

AGENDA

Elgin Area Primary Water Supply System
Joint Board of Management

Committee Room #5
2nd Floor, City Hall

5:00 p.m.
Thursday, December 7, 2017

PART 1 CALL TO ORDER

1. Disclosures of Pecuniary Interest.

PART 2 ADOPTION OF MINUTES

2. Minutes of the 4th Meeting held on Thursday, October 5, 2017

PART 3 CONSENT ITEMS

I. Correspondence

- A. Note and File:
- B. Receipt with response by Administration:
- C. Receipt and Deferral Pending Report from Administration:

II. Staff Reports

3. K. Scherr, Chief Administrative Officer – **Quarterly Compliance Report (3rd Quarter 2017: July - September).**
4. K. Scherr, Chief Administrative Officer – **Environmental Management System and Quality Management System.**

PART 4 ITEMS FOR DISCUSSION

5. K. Scherr, Chief Administrative Officer – **Public Access and Tour Policy – Temporary Suspension of Public Tours.**
6. K. Scherr, Chief Administrative Officer – **Crop Yield Monitoring Program – 2012 Pipeline Twinning Project.**
7. K. Scherr, Chief Administrative Officer – **EA4128 High Lift Switchgear Replacement Project – Update.**

PART 5 ADDITIONAL BUSINESS

PART 6 DEFERRED ITEMS, PENDING NEW ITEMS AND REPORTS

PART 7 CONFIDENTIAL MATTERS

PART 8 UPCOMING MEETING DATES

MINUTES OF THE
4TH MEETING OF THE
JOINT BOARD OF MANAGEMENT
ELGIN AREA PRIMARY WATER SUPPLY SYSTEM

Meeting held on October 5, 2017 at the London City Hall, commencing at 5:00 PM.

PRESENT: P. Barbour (Chair), M. Burgess, H. Jackson, D. Marr, T. Park, V. Ridley and H. Usher and J. Bunn (Committee Secretary).

ALSO PRESENT: T. Bender (OCWA), S. Flannigan (OCWA), I. Fleck, D. Gibson, E. McLeod, J. Millson, C. Murchland (OCWA) and B. Tully (OCWA).

1. Disclosures of Pecuniary Interest

None are disclosed.

2. Adoption of Minutes

PARK AND USHER

That the Minutes of the June 8, 2017 meeting of the Elgin Area Primary Water Supply System Joint Board of Management **BE NOTED AND FILED. CARRIED**

3. Quarterly Compliance Report (2nd Quarter 2017: April-June)

USHER AND MARR

That, on the recommendation of the Chief Administrative Officer, the report dated October 5, 2017, with respect to the general, regulatory and contractual obligations of the Elgin Area Primary Water Supply System, for April to June 2017, **BE RECEIVED. CARRIED**

4. Environmental Management System and Quality Management System

USHER AND MARR

That, on the recommendation of the Chief Administrative Officer,, the report dated October 5, 2017, related to the Environmental Management System and Quality Management System for the Elgin Area Primary Water Supply System, **BE RECEIVED. CARRIED**

5. Capital Status Report

USHER AND MARR

That, on the recommendation of the Chief Administrative Officer, projects EA4082 Filter 1, 2 and 3 Replacement, EA4105 Low Lift Control Valves, EA4114-16 Annual Maintenance (2016), EA4118 Low Lift Sluice Gate Repair, EA4127 Division Vehicle and EA4155 Pilot Plant, **BE CLOSED**, with the surplus funds in the approximate total amount of \$1,026,876 **BE RELEASED** to the Board's Reserve Funds. **CARRIED**

6. Clearwell/Reservoir Drainage Improvements Project

USHER AND MARR

That, on the recommendation of the Chief Administrative Officer, the report dated October 5, 2017, with respect to the status of the Clearwell/Reservoir Drainage Improvements project at the Elgin Area Water Treatment Plant, **BE RECEIVED. CARRIED**

7. Low Lift 4.16kV Motor Control Centre

USHER AND MARR

That, on the recommendation of the Chief Administrative Officer, the report dated October 5, 2017 with respect to information regarding the status of the Low Lift 4.16kV Motor Replacement project at the Elgin Area Water Treatment Plant, **BE RECEIVED. CARRIED**

8. High Lift Switchgear Replacement Project

USHER AND MARR

That, on the recommendation of the Chief Administrative Officer, the report dated October 5, 2017, with respect to information regarding the status of the High Lift Switchgear Replacement project at the Elgin Area Water Treatment Plant, **BE RECEIVED. CARRIED**

9. 2018 Operation and Capital Budget

USHER AND JACKSON

That the following actions be taken by the Board of Management for the Elgin Area Water Supply System with respect to the 2018 Operating and Capital Budgets:

- a) the 2018 Operating Budget in the total amount of \$11,926,000, as appended to the staff report dated October 5, 2017, **BE APPROVED**;
- b) the 2018 Capital Budget in the total amount of \$2,115,000, as appended to the above-noted report, **BE APPROVED**;
- c) the 2019 to 2027 Capital Forecast, as appended to the above-noted report, **BE RECEIVED**;
- d) the 2018 rate for water of \$0.8047 per cubic meter **BE APPROVED**; and,
- e) the 2016 to 2022 Flow and Financial Analysis Summary, as appended to the above-noted report, **BE RECEIVED. CARRIED**

10. Adjournment

USHER AND RIDLEY

That the meeting adjourn. **CARRIED**

The meeting adjourns at 5:27 PM; it being noted that the next meeting date is December 7, 2017.

P. Barbour, Chair

J. Bunn, Committee Secretary



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To: Chair and Members
Elgin Area Primary Water Supply System Board of Management

From: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Meeting Date: December 7, 2017

Subject: Quarterly Compliance Report (3rd Quarter 2017: July - September)

RECOMMENDATION

That the Quarterly Compliance report with respect to the general, regulatory and contractual obligations of the Elgin Area Primary Water Supply System **BE RECEIVED** for the information of the Board of Management; it being noted that there were no Adverse Water Quality Incidents reported in the 3rd quarter of 2017.

EXECUTIVE SUMMARY

During the past calendar quarter, there was one new or proposed regulatory changes that will have a minor impact on the Elgin Area Primary Water Supply System (EAPWSS).

The Water Quality Quarterly Report for the period of July 1 to September 30 was posted on the water system's website at <https://huronelginwater.ca/>. There were no Adverse Water Quality Incidents reported by the operating authority during this quarter.

An on-site compliance inspection was conducted by the Ministry of the Environment and Climate Change (MOECC) on August 23, 2017. The final inspection report will be the subject of a future report to the Board.

BACKGROUND

Pursuant to Board of Management resolution, this Compliance Report is prepared on a quarterly basis to report on general, regulatory and contractual compliance issues relating to the regional water system. For clarity, the content of this report is presented in two basic areas, namely regulatory and contractual, and does not intend to portray an order of importance or sensitivity nor a complete list of all applicable regulatory and contractual obligations.

REGULATORY ISSUES

Recent Regulatory Changes: At the time of drafting this report, there are no new regulatory changes for this reporting period which may significantly impact the EAPWSS.

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File No. E27/2017

New Environmental Bill of Rights (EBR) Registry Postings: At the time of drafting this report, there were new postings on the EBR, or through other sources, that may have an impact on the EAPWSS.

- **Regulatory Review of the Boilers and Pressure Vessels Regulation (O.Reg. 222/01)**

The Ministry of Government and Consumer Services (MGCS) has developed draft regulatory changes to improve the effectiveness of the Technical Standards and Safety Authority (TSSA) Boiler and Pressure Vessel Safety Program. Proposed changes to O.Reg. 222/01 will require TSSA authorization for operating boilers and pressure vessels, resulting in a change in process and cost for owners and operators of this equipment. Under the proposed changes, once an insurer completes an inspection of the boilers or pressure vessels, the owner or operator will have to apply for authorization from TSSA to operate the device. When an insurer subsequently submits a record of inspection, a Certificate of Inspection (COI) will be issued by TSSA for a fee. The proposed amendments are intended to support the long-term reliability and integrity of boilers and pressure vessels, and ensure full compliance with regulations in Ontario. The proposed amendments are expected to go into effect in 2018.

Impacts to the EAPWSS:

There are boilers and pressure vessels, including surge tanks and air compressors, located at various EAPWSS facilities. The proposed regulatory changes would result in a modified process for having these devices inspected and authorized. Additional fees would apply. At this time it is anticipated that the increased fees would be less than \$500 for the EAPWSS.

Quarterly Water Quality Reports: The Water Quality Quarterly Report for the period of July 1st to September 30th, 2017 inclusive was completed by the operating authority. There were no adverse laboratory test results for the EAPWSS during this quarter. The report is posted on the Water Systems' website at <https://huroneginwater.ca/consumer-reports/water-quality/> and is included in this report as Appendix A for the Board's information. The water quality sample results will continue to be provided and posted on a quarterly basis for the Board's and the public's information.

It is important to note that the Maximum Allowable Concentration (MAC) are the permitted maximum values of the listed parameter, and are considered adverse incidents where the water quality exceeds the listed value. Alternatively, "aesthetic objectives" and operational guidelines are not regulated but are included as suggested guidelines for the associated parameters. Variance of water quality beyond the listed aesthetic objective is not considered an adverse incident as there are no health risks associated with exceeding the suggested objective.

Adverse Water Quality Incidents (AWQIs): There were no AWQI reported by the operating authority during this quarter.

Compliance Inspections: The Ministry of the Environment and Climate Change (MOECC) conducted an unannounced physical inspection of the EAPWSS on August 23, 2017. At the time of writing this report, the final inspection report has not been issued by the MOECC. When the final inspection report is received from the MOECC it will be the subject of a future report to the Board.



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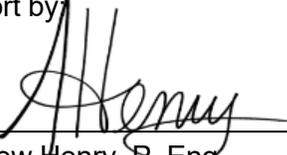
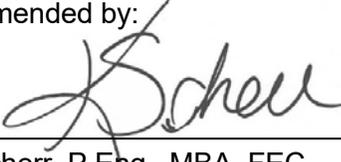
File No. E27/2017

CONTRACTUAL ISSUES

ARTICLE 3, “Operation and Maintenance of the Facilities – General”:

Board staff informally meets with OCWA on a monthly basis to discuss operations and maintenance related issues, and on a formal basis quarterly to review contractual performance. The 2017 third quarter Contract Report was received from OCWA on October 25, 2017, and was discussed at the quarterly administration meeting between Board staff and OCWA on November 6, 2017. Copies of the monthly Operations and Maintenance Reports, or quarterly reports are available at the Board’s Administration Office in London upon request.

Information for this report was provided by Erin McLeod, Quality Assurance & Compliance Manager.

Report by:  <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> Andrew Henry, P. Eng. Director, Regional Water Supply	Recommended by:  <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer
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Attachments:

Appendix A: Water Quality Quarterly Report – 3rd Quarter 2017 (July - September)

APPENDIX A: WATER QUALITY QUARTERLY REPORT – 3RD QUARTER 2017 (JULY - SEPTEMBER)

*** There were no adverse laboratory test results for the Elgin Area Primary Water Supply System during this quarter.**

Analytical Test Results: (All values are reported in mg/L unless otherwise noted)

Microbiological Parameters (Required Testing Under O.Reg. 170/03)

Microbiological Parameters	MAC or IMAC	No. of Samples	No. of Detectable Results	No. of Adverse Results	Method	Sampling Date	Results		Comments
							Min.	Max.	
Total Coliform (counts/100ml) *	Not Detectable	63	0	0	Membrane Filtration	Jul-Sep	0	0	Parameter sampled is used to test for the possible presence of fecal matter. Zero detectable test results indicate that Total Coliforms were not detected.
<i>E. Coli</i> (counts/100ml) *	Not Detectable	63	0	0	Membrane Filtration	Jul-Sep	0	0	Parameter sampled is used to test for the possible presence of fecal matter. Zero detectable test results indicate that <i>E.Coli</i> was not detected.
Heterotrophic Plate Count (counts/1ml)	N/A	63	11	0	Spread Plate Count	Jul-Sep	<10	20	Test parameter is used as an indicator of possible deterioration of water quality. Increases in HPC concentrations above baseline levels are considered undesirable.

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Operational Parameters:

Operational Parameters	MAC or IMAC	Objective AO/OG	No. of Samples	Sampling Date	Results			Comments
					Min.	Max.	Avg.	
Chlorine Residual ¹ , Free (mg/L)			Continuous monitoring plus 6 grab samples per day	Jul-Sep	0.90	1.60	1.29	The maintenance of an adequate free chlorine residual is essential to the protection of public health. Values reported are an average of the 6 daily grab samples. The regulated minimum for free chlorine residual concentration in a water distribution system is 0.05mg/L; however the contractual obligation of the water system is to achieve 0.5mg/L at the point of supply to the municipalities.
Chlorine Residual ¹ , Total (mg/L)			Continuous monitoring plus 2 grab samples per day	Jul-Sep	1.04	1.74	1.46	The maintenance of an adequate free chlorine residual in essential to the protection of public health. Values reported are an average of the 2 daily grab samples.
Colour (TCU)		5	2 grab samples per day	Jul-Sep	<3	<3	<3	Values reported are an average of the 2 daily grab samples.
Conductivity (µS/cm)			Continuous monitoring plus 2 grab samples per day	Jul-Sep	181.8	215.4	191.8	Values reported based on daily minimum, maximum and average that have been recorded electronically.
pH		6.5 – 8.5	Continuous monitoring plus 6 grab samples per day	Jul-Sep	7.30	7.77	7.48	Values reported are an average of the 6 daily grab samples.
Turbidity ^{1,2} (NTU)			Continuous monitoring plus 6 grab samples per day	Jul-Sep	0.018	0.099	0.056	Turbidity (cloudiness) of water is an indication of the presence of particles in the water. If excessive, it may interfere with proper disinfection. Values reported are an average of the 6 daily grab samples.
Fluoride ¹ (mg/L)	1.5	0.6 – 0.8	Continuous monitoring plus 2 grab samples per day	Jul-Sep	0.44	0.79	0.64	Naturally occurring fluoride levels are supplemented during treatment to achieve the optimum level of 0.7mg/L recommended by Health Canada. The Ministry of Health and Long Term Care's document "Protocol for the Monitoring of Community Water Fluoride Levels" recommends a therapeutic range of 0.6 - 0.8 mg/L for fluoride. Values reported are an average of the 2 daily grab samples.
Aluminum (mg/L)		<0.1	2 grab samples per day	Jul-Sep	0.001	0.056	0.023	Aluminum levels are slightly elevated during treatment as a result of the use of alum to help in the removal of particulates.
Temperature (Celsius)		15	Continuous monitoring plus 6 grab samples per day	Jul-Sep	14.9	25.6	21.4	Raw Water Temperature. Values reported are an average of the 6 daily grab samples.



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Inorganic Parameters (Required Testing Under O.Reg. 170/03 – Schedule 23):

Schedule 23 - Inorganic Parameters		MAC or IMAC (mg/L)	Objective AO/OG	O.Reg. 170/03 Required Frequency of Testing (months)	2016	2017			Reportable Detection Limit (mg/L)	Comments
					Q4	Q1	Q2	Q3		
1.	Antimony	0.006		12	NT	0.00012	NT	0.00016	0.00002	
2.	Arsenic	0.025		12	NT	0.0003	NT	0.0004	0.0002	
3.	Barium	1.0		12	NT	0.022	NT	0.021	0.00001	
4.	Boron	5.0		12	NT	0.020	NT	0.018	0.0002	
5.	Cadmium	0.005		12	NT	0.000009	NT	0.000010	0.000003	
6.	Chromium	0.05		12	NT	0.00055	NT	0.00070	0.0005	
7.	Mercury	0.001		12	NT	ND	NT	ND	0.00002	
8.	Selenium	0.05		12	NT	0.00019	NT	0.00017	0.001	
9.	Uranium	0.02		12	NT	0.000047	NT	0.000090	0.000001	

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Organic Parameters (Required Testing Under O.Reg. 170/03 – Schedule 24):

Schedule 24 – Organic Parameters		MAC or IMAC (mg/L)	Objective AO/OG	O.Reg. 170/03 Required Frequency of Testing (months)	2016	2017			Reportable Detection Limit (mg/L)	Comments
					Q4	Q1	Q2	Q3		
1.	Alachlor	0.005		12	NT	ND	NT	ND	0.00002	Herbicide
2.	Atrazine + N-dealkylated metabolites	0.005		12	NT	0.00005	NT	0.00006	0.00001	Herbicide
3.	Azinphos-methyl	0.02		12	NT	ND	NT	ND	0.00002	Insecticide
4.	Benzene	0.005		12	NT	ND	NT	ND	0.00032	An aromatic hydrocarbon present in gasoline
5.	Benzo(a)pyrene	0.00001		12	NT	ND	NT	ND	0.000004	A polycyclic aromatic hydrocarbon (PAH) that forms during the combustion of organic matter (eg. emissions from burning fossil fuels)
6.	Bromoxynil	0.005		12	NT	ND	NT	ND	0.00033	Herbicide
7.	Carbaryl	0.09		12	NT	ND	NT	ND	0.00001	Insecticide
8.	Carbofuran	0.09		12	NT	ND	NT	ND	0.00001	Insecticide
9.	Carbon Tetrachloride	0.005		12	NT	ND	NT	ND	0.00016	An organic liquid that is primarily released from man-made sources; used in industrial and agricultural process
10.	Chlorpyrifos	0.09		12	NT	ND	NT	ND	0.00002	Pesticide
11.	Diazinon	0.02		12	NT	ND	NT	ND	0.00002	Insecticide
12.	Dicamba	0.12		12	NT	ND	NT	ND	0.0002	Herbicide
13.	1,2-Dichlorobenzene	0.2	0.003	12	NT	ND	NT	ND	0.00041	An organic compound used in both industrial and commercial products (coolant, degreaser, solvent)
14.	1,4-Dichlorobenzene	0.005	0.001	12	NT	ND	NT	ND	0.00036	An organic compound used in both industrial and commercial products (deodorizer, fungicide, lubricant)

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Schedule 24 – Organic Parameters		MAC or IMAC (mg/L)	Objective AO/OG	O.Reg. 170/03 Required Frequency of Testing (months)	2016	2017			Reportable Detection Limit (mg/L)	Comments
					Q4	Q1	Q2	Q3		
15.	1,2-Dichloroethane	0.005		12	NT	ND	NT	ND	0.00035	An organic chemical with many industrial and commercial applications (solvent, fumigant, ingredient in plastics etc.)
16.	1,1-Dichloroethylene (vinylidene chloride)	0.014		12	NT	ND	NT	ND	0.00033	Volatile organic compound; imported for use in the food packaging and textile industries
17.	Dichloromethane	0.05		12	NT	ND	NT	ND	0.00035	Volatile organic compound used in a variety of industries (electronics, textiles, pharmaceuticals, plastics etc.)
18.	2,4-Dichlorophenol	0.9	0.0003	12	NT	ND	NT	ND	0.00015	An organic compound used in industry and chemical manufacturing
19.	2,4-Dichlorophenoxy acetic acid (2,4-D)	0.1		12	NT	ND	NT	ND	0.00019	Herbicide
20.	Diclofop-methyl	0.009		12	NT	ND	NT	ND	0.0004	Herbicide
21.	Dimethoate	0.02		12	NT	ND	NT	ND	0.00003	Insecticide
22.	Diquat	0.07		12	NT	ND	NT	ND	0.001	Herbicide
23.	Diuron	0.15		12	NT	ND	NT	ND	0.00003	Herbicide
24.	Glyphosate	0.28		12	NT	ND	NT	ND	0.006	Herbicide
25.	Malathion	0.19		12	NT	ND	NT	ND	0.00002	Insecticide
26.	Metolachlor	0.05		12	NT	ND	NT	0.00001	0.00001	Herbicide
27.	Metribuzin	0.08		12	NT	ND	NT	ND	0.00002	Herbicide
28.	Monochlorobenzene	0.08	0.03	12	NT	ND	NT	ND	0.0003	A man-made organic compound; primarily used as a solvent
29.	Paraquat	0.01		12	NT	ND	NT	ND	0.001	Herbicide
30.	Pentachlorophenol	0.06		12	NT	ND	NT	ND	0.00015	An organic compound; used as a pesticide and wood preservative (manufacture and use banned since the 1980's)

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Schedule 24 – Organic Parameters		MAC or IMAC (mg/L)	Objective AO/OG	O.Reg. 170/03 Required Frequency of Testing (months)	2016	2017			Reportable Detection Limit (mg/L)	Comments
					Q4	Q1	Q2	Q3		
31.	Phorate	0.002		12	NT	ND	NT	ND	0.00001	Insecticide
32.	Picloram	0.19		12	NT	ND	NT	ND	0.001	Herbicide
33.	Polychlorinated Biphenyls (PCB)	0.003		12	NT	ND	NT	ND	0.00004	An organic compound; used in electrical equipment and as a fire retardant (use has been banned since the 1980's)
34.	Prometryne	0.001		12	NT	ND	NT	ND	0.00003	Herbicide
35.	Simazine	0.01		12	NT	ND	NT	ND	0.00001	Herbicide
36.	Terbufos	0.001		12	NT	ND	NT	ND	0.00001	Insecticide
37.	Tetrachloroethylene (perchloroethylene)	0.01		12	NT	ND	NT	ND	0.00035	An organic compound; used as a solvent in dry cleaning and metal cleaning industries
38.	2,3,4,6-Tetrachlorophenol	0.10	0.001	12	NT	ND	NT	ND	0.00014	An organic compound; currently used mainly as a wood preservative
39.	Triallate	0.23		12	NT	ND	NT	ND	0.00001	Herbicide
40.	Trichloroethylene	0.05		12	NT	ND	NT	ND	0.00044	Volatile organic compound; used in metal degreasing operations and chemical manufacturing
41.	2,4,6-Trichlorophenol	0.005	0.002	12	NT	ND	NT	ND	0.00025	Volatile organic compound; used in the manufacture of pesticides
42.	Trifluralin	0.045		12	NT	ND	NT	ND	0.00002	Herbicide
43.	Vinyl Chloride	0.002		12	NT	ND	NT	ND	0.00017	Volatile organic compound; Used in making PVC (polyvinyl chloride) plastic items
44.	2 methyl-4-chlorophenoxyacetic acid (MCPA)	0.1 *		12	NT	ND	NT	ND	0.00012	Herbicide *The MAC takes effect on January 1, 2017.

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	Additional Organic Parameters (Removed from Schedule 24 as of January 1, 2016)	MAC or IMAC (mg/L)	Objective AO/OG	Required Frequency of Testing (months)	2016	2017			Reportable Detection Limit (mg/L)	Comments
					Q4	Q1	Q2	Q3		
1.	Aldicarb			NR	NT	ND	NT	ND	0.00001	Insecticide
2.	Aldrin + Dieldrin			NR	NT	ND	NT	ND	0.00001	Insecticide
3.	Bendiocarb			NR	NT	ND	NT	ND	0.00001	Insecticide
4.	Chlordane (total)			NR	NT	ND	NT	ND	0.00001	Pesticide
5.	Cyanazine			NR	NT	ND	NT	ND	0.00003	Herbicide
6.	Dichlorodiphenyltrichloroethane (DDT) + metabolites			NR	NT	ND	NT	ND	0.00001	Insecticide
7.	Dinoseb			NR	NT	ND	NT	NT	0.00036	Insecticide, Herbicide
8.	Heptachlor + Heptachlor Epoxide			NR	NT	ND	NT	ND	0.00001	Insecticide
9.	Lindane (Total)			NR	NT	ND	NT	ND	0.00001	Pesticide
10.	Methoxychlor			NR	NT	ND	NT	ND	0.00001	Insecticide
11.	Parathion			NR	NT	ND	NT	ND	0.00002	Insecticide
12.	Temephos			NR	NT	ND	NT	ND	0.00001	Insecticide
13.	2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)			NR	NT	ND	NT	ND	0.00022	Herbicide

General Chemistry and Physical Parameters (Additional Regulatory and Contractual Testing)

General Chemistry and Physical Parameters	MAC or IMAC (mg/L)	Objective AO/OG (mg/L)	O.Reg. 170/03 Required Frequency of Testing (months)	Contractual Required Frequency of Testing (months)	2016	2017			Reportable Detection Limit (mg/L)	Comments
					Q4	Q1	Q2	Q3		
Alkalinity (Total as CaCO ₃)		30 – 500	NR	6	104.5	97.5	104	100	2	Q3 value is an average of 3 sample results
Chloride		250	NR	12	NT	18	NT	NT		
Copper		1	NR	12	NT	0.00523	NT	NT	0.001	
Dissolved Organic Carbon (mg/L as C)		5	NR	12	1.5	1.75	1.5	2.0	0.1	Q3 value is an average of 3 sample results
Dissolved Inorganic Carbon (mg/L as C)			NR	6	NT	27.0	32.0	26.0		
Ethylbenzene	0.14	0.0016	NR	12	NT	ND	NT	NT		
Geosmin (ng/L)		4.0	NR	Weekly as Required	ND	ND	NT	NT	3.0 ng/L	Geosmin is tested weekly from July 1-Oct 31. Results are expressed as the average per quarter when testing is required.
Haloacetic Acids	0.080*	0.060	NR	3	ND	ND	ND	ND	0.0053	The standard is expressed as a running annual average of quarterly samples measured at a point reflecting the maximum residence time in the distribution system. Running annual average: ND *The MAC takes effect January 1, 2020.
Hardness (mg/L as CaCO ₃)		80 – 100	NR	12	NT	131	NT	NT	1	
Iron		0.3	NR	12	ND	ND	ND	ND		Q3 value is an average of 3 sample results
Lead	0.01		NR	6	NT	ND	NT	0.00002	0.00002	
Manganese		0.05	NR	12	0.00027	0.00040	0.00142	0.00005		Q3 value is an average of 3 sample results
Methane (L/m ³)		3L/m ³	NR	12	NT	ND	NT	NT		
2-Methylisoborneol (MIB) (ng/L)		8.5	NR	Weekly as Required	ND	ND	NT	ND	3.0 ng/L	MIB is tested weekly from July 1-Oct 31. Results are expressed as the average per quarter when testing is required.

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General Chemistry and Physical Parameters	MAC or IMAC (mg/L)	Objective AO/OG (mg/L)	O.Reg. 170/03 Required Frequency of Testing (months)	Contractual Required Frequency of Testing (months)	2016	2017			Reportable Detection Limit (mg/L)	Comments
					Q4	Q1	Q2	Q3		
Nitrate	10.0		3	3	0.096	0.155	0.505	0.134	0.013	
Nitrite	1.0		3	3	ND	ND	0.006	ND	0.005	
Organic Nitrogen		0.15	NR	12	NT	ND	NT	NT	0.1	Organic nitrogen is calculated by subtracting Total Ammonia from Total Kjeldahl Nitrogen
Sodium		200	60	12	NT	16.9	NT	NT	0.5	The local Medical Officer of Health must be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.
Sulphate		500	NR	12	NT	40	NT	NT	1	
Sulphide		0.05	NR	12	NT	ND	NT	NT		
Toluene	0.06		NR	12	NT	ND	NT	NT	0.0002	
Total Dissolved Solids		500	NR	12	NT	171	NT	NT		
Trihalomethanes	0.100		3	3	0.017	0.0086	0.012	0.016	0.00037	The standard is expressed as a running annual average of quarterly samples measured at a point reflecting the maximum residence time in the distribution system. Running annual average: 0.0134 mg/L
Xylenes	0.09	0.02	NR	12	NT	ND	NT	NT		
Zinc		5.0	NR	12	NT	0.003	NT	NT	0.005	

Discussion of Analytical Results:

- * Indicator of adverse water quality
- ¹ In addition to the analytical samples noted above, chlorine residual, fluoride residual, and turbidity are measured on a continuous basis at the treatment facility using on-line instrumentation.
- ² Turbidity is both regulated by the Province of Ontario, and specified in accordance with the operating agreement with the Contracted Operating Authority. The turbidity reported (6 daily grab samples) is taken from the plant treated water discharge, which is not explicitly regulated in Provincial Regulations. Provincial Standards recommend an aesthetic objective of 5 NTU within a distribution system, and Provincial Regulation specifies a maximum of 1 NTU on individual filter effluent. The contract with the Operating Authority specifies a maximum turbidity of 0.2 NTU on treated water discharge from the water treatment plant and 0.1 NTU on individual filter effluent. There is currently no standard for combined filter effluent.

MAC or IMAC – Maximum Acceptable Concentration or Interim Maximum Acceptable Concentration; as identified in O.Reg. 169 (Ontario Drinking-Water Quality Standards) and the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines

AO/OG – Aesthetic Objective/Operational Guideline; as identified in the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines

NT – Not Tested during this quarter

NR – Not Required

ND – Not Detected

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To: Chair and Members
Elgin Area Primary Water Supply System Board of Management

From: Kelly Scherr, P. Eng., MBA, FEC
Chief Administrative Officer

Meeting Date: December 7, 2017

Subject: Environmental Management System and Quality Management System

RECOMMENDATION

That the following report with respect to the Environmental Management System and Quality Management System for the Elgin Area Primary Water Supply System **BE RECEIVED** for information.

DISCUSSION

Environmental Management System (EMS)

The Elgin Area Primary Water Supply System (EAPWSS) has an Environmental Management System (EMS) which has been registered to the ISO 14001 standard since 2003. The EAPWSS underwent a three-year re-registration audit in October 2015 and was recommended for continued registration to the ISO 14001:2004 standard for another three-year period (ending in 2018).

The latest revision of the international standard, ISO 14001:2015, was released in September 2015. All certified organizations were given a three-year period to transition to the new standard. The EAPWSS underwent an external audit on October 2-3, 2017. It was determined that the EMS met the requirements of both ISO 14001:2004 and ISO 14001:2015, therefore the transition requirements were met. The EAPWSS has been recommended for certification to the ISO 14001:2015 standard for a three-year period.

The continued utilization and registration of the EMS to the ISO 14001 standard is a requirement of the Service Agreement with Ontario Clean Water Agency (OCWA), the contracted Operating Authority for the EAPWSS.

Quality Management System (QMS)

In 2006, the Drinking Water Quality Management Standard (DWQMS) was integrated with the existing EMS and the combined EMS/QMS is maintained by the contracted Operating Authority. The *Safe Drinking Water Act* (SDWA) and the water system's Municipal Drinking Water Licence (MDWL) require that an accredited Operating Authority be in operational charge of the drinking water system. In order to become accredited, the Operating Authority must utilize and maintain an Operational Plan that meets the requirements of the DWQMS, and must undergo an external accreditation audit. OCWA received full scope DWQMS re-accreditation in October 2016 and is currently accredited for the three-year period ending in 2019.

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Management Review

The documented EMS/QMS and its performance requires Management Review by Top Management a minimum of once annually to ensure that the management team of the Board and the Operating Authority stay informed of environmental and quality related issues. Items discussed at the Management Review meetings include, but are not limited to, water quality test results, environmental and quality performance, legislative changes, identified non-conformances, corrective and preventive actions, staff suggestions, changing circumstances and business strategies, and resource requirements. Corrective and preventive actions include not only those to address non-conformance issues and opportunities for improvement identified as part of internal and external audits, but also non-compliance issues identified by the Ministry of the Environment and Climate Change (MOECC), suggestions from staff, and opportunities for improvement identified during the Management Review process.

In order to carry out more effective Management Review meetings, the Board’s administration has opted to conduct shorter meetings at more frequent intervals. Although each required Management Review input may not be covered at every meeting, over the course of the year all required inputs are reviewed at least once.

A Management Review meeting was held on October 13, 2017. The meeting minutes are attached as Appendix A of this report for the information of the Board.

Internal Audits

Pursuant to the international ISO 14001 EMS standard and the provincial DWQMS, periodic “internal” audits are performed by the Board’s administration to ensure continued compliance with legislated, contractual, and other requirements, as well as conformance with the ISO 14001 EMS standard and DWQMS . Internal audits also ensure that the ongoing operation of the EAPWSS conforms to the EMS and QMS as implemented. As required by the standards, internal audits are performed a minimum of once annually.

There were no internal audits were conducted during this reporting period.

External Audits

Annual surveillance audits (third-party external audits) are conducted for both the EMS and QMS, with a recertification audit taking place every third year. The external registrar for both the EMS and QMS is currently SAI Global. External audits review all aspects of the EMS or QMS, including the internal audits, subsequent management reviews, and corrective action processes.

A DWQMS Surveillance Audit was conducted on October 6, 2017. A summary of the audit findings is included as Appendix B of this report. Two (2) opportunities for improvement were identified during the audit. Zero (0) non-conformances were identified.

An EMS ISO 14001:2004 and ISO 14001:2015 Audit was conducted on October 2-3, 2017. A summary of the audit findings is included as Appendix C of this report. Six (6) opportunities for improvement were identified during the audit. Zero (0) non-conformances were identified.

All audit findings are discussed at a management review meeting and action items will be assigned. All audit findings were considered to be minor and can easily be addressed through assigned action items.

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Due to the length of the audit reports, Appendices B and C contain only a short summary of the audit findings. Copies of the complete external audit reports are available from the Board's administration office in London upon request.

Corrective and Preventive Actions

For the EMS/QMS to be effective on an on-going basis, an organization must have a systematic method for identifying actual and potential non-conformities, making corrections and taking corrective and preventive action, preferably preventing problems before they occur. The Internal Audit process and Management Review are the two main drivers for identifying potential problems for the EAPWSS and implementing corrective actions. Preventive actions may originate from identified opportunities for improvement as part of an audit, but also staff suggestions and discussions with management.

It is important to note that Action Items should not be construed as **compliance failures**, but rather an action to be undertaken which will improve our overall performance. An action item is often the result of staff suggestions, meetings with stakeholders and Management Reviews, and identified opportunities for improvements from internal and external audits.

The following table summarizes the status of action items assigned to date. Action items may be assigned to either the Owner or Operating Authority.

	# of Action Items Assigned	# of Action Items Completed	# of Action Items Outstanding	# of Action Items Overdue	% Completion
2012	55	55	0	0	100
2013	72	72	0	0	100
2014	28	28	0	0	100
2015	65	64	1	1	98
2016	88	82	6	4	93
2017 (Year to date)	80	35	40	9	44
TOTAL	388	336	47	14	87

The fourteen (14) overdue action items are all proactive in nature (not corrective) and generally relate to the following:

- Reviewing the existing regulatory and operations reports in SCADA and making recommendations for improvement.
- Providing the plant operations staff with training on Energy Management. Independent Electricity System Operator (IESO) has just released a new training program that may be applicable to our needs. Training is tentatively scheduled for mid-February 2018.
- One item relates to the transition to ISO 14001:2015 standard which includes a review of the Board's Guiding Principles and strategic plan.
- One action item relates to the Residuals Management Facility (RMF) project. Staff are waiting for the as-built record drawings to be delivered from the consultant and then the project EMS/QMS checklist can be closed out. Anticipated completion fall 2017.
- Two action items related to bringing a policy related question regarding spills notification to the MOECC for their consideration. The RWS Director has submitted a request through the Ontario Municipal Water Association (OMWA) for discussion, which was subsequently discussed with the MOECC Assistant Deputy Minister. Further follow-up is required.

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- One action item regarding notifying Regional Water Supply (RWS) staff that when preparing tenders and procurement documents to consider specifying that Asbestos Containing Material (ACM) is not to be used in supplied products. The RWS Director is proposing a Project Management Meeting for RWS staff and will include this item.
- One item relates to communicating to operators the importance of ensuring lab results are entered into WaterTrax.
- Three items relate to reviewing and updating an EMS/QMS administrative procedure and associated forms.
- One item relates to reviewing procedures related to chemicals being brought on site for research projects.
- Two items relate to reviewing with staff the dechlorination procedure for the terminal reservoir at the Elgin-Middlesex Pumping Station (EMPS) site as per revised work order instructions.

Changes from previous reporting period:

- Eight (8) new proactive action items were added as a result of the October 13, 2017 Management Review meeting.
- Two (2) new action items were added as a result of the DWQMS Surveillance Audit.
- Six (6) new action items were added as a result of the EMS ISO14001:2004 and 2015 Management System Audit.

For reporting clarity, the table above will be updated on a quarterly basis to track completions and outstanding items. In addition, any changes which occurred from the previous reporting period will be specifically noted for the reference of the Board.

PLAN-DO-CHECK-ACT

It should be noted that the “PLAN-DO-CHECK-ACT” system required by the ISO 14001 Standard and DWQMS requires continuous monitoring of the EMS/QMS, with periodic review and audits conducted to demonstrate conformance. A key concept of this approach (Plan-Do-Check-Act) is that it does not require or expect 100% conformance, but promotes an environment of continual review and improvement by identifying shortfalls, implementing corrective measures, and setting objectives and targets for improvement.

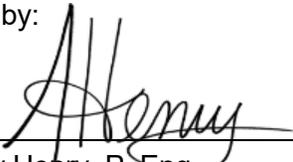
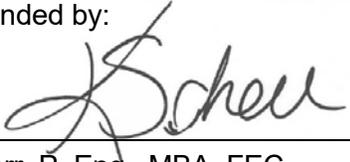
The monitor, review and audit philosophy is integrated in not only the monitoring of the registered EMS/QMS, but also with the Board’s contracted operations.

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CONCLUSION

The Internal Audits and frequent Management Review meetings continue to effectively identify system deficiencies. The EMS/QMS for the Elgin Area Primary Water Supply System continues to be suitable, adequate and effective. Activities by OCWA continue to address the need for change, and the management systems are being revised and refined as required.

This report was prepared by Erin McLeod, Quality Assurance & Compliance Manager and Arlene Tanashi, Compliance Coordinator.

Report by:  _____ Andrew Henry, P. Eng. Director, Regional Water Supply	Recommended by:  _____ Kelly Scherr, P. Eng., MBA, FEC Chief Administrative Officer
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Attachments:

- Appendix A: Management Review Meeting Minutes (October 13, 2017)
- Appendix B: QMS Surveillance Audit Report Summary (October 6, 2017)
- Appendix C: EMS Audit Report Summary (October 2-3, 2017)

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APPENDIX A: MANAGEMENT REVIEW MEETING MINUTES (OCTOBER 13, 2017)

Lake Huron & Elgin Area Primary Water Supply Systems EMS/QMS Management Review	
Date	October 13, 2017
Time	9:00 am – 12:00 pm
Location	London City Hall – 10 th Floor Engineering Boardroom
Attendees	Andrew Henry (RWS), Erin McLeod (RWS), Blair Tully (OCWA), Denny Rodrigues (OCWA), Simon Flanagan (OCWA)
Regrets	Arlene Tanashi (RWS), Shawn Core (OCWA)
C.C.	

-----Meeting Notes -----

1. Review and Approval of Past Meeting Minutes – August 24, 2017

The minutes were approved. No changes required.

2. Elgin – Notifications to Spills Action Centre (SAC)

2a.) Elgin Alum Spill – May 15, 2017

The details of the incident were discussed. OCWA completed a Corrective Action Form (CAF) for this incident. OCWA followed up with the chemical supplier and their procurement division. Opportunities for improvement in future include: capital project for increased alum storage capacity will reduce the frequency of alum deliveries. Future changes to security protocol will also be an improvement. No further action items identified at this time.

2b.) Elgin WTP Reservoir Overflow – July 11, 2017

The details of the incident were discussed. OCWA completed a CAF for this incident. Action items as identified on the CAF are currently in progress. No further action items identified at this time.

2c.) Elgin Residuals Management Facility (RMF) Exceedances – July 14, July 20, and Oct. 5, 2017

The details of the incidents were discussed. OCWA was advised by the Ministry of the Environment and Climate Change (MOECC) local inspector that the first two incidents were not true reportable events.

Action Item: RWS (Erin McLeod) to contact the MOECC to discuss changing the Municipal Drinking Water Licence to include additional allowances regarding total chlorine residual reporting. Deadline: Dec. 31, 2017

Action Item: Erin McLeod to follow up with Billy Haklander regarding the status of study/approval for performing sedimentation tank maintenance. Deadline: November 30, 2017

2d.) Elgin – Environmental Performance

Several reportable incidents have occurred over the past few months which is a negative trend. OCWA has made a number of changes to address root cause. They are diligently reporting and focusing on corrective action.

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3. Huron – Notifications to SAC

3a.) Huron WTP Filter #8 Non-compliance – May 10, 2017

The details of the incident were discussed. OCWA completed a CAF for this incident. There are no further action items required other than those already identified on the CAF.

General discussion on the SCADA system and the need for a periodic SCADA alarming/controls philosophy overview. The final Control Systems Study was recently received for both Huron and Elgin. The Study identifies errors, required coding changes etc.

Action Item: RWS (Andrew Henry, John Walker) to finish developing the action plan with regard to the Controls System Study. Deadline: December 31, 2017

Action Item: OCWA (Blair Tully) will discuss with RWS (John Walker) a proposed expenditure request for minor SCADA clean-up issues that are periodically identified. Deadline: December 31, 2017

3b.) Arva Reservoir Overflow – May 26, 2017

The details of the incident were discussed. OCWA completed a CAF for this incident. Corrective actions involved recalibrating level sensors and changing SCADA alarm setpoints. No further action items identified at this time.

3c.) Huron Residuals Management Facility (RMF) Discharge – July 21, 2017

The details of the incident were discussed. OCWA completed a CAF for this incident. Corrective actions included changes in SCADA and the changes were revalidated. No further action items identified at this time.

3d.) Huron Powdered Activated Carbon (PAC) Spill – July 28, 2017

The details of the incident were discussed. After reporting the spill, it was determined the spill was contained on site and did not reach the lake. OCWA followed up with SAC to notify them and confirm the spill was cleaned up. OCWA completed a CAF for this incident. Corrective actions included recalibration of level sensors, modified alarm setpoints, changes to standard operating procedure. The corrective actions relate back to the Control System Study (previously discussed) and operational assumption of projects. No further action items identified at this time.

3e.) Huron – Environmental Performance

Several reportable incidents have occurred over the past few months which is a negative trend. OCWA has made a number of changes to address root cause. They are diligently reporting and focusing on corrective action.

4. Huron & Elgin – Communications

4a.) Letter from MOECC re: Harmful Algal Blooms – May 3, 2017

The MOECC issued a letter to drinking water system owners and operating authorities. The letter requests that owners/operating authorities be diligent with harmful algal bloom monitoring and recommends action items. A standard operating procedure (SOP) is already in place for both Huron and Elgin, and a monitoring plan is followed. OCWA also recently discussed this topic at their Process Compliance Technician Training Conference.

4b.) Participation in MOECC Drinking Water Surveillance Program (DWSP) – Algal Toxins Monitoring

The MOECC issued a letter to both Elgin and Huron, requesting participation in the 2017 algal toxins monitoring program. Both systems have agreed to participate again, as this provides useful monitoring

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data. Participation in the monitoring takes place June through November. The Elgin system also conducts additional weekly monitoring for operational response purposes.

4c.) Lithium in Drinking Water

RWS received an inquiry as to whether lithium is tested in raw water or treated drinking water. This parameter is not tested and there is no data in either WaterTrax (internal sampling) or the MOECC's DWSP database. We do not plan to initiate sampling at this time. At this time the inquiry is being closed out unless we receive specific direction otherwise.

Action Item: RWS (Erin McLeod) to review the previous MOECC study on pharmaceuticals and emerging contaminants in drinking water, to verify if lithium was one of the pharmaceuticals tested. Elgin was a participant in this study. Deadline: Oct. 31, 2017

4d.) Microplastics in Drinking Water

RWS received an inquiry about microplastics in drinking water, as a result of an article that was published in September and received media coverage. Andrew Henry followed up with the research partners. At this time there has been no research on the occurrence and fate of microplastics/microfibers in drinking water treatment plants. University of Toronto NSERC chair has added this to their proposed research for 2018.

5. Huron & Elgin – Complaints

5a.) Elgin Standing Water Complaint – July/August 2017

Elgin received a complaint of standing water in a field. This was investigated by the Municipality, OCWA and RWS staff. The water could have been caused by EAPWSS transmission pipeline A or B, Aylmer Secondary pipeline or the EMPS. Leak detection equipment was used but there was nothing conclusive. Following the decommissioning of pipeline A this can be looked at again. Another option is to have the drain inspected by camera. A field tile may have been cut. Follow-up will continue to determine the source of the water. This item will be moved to the monthly operations meeting for any further discussion that is required.

5b.) Huron Odour Complaint - October 2, 2017

The details of the complaint were discussed. There was nothing out of the ordinary taking place at the Lake Huron WTP on this date. No further action required.

5c.) Huron Noise Complaint - August 15, 2017

The details of the complaint were discussed. The complaint was triggered by maintenance/filter project work taking place. This is not an everyday occurrence. The noise was in accordance with the municipal by-law. It was noted that the plant is within the Municipality of South Huron, but the residents across the road are in the Municipality of Bluewater.

Action Item: Erin McLeod to confirm if Bluewater has a noise by-law, and if so verify if the details regarding construction activities are the same as the South Huron's by-law. Deadline: Nov. 30, 2017

5d.) Huron Low Pressure Complaint – July 13, 2017 and July 19, 2017

Both complaints were received from the Municipality of North Middlesex. The details of the complaints were discussed. Both incidents related to the Lake Huron WTP being offline for the electrical upgrade project. The LHPWSS does not guarantee pressure within a municipal distribution system. These complaints were noted and we will make our best efforts to accommodate where possible. This is not always possible.



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Action Item: RWS (Andrew Henry, Michelle Williams) to review and update the communications contact lists, consolidate where possible, and confirm contact information for municipalities with regard to these notices. Include Sherry Maguire (N. Middlesex) on the communications. Deadline: December 31, 2017

5e.) Huron Complaint No Water – October 8, 2017

A resident of either Lucan or North Middlesex called the WTP to report no water. They were advised to contact their municipality as they are not our customer. The LHPWSS does not guarantee pressure within a municipal distribution system.

6. Huron & Elgin – Results of Board Meetings

June 8, 2017 Board Meetings

Huron Quarterly Compliance Report: The report was received and approved.

Huron EMS/QMS Report: There were some clarifications requested regarding the management review meeting minutes included in the report. The report was received and approved.

Elgin Quarterly Compliance Report: The report was received and approved. There was clarification requested regarding the pH of treated water. At this time the pH is within target range. The questions related to future changes in lead level regulations and the EAPWSS participation in corrosion control plans.

Elgin EMS/QMS Report: There were some clarifications requested regarding the annual requirements for internal audits. Wording to be modified/clarified in future reports. The report was received and approved.

October 5, 2017 Board Meetings

Huron Quarterly Compliance Report: The report was received and approved.

Huron EMS/QMS Report: The report was received and approved. There were some clarifications requested on details within the report including the management review meeting minutes. The Board had questions regarding the action items, specifically why an action item from 2015 was still overdue. As identified in the QMS internal audit report, there was concern about missed chlorinator maintenance at a remote station. This is why we do internal audits, to catch these potential non-compliances/non-conformances.

General comment about municipal communications. The LHPWSS provides information to the member municipalities about work we are undertaking, but we need to ensure we are also asking for information back.

Action Item: RWS Project Managers (John Walker, Billy Haklander, Dave Scott) to review communications on a quarterly basis. Change wording on standard shutdown notices to include a statement such as “Please advise of any work being undertaken by the municipalities which may impact the WTP”. Deadline: Dec. 31, 2017

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File No. E27/2017

General comment about water conservation. There was a comment made as to whether the regional water systems should be encouraging conservation, as the impacts to the budget and the end consumer continue to be felt. The impacts of long-term conservation and deferral of expenditures versus short-term revenues will be discussed at a future meeting of the Boards. Note that the Board resolved to proceed as recommended.

Elgin Quarterly Compliance Report: The report was received and approved.

Elgin EMS/QMS Report: The report was received and approved.

7. Compliance Obligations Update

Title	Regulation Proposal: Excess Soil Management Regulatory Proposal
Source	Ministry of the Environment and Climate Change (MOECC) – EBR Posting
Date Posted/ Notice Received	April 24, 2017
Comments Due	June 23, 2017
Summary	<p>The MOECC is proposing a new excess soil reuse regulation and associated complementary amendments to existing regulations (O.Reg. 347 – Waste; O.Reg. 153 – Records of Site Condition; O.Reg. 332 – Building Code). Public input was previously sought through a proposed Excess Soil Management Policy Framework. Based on input received the MOECC is now completing key commitments under the framework. Key actions under the framework include:</p> <ul style="list-style-type: none"> • the development of the new regulation and changes to existing regulations; • the development of new reuse standards and sampling guidance for excess soil; • clarification on approval requirements related to temporary sites and processing sites.
Notes	<p>This regulatory proposal should not impact the residuals generated at the Residuals Management Facility (RMF). “Excess soil” has been defined as excavated soil that leaves a project area (construction or development site). There are 2 key triggers which would require a site owner to prepare an “Excess Soil Management Plan”:</p> <ul style="list-style-type: none"> • quantitative trigger: if 1000m³ (approx. 100 truckloads) or more of soil is being removed from the site; • qualitative trigger: if the area is associated with a potentially contaminating activity; <p>The regulation would apply to the construction of a RMF, but should not apply to the daily operations (generating residuals).</p>

Title	Policy Proposal: Proposed municipal asset management planning regulation
Source	Ministry of Economic Development, Employment and Infrastructure – EBR Posting
Date Posted/ Notice Received	May 25, 2017
Comments Due	July 24, 2017
Summary	The posting proposes that municipalities would be prescribed as a broader public sector body which must prepare asset management plans meeting the requirements of the proposed regulation.

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	<p>Building on the province's 2012 Building Together: Guide for Municipal Asset Management Plans, the regulation would set out requirements to improve asset management planning. This would include the content for municipal asset management plans and the phases of preparation. Municipalities would be required to adopt strategic asset management policies that would promote best practices and link asset management planning with budgeting, operations, maintenance and associated other municipal planning activities. Municipalities would also be required to report on implementation annually.</p> <p>Municipalities will be required to develop and adopt a strategic asset management policy by January 1, 2019.</p>
Notes	<p>The EAPWSS and LHPWSS currently have much of the asset management planning already in place. At this time entities other than municipalities are exempt. This will likely change in future.</p> <p>Comments were submitted by the Ontario Municipal Water Association (OMWA) but not directly from the Boards. OMWA has a similar view of the proposed regulation as Board staff.</p>

Title	Report: Every Drop Counts; Reducing the Energy and Climate Footprint of Ontario's Water Use
Source	Environmental Commissioner of Ontario Annual Energy Conservation Progress Report 2016/2017
Date Posted/ Notice Received	Report Released May 30, 2017
Comments Due	N/A
Summary	<p>The report focuses on the connection between water and energy in Ontario's municipal water and wastewater systems. Water and wastewater systems are the largest energy users for most municipalities, accounting for almost 40% of the municipality's total usage, on average.</p> <p>The government is planning major investments in water infrastructure renewal, giving Ontario municipalities an opportunity to cut the energy and environmental footprints of their water and wastewater systems.</p>
Notes	The LHPWSS is featured in the report, noting their energy conscious asset management plan.

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	<p>4.5.1 The Lake Huron Primary Water Supply System – Integrating Energy Use Into Asset Management</p> <p>The best energy conscious AMP that the ECO has seen is the Lake Huron and Elgin Area Primary Water Supply Systems’ Asset Management Plan.⁴⁴ Energy efficiency and greenhouse gas emissions are part of the AMP “level of service” metrics supporting their sustainability customer service values. To provide data for these metrics, the organization undertook an energy audit and pump optimization study. The energy audit and pump study form a baseline and significant input to the 30-year growth capital plan and asset management plan, including energy targets for 2016 – 2045. The work necessary to reach these targets is considered for investment through the yearly budget cycle which in turn supports project prioritization linked to the level of service framework and risk mitigation strategy.</p>
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Title	Notice of Adverse Test Results and Issues Resolution Form (Schedule 16) – O.Reg. 170
Source	MOECC – Email
Date Posted/ Notice Received	May 10, 2017
Comments Due	N/A
Summary	<p>A new form has been developed to report adverse drinking water quality incidents faster and easier. Some of the changes include:</p> <ul style="list-style-type: none"> • The form can now be completed and submitted electronically. • Multiple adverse incidents can be reported on one form. • Supporting documentation (eg. sample results) can be attached to the electronic submissions. • There are new information fields for water advisories and corrective actions.
Notes	<p>Minor impacts to the EAPWSS and LHPWSS: the Operating Authority will be required to use the new form if reporting an AWQI.</p> <p>Action Item: Denny Rodrigues to review the existing standard operating</p>

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	procedures (SOP) and confirm if any updates are required. Deadline: December 31, 2017
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Title	Regulation Decision: A regulation establishing a new water bottling charge
Source	MOECC - EBR Posting
Date Posted/ Notice Received	June 8, 2017
Comments Due	N/A
Summary	In January 2017 the province proposed a new fee for water bottling companies that take groundwater. A decision was made to proceed with the regulation. The new fees are in effect on August 1, 2017. The final regulation is consistent with the proposal to apply a charge of \$500 per million litres of groundwater taken by a water bottling facility. The charge helps the province recover costs associated with regulating and managing groundwater takings.
Notes	No impacts to the LHPWSS and EAPWSS.

Title	Information Notice: Adopting updated environmental management system documents under the Environmental Penalties Regulations (O.Reg. 222/07 and O.Reg. 223/07)
Source	MOECC – EBR Posting
Date Posted/ Notice Received	June 21, 2017
Comments Due	N/A
Summary	Two regulations have been updated to reflect revised Environmental Management System documents (ie. updated ISO documents) <ul style="list-style-type: none"> • O.Reg. 222/07 (Environmental Penalties) under the <i>Environmental Protection Act</i> • O.Reg. 223/07 (Environmental Penalties) under the <i>Ontario Water Resources Act</i> Adoption of the Environmental Management System (EMS) documents allows companies to continue to receive a reduction to an Environmental Penalty when a qualified EMS is in place.
Notes	No impacts to the LHPWSS and EAPWSS. The registered ISO14001 systems currently in place are being revised as required to meet the requirements of ISO14001:2015.

Title	Release of Expanded Drinking Water Data on Open Data Catalogue
Source	MOECC – Email Notification
Date Posted/ Notice Received	July 21, 2017
Comments Due	N/A
Summary	The MOECC is going to expand data sets available on their Drinking Water Quality and Enforcement webpage of the Open Data Catalogue. This is in support of Ontario’s commitment to open government and transparency. In the past only drinking water summary data was posted. Now data sets will include AWQIs, test results, inspections, orders, and microcystin data.
Notes	No impacts to the LHPWSS and EAPWSS.

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Title	A new tool for Substances Search
Source	Environment and Climate Change Canada (ECCC)
Date Posted/ Notice Received	July 26, 2017
Comments Due	N/A
Summary	ECCC has launched a new tool for substances search. http://pollution-waste.canada.ca/substances-search The tool will help users find the legislative status and program priorities for individual substances. The intent is to make it easier to find specific program information or Open Data datasets related to substances of interest. This search tool replaces three different search tools previously used.
Notes	No impacts to the LHPWSS and EAPWSS. Action Item: Include a link to this database in the EMS/QMS Compliance Obligations Procedure. Assigned to Erin McLeod and Denny Rodrigues. Deadline: December 31, 2017

Title	Microbeads in Toiletries Regulations
Source	Canada Gazette
Date Posted/ Notice Received	June 2, 2017
Comments Due	N/A
Summary	Regulations that prohibit the manufacture, import, and sale of toiletries that contain plastic microbeads have been published: http://www.gazette.gc.ca/rp-pr/p1/2016/2016-11-05/html/reg2-eng.php As of January 1, 2018 the manufacture and import of these products is prohibited, with certain products exempt until July 1, 2018. As of July 1, 2018 the sale of these products is prohibited, with certain products exempt until July 1, 2019.
Notes	This regulation will benefit the LHPWSS and EAPWSS as microplastics in drinking water is an emerging concern. Microplastics in drinking water, including their occurrence and fate, is an area that requires future research.

Title	Canadian Standard Association (CSA) - Handbook
Source	CERCN
Date Posted/ Notice Received	August 2017
Comments Due	N/A
Summary	CSA has released a handbook titled "PLUS 14001; the ISO 14001 essentials – A practical guide to implementing the ISO 14001 standard". The intent of the handbook is to provide a concise, user friendly guide to understanding and implementing the requirements of ISO 14001.
Notes	Action Item: Erin McLeod to purchase the handbook and upload it to SharePoint. Deadline: December 31, 2017

Title	Chief Drinking Water Inspector's Annual Report 2016-2017
Source	MOECC

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Date Posted/ Notice Received	October 6, 2017
Comments Due	N/A
Summary	The Chief Drinking Water Inspector's Annual Report highlights efforts over the past year to keep drinking water safe. Supporting data is available on the Open Data Catalogue.
Notes	

Title	Boilers and Pressure Vessels Safety Program - Code Adoption Document Amendment
Source	CERCN Newsletter
Date Posted/ Notice Received	July 2017
Comments Due	N/A
Summary	Amendments to the Code Adoption Document referenced in O.Reg. 220/01 (Boilers and Pressure Vessels) under the Technical Standards and Safety Act (TSSA) took effect May 29, 2017. The Code Adoption Document outlines the requirements for the design, fabrication, installation, repair, alteration, inspection, testing, operation and use of boilers and pressure vessels and the associated fittings and piping.
Notes	

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Title	Boilers and Pressure Vessels Regulation (O.Reg. 220/01) – Regulatory Review
Source	Ontario's Regulatory Registry
Date Posted/ Notice Received	June 2, 2017
Comments Due	July 17, 2017
Summary	<p>The Ministry of Government and Consumer Services (MGCS) and TSSA established a panel of industry stakeholders. The purpose of the panel consultation was to make recommendations to government to assist in addressing long-standing challenges associated with the regulation. The panel issued a final report. The MGCS has developed draft regulatory changes to support the implementation of the panel's recommendation in the final report, as well as other changes to improve the effectiveness of the TSSA's Boiler and Pressure Vessel (BPV) Safety Program.</p> <p>Under the proposed changes, BPV owners will require TSSA authorization to operate the equipment, resulting in a change in process and cost for owners/operators.</p> <p>Following an insurer's periodic inspection, the BPV owner/operator must apply for authorization from TSSA to operate the device. Once the insurer submits a record of inspection, a Certificate of Inspection (COI) will be issued by TSSA. There will be a fee per object (approx. \$18).</p> <p>The proposed amendments are expected to go into effect in 2018.</p> <p>The Public Consultation Feedback Form included with this posting provides a plain language summary of the proposed changes.</p>
Notes	Potential impacts to the LHPWSS and EAPWSS: Impacts for boilers, compressors and surge tanks located within the facilities. Total impact in the range of \$500 plus any administrative impact.

8. Huron ISO 14001:2015 Internal Audit – August 17-18, 2017

The purpose of the internal audit was to verify conformance with the ISO 14001:2015 Environmental Management Systems standard. A summary of the audit findings was circulated. Twenty-three (23) Opportunities for Improvement were noted. Discussion ensued and the approved action items and deadlines will be incorporated into the Corrective Action Form (CAF) tracking spreadsheet.

9. Elgin ISO 14001:2105 External Audit – October 2-3, 2017

The purpose of the external audit was to verify conformance with the ISO 14001:2015 Environmental Management Systems standard. A summary of the audit findings was circulated. Six (6) Opportunities for Improvement were noted. Discussion ensued and the approved action items and deadlines will be incorporated into the Corrective Action Form (CAF) tracking spreadsheet. Two (2) of the Opportunities for Improvement will be brought forward at a future meeting as they were not discussed due to time restraints.

Next Meeting: To Be Announced

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APPENDIX B: QMS SURVEILLANCE AUDIT REPORT SUMMARY (OCTOBER 6, 2017)

DWQMS Reference: 5 Document and Records Control
Results: **Opportunity for improvement**
Details: There is an opportunity to ensure a date is recorded on each page of the Operational Plan, as required by the Director's Directions (2007)

DWQMS Reference: 16 Sampling, Testing and Monitoring
Results: **Opportunity for improvement**
Details: There is an opportunity to clarify the applicability of O.Reg. 170/03 Schedule 13-6.1 (re: Haloacetic acids sampling/testing) within EA-ADMIN-2050 section 4.11.

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APPENDIX C: EMS AUDIT REPORT SUMMARY (OCTOBER 2-3, 2017)

Non-Conformances (NCRs):

1. None identified.

Opportunities for Improvement (OFI)

- **4.3 Scope** – Consider incorporating link to DWQMS in the EMS scope.
- **4.3.2 / 6.1.2 Environmental aspects** – Consider reviewing:
 - i) regulatory requirements associated with impact assessment on waste water (septic tank / oil/grease separator); and
 - ii) assessment requirements for water conservation.
- **4.4.2 / 7.3 Awareness** – Consider reviewing the recordkeeping process to ensure:
 - i) database entry consistency for training records (i.e. date completed vs. date entered); and
 - ii) all training records are in one location (i.e. orientation records are not being entered into the database).
- **5.2 Environmental Policy** – Consider specifying commitments to protection of the environment (i.e. only pollution prevention is addressed) and enhancement of environmental performance.
- **6.1.1 Risks and Opportunities** – Consider tying risks and opportunities into Interested Party and External / Internal Issues (including environmental conditions) Matrices and documenting all these (e.g. checkbox) as part of objective setting EF-ADMIN-1500.
- **8.1 Operational Planning and Control** – Consider:
 - i) reviewing life cycle discussion during Management Review (currently done through Capital Meetings), and
 - ii) including life cycle diagram identifying life cycle stages and associated control, influence, responsibility, including outsourcing.

To: Chair and Members
Elgin Area Primary Water Supply System Board of Management

From: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Meeting Date: December 7, 2017

Subject: Public Access and Tour Policy – Temporary Suspension of Public Tours

RECOMMENDATION

That the Public Access and Tour Policy report for the Elgin Area Primary Water Supply System **BE RECEIVED** for the information of the Board of Management.

EXECUTIVE SUMMARY

Public interest in taking tours of the water treatment plant has steadily increased in recent year, largely for students in grade 7/8 and high school. Historically, tours of the facility have been undertaken when sufficient resources are available, but in recent years have been limited due to safety concerns and construction and maintenance related activities.

Tours of the water treatment plant have been temporarily suspended, effective November 9, 2017, and staff are undertaking a comprehensive review of the current Public Access and Tour Policy in order to address safety and site security issues. Options are being developed with regard to the educational aspects and opportunities to engage with the public.

A report will be presented to the Board in future for further consideration which outlines proposed amendments to policies and resources required to reinstate tours.

PREVIOUS AND RELATED REPORTS

- January 20, 2011 Public Access and Tour Policy
- December 5, 2013 Public Access and Tour Policy

BACKGROUND

The Elgin Area Primary Water Supply System (EAPWSS) has a history of providing tours to public groups, by appointment only. Tours have typically been provided to high school, college and university students for educational purposes, as well as public interest civic groups.

It is the intent of the Public Access and Tour Policy to maintain this practice to the degree possible, while recognizing legislative requirements, the safety of the public, and the ongoing security of the water treatment and supply system.

DISCUSSION

In 2013, the Public Access and Tour Policy was updated to better-incorporate the policies of the contracted Operating Authority and clarify responsibilities of the Operating Authority and board staff in arranging and undertaking public tours of the water treatment plant. The current policy provides for tours of the water treatment plant during regular working hours (Monday through Friday, 8:30am to 4:00pm), by appointment only, and subject to the availability of staff. Among other things, the policy further stipulates the accompaniment of adults for children less than 12 years old, and youth between 12 and 17 years of age, and the requirement of a signed Release, Waiver and Indemnity form.

Tours are limited to groups of 10 persons or less, including adult chaperones. Where sufficient resources are available, larger groups can be accommodated provided that the group is spit into smaller sub-groups of 10 persons or less.

A tour of the facility generally takes about 90 minutes.

Public Safety

The issue of public safety within the plant continues to be of concern to Board staff and the Operating Authority as the fifty year old building does not fully comply with the current building standards and Building Code requirements related to safety. This is particularly true with regard to railings and barriers throughout the facility, especially those around the open water tanks and elevated walkways where the top rails don't meet the rail height requirements and are basically open between the floor and top rail. This becomes a significant concern when younger children are within the plant.

Site Security

The recently completed Security Audit and Threat Risk Vulnerability Assessment identified a number of staff and public safety concerns and site security issues related to public access and tours. Some of these issues, in part, will be addressed in the security upgrades over the next several years however the Public Access and Tour Policy will need to be revised and coordinated with the security policies currently being developed as a result of the audit recommendations.

Of specific concern is the extent to which the water system should and will allow public access to the various areas of the plant for educational purposes, while ensuring the safety of staff and the security of the site. Assuming the water system continues allowing public tours of the facility, a careful balance is required to balance the requirements of education, the safety of both staff and public, and the security of this critical infrastructure.

Construction, Operations and Maintenance

Due to the significant amount of construction activities in 2014 through 2015 which impacted all areas of the plant, public tours were temporarily suspended due to safety concerns. A limited number of tours were undertaken in 2016 and 2017 when construction, operations and maintenance activities did not pose a risk to the public and the safety of the tour group could be reasonably assured.

Construction, operations and maintenance activities continue to be a concern when undertaking tours of the facility, and can often be declined when specific dates are requested to safety concerns. We are again approaching a period where a number of projects are being undertaken throughout the facility that will limit available resources and present safety issue for the tour groups. As a result, tours of the water treatment facility have been temporarily suspended effective November 9, 2017.

Public Education

There has been a notable increase in public awareness and interest in issues related to public drinking water supplies and water treatment in general. The cause of the increased interest is attributed to a number of factors, including but not limited to:

- Source Water Protection policies and protective measures enacted across Ontario,
- Media attention on various issues such as water bottling plants, fluoridation, spills and contamination, climate change, and water diversions,
- Greater interest in water, especially drinking water, as part of grade school and secondary school education curriculum, and
- Social media awareness campaigns

Tour Resources

Tours are typically conducted by plant staff in accordance with the Public Access and Tour Policy. Limitations on staff availability can significantly affect if and when tours are undertaken, as well as the size of groups.

In recent years, the interest in public water supply and water treatment has caused a significant increase in requests for tours of the water treatment plant. During the month of October 2017 alone, we received 10 requests for tours for grade 7 and 8 students (estimated approximately 350 students and chaperones), along with inquiries from:

- Western University related to their engineering program
- A videographer undertaking the development of an educational/documentary
- A kindergarten class
- A service club

Due to limitations in available resources, all requests made in October were declined, with the exception of the engineering students from Western University as the tour was undertaken as part of a class program and the age of the tour attendees posed a more manageable safety risk.

TEMPORARY SUSPENSION OF TOURS

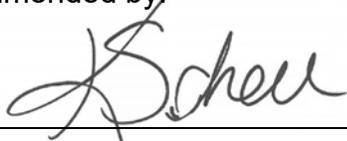
In order to fully address the issues identified in the security audit and safety concerns identified, public access and tours of the water facilities have been temporarily suspended, with the exception of requests from post-secondary institutions where the tours are undertaken as part of their curriculum. Tours for post-secondary students are only undertaken where sufficient resources are available and where the safety of staff and the students are not at risk.

Assuming a continued greater interest in the water treatment system, staff wish to develop more comprehensive options to address the educational aspects of the requests while ensuring the safety of staff and public, as well as site security. Options that could be explored, in part or in combination, may include:

1. Limit tours to only a small portion of the water treatment plant where safety risks and site security concerns can be strictly controlled (e.g. high lift pump bay and filter gallery);
2. Develop and implement an interactive educational display at the water treatment plant;
3. Undertake safety upgrades, such as rail and barrier replacements, in areas where limited public access and tours will be undertaken; and,
4. Develop an in-class education and engagement plan in partnership with stakeholders, including municipalities, conservation authorities and educators. Resources would be required in order to undertake presentations in classrooms and at public events.

CONCLUSION

Due to ongoing safety concerns and limited availability of resources, tours of the water treatment plant have been suspended with the exception of tours of post-secondary students where the tour is undertaken as part of their curriculum. Board staff are taking this opportunity to review the Public Access and Tour Policy, and develop alternative options for future public access and educational opportunities. Board staff hope to be in a position to reinstate public tours in 2018, but not before the Policy is review and the Board has been afforded the opportunity to discuss the issue and provide direction with regard to a broader educational program

<p>Report by:</p>  <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <p>Andrew Henry, P. Eng. Director, Regional Water Supply</p>	<p>Recommended by:</p>  <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <p>Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer</p>
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To: Chair and Members
Elgin Area Primary Water Supply System Board of Management

From: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Meeting Date: December 7, 2017

Subject: Crop Yield Monitoring Program – 2012 Pipeline Twinning Project

RECOMMENDATION

That the following actions be taken with regard to the Crop Yield Monitoring Program of the Elgin Area Primary Transmission Pipeline Easement associated with the 2012 Pipeline Twinning Project:

- a) The Board **APPROVE** the list of pre-qualified agronomists from which landowners may select to undertake a three year crop yield monitoring program for their affected property; and,
- b) The Board **RECEIVE** the Crop Yield Monitoring Program – 2012 Pipeline Twinning Project report for information.

PREVIOUS AND RELATED REPORTS

None

BACKGROUND

Construction associated with the twinning of the 14.8 kilometre transmission main with a new 900 mm diameter transmission main was completed in May 2012. As part of the construction project, the EAPWSS entered into agreements with affected landowners related to construction activities, preservation of agricultural property, and post construction monitoring. The agreement includes a condition that in each of the seventh, eighth and ninth year following construction the EAPWSS shall implement a crop yield monitoring program and that the monitoring program shall be undertaken by a specialist agronomist consultant mutually agreeable by both the EAPWSS and the Landowner.

The intent of the crop yield monitoring program is to reasonably gauge the impact of the pipeline construction on the productivity of the agricultural properties. Landowner compensation paid during the course of the pipeline construction, in part, assumed a crop yield loss over an extended period of time. The crop yield loss compensation is based a standard formula developed and is standard industry practice.



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If crop yield losses (a comparison of on-easement versus off-easement productivity) are worse than what was previously compensated for, the landowner may be entitled to further compensation as well as remediation work in order to limit future losses.

Undertaking a crop yield monitoring program following significant construction such as pipeline construction through agricultural lands ensures that landowners are treated fairly and compensated adequately, as well as provides an opportunity for the regional water system to evaluate construction methodologies and mitigation measures utilized during construction for improved construction programs in future.

DISCUSSION

In preparation for the 2019 crop yield monitoring program related to the pipeline twinning construction, Board staff issued a Request for Expression of Interest/Qualifications (REOI/RFQUAL) for Crop Yield Monitoring to establish a list of pre-qualified crop yield monitoring specialists in accordance with the policies and bylaws of the water system.

On September 1, 2017, crop yield monitoring specialists responded to the REOI/RFQUAL and provided their list of qualifications. Based on Board staff review, the following crop yield monitoring specialists are recommended to be listed as duly qualified to undertake a crop yield monitoring program:

Proposed List of Pre-Qualified Agronomists

1. Chad Anderson
2. Allan McCallum
3. Karen Robinson
4. Jane Sadler Richards
5. Robert Sculthorpe
6. SRG (Don King)
7. Stantec Consulting (Steