, P. Eng.  
Manager of Operations & Facilities

**Council approval of this report will ensure the following:**

- 1) 1) That Council (owner) has reviewed the agenda package and minutes of the management review meeting held on June 20, 2016.
- 2) That Council (owner) has reviewed and accepted the following four (4) action items as a result of the management review meeting held on June 20, 2016

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# Fort Frances Drinking Water System Management Review - Meeting Agenda

**Date:** Monday June 20, 2016

**Time:** 1:30 p.m.

**Location:** Fort Frances Water Treatment Plant

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## **A. Introduction:**

Reference to Operational Plan - Element 20 Management Review

- See attached Element No. 20.

**Period: June 01, 2015 to May 31, 2016**

## **B. Review Items:**

### **1. Incidents of regulatory non-compliance:**

Ministry of the Environment (MOE) Annual Inspection Report (2015 - 16)

Date of Inspection: November 30<sup>th</sup> – December 1<sup>st</sup>, 2015

Non-compliance with Regulatory Requirements: Two (2) items identified.

- 1. Existing parts of the distribution system that were taken out of service for inspection, repair or other activities that may lead to contamination, and all new parts of the distribution system that came in contact with drinking water, were not disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit.***

*For watermains that form part of a distribution system, DWWP #224-201 Schedule B, Condition 2.3 requires that all parts in contact with the drinking water which are:*

- Added, modified, replaced, extended; or*
- Taken out of service for inspection, repair or other activities that may lead to Contamination,*

*Shall be disinfected before being put into service in accordance with the provisions of the AWWA C651- Standard for Disinfecting Water Mains or an equivalent procedure.*

*Inspector stated "Although operators indicated that some form of disinfection is occurring during watermain replacements and repairs, the logbook contained no information with respect to disinfection procedures; therefore, the undersigned Water Inspector was unable to verify that appropriate disinfection procedures were being applied throughout the inspection period.*

#### **Action(s) Required:**

*For the purpose of DWWP #224-201, Condition 2.3, the document titled "Watermain Disinfection Procedure" (November 2015) is considered by the MOECC as the equivalent procedure which replaces ANSI/AWWA C651 – Standard for Disinfecting Water Mains with respect to the cleaning, tapping, maintenance and repair of watermains, appurtenances and fittings.*

## Fort Frances Drinking Water System Management Review - Meeting Agenda

*By January 29, 2016, all personnel working in the distribution system must review the Watermain Disinfection Procedure found in Appendix A. By January 29, 2016, confirmation that all personnel working in the distribution system have reviewed the Watermain Disinfection Procedure must be provided in writing to the undersigned Water Inspector by email: aaron.causyn@ontario.ca.*

### **Action(s) Taken:**

*On January 27, 2016 a meeting with all the distribution operators was held to review the disinfection procedure "Watermain Disinfection Procedure". Following the meeting an email was sent to the Water Inspector, Aaron Causyn informing him that the procedure had been reviewed, a copy of the Water Disinfection Procedure operator review sign-off sheet was attached. See attachments for email/operator sign-off sheet.*

### **2. The record system did not allow the reader to unambiguously identify the person who made the logbook entry.**

*O. Reg. 128/04, section 27(4) states: "A person who makes an entry in a log or other record-keeping mechanism shall do so in a manner that permits the person to be unambiguously identified as the maker of the entry".*

*On the following days during the inspection review period, up to three operators made entries into the WTP logbook; however, there was no way of identifying who made the entry (i.e. no initials or signatures):*

- January 28, 2015*
- February 4, 2015*
- February 10, 2015*
- June 29, 2015*

### **Action(s) Required:**

*Effective immediately, operators must clearly identify themselves in the logbook as the writer during all logbook entry occurrences, in accordance with O. Reg. 128/04, section 27 (4).*

*By January 26, 2016 The Town of Fort Frances must provide the undersigned Water Inspector with a copy of the Fort Frances WTP logbook for the period of December 7, 2015 to January 22, 2016. A copy of the logs may be provided by email: 808 Robertson St., 2<sup>nd</sup> Floor, Kenora, ON, P9N 1X9 or email: aaron.causyn@ontario.ca.*

### **Action(s) Taken:**

*On January 25, 2016 a copy of the logbook entries from December 7, 2015 to January 22, 2016 were emailed to the Water Inspector, Aaron Causyn. A copy of the email/logbook entries for the days requested are attached.*

## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

2015 Annual Summary Report (Schedule 22) – O. Reg. 170/03

Regulatory requirement: No later than March 31

Reported to O. & F. Executive Committee and Council.

Council Approval March 7, 2016.

Date submitted to Ministry of the Environment (MOE): March 21, 2016

Letters sent March 21, 2016 to the Owners that connect and receive water from the Town's Water Distribution System:

Non-compliance with Regulatory Requirements: None

2015 Annual Report – O. Reg. 170/03

Regulatory requirement: Not later than February 28

Date submitted to Ministry of the Environment (MOE): February 8, 2016

Non-compliance with Regulatory Requirements: None

O. Reg. 450/07: Charges for Industrial and Commercial Water Users

Regulatory requirement: Not later than March 31

Date submitted to Ministry of the Environment (MOE): January 18, 2016

Non-compliance with Regulatory Requirements: None

### **2. Incidents of adverse drinking water tests:**

Water Treatment Plant:

No adverse treated water samples.

Water Distribution System:

Adverse water quality - review each

Where, when, why

See Attachment. – B.2.

### **3. Deviations from critical control-point limits and response actions:**

The QMS Team had undertaken a Risk Assessment review (from scratch) of the risks and their critical control-points/response actions February 23, 2015.

No changes in limits or response actions.

## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

Risks with a threshold above or equal 8 (Threshold – 8):

1. Rail car derailment (Spill of chemical or contamination):
2. Loss of pressure: water mains break, major fire
3. Cross connection

Unchanged.

Reference - Element 7/8

### **4. The effectiveness of the risk assessment process:**

Operators reviewed the Risk Assessment process February 23, 2015, no changes to process. (Reviewed on a yearly basis in accordance with Element 7.)

### **5. Internal and third party audit results:**

#### Internal Audit results:

Latest Internal Audit:

May 20, 2016, resolved June 16, 2016 - undertaken by Travis Rob.  
Five (5) corrective actions identified and actions taken to resolve.

List CAR's and copies of Corrective Action Records are attached.  
Operational Plan to be amended reflecting non-conformances.

Previous Audit:

Issued April 24, 2015, resolved May 28, 2015 – undertaken by Travis Rob.  
One (1) corrective action identified and action taken to resolve them.  
(Identified in the previous Management Review)

#### External Audit results:

Latest Off-site External Audit:

Re-Accreditation Systems Audit –

- Off site (October 6, 2015), resolved November 2, 2015 - undertaken by  
SAI GLOBAL - Accreditation Program for Operating Authorities.

One (1) non-conformances was identified and action taken to resolve them.

- On site (November 4, 2015) - undertaken by SAI GLOBAL -  
Accreditation Program for Operating Authorities.

No non-conformances were identified.



## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

List CAR's and copies of Corrective Action Records are attached.

Previous On-Site External Audit -  
24-Month Surveillance Audit (November 25, 2014) - by SAI GLOBAL  
Two (2) non-conformances were identified and actions taken to resolve them.

See Attachment B.5.

### **6. Results of emergency response testing:**

Standard Operating Procedures identified in the Emergency Response Binder had been reviewed with the Water System Operators September 25, 2015.

Emergency SOP's Reviewed:

1. Policy 4.24 – SOP No. 1 – for the Destruction (Bombing/Major Fire) of Water Treatment Plant or Water Tower.
2. Policy 4.23 – SOP No. 2 – for Pandemic Situation – Affecting the Water Treatment Plant Operators & Community.
3. Policy 4.15 – SOP No.3 – for Water Main Breaks and Repairs.
4. Policy 4.6 – SOP No. 4 – for breakdown of equipment at the Water Treatment Plant
5. Policy 4.5 – SOP No. 5 – for Hydropower Outage for Operating the Water System
6. Policy 4.4 – SOP No. 6 – for Raw Water Source Contamination

Update Municipal Emergency Management listing in Emergency Response Binder November 2, 2015.

Note: SOP No. 5 has become redundant since the installation of the new emergency standby generator.

Additional emergency response training scheduled for the fall of 2016.

## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

### **7. Operational performance:**

#### **WTP:**

##### Actions & recommendations from MOE:

As a result of the October 2015/16 MOE inspection.

Effective immediately, operators must clearly identify themselves in the logbook as the writer during all logbook entry occurrences. By January 26, 2016 The Town of Fort Frances must provide the undersigned Water Inspector with a copy of the Fort Frances WTP logbook for the period of December 7, 2015 to January 22, 2016.

On January 25, 2016 a copy of the logbook entries from December 7, 2015 to January 22, 2016 were emailed to the Water Inspector

##### Personnel:

As of June 1, 2015 – Vacancy filled – Paul Lemesurier  
Full complement

##### Maintenance issues:

1. Emergency Standby Generator and associated switching gear, wiring, etc.  
installed July 28, 2015.

No other issues.

#### **Distribution System:**

##### Actions & recommendations from MOE:

As a result of the October 2015/16 MOE inspection.

Review with all personnel working in the distribution system the new disinfection procedure “Watermain Disinfection Procedure”.

On January 27, 2016 a meeting with all the distribution operators was held to review the disinfection procedure “Watermain Disinfection Procedure”.

##### Personnel:

Water Distribution Operator vacancy filled as of November 2, 2015 – Jay Bruyere.  
Full complement.

##### Maintenance issues:

Numerous water main/service breaks throughout the Town, since the last Management Review.

## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

One additional water main breaks have occurred on Colonization Road West (1400 blk.). Was slated for replacement in 2014, postponed due to lack of funding. Still recommended for replacement.

See Attachment B.7.

Reported approximately 5 frozen water services, all of which are on private property. Winter fairly mild compared to previous not as cold as previous winter season.

During valve exercising some of the isolation valves began leaking or are very hard to turn. Replacement of these valves is recommended. Six (6) valves were replaced in 2015. No additional valve replacements scheduled for 2016.

Some existing fire hydrants are obsolete, no parts to maintain them. Six (6) fire hydrants were scheduled for replacement in 2015. No additional hydrant replacements scheduled for 2016.

### **8. Raw water supply and drinking water quality trends:**

No changes in raw water supply and drinking water quality trends.

Regular seasonal water turnover of Rainy Lake.

See Chart - Attachment B.8. (Information obtained from DWSP sampling).

### **9. Follow-up on action items from previous management reviews:**

#### 2014 Management Review Items:

Two (2) follow-up items identified.

1. Replacement of approximately 500 metres of 150 mm diameter water main along Colonization Road West (from 1302 Colonization Rd. W. to 1448 Colonization Rd. W.)

Status: Due to lack of funding the project has been postponed to 2015. To go through the 2016 Capital Budget process. Construction season.

2. Installation of a back-up electrical generator at the WTP to ensure potable drinking water can be manufactured during extended periods of time (greater than 24 hours) when there is no electrical power available had been approved in

## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

the 2013 Capital Budget. The value budgeted for the purchase of the standby generator was insufficient for size of generator required. Therefore the purchase of the standby generator had been deferred to the 2014 Capital Budget.

Status: Back-up generator had been installed July 28, 2015. In July 2016 Hatch Mott McDonald Ltd., retained to design, tender, environmental review, contract administration services is to contact Wajax and MC Lough Electrical to complete their one year maintenance warranty.

### 2015 Management Review Items:

Three (3) follow-up items identified in the last management review:

1. Replacement of approximately 500 metres of 150 mm diameter water main along Colonization Road West (from 1302 Colonization Rd. W. to 1448 Colonization Rd. W.)

Status: Due to lack of funding the project has been postponed to 2016. To go through the 2017 Capital Budget process.

2. Installation of two additional valves along Sinclair St. between Victoria Ave. and Armit Ave in order that the hospital facility can avoid unnecessary boil water advisories being issued.

Status: Due to lack of funding the project has been postponed.

3. Installation of a looping water main along laneway between Lillie Ave. and Webster Ave. abutting the old West End Rink property.

Status: Water main and appurtenances have been completed.

### **10. The status of management action items identified between reviews:**

No management action items identified between reviews.

### **11. Changes that could affect the Quality Management System (QMS):**

Internal/External Audit: No issues.

Management Review: No issues.

## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

Any new business development upstream of water intake could potentially contamination of raw water source or supply. No concerns at this time.

### Information Only:

Where to find – electronically: Revision Updates – Last version. Check electronic version (latest version) found in W:\QMS Documentation\QMS Operational Plan\...file name. (March 31, 2016; Revision No. 8)

### **12. Consumer feedback:**

Customer complaints: Last period – 13 complaints, this period 8 complaints.

#### Notes:

1. Construction projects last year and in 2016, therefore dead-end mains have been temporarily created as a result – causes stagnate and discoloured water issues.
2. Result of water main breaks.
3. Maintenance activities – valve exercising

Customer Complaint Processing form – See Attachment B.12

### **13. The resources needed to maintain the Quality Management System (QMS):**

Council's commitment to provide the following:

Personnel – No issues.

Financial – No issues.

### **14. The results of infrastructure review:**

Six (6) year capital plan (In OP – Appendix I)

On an annual basis –

Proposed Infrastructure upgrades are discussed and reviewed with operators.

Council reviews and approves.

## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

### **WTP:**

On a monthly basis the WTP Overall Responsible Operator generates a report outlining operational and maintenance activities. The report is circulated and reviewed by the Environmental & Facilities Supt., Manager of O. & F., the O. & F. Executive Committee and Council.

### Upgrades for this period:

Interior painting of floors and process piping – in progress.

### **Water Distribution System:**

On a monthly basis Environmental & Facilities Supt. generates a report outlining maintenance activities. The report is circulated and reviewed by the Manager of O. & F. and the O. & F. Executive Committee and Council.

### Upgrades during this period:

Water main valve exercise program: 20% per year (Area 5 – West End)

Hydrant flushing: flushing annually

Fire hydrant replacements:

- (2015) - King's Highway Reconstruction (Bay City) - 2 hydrants.
- 2016 - Phair Avenue Reconstruction (Bay City) – 2 of 4 hydrants.
  - Colonization Road East (Makkinga) – 1 of 4 hydrants.
  - Laneway between Webster Ave. and Lillie Ave. – 1 hydrant

Water main isolation valve replacements:

- (2015) - King's Highway Reconstruction (Bay City) - 13 valves.
  - Nelson Street - Butler Ave. to wood yard - 2 valves.
- 2016 - Phair Avenue (Bay City) – 3 of 6 valves.
  - Colonization Road East (Makkinga) – 3 of 10 valves
  - Laneway between Webster Ave. and Lillie Ave. – 2 valves

Water main replacement (Construction Projects):

- King's Highway: York Avenue to Wright Avenue
- Nelson Street: Butler Avenue to Mill Wood Yard
- Phair Avenue: Third Street East to Sixth Street East
- Laneway between Webster Avenue and Lillie Avenue
- Colonization Road East: Scott Street to Elizabeth Street

Water main installations (new) (Construction Projects):

- None

## **Fort Frances Drinking Water System Management Review - Meeting Agenda**

Water meters/backflow device installations – ICI sector, on going.

### Scheduled for 2016 Construction:

Replacement/new installation of water mains and services along the following streets:

- a. Phair Avenue: Third Street East to Sixth Street East
- b. Laneway between Webster Avenue and Lillie Avenue
- c. Colonization Road East: Scott Street to Elizabeth Street

### **15. Operational plan currency, content and updates:**

Current revision date – March 31, 2016, Rev. 8

#### Updates (since previous period):

Audits - Amended OP after the audit review.

List CAR's and provide copies of Corrective Action Records. See Attachment B.5

Document Request Changes (DRC) – document changes to Operation Plan other than the CAR changes as described above. (Spelling, grammar, personnel change, etc.). A result of conducting staff meetings to review the Elements within the Operation Plan. The Operation Plan will be amended following the Management Review.

### **16. Staff suggestions:**

Any concerns from operators/staff.



PROCEDURE TITLE: Management Review

REVISION #5

QMS REFERENCE: ELEMENT NO. 20

QMS REPRESENTATIVE: 

## 20 Management Review

### 20.1 Review Frequency

Top management shall review the QMS once every twelve (12) months to assess and ensure the continuing suitability, adequacy and effectiveness of the QMS.

Management review(s) shall be included in the internal audit schedule.

### 20.2 Review Participants

Management review participants shall include:

- CAO
- Operations & Facilities Manager
- Environmental & Facilities Superintendent (QMS Representative)
- Overall Responsible Operator
- Operator In Charge (Water Distribution System)

The Operations & Facilities Manager may include other personnel at his discretion.

Attendees shall be notified of the management review meeting by e-mail and/or internal memo.

### 20.3 Review Input

The QMS Representative and the Secretary/Receptionist shall provide a summary of the following information in a suitable format to the management review meeting attendees at least seven (7) days prior to the meeting:

- Incidents of regulatory non-compliance.
- Incidents of adverse drinking-water tests.
- Deviations from critical control-point limits and response actions.
- The effectiveness of the risk assessment process.
- Internal and third-party audit results.
- Results of emergency response testing.
- Operational performance.
- Raw water supply and drinking water quality trends.
- Follow-up on action items from previous management reviews.
- The status of management action items identified between reviews.
- Changes that could affect the QMS.
- Consumer feedback.
- The resources needed to maintain the QMS.



PROCEDURE TITLE: Management Review

REVISION #5

QMS REFERENCE: ELEMENT NO. 20

QMS REPRESENTATIVE: 

- The results of the infrastructure review.
- Operational plan currency, content and updates.
- Staff suggestions.

## 20.4 Review Process

The QMS Representative shall prepare a meeting agenda and distribute the meeting agenda with the management review data.

The management review participants shall review all data presented, and where necessary, identify opportunities for improvements. These may include opportunities for improvement related to the:

- Effectiveness of the QMS and related procedures.
- Ability of the Operating Authority to implement the QMS
- Provision of adequate human and financial resources.
- The level of consumer satisfaction.

For all opportunities identified, the management review participants shall identify action items, personnel responsible for implementing action items and timelines for action items.

Records of management reviews, recommendations, decisions, action items, personnel responsibilities, and timelines shall be forwarded to the Operations & Facilities Executive Committee upon completion for acceptance and then forward to Council (Owner) of the Town of Fort Frances for review and acceptance.

Records shall be maintained by the QMS Representative. The records shall reflect all new action items and any decisions made by the Management Review Team, deficiencies, personnel responsible for action items, and timelines.

**Item B.2**

**Incidents of Adverse Drinking Water Tests**  
**Distribution System**

	<b>Location</b>	<b>Incident Date</b>	<b>Parameter</b>	<b>Work Being Done</b>	<b>Resolution/Corrective Action</b>
1.	401 King's Highway Fort Frances Cemetery	October 8, 2015	Total Coliform (Present)	Water main replacement King's Highway	October 10, 2015 – AWQI No. 126800 - Flushed area where adverse occurred. Took samples upstream, at source and downstream, two sets not less than 24 hours apart as per MOECC requirements. Notified Ministry of the Environment (MOE), Spills Action Centre (SAC), Ministry of Health (MOH) and Northwestern Health Unit.

## CAR LOG

### Attachment B.5

CAR NUMBER	ELEMENT	DESCRIPTION (Non-conforming situation)	DATE ISSUED	ASSIGNED TO	REPLY REQUIRED BY	DATE RESOLVED	COMMENTS	OPERATIONAL PLAN REV. NUMBER
<b>October 6, 2015 - External Audit - Re-accreditation Systems Audit by SAI Global - Accreditation Program for Operating Authorities.</b>								
2015-01	6	The Operational Plan does not contain a completed copy of the Subject System Description Form - Schedule C	October 6, 2015	Doug Brown	December 5, 2015	November 2, 2015	Issued by SAI GLOBAL - Accreditation Program for Operating Authorities	7
<b>November 4, 2015 - On-site Audit - Re-accreditation Audit by SAI Global - Accreditation Program for Operating Authorities. No non-conformances reported.</b>								
2016-001	5	The Document and Records Control procedure does not address keeping documents and records legible	May 20, 2016	Doug Herr	July 4, 2016	June 16, 2016	Internal Auditor - Travis Rob (TOFF)	9
2016-002	6	Description of the fire pump noted in section 6.7 is missing from the plant description	May 20, 2016	Doug Herr	July 4, 2016	June 13, 2016	Internal Auditor - Travis Rob (TOFF)	9
2016-003	11	The staff contact listing posted in the Water Treatment Control Room is out of date (See CAR 2014-003)	May 20, 2016	Doug Herr	July 4, 2016	June 13, 2016	Internal Auditor - Travis Rob (TOFF)	9
2016-004	16	Contact information contained in the referenced appendix is not up to date.	May 20, 2016	Doug Herr	July 4, 2016	June 13, 2016	Internal Auditor - Travis Rob (TOFF)	9
2016-005	18	SOP#5 does not reference the back up generator for power outages.	May 20, 2016	Doug Herr	July 4, 2016	June 16, 2016	Internal Auditor - Travis Rob (TOFF)	9

November 02, 2015

Project No.: 1631580-01

Mr. Doug Brown  
Operations and Facilities Manager  
The Corporation of the Town of Fort Frances  
320 Portage Avenue  
Fort Frances, ON  
CAN P9A 2P9

**SUBJECT: NONCONFORMANCE REPORT**

Dear Mr. Brown,

Please find below the status of the non-conformance report identified during the audit of your management system on 10/02/2015.

NCR No.	Clause	Description	Status
2015-01	6	Drinking-Water System	Closed

Corrective actions taken to resolve the non-conformance have been reviewed and found to be fully satisfactory in meeting the requirements of DRINKING WATER QUALITY MANAGEMENT STANDARD (DWQMS):2006.

Thank you for your cooperation in this matter.

Sincerely,

Rod Seabrook  
Team Leader

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Excellence. Assured.

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Failure to provide action plans as arranged with SAI Global and/or to implement correction and corrective action within the nominated time frames may lead to a recommendation that your certification be denied or suspended.

Activity #:	1631580-01	Client:	The Corporation of the Town of Fort Frances OAP - 224			App/Cert:	
Function/Area/Process:	Drinking-Water System				Site:	320 Portage Avenue, Fort Frances	
Std. and Clause No(s):	DRINKING WATER QUALITY MANAGEMENT STANDARD (DWQMS):2006 6	NCR#:	2015-01	Category:	Minor		

#### Section 1- Details of non-conforming situation:

##### Non-conforming situation:

The Operational Plan does not contain a completed copy of the Subject System Description Form - Schedule C

##### Requirement:

Director's Directions July 2007 Section 3.4.1.3

##### Objective evidence:

Town of Fort Frances Operational Plan Rev 7

Clearance Due Date: 12/05/2015

Audit Team Leader	Name	Rod Seabrook	Organization's acknowledgement of receipt of NCR	Name	Doug Brown
	Date:	10/06/2015		Date:	10/06/2015

SAI Global Verification Method: Off-site review of objective evidence.

#### Section 2- Organization's Response: (Attach separate sheet if required)

##### Root Cause Analysis (record or attach 5 why, 8D, fishbone diagram, etc to support this analysis):

A completed copy of the Subject System Description Form – Schedule "C" as outlined in the Director's Directions had not been included in the QMS Operational Plan, an oversight.

##### Correction with completion dates (what was the immediate fix? Submit objective evidence of correction):

The Subject System Description Form – Schedule "C" as outlined in the Director's Directions will be completed and a copy thereof will be included in the QMS Operational Plan - Appendices.

Inclusion of documentation to be submitted to the Auditor on or before December 05, 2015.

##### Corrective Action Taken/Planned (with completion date(s) (record what action is planned or will be taken to prevent recurrence. Submit objective evidence of completed corrective actions):

A completed copy of the Subject System Description Form – Schedule "C" as outlined in the Director's Directions has been included in the QMS Operational Plan. See Appendices.



Organization Representative :

Name: Doug Brown

Date:



Oct 29/15

**Section 3- SAI Global Response Review:**

Reviewer:

Date:

**Section 4- SAI Global Verification of Corrective Action for effectiveness****Section 5- SAI Global NCR Closure:**

Name:

Date:

# QUALITY MANAGEMENT SYSTEM (QMS)

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## APPENDICES

Appendix A - Document Change Request Form (DCR)

Appendix B - Equipment Information Form (EIF)

Appendix C - Standard Purchase Agreement

Appendix D - Outline of Operations/Maintenance Schedules

Appendix E - Standard Operating Procedure for Flushing of Water Mains

Appendix F - Procedure for Identifying & Responding to Adverse Sample Results

Appendix G - Corrective Action Form

Appendix H - Listing of All Correction Actions

Appendix I – Summary of Rehabilitation, Renewal and Routine Maintenance Activities –  
5-year Capital Budget

Appendix J - Town of Fort Frances Drinking Water Distribution System

Director's Directions Schedule "C" – Subject System Description Form

*\*The Safe Drinking Water Act, 2002, requires the inclusion of Schedule "C" from the Director's Directions in all Operational Plans.*



The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Drinking Water System

REVISION #7

QMS REFERENCE: N/A

QMS REPRESENTATIVE: *[Signature]*

Schedule "C"

Subject System Description Form  
Municipal Residential Drinking Water System

Owner of Municipal Residential Drinking Water System:

The Corporation of the Town of Fort Frances

Name of Municipal Residential Drinking Water System:

Fort Frances Drinking Water System

Subject Systems

Name of Operational Subsystems (If Applicable)	Name of Operating Authority	DWS Number(s)
<input checked="" type="checkbox"/> Check here if the Municipal Residential Drinking Water System is operated by one operating authority. Enter the name of the operating authority in adjacent column.	The Corporation of the Town of Fort Frances	220000978
Operational Subsystem 1:		
Operational Subsystem 2:		
Operational Subsystem 3:		
Operational Subsystem 4:		

Add attachments if there are additional "Operational Subsystems"

Contact Information

Name	Title	Phone Number	email address
Doug Brown	Operations & Facilities Manager	(807) 274-9893 ext. 306	dbrown@fort-frances.com
Douglas Herr	Environmental & Facilities Sup't	(807) 274-9893 ext. 303	dherr@fort-frances.com

# Memo

**To:** Doug Herr, QMS Representative

**Date:** June 16, 2016

**RE:** Closure of CAR's resulting from 2016 Internal Audit

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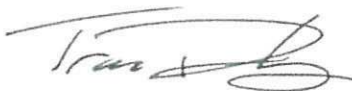
Doug,

Please accept this letter as notification of the completion and closure of the CAR's created in the May 20, 2016 Internal Audit of the Town of Fort Frances Operational Plan.

CAR #	Element
2016-001	Element #5 – Document and Records Control
2016-002	Element #6 – Drinking Water System
2016-003	Element #11 – Personnel Coverage
2016-004	Element #16 – Sampling, Testing & Monitoring
2016-005	Element #18 – Emergency Management

The above-mentioned CAR has been reviewed and signed off with my approval and returned to you for inclusion in the document and Management Review process. If you have any further questions, comments or concerns, please do not hesitate to contact myself.



Regards,



Travis Rob, EIT  
DWQMS Internal Auditor

# Fort Frances Drinking Water System DWQMS FORM

## CORRECTIVE ACTION

CAR #	2016-001
Date	May 20, 2016
Element	Element #5 – Document and Records Control
Description of Nonconformance	The Document and Records Control procedure does not address keeping documents and records legible
Root Cause	An oversight from the initial creation of the DWQMS Operational Plan.
Description of Corrective Action Taken	The DWQMS Operational Plan, Element 5 Quality Management System (QMS) Document & Records Control has been revised to address legibility in the documents and records control procedures. See attached.
Sign-off - Corrective Action Complete	Name and Date Doug Herr,  June 8, 2016
Long-Term Corrective Action	If applicable None
Validation Sign-off – Corrective Action Effective	 Travis Rob, QMS Internal Auditor June 16/16

The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Documents and Records Control

REVISION #9

QMS REFERENCE: ELEMENT NO. 5

QMS REPRESENTATIVE: *[Signature]*

- ° Annual Management Review Documentation
- ° Emergency Response Binder
- External Documents
  - ° Town of Fort Frances Emergency Plan
  - ° Equipment Maintenance Manuals

The methods by which control over records will be exercised are described in the Records Control Procedure.

b) The QMS Representative shall maintain a document and record master control table.

c) Internal Document:

- 1) Internal Documents are created in Microsoft Word.
- 2) A standard header shall identify all QMS internal documents. This header contains the title of the document, QMS element reference number, indication of revision, and signature of approval from the QMS Representative.
- 3) A standard footer shall identify all QMS internal documents. This footer contains the following wording "Town of Fort Frances QMS Operational Plan and the last revision date".
- 4) All original QMS internal documentation shall be stored on the Town's central computer system. The electronic version shall be password protected to restrict access to the QMS Representative and Alternate. The original (electronic version) shall display the digital signature of approval of the QMS representative. Printed copies of the internal documentation shall display the words "Uncontrolled When Printed" in the document footer.
- 5) The currency of each internal document is ensured by comparison of the revision date in the document footer to that of the original stored at the Water Treatment Plant Control Room.
- 6) Any employee of the Town of Fort Frances Water System may request the creation of a new internal QMS document or a change to an existing internal document. A document change request form shall be used any time changes to internal documents or the



The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Documents and Records Control

REVISION #0

QMS REFERENCE: ELEMENT NO. 5

QMS REPRESENTATIVE: *J. L. H.*

creation of a new internal QMS document is required. The QMS team will meet to review the proposed change and once consensus by the QMS team is reached, the QMS representative will be authorized to change the internal document.

- 7) Following the internal QMS document procedure will ensure that all internal QMS documents are kept current, properly formatted and controlled.

d) External Documents:

- 1) External Documents are official documents from outside organizations. These documents cannot be altered or edited by anyone outside these organizations. Copies of external documents are either in an electronic format or hard copy or both.
- 2) Each external document affected by the QMS shall be clearly marked as "Controlled Copy" and signed by the QMS Representative.
- 3) The controlled copy of external QMS documents shall be stored at the Water Treatment Plant Control Room.
- 4) The Secretary/Receptionist will review and update the Town's Emergency Plan once annually, as new information becomes available or when existing information is updated/revised. The Secretary/Receptionist shall notify the QMS representative of any updates/revisions. Refer to section e) Communication Procedure for New Documents or a change/update to a Document.
- 5) Current equipment manuals shall be indicated on the Equipment Manual Listing – Currency Review form located in the equipment files at the WTP Control Room. On an annual basis the ORO of the water system will confirm that the revision date of all the equipment maintenance manuals have not changed or been updated. If changed/updated is to notify the QMS representative so the communication change procedure is followed as outlined in section "e)" below.

e) Communication Procedure for New Documents or a change/update to a Document:

New, changed or updated internal or external documents will be made available to all affected employees. The QMS Representative will forward an email to all

The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Documents and Records Control

REVISION #9

QMS REFERENCE: ELEMENT NO. 5

QMS REPRESENTATIVE *[Signature]*

water system employees when a new document is created or there is a change/update to a document.

f) Obsolete internal and external QMS documents are to be promptly removed from use by the QMS representative or the Secretary/Receptionist. This will only occur once a revised document has been approved by the QMS team and signed off by the QMS representative. Hard copies will be destroyed and recycled if possible.

### Associated Documents

- *Document Change Request (DCR) Form* Appendix "A"
- *Equipment Information Form (EIF)* Appendix "B"
- *Document and Record Master Control Table, see Section 5.4*

## 5.3 Records Control Procedure

### Procedure Description

This procedure provides guidance for the identification, use, retention, storage, protection and disposal of all records generated by the Quality Management System (QMS).

### Reason for Procedure

Consistent control ensures the ease of retrieval of each record generated by the Town of Fort Frances Water System employees. Proper maintenance of records is critical for conformance with the Drinking Water Quality Management Standard (DWQMS), and also for compliance with drinking water legislation and regulations.

### Responsibility

The designated QMS Representative or the Secretary/Receptionist shall be responsible for ensuring that an effective method for controlling all QMS records exists.

### Procedure

- a) Records requiring control by the QMS include;
- DWQMS Team Meeting Minutes
  - Management Review Meeting Minutes
  - Internal/ External Audit Reports
  - Completed Corrective Action Requests
  - Completed Change Document Request forms
  - Water Treatment Plant Monthly Reports

The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Documents and Records Control

REVISION #9

QMS REFERENCE: ELEMENT NO. 5

QMS REPRESENTATIVE: *[Signature]*

- Water Tower Log Book
- Water Treatment Plant Log Book
- Water Distribution Log Book
- Water Distribution System Sampling & Chlorine Residual Log Book for WTP Operators
- ALS Laboratory Results for Microbiological Tests
- ALS Laboratory Results for Chemical Tests
- ANSI/NSF Certification of Chemical Products used at WTP
- WTP Equipment & Instrumentation Calibration Records
- Customer Complaint Forms in regards to the Water System
- DWQMS Management Review Report
- Water Distribution System – Monthly Maintenance Activities


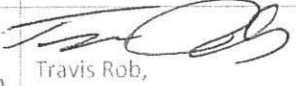
- b) QMS Records are either hand written, if possible utilizing pen on a hard copy or entered electronically into a database.
- c) Records will be retained electronically and/or in hard copy, but retention time will be in accordance with applicable government regulations.
- d) Filing and storage of paper records shall be such that they are protected from damage and are readily retrievable. Records are kept in filing cabinets in the Water Treatment Plant Control Room or Operation & Facilities Office.
- e) Electronic records are stored on the Town's control computer system and are backed up on a regular basis.
- f) All hard copy records outlined under the QMS older than required by applicable government regulations may be destroyed and if possible recycled by the Secretary/Receptionist.
- g) All electronic records under the QMS will be retained in the Town's central computer system. Disposal of QMS electronic files older than required by appropriate regulatory requirements will be completed by Town's IT (Information and Technology) Manager when time is available to complete this task.

#### 5.4 Document & Record Master Control Table



# Fort Frances Drinking Water System DWQMS FORM

## CORRECTIVE ACTION

CAR #	2016-002
Date	May 20, 2016
Element	Element #6 – Drinking Water System
Description of Nonconformance	Description of the fire pump noted in section 6.7 is missing from the plant description
Root Cause	<p>The description of the fire pump noted in section 6.7 of Element 6 was intentionally removed. Since the commissioning of the emergency standby generator the need for the fire pump has become redundant. The fire pump will be eventually removed from the plant altogether.</p> <p><u>Opportunity For Improvement:</u></p> <p>Subsection 6.5, paragraph 6 – “dual medial filters is made ...” should read “dual media filters are made ...” (See attached)</p> <p>Further to the above, Section 6.7 Water Treatment Plant – Brief Description identifies the fire pump in other subsections. This will be addressed through a Document Request Change (DRC).</p>
Description of Corrective Action Taken	The commissioning of the emergency standby generator, therefore the need for the fire pump has become redundant.
Sign-off - Corrective Action Complete	<p>Name and Date</p> <p>Doug Herr,  June 8, 2016</p>
Long-Term Corrective Action	<p>If applicable</p> <p>None</p>
Validation Sign-off - Corrective Action Effective	<p> Travis Rob, QMS Internal Auditor June 13, 2016</p>

Internal Audit Corrective Action



The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Drinking Water System

REVISION: 00

QMS REFERENCE ELEMENT NO. 6

QMS REPRESENTATIVE: *L. L. H.*

The sludge blanket in each clarifier is on an automatic blow-down controlled through the computer control system. Operators inspect the sludge blanket at least once per day and can increase/decrease the blow-down to maintain an optimum sludge blanket in the clarifiers.

The dual media filters ~~is~~ are made up of a top layer of anthracite, 500 mm thickness while the filter media below is silica sand, 400 mm thick. The processed water is carried over the filter media where suspended solids are removed as it gravity flows through the media.

Each of the four (4) filters is equipped with a turbidity meter installed on the filter effluent, which are alarmed in case of media breakthrough or an upset in process.

Periodically the filter media will need to be backwashed to remove/flush out the suspended particles.

The processed water flows to the contact chamber, located between the two (2) reservoir cells or clear wells. In the contact chamber chlorine, soda ash and hydrofluorosilic acid (fluoride) is added. The contact chamber is baffled to enhance proper mixing and contact time for the chlorine entering the reservoirs or clear wells.

The treated water then enters clear wells (two wells) located beneath the Water Treatment Plant main floor. Clear Well No. 1 and No. 2 have a capacity of 2565 m<sup>3</sup> and 1465m<sup>3</sup>, respectively. Treated water from the clear well is pumped into the distribution system through the four high lift vertical turbine pumps. Each pump is equipped with electric motors. High lift pump No. 1 and No. 4 have 60 horsepower variable speed drive motors capable of providing flows up to 63.1L/s, No. 2 is 100 horsepower/94.7L/s and No. 3 is 125 horsepower/126.2L/s.

Chlorine-fluoride analyzers located on the distribution line within the plant monitors the treated water as it is pumped out of the clear wells into the distribution system.

## 6.6 Distribution System and Elevated Storage Tank

Treated water is pumped from the Water Treatment Plant clear wells into the distribution system. Distribution piping typically ranges in size from 100mm to 400mm and may consist of cast iron, ductile iron, transite or PVC, depending on location and date of installation. Refer to Appendix "I" for map of the entire the Town of Fort Frances' Drinking Water System, which is further broken down into five (5) sections showing more detail.

The elevated water storage tank/water tower is located in the west end of Fort Frances at the southeast side of the intersection of Colonization Road West and McIrvine Road. UTM Coordinates: NAD83, Zone 15, Easting 468,540.00m and Northing 5,383,616.00m. The elevated storage tank is an integral component of the distribution system as it

The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Document Change Request Form  
QMS REFERENCE: Element No. 5 - APPENDIX "A"

REVISION #4  
QMS REPRESENTATIVE:

## DOCUMENT CHANGE REQUEST FORM

Requested By: QMS Team

Date: June 7, 2016

Department: O. & F. Division

### Type of Change:

☐ Edit Existing Document ☐ Create New Document ☐ Delete Document

### Changes Requested:

1. Element 6 Drinking Water System - wording pertaining to the fire pump.

### Justification for Changes:

1. Page 24 - 26 – subsection 6.7 Water Treatment Description – Brief Description
  - a) The existing fire pump within the plant is now redundant since the commissioning of the new emergency standby generation.

### Proposed Changes:

1. Page 24 – subsection 6.7 Water Treatment Description – Brief Description
  - a) Treated Water Pump Wells: first line – remove the wording "the fire pump".
  - b) Plant Effluent Discharge Header: first sentence – remove the wording "and the fire pump".
2. Page 26 – Process Flow Diagram  
The process flow diagram has been amended by removing the fire pump.

Page 1 of 1

### Approval:

QMS Representative: J. L. H.

Date: 08-06-2016

### Comments:

IN REFERENCE TO CAR # 2016-002

The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Drinking Water System

REVISION #9

QMS REFERENCE: ELEMENT NO. 6

QMS REPRESENTATIVE: *J. L. A.*

Treated Water Pump Wells

The treated water pump well contains ~~the fire pump~~, the filter backwash pump and high lift pumps number 1, 2, 3 and 4. It is located between the two reservoirs cells.

High Lift Pumps

These four units draw water from the treated water pump wells and are of varying capacities and are controlled by the water elevation in the Elevated Storage Tank/Water Tower.

High lift pump No. 1 and No. 4 – equipped with a 60hp variable frequency drive electric motor capable of providing flows up to 63.1 L/s.

High Lift Pump No. 2 – equipped with a 100hp electric motor, rated to deliver 94.7 L/s.

High Lift Pump No. 3 – equipped with a 125hp electric motor rated to deliver 126.2 L/s.

Backwash Pump

The backwash pump is used for back washing the filters and draws water from the pump well. This unit is rated to deliver 300 L/s and is equipped with a 75 hp electric motor.

Plant Effluent Discharge Header

The plant effluent discharge header receives the flow from the high lift pumps ~~and the fire pump~~ and directs it to the Town's water distribution system. Also there is one chlorine-fluoride analyzer, which continually monitors the concentration of these two chemicals prior to entering the water distribution system.

Rated Capacity Of The Plant

17,000 m<sup>3</sup>/d or 3,744,493 gallons per day.

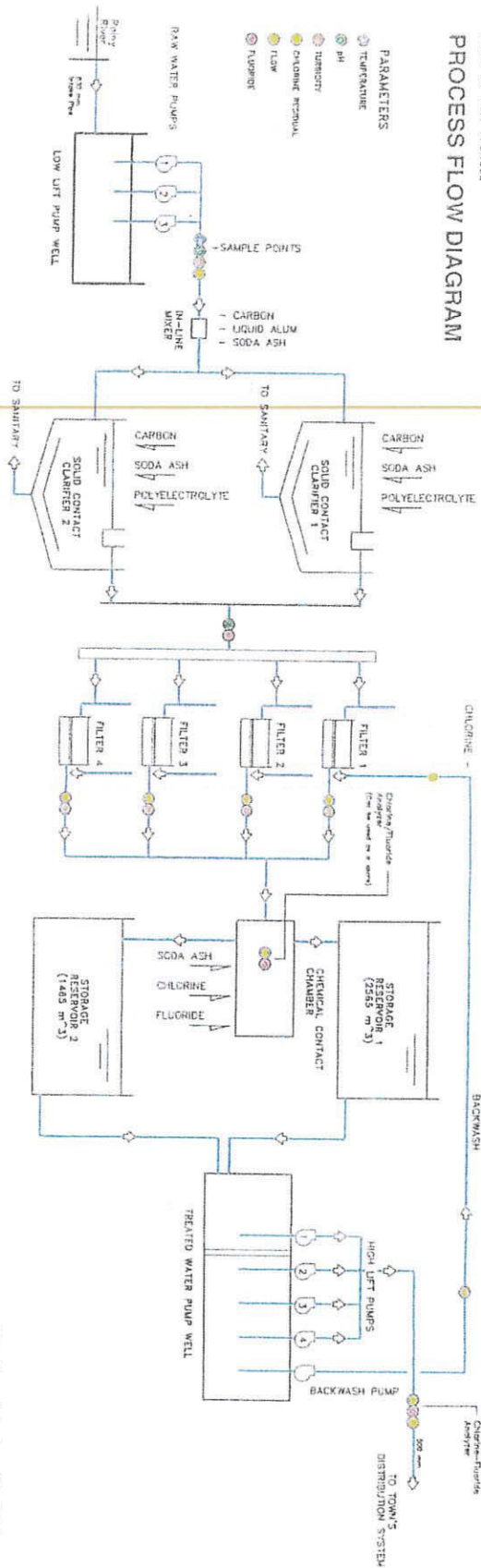
196.76 litres/sec or 11.806 m<sup>3</sup>/min

Computer

The computer process control system known as a S.C.A.D.A. System (Supervisory Control and Data Acquisition) is the heart of the Water Treatment Plant. It starts the plant, opens and closes valves, starts and stops motors, maintains the set chemical dosages, back washes filters and many more operational adjustments.



# Water Treatment Plant Town of Fort Frances PROCESS FLOW DIAGRAM





Date Amended: June 03, 2016

# Fort Frances Drinking Water System DWQMS FORM

## CORRECTIVE ACTION

### MAJOR NON-CONFORMITY

CAR #	2016-003
Date	May 20, 2016
Element	Element #11 – Personnel Coverage
Description of Nonconformance	The staff contact listing posted in the Water Treatment Control Room is out of date (See CAR 2014-003)
Root Cause	An oversight. The WTP operational staff obviously forgot to remove the outdated contact listing for the bulletin board.
Description of Corrective Action Taken	In order to prevent out dated, non-current staff contact listings from being posted in the WTP Control Room in the future the wording in the Operational Plan; Element 11 Personnel Coverage, subsection Rational , third sentence is revised to read – "Operator contact information is made available, either in hard copy or electronically to WTP operator staff and other divisional departments as required."
Sign-off - Corrective Action Complete	Name and Date Doug Herr,  June 8, 2016
Long-Term Corrective Action	If applicable None
Validation Sign-off – Corrective Action Effective	 Travis Rob, QMS Internal Auditor June 13, 2016

Internal Audit Corrective Action

## 11 Personnel Coverage

The Water Treatment Plant in Fort Frances is deemed a Class III facility while the Distribution System is a Class II.

The Water Treatment Plant in Fort Frances is currently staffed with three (3) certified operators. These operators work on a rotating on-call system with each operator being on-call for a week period. The operator on-call period begins on a Tuesday at 7:30 a.m. and ends the following Tuesday at 7:30 a.m. at which time the next operator on-call begins. All three (3) operators participate in the rotation system. The Overall Responsible Operator (ORO) in conjunction with other Water Treatment Plant operators establishes the annual on-call rotation schedule. The hours of work at the Water Treatment Plant in Fort Frances are 7:30 a.m. to 4:00 p.m. Monday to Friday with the exception of statutory holidays. On-call duties include coverage on weekends and statutory holidays.

The Town of Fort Frances has a designated ORO for the Water Treatment Plant and the Distribution System with a back up ORO in place. Each day they are recorded in the Water Treatment Plant, Water Tower and Distribution log books.

The ORO is responsible for the supervision of daily operations and staff at the Water Treatment Plant and the Water Distribution System. In accordance with O. Reg. 128/04 the Town will provide the necessary operators.

The Water Treatment Plant in Fort Frances is monitored by an alarm system, which when is activated sends a signal to a central dispatch for any after hour alarms. The central dispatch will then contact the on-call operator to respond. The operator will respond as soon as practicable after becoming aware of the alarm. If the on-call operator cannot be reached or respond to the activated alarm, central dispatch will move onto the next operator on the rotation list until one is contacted and able to respond.


For the water distribution system after hours on-call coverage is monitored by the Public Works Department.

### Rationale

A licensed operator is capable of completing the weekend monitoring tasks at the Water Treatment Plant and Water Tower. Where circumstances arise that additional staff is required the operator can request the assistance of any of the off duty licensed operators. ~~Operator c~~ Contact information for all operators is documented and made available, either in hard copy or electronically to WTP operator staff and other divisions as required. ~~posted on the bulletin board at the Water Treatment Plant.~~

# Fort Frances Drinking Water System DWQMS FORM

## CORRECTIVE ACTION


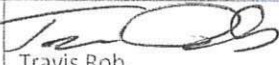
CAR #	2014-003
Date	June 4, 2014
Element	Element 11 – Personnel Coverage
Description of Nonconformance	The Operator Contact list posted on the Water Treatment Plant bulletin board if not current.
Root Cause	<p>Element 11 speaks of the operators working on a rotating on-call system for a week at a time. A listing of the 2014 Standby List for the Water Treatment Plant is posted on the bulletin board at the plant. This is the current listing.</p> <p>As for the Operator Contact listing (cellular numbers) posted on bulletin board, this document is for operator information only. This copy had been posted on the bulletin board years ago.</p>
Description of Corrective Action Taken	<p>The QMS Representative had the existing Operator Contact list removed from the bulletin board and replaced it with a current one.</p> <p>See attachment: Element 16 – APPENDIX "F" The Town of Fort Frances New Cellular Phone Numbers</p> <p><del>AMENDED SINCE AUDIT SEE CAR 2016-004</del></p>
Sign-off - Corrective Action Complete	<p>Name and Date</p> <p>Doug Herr, July 16, 2014</p>
Long-Term Corrective Action	<p>If applicable</p> <p>None</p>
Validation Sign-off – Corrective Action Effective	<p>Travis Rob, QMS Internal Auditor</p> <p> June 13, 2016</p>

Internal Audit Corrective Action



Fort Frances Drinking Water System  
DWQMS FORM

CORRECTIVE ACTION

CAR #	2016-004
Date	May 20, 2016
Element	Element #16 – Sampling, Testing & Monitoring
Description of Nonconformance	Contact information contained in the referenced appendix is not up to date.
Root Cause	An oversight. Staff changed at the water treatment plant and in the distribution system. Contact information referenced in the appendix for this element had not been updated outlining the new/change in staff.
Description of Corrective Action Taken	<p>Element 16; Page 64, third paragraph – the reference appendix identified has been updated with the current personnel and cell numbers. See attached.</p> <p><u>Opportunity For Improvement:</u> Referenced appendix - Appendix "F" is incorrect, should read Appendix "E".</p>
Sign-off - Corrective Action Complete	<p>Name and Date</p> <p>Doug Herr,  June 8, 2016</p>
Long-Term Corrective Action	<p>If applicable</p> <p>None</p>
Validation Sign-off - Corrective Action Effective	<p> Travis Rob, QMS Internal Auditor June 13, 2016</p>

Internal Audit Corrective Action



The Town of Fort Frances Water System  
General QMS Administration

PROCEDURE TITLE: Procedure for Identifying &  
Responding to Adverse Sample Results

REVISION #9

QMS REFERENCE: Element No. 16 - APPENDIX "E"

QMS REPRESENTATIVE: *Lee H.*

THE TOWN OF FORT FRANCES  
NEW CELLULAR PHONE NUMBERS

WATER TREATMENT PLANT

RANDY WHITE (ORO)	275-8733
BRAD WEBB ( <del>WT4</del> Alternate ORO)	275-5215
PAUL LEMESURIER (OIC - Distribution)	275-5045
<del>MIKE ALLEN (OIC)</del>	<del>275-6175</del>

DISTRIBUTION SYSTEM

<del>PAUL LEMESURIER (OIC)</del>	<del>275-5045</del>
GREG WIEDENHOEFT	275-8814
TRAVIS GEORGE	271-0407
JAY BRUYERE	271-2925

PUBLIC WORKS STANDBY (After Hours)	275-9754
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FORT FRANCES AIRPORT	275-9760
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LANDFILL SCALES	275-5147
-----------------	----------

OPERATIONS & FACILITIES MANAGER	
DOUG BROWN	275-9755

ENVIRONMENTAL & FACILITIES SUPERINTENDENT	
DOUGLAS HERR	275-5254

TRANSPORTATION SUPERINTENDENT	
MILT STRACHAN	275-5255

PROCEDURE TITLE: Sampling, Testing & Monitoring

REVISION #6

QMS REFERENCE ELEMENT NO. 16

QMS REPRESENTATIVE: *Don C. H.*

A competent certified operator oversees all water sampling taken at the Water Treatment Plant (WTP). A competent certified operator performs in-house testing at least once per day and the results are recorded on a monthly log sheet.

In-house daily testing consists of the following:

- PH testing done on the raw, settled and treated water.
- Turbidity testing done on the raw, settled and treated water.
- Free and total chlorine done on the treated water.
- Fluoride residual is measured on the treated water.
- Alum residual is measured on the filtered water.

On a weekly basis bacteriological samples, consisting of one (1) raw water sample and one (1) treated water sample are taken at the WTP. These samples are sent to an accredited lab for analysis.

Appendix "F-E" is devoted to identifying and responding to adverse sample results.

The SCADA computer process control system monitors and trends process treatment parameters as well as levels of raw water in the raw water wells, level of treated water in the reservoirs and whether or not the pumps in the WTP are in the "running" position or in "off" position such pumps as the backwash pumps and the low lift pumps and the high lift pumps and the chemical feed pumps (soda ash pumps, polymer pumps, fluoride pumps, carbon pumps and alum pumps). Chemical residuals are also monitored and trended such as chlorine and fluoride. There is a turbidity meter on the downstream side of each one of the four dual media filters, which is monitored and trended. The WTP operators may adjust treatment processes affecting water quality based upon the information and data provided by the SCADA system. Any adjustments made to process treatment parameters are recorded in the daily logbook at the WTP.



## 16.2 Water Distribution System Sampling, Testing & Monitoring Procedures

Fort Frances' Water Distribution System has a sampling program based on the requirements set out in O. Reg. 170/03 and its Drinking Water System Licence (Lic. #224-101). See sampling plan and schedule as outlined in Table 1 and 2 in Section 16.1.

A competent certified water system operator oversees all water sampling taken within the water distribution system. Water samples are collected in the distribution system for bacterial and chemical properties. On a weekly basis, four (4) bacteriological samples are taken from the water distribution system, where they are sent to an accredited lab for analysis. Chemical samples are collected as outlined in Section 13 of the O. Reg. 170/03, which are sent to an accredited lab for analysis as well. The water distribution

# Fort Frances Drinking Water System DWQMS FORM

## CORRECTIVE ACTION

CAR #	2016-005
Date	May 20, 2016
Element	Element #18 -- Emergency Management
Description of Nonconformance	SOP#5 does not reference the back up generator for power outages.
Root Cause	Standard Operating Procedure No. 5 for Hydro Power Outage for Operating the Water System is now redundant since the purchase and implementation of the new emergency standby generator.
Description of Corrective Action Taken	<p>Standard Operating Procedure No. 5 for Hydro Power Outage for Operating the Water System is not applicable and therefore is defunct. (See attached SOP No. 5)</p> <p>Further to the above Elements 8 and 18 have been revised to reflect the deletion of this operating procedure:</p> <p>Element 8 Risk Assessment Outcomes: page 33 -- under heading <b>Treatment -- Power Failure/ Emergency Procedure</b> revised as follows: Delete entire wording; replace with "Emergency back-up generator comes on-line." See attached.</p> <p>Element 18 Emergency Management: entire element documentation amended as per attached.</p>
Sign-off - Corrective Action Complete	<p>Name and Date</p> <p>Doug Herr.  June 14, 2016</p>
Long-Term Corrective Action	<p>If applicable</p> <p>None</p>
Validation Sign-off - Corrective Action Effective	<p> - SOP CHANGES TO BE APPROVED BY COUNCIL</p> <p>Travis Rob, QMS Internal Auditor June 16/16</p>

Internal Audit Corrective Action



<i>The Town of Fort Frances</i>	SECTION
<u>STANDARD OPERATING PROCEDURE</u> <u>NO. 5 FOR HYDRO POWER OUTAGE FOR</u> <u>OPERATING THE WATER SYSTEM</u>	OPERATIONS AND FACILITIES
<u>POLICY</u>	NEW: July 2004 REVISED: June 2009, December 2009, June 2012
Resolution No. 634 (consent) 05/12	Supercedes Resolution No. 371 (Consent) 12/09
Policy Number 4.5	PAGE 1 of 4

### 1. PURPOSE:

In the event of a power outage occurs at the Water Treatment Plant, the Town Employees will adhere to the following policy.

### 2. RESPONSIBILITY:

All individuals in the Operations & Facilities Division workforce, at all levels and functions, which are responsible for providing and delivering water services to the community. Mainly, the first Water Treatment Plant Operator to arrive at the Water Treatment Plant and Operations & Facilities Division Manager or his designate once aware of the situation.

### 3. PROCEDURE:

A. Water Treatment Plant Operator - the following step by step procedure shall be followed in order to address a Power outage at the Water Treatment Plant;

- Activate the back-up emergency diesel drive fire pump unit and ensure it is functioning properly.
- The Town's ability to produce or manufacture water has been eliminated, thus the conservation of the existing stored water is a priority. Also the amount of water from the clear wells or reserve at the Water Treatment Plant to be supplied to the water distribution system is limited by the utilization of only one distribution (high lift) pump. As a result of these factors, the Water Treatment Plant Operator should determine the existing volume which is contained in both the clear wells at the Water Treatment Plant and the Water Tower.
- Contact the Fort Frances Power Corporation (F.F.P.C.) via the emergency number 911 to determine the duration of the power outage, if longer than 24 hours, the Water Treatment Plant Operator should consider issuing a emergency water restriction notification based on the existing volume stored within the storage facilities and seasonal demand period.

- If all three factors exist, an emergency water restriction will be issued;
  - a) During high demand period – May to September
  - b) The stored volume is below 60% (5280 cu. meters) of the maximum storage capacity (8800 cu. meters)
  - c) The Hydro power outage will be longer than 24 hour period
- Contact the Operations & Facilities Division Manager or his designate immediately – part of the Community Control Group – Call the Fire Hall at 911 or 274-9841.
- Communicate to the Public by means of radio announcements via the three local radio stations. Fax the following message (See attached Appendix "A")
  - B 93.1 FM Station Phone # 274-5341, Fax No. 274-2033
  - International Falls Radio Station KGHS 1230 AM (phone # 218-283-3481 & KSDM 104.1.0 FM Phone # 218-283-2622 same Fax No. 218-283-3087
- Start to monitor and record the water level in the Water Tower.
- If the Water Tower goes below 5.74 meters (47%), then the Water Treatment Plant Operator will manually close the Water Tower isolation valves in order to maintain an adequate water supply for fire protection. Remain at the Water Tower until support manpower arrives.

## B. MANAGEMENT:

- i. The responsibilities of the Operations & Facilities Division Manager or his designate is as follows:
  - Activate the assembling of the Community Control Group
  - Start the process of coordinating the provision of emergency potable water supply for the community. Lists of possible suppliers are contained in the emergency response binder.
  - Assist in coordinating resources to aid the water treatment plant operator in maintaining the stored water in the distribution system.
  - Establish the location(s) where potable water will be distributed.
  - Once the location where the emergency potable water supply is established, notify the public through radio announcements the availability of the potable water supply. See appendix "B"

Appendix "A"  
Radio Announcement  
For Emergency Water Restriction

Please be advised that an emergency water restriction as of (Date) \_\_\_\_\_ at \_\_\_\_\_ AM or PM is now in affect for the citizens of Fort Frances and Couchiching First Nation. As a result, all water customers are asked to not use any water from their taps or the water distribution system.

The Town has approximately one-day supply of water stored in the Water Tower and clear well reserves at the Water Treatment Plant. The Town is unable to produce or manufacture water from the Water Treatment Plant at this point in time. It is essential that the citizens do not use this water in order to have a supply of water available for fire fighting purposes. The Town requires your cooperation. Also if the citizens of both communities do not adhere to the water restriction, the Town will take appropriate action to preserve the existing stored water, thus customers may experience a loss in water pressure.

The Town is making arrangements to have a supply of bottle potable water brought to the Community. The exact location where the bottled water will be distributed from is yet to determined at this point in time. Also the duration of the emergency water restriction is unknown. Please stay tuned to your radio station for further up-dates on this matter. The Corporation of the Town of Fort Frances would like to thank you in advance for your assistance in adhering to the emergency water restriction.

Appendix "B"  
Radio Announcement  
Where Emergency Bottled Water is available

As a result of the Emergency Water restriction issued on \_\_\_\_\_ at \_\_\_\_\_  
AM or PM for the citizens of Fort Frances and Couchiching First Nation. Bottled water is  
available at the following locations;

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

From \_\_\_\_\_ am to \_\_\_\_\_ pm.

---

In regards to the water restriction it will be in affect for at least \_\_\_\_\_ day(s). Please stay  
tune to your radio station for further up-dates on this matter. The Corporation of the  
Town of Fort Frances would like to thank you in advance for your assistance in adhering  
to the emergency water restriction.



The Town of Fort Frances Water System General QMS Administration	
PROCEDURE TITLE: Risk Assessment Outcomes QMS REFERENCE: ELEMENT NO. 8	REVISION #9 QMS REPRESENTATIVE: <i>[Signature]</i>

## TOWN OF FORT FRANCES RISK ASSESSMENT

Element or Process Step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency procedure or contingency plan	Likelihood	Severity	Detectability	RISK PRIORITY NUMBER	CRITICAL POINT	CRITICAL LIMIT	Control Procedure
Treatment	High Turbidity off filters	Biological & Chemical contamination		On-line filter effluent turbidity meters. Critical control limit for filter effluent turbidity is set at 0.8 NTU. (Regulatory Limit - 1.0 NTU), which causes an alarm and immediately shuts down the filter.	Take filter off line and repair.	2	2	1	5	NO		Take filter off line and repair.
	Vandalism	Quantity/Quality		Plant Alarms	Visual monitor	1	2	1	4	NO		
	Fire	Quantity/Quality		Plant Alarms	Refer to Emergency Response Binder (ERB) - S.O.P. #1 for the Destruction (Bombing/Major Fire) of Water Treatment Plant or Water Tower	1	5	1	7	NO		
	Power Failure	Quantity/Quality		Plant Alarms	Refer to Emergency-Response Binder (ERB) - S.O.P. #5 for Hydro-Power Outage for Operating the Water System Emergency back-up generator comes on-line.	1	5	1	7	NO		
	Chemicals - Poor Quality	Quantity/Quality	Guaranteed by Supplier	Plant Alarms Upsets Process	Stop using and order replacement	1	5	1	7	NO		All chemicals are NSF/ANSI certified
	Chemicals - Unavailability	Quantity/Quality	Keep in stock two (2) week supply		Contact alternate suppliers	1	3	2	6	NO		



PROCEDURE TITLE: Emergency Management  
QMS REFERENCE: ELEMENT NO. 18

REVISION #6

QMS REPRESENTATIVE: *L. L. H.*

## 18 Emergency Management

### 18.1 Introduction

During the course of developing a new Drinking Water Quality Management System for the Town of Fort Frances water system, several QMS team meetings took place, where a list of ~~six (6)~~ *five (5)* potential emergency situations or service interruptions was developed, circulated and agreed on by the QMS team. The process of approving these ~~six (6)~~ *five (5)* potential emergency situations or service interruptions is recorded in the QMS meeting minutes. There are ~~six (6)~~ *five (5)* main emergency situations where Standard Operating Procedures (SOP) were developed. An emergency response binder located at the Water Treatment Plant in the Control Room has been developed which outlines the ~~six (6)~~ *five (5)* standard operating procedures for emergency situations, emergency contact information, contact information for bottle water suppliers and a binder record sheet. Water system staff as part of their training requirements will review this emergency response binder.

### 18.2 Town of Fort Frances – Water System - Potential Emergency Situations

1. Destruction (Bombing/Major Fire) of Water Treatment Plant or Water Tower - A Standard Operating Procedure is in place. See Standard Operating Procedure No. 1 in the emergency response binder.
2. One or More Water Treatment Plant Operators are Sick and can't perform their duties to ensure a safe continuous supply of potable drinking water is available to the community. See Standard Operating Procedure No. 2 in the emergency response binder.
3. Water Main Breaks & Repairs - A Standard Operating Procedure is in place. See Standard Operating Procedure No. 3 in the emergency response binder.
4. Breakdown or Malfunction of Critical Treatment Process Equipment at the Water Treatment Plant - A Standard Operating Procedure is in place. See Standard Operating Procedure No. 4 in the emergency response binder.
5. Loss of Electrical Power for an Extended Period Time - ~~due to the following natural disasters such as snow blizzard, ice storm, flooding, tornado, fires or a lightning strike.~~ A Standard Operating Procedure is in place. See Standard Operating Procedure No. 5 in the emergency response binder.

PROCEDURE TITLE: Emergency Management

REVISION #6

QMS REFERENCE: ELEMENT NO. 18

QMS REPRESENTATIVE: *[Signature]*

5. ~~6.~~ Contamination of Raw Water Source - due to a derailment or highway spillage where toxic chemicals are discharged into the river near Water Treatment Plant raw water intake piping. A Standard Operating Procedure is in place. See Standard Operating Procedure No. 6 in the emergency response binder.

### 18.3 Emergency Response Binder

In the Control Room at Water Treatment Plant, there exists an Emergency Response Binder that contains the following;

1. All ~~six (6)~~ five (5) Standard Operating Produces (SOP) for these emergency situations.
2. A contact list of all water staff, all Public Works staff, the Town Community Control Group members, suppliers of bottle drinking water, and the resource contact list from the Town of Fort Frances Emergency Plan.
3. Record Sheet indicating when the water system staff or supervisors have annually reviewed and/or used the emergency information binder for a training exercise and/or when the information in the Binder has been revised or updated.

The Secretary/Receptionist will update the Emergency Response Binder as necessary when new information or revised information becomes available. The Secretary/Receptionist will be required to fill-in the record sheet contained in the binder once information is updated in the binder.

### 18.4 Connection to Town's Emergency Community Control Group (Municipal Emergency Planning Measures)

Municipal departments and divisions routinely respond to situations requiring fire, police, ambulance and Public Works services; however, some emergency situations may escalate beyond the scope of normal operations. The Town of Fort Frances has developed an Emergency Plan to aid/assist or guide in the response to any emergency situation. Under Provincial legislation, the Town is required to develop, implement and annually train on its Emergency Plan.

The Operations & Facilities Manager or designate is a key member of the Town Community Control Group. The ~~six (6)~~ five (5) potential emergency situations or service interruptions for the water system would eventually trigger the Town Community Control Group to be assembled to assist in the situation.

PROCEDURE TITLE: Emergency Management

REVISION #6

QMS REFERENCE: ELEMENT NO. 18

QMS REPRESENTATIVE: *[Signature]*

### 18.5 Annual Training on Emergency Preparedness

On an annual basis all the staff within the water system will review the Emergency Response Binder and the ~~six (6)~~ five (5) potential emergency situations or service interruptions where at a minimum the Standard Operating Procedures or Contingency Plans will be reviewed. The Town's Emergency Community Control Group will annually be involved in a table-top exercise or mock field exercise, which at times may include the water system staff. All training activities will be recorded in minutes of meetings or internal memo minutes. These avenues of record will outline training activities, participants, date and time. A copy of training memos will be placed in all participant personnel file.

**Attachment B.7**

**Water Main Breaks**  
**(June 01, 2015 to May 31, 2016)**

1.	Sinclair Street at Victoria Avenue	July 28, 2015
2.	Fourth Street West – 100 blk.	July 29, 2015
3.	1024 York Avenue North	January 8, 2016
4.	Crowe Avenue – 600 blk.	January 14, 2016
5.	Calder Drive – 1300 blk.	January 26, 2016
6.	Nelson Street – 400 blk.	February 29, 2016
7.	First Street West – 700 blk.	May 2, 2016
8.	Colonization Road West – 1400 blk.	May 4, 2016



## **Water Service Breaks**

**(June 01, 2015 to May 31, 2016)**

- |    |                               |               |
|----|-------------------------------|---------------|
| 1. | Colonization Road West - 1319 | July 28, 2015 |
| 2. | Scott Street - 922            | March 2, 2016 |



## Attachment B.8

### Raw Water Supply and Drinking Water Quality Trends

Raw Water Quality Trends:

Date Sampled	Parameters			
	Alkalinity (mg/L)	Colour (TCU)	pH	THMs (ug/L)
May 20, 2011	17.3	39.9	7.45	0.5
Aug. 15, 2011	17.9	32.9	7.44	0.5
Nov. 29, 2011	20.9	26.9	7.62	0.5
Feb. 13, 2012	21	28.1	7.36	0.5
May 15, 2012	20.1	25.3	7.37	0.5
Aug. 28, 2012	20.5	25.5	7.56	0.5
Aug. 19, 2013	16.9	38.6	7.52	0.1
Oct. 29, 2013	20.4	30.4	7.46	0.1
Feb. 11, 2014	Samples Froze			
April 29, 2014	20.1	25.3	7.37	0.5
July 22, 2014		40.7	6.91	0.1
Nov. 24, 2014	Samples Froze			
April 8, 2015	15	41.9	7.13	0.1
May 25, 2015	Data not received from lab			
August 4, 2015	17.2	38.0	7.35	0.1
October 26, 2015	16.1	32.9	7.28	0.1
March 9, 2016	16.3	38.0	7.37	0.1

**Alkalinity** - defined as its capacity to neutralize acid. (pH less than 7)

**pH** - A measure of the acidity or alkalinity of a solution (Neutral is 7)

**THMs (Trihalomethanes)** - Are created when chlorine is added to water. They are toxic chemical substances that consist of a methane molecule and one of the halogen elements.

Data collected from other sources

## Attachment B.8

Treated Water Quality Trends:

Date Sampled	Parameters			
	Alkalinity (mg/L)	Colour (TCU)	pH	THMs (ug/L)
May 20, 2011	30.4	1.3	7.87	56.5
August 15, 2011	28.7	1.1	7.53	77.5
Nov. 29, 2011	36	0.8	7.9	50
February 13, 2012	35.2	1.0	7.59	49
May 15, 2012	30.5	3.5	7.46	53.5
August 28, 2012	25.6	1.2	7.63	71
Nov. 14, 2012	33.9	0.2	7.73	42.3
May 6, 2013	29.3	2.6	7.59	43.5
August 19, 2013	22.6	1.1	7.43	68.3
October 29, 2013	27.2	1.1	7.49	56
February 11, 2014	Samples Froze			
April 29, 2014	30.5	3.5	7.46	53.5
July 22, 2014	33.4	1.5	7.09	95.0
Nov. 24, 2014	Samples Froze			
April 8, 2015	31.3	1.8	7.43	53.7
May 25, 2015	Data not received from lab			
August 4, 2015	27.4	1.6	7.38	86.5
October 26, 2015	29.1	1.0	7.39	61.3
March 9, 2016	24.0	1.8	7.36	50.1

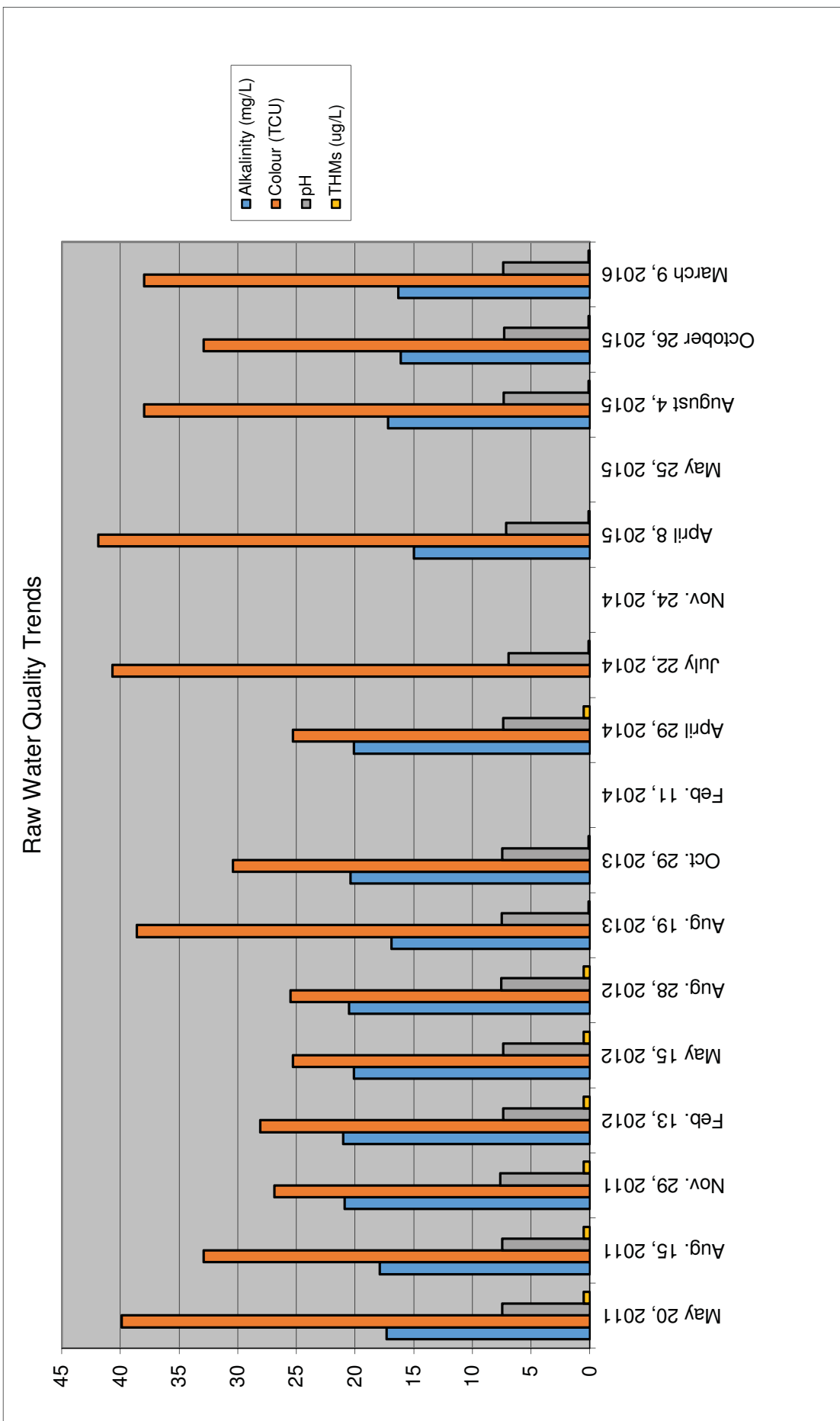
**Alkalinity** - defined as its capacity to neutralize acid. (pH less than 7)

**pH** - A measure of the acidity or alkalinity of a solution (Neutral is 7)

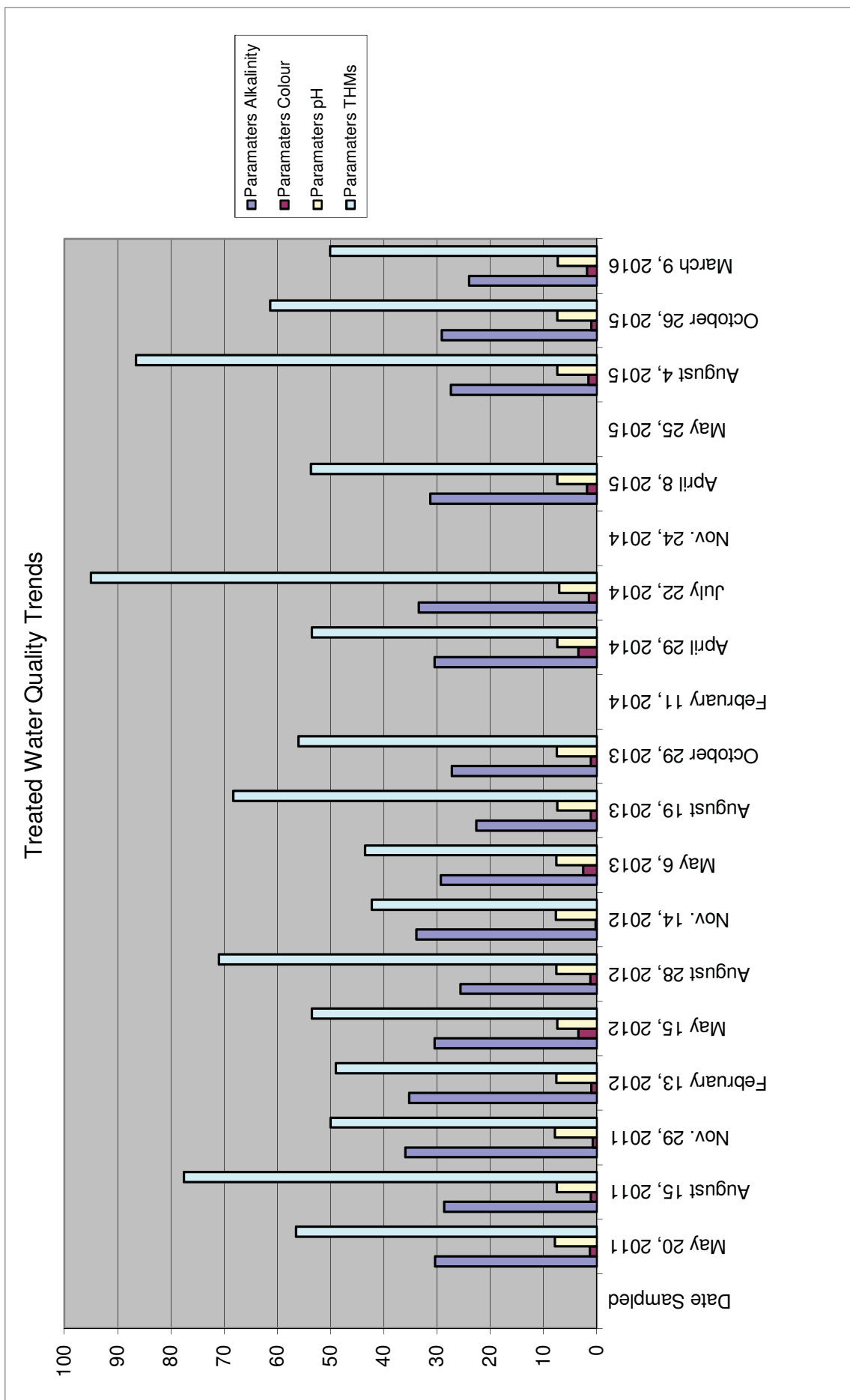
**THMs (Trihalomethanes)** - Are created when chlorine is added to water. They are toxic chemical substances that consist of a methane molecule and one of the halogen elements.

Data collected from other sources

Attachment B.8



# Attachment B.8



**Attachment B.12**

**Customer Complaints**

<b>Location</b>	<b>Received</b>	<b>Resolved</b>	<b>Complaint</b>	<b>Resolution</b>
1. 819 Church St.	Sept. 14, 2015	Sept. 14, 2015	Poor Water Quality	Flushed the fire hydrant (HYD 263) at the end of Church St. (800 blk.), until water cleared. Took a chlorine residual – 1.11 mg/L. Dead end main due to reconstruction of work on Nelson St.
2. 331 Third St. W.	March 14, 2016	March 15, 2016	Discoloured water	Owner told to run cold water until cleared. No further action required.
3. 1312 Emo Rd.	April 29, 2016	April 29, 2016	Water Quality	Visited residence. Took a chlorine residual - 1.45 mg/L. Talked with Owner - satisfied.
4. 1312 Emo Rd.	April 29, 2016	May 16, 2016	Water Quality	Contacted Owner by telephone. Informed them of the lab results for bacteria. All clear. Owner says their water issues still happens. No evidence of issues.
4. 944 Crowe Ave.	May 24, 2016	May 25, 2016	Discoloured water	Flushed the fire hydrant (HYD 235) in front of 920 Crowe Ave. until water cleared. Dead end main due to reconstruction of work on Phair Ave.
5. 930 Crowe Ave.	May 24, 2016	May 25, 2016	Discoloured water	Flushed the fire hydrant (HYD 235) in front of 920 Crowe Ave. until water cleared. Dead end main due to reconstruction of work on Phair Ave.
6. 936 Crowe Ave.	May 24, 2016	May 25, 2016	Discoloured water	Flushed the fire hydrant (HYD 235) in front of 920 Crowe Ave. until water cleared. Dead end main due to reconstruction of work on Phair Ave.
7. 900 Crowe Ave.	May 24, 2016	May 25, 2016	Discoloured water	Flushed the fire hydrant (HYD 235) in front of 920 Crowe Ave. until water cleared. Dead end main due to reconstruction of work on Phair Ave.



8.	1231 King's Hwy.	May 26, 2016	May 27, 2016	Possible water leak	Concerned citizen telephoned. Possible leak in Walleye Trailer Park. Area. C checked for leaks. Not evidence of any leak found.
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June 30, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

**Subject: Drinking Water Quality Management System (DWQMS) –  
Management Review Meeting - Endorsement by Owners**

Over the past 12 months a couple of significant milestones have been completed in regards to the Drinking Water Quality Management System and are summarized below:

- 1) **External 12 - month Surveillance Audit** (Table Top verification process) completed by SAI Global on November 25, 2014-Auditor Mr. Rod Seabrook
- 2) **4th Internal Audit** completed by Mr. Travis Rob from March 30 to April 27, 2015.
- 3) **4th Management Review Meeting** held on Tuesday June 30, 2015 to review the implementation of the DWQMS for the period June 2014 to May 31, 2015.

Please find attached the agenda package plus the associated documents which were reviewed at the June 30<sup>th</sup>, 2015 Management Review meeting and the corresponding meeting minutes. Also the September 26, 2014 revision (No. 6) of the DWQMS Operational Plan is attached for your review as there are three Councilors on Council at this time who were not involved in endorsing the original operational plan for the drinking water system and also several revisions have taken place since the original plan was endorsed and adopted by Council. Presently under the process outlined in the Operational Plan Element No. 20 - Management Review (See pages No. 74 & 75 of Operational Plan) - there were four (4) action items that Council (owner) must review and endorse at this time:

Action Item No. 1) **Replace approximately 500 meters of 150mm diameter water main along Colonization Road West** (from 1302 Colonization Road West to 1448 Colonization Road West). The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

Action Item No. 2) **Installation of two additional valves along Sinclair Avenue between Victoria Avenue & Armit Avenue in order that the hospital facility can avoid unnecessary boil water advisories being issued.** The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

Action Item No. 3) **Installation of a looping water main c/w necessary between Lillie Avenue & Webster Avenue abutting the old West End rink property.** The

timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

Action Item No. 4) **Ensure both Cemetery Irrigation Systems are properly plumbed to ensure the proper backflow protection c/w meter is in place.** The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner). The Riverview Cemetery Irrigation system modifications can take place at the same time as completing action item No. 1

The Operations & Facilities Executive Committee recommends the following;

- 1) That Council (owner) has reviewed the agenda package and minutes of the management review meeting held on June 30, 2015.
- 2) That Council (owner) has reviewed and accepted the following four (4) action items as a result of the management review meeting held on June 30, 2015;

Action Item No. 1) **Replace approximately 500 meters of 150mm diameter water main along Colonization Road West** (from 1302 Colonization Road West to 1448 Colonization Road West). The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

Action Item No. 2) **Installation of two additional valves along Sinclair Avenue between Victoria Avenue & Armit Avenue in order that the hospital facility can avoid unnecessary boil water advisories being issued.** The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

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Respectfully Submitted,  
Operations & Facilities Division

D. Brown, P. Eng.  
Manager of Operations & Facilities

**Council approval of this report will ensure the following:**

- 1) That Council (owner) has reviewed the agenda package and minutes of the management review meeting held on June 30, 2015.
- 2) That Council (owner) has reviewed and accepted the following four (4) action Items as a result of the management review meeting held on June 30, 2015:

Action Item No. 1) **Replace approximately 500 meters of 150 mm diameter water main along Colonization Road West** (from 1302 Colonization Road West to 1448 Colonization Road West). The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

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**Town of Fort Frances  
Fort Frances Drinking Water System  
Meeting Minutes**

**DATE:** Tuesday June 30, 2015

**TIME:** 8:00 a.m.

**LOCATION:** Fort Frances Water Treatment Plant

**IN ATTENDANCE:** Mark McCaig, Doug Brown, Doug Herr, Randy White, Paul Lemesurier, Brad Webb and Greg Wiedenhoeft.

Part of the QMS Operational Plans requires that management shall review the QMS once every twelve (12) months to assess and ensure the continuing suitability, adequacy and effectiveness of the QMS. Element 20 – Management Review was discussed. Management Reviews shall be included in the internal audit schedule.

Item #	Item Discussed	Action Taken
1.	<p><b>Incidents of regulatory non-compliance:</b></p> <p>Ministry of the Environment (MOE) Annual Inspection Report (2014-15) Date of Inspection: October 10, 2014 Non-compliance with regulatory Requirements – Five (5) items identified.</p> <p>1. Records did not indicate that the treatment equipment was operated in a manner that achieved the design capabilities require under O.Reg. 170/03 or a Permit, Licence or Approval issued under Part V of the SDWA at all times that water was being supplied to consumers.</p> <p>2. Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test.</p> <p>3. All continuous monitoring equipment utilized for sampling and testing required y O.Reg. 170/03, or approval or order, were not equipped with alarms or shut off mechanisms that satisfied the standards described in Schedule 6.</p> <p>4. All required notifications of adverse water quality incidents were not immediately provided as per O.Reg. 170/03 16-6.</p>	

Regular Meeting Minutes



	<p>5. Where required continuous monitoring equipment, used for monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut off, a qualified person did not respond in a timely manner and/or did not take appropriate actions.</p> <p>Records reviewed during the inspection revealed that the system was not providing the required level of treatment throughout the inspection review period.</p> <p>Daily turbidity records were reviewed for the inspection review period and two separate incidents occurred where there were turbidity exceedances. On March 27, 2014 – filter No. 4 and on April 4, 2014 – Filter No. 1. Both exceeded 1 NTU while the plant was directing water to the next stage of treatment. Fifteen minutes later another reading above 1 NTU was recorded while the plant continued to send water to the next stage of treatment. As a result the above 5 non-compliances occurred. Overall Responsible Operators, Environmental &amp; Facilities Superintendent and the Operations and Facilities Division Manager met with the Ministry of the Environment Investigations and Enforcement Branch on May 7, 2015 to give statements as part of their investigation of the incidents described above. There is the possibility of fines being levied to the Municipality and/or Personnel.</p> <p>By January 23, 2015 the Municipality of Fort Frances shall ensure that the Fort Frances WTP is equipped with continuous monitoring equipment that will at a minimum</p> <p>a) cause an alarm to sound immediately when a test result is 0.1 mg/l less than the concentration of free chlorine residual that is required to achieve primary disinfection and</p> <p>b) cause an alarm to sound immediately when filter effluent turbidity exceeds 1 NTU and the filter effluent is directing water to the next treatment process.</p> <p>Submit a written description of the updated alarm settings to the reporting officer.</p> <p>Effective immediately, operators are to be more diligent when examining continuous monitoring test results. Any process upsets are to be acknowledged and documented in the daily log books.</p> <p>A Standard Operating Procedure for reviewing continuous monitoring test results was developed jointly with the plant operators and a copy was sent to the officer via email January 30, 2015. This will ensure all alarms events and operator response times are recorded and documented in plant log books.</p>	<p>A written update of alarm settings has been sent to the reporting officer via email on January 21, 2015.</p>
--	---	---

Regular Meeting Minutes

2.	<p><b>Incidents of adverse drinking water tests:</b></p> <p>WTP: No adverse treated water samples</p> <p>Distribution: Adverse water quality – Total Coliform</p> <ul style="list-style-type: none"> <li>- 362 Daniel Avenue – after thawing frozen water line – failed first test then resampled</li> </ul>	Resolved in a timely manner
3.	<p><b>Deviations from critical control-point limits and response actions:</b></p> <p>Operator review: No changes in limits or response actions Next Risk Assessment Review scheduled prior to July 22, 2015. In process of going through Risk Assessment for changes.</p> <p>Risks above threshold (Threshold – 8):</p> <ol style="list-style-type: none"> <li>1. Rail car derailment (Spill of chemical or contamination):</li> <li>2. Loss of pressure: water mains break, major fire</li> <li>3. Cross connection</li> </ol>	On Going Process
4.	<p><b>The effectiveness of the risk assessment process:</b></p> <p>Risk Assessment Process –the Operators reviewed the Risk Assessment process – there are a few minor changes to be made – waiting for a meeting to be scheduled to review the changes prior to implementation. ( Reviewed on a yearly basis in accordance with Element 7).</p>	Ongoing Process

<p>5.</p>	<p><b>Internal and third party audit results:</b></p> <p><b>Internal Audit Results:</b></p> <p>Latest Internal Audit:  Issued April 24, 2015 – resolved May 28, 2015.  One (1) Corrective Action was identified and the action has been resolved.</p> <p><b>Previous Audits:</b>  June 4, 2014 – Resolved July 16, 2014 Five (5) corrective actions identified and actions taken to resolve them. ( undertaken by Travis Rob – Identified in the previous management review).</p> <p><b>External Audit Results:</b>  Latest off-site External Audit:  24 Month Surveillance Audit (November 25, 2014) – resolved January 8, 2015 – undertaken by SAI Global – accreditation program for operating authorities – Two (2) non-conformances were identified and actions taken to resolve them.</p> <p>Previous ON-Site External Audit  12 Month Surveillance Audit ( November 26, 2013) by SAI Global – no corrective actions identified.</p> <p>.</p>	<p>All Corrective Actions have been resolved</p> <p>All Corrective Actions have been resolved</p> <p>All Corrective Actions have been resolved.</p>
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6.	<p><b>Results of emergency response testing:</b></p> <p>Standard Operating Procedures identified in the Emergency Response Binder had been reviewed with the Water System Operators on September 25, 2014.</p> <p>Emergency SOP's Reviewed</p> <ol style="list-style-type: none"> <li>1. Policy 4.24 – SOP No.1 – for the Destruction (Bombing/Major fire) of Water Treatment Plant of Water Tower.</li> <li>2. Policy 4.23 – SOP No. 2 – for Pandemic Situation – Affecting the Water Treatment Plant Operators and Community.</li> <li>3. Policy 4.15 – SOP No. 3 – for Water Main Breaks and Repairs.</li> <li>4. Policy 4.6 – SOP No. 4 – for breakdown of equipment at the Water Treatment Plant.</li> <li>5. Policy 4.5 – SOP No. 5 – for Hydropower Outage for Operating the Water System.</li> <li>6. Policy 4.4 – SOP No. 6 – for Raw Water Source Contamination</li> </ol> <p>Updated Municipal Emergency Management Listing in Emergency Response Binder March 24, 2015.</p> <p>Additional emergency response training is scheduled for the fall of 2015.</p>	<p>Updated September 25, 2014.</p>
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7.	<p><b>Operational performance:</b></p> <p><b>WTP:</b>  Actions &amp; recommendations from MOE  No operational changes</p> <p>Personnel – as of May 19, 2015 – Water Treatment Plant Operator Class 3 is no longer employed with the Town.</p> <p>Maintenance issues – Honeywell upgraded both 60hp high-lift motors with VFDs – in the process of resolving.</p> <p>Emergency Standby Generator (2014 Capital), awaiting delivery of generator, installation of switching gear, wiring, etc. in process.</p> <p>Get confirmation of expected delivery date in writing from supplier.</p> <p>No other issues.</p> <p><b>Distribution System:</b>  Actions &amp; recommendations from MOE  No operational changes</p> <p>Personnel – Water Distribution Operator Class 2 (OIC), Paul LeMesurier awarded the position of Water Treatment Operator.</p> <p>In the process of filling the vacant position.</p> <p>Maintenance issues:  Numerous water main/service breaks through the Town since the last Management Review.</p> <p>Two additional water main breaks have occurred on Colonization Road West (1300 block) – was slated for replacement in 2014 but postponed due to lack of funding. Still recommended for replacement.</p> <p>Reported approximately 26 frozen water services, not as cold as previous winter.</p> <p>During valve exercising some of the isolation valves began to leak or are difficult to turn. Replacement of these valves is recommended. Six (6) valves were replaced in 2014. Contractor did not completed in 2014 and was carried over to 2015. There are no additional valve replacements scheduled for 2015.</p> <p>Some existing fire hydrants are obsolete, no parts to maintain them. Six (6) fire hydrants were replaced in 2014.</p>	
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8.	<p><b>Raw water supply and drinking water quality trends:</b></p> <p>No changes in raw water supply and drinking water quality trends.</p> <p>Regular seasonal water turnover of Rainy Lake.</p>	No Changes
9.	<p><b>Follow-up on action items from previous management review:</b></p> <p>Two (2) items were identified in the last management review.</p> <ol style="list-style-type: none"> <li>1. Memorial Sportsplex Complex – investigate and determine if Feasible to provide internal looping of the two water services Presently servicing this facility.</li> <li>2. Replacement of approximately 500 meters of 150 mm diameter Water main along Colonization Road West (from 1302 Colonization Road West to 1448 Colonization Road West).</li> <li>3. Installation of a back up electrical generator at the WTP to ensure potable drinking water can be manufactured during extended periods of time when there is no electrical power available.</li> </ol>	<p>Determined that this would not be beneficial</p> <p>Put in 2016 budget process</p> <p>Currently in process of being installed</p>
10.	<p><b>The status of management actions items identified between reviews:</b></p> <p>No management action items were identified between reviews.</p>	
11.	<p><b>Changes that could affect the Quality Management System (QMS):</b></p> <p>Internal Audit, Management Review and External Audit – no issues</p> <p>Management Review – no issues</p> <p>Any new business development upstream of water intake: Contamination of raw water source or supply – no concerns at this time.</p> <p>Where to find OP – electronically found in W:\QMS Documentation\QMS Operational Plan\....file name. (September 26, 2014; Revision No. 6)</p>	Ongoing

12.	<p><b>Consumer feedback:</b> Customer complaints – last period 19 in comparison to 13 this period.</p> <ol style="list-style-type: none"> <li>1. Construction projects last year and in 2015, therefore dead-end mains have been temporarily created as a result – causes stagnate and discoloured water issues.</li> <li>2. Result of water main breaks.</li> <li>3. Maintenance activities – valve exercising.</li> </ol>	Ongoing
13.	<p><b>The resources needed to maintain the Quality Management System (QMS):</b></p> <p>Council's commitment to provide the following:</p> <p>Personnel – No issues</p> <p>Financial – No issues</p>	Ongoing
14.	<p><b>The results of infrastructure review:</b></p> <p>Six (6) year capital plan (In OP – Appendix I) On an annual basis – Proposed Infrastructure upgrades are discussed and reviewed with operators. Council reviews and approves.</p> <p><b>WTP:</b> On a monthly basis the WTP Overall responsible operator generates a report outlining operational and maintenance activities. The report is circulated and reviewed by the Environmental &amp; Facilities Supt., Manager of O. &amp; F., the O. &amp; F. Executive Committee and Council.</p>	

Upgrades for this period:

Interior painting of floors and process piping.

Water Distribution System:

On a monthly basis Environmental & Facilities Supt. generates a report outlining maintenance activities. The report is circulated and reviewed by the Manager of O. & F. and the O. & F. Executive Committee and Council.

Upgrades during this period:

Water Main valve exercise program – 20% per year

Hydrant flushing: flushing annually

Fire Hydrant replacements:

- (2015) King's Highway Reconstruction (Bay City) ( 2 hydrants
- (2014) six (6) replaced – carried over in 2015 (Veert)

Water main isolation valve replacements:

- 2015 – King's Highway Reconstruction (Bay City) - 13 valves
- Nelson Street – Butler Ave to wood yard – 2 valves
- 2014 – carried over in 2015 – six (6) to be replaced (Veert)

Water main replacement (Construction Projects):

- Third St. E; Crowe Avenue to Frenette Avenue

Water meters/backflow device installations – ICI sector, ongoing

Scheduled for 2014 Construction

Replacement/new installation of water mains and services along the following streets:

- a. King's Highway: York Ave to Wright Ave.
- b. Nelson Street: Butler Ave. to Shevlin Wood Yard

15.	<p><b>Operational plan currency, content and updates:</b></p> <p>Current revision date – September 26, 2014 - Revision 6</p> <p>Updates – since previous period Audits – Amended OP after the audit review</p> <p>Document Request Changes (DRC) – document changes to Operation Plan other than the CAR changes as described above. (Spelling, grammar, personnel change, etc.). A result of conducting staff meetings to review the Elements within the Operation Plan. The Operation Plan will be amended following the Management Review.</p>	Ongoing
16.	<p><b>Staff Suggestions</b></p> <ol style="list-style-type: none"> <li>1. Replace approximately 500 meters of 150 mm diameter water main along Colonization Road West (from 1302 Colonization Road West to 1448 Colonization Road West).</li> <li>2. Installation of two additional valves along Sinclair Avenue between Victoria and Armit Avenue in order that the hospital facility can avoid unnecessary boil water advisories being issued.</li> <li>3. Installation of a looping water main necessary between Lillie Avenue and Webster Avenue abutting the old West End Rink property.</li> <li>4. Ensure both Cemetery Irrigation Systems are properly plumbed to ensure the proper backflow protection.</li> </ol>	
	<p>Meeting Adjourned 9:20 a.m. Please report any errors or omissions. Minutes prepared by: Lori Pattison</p>	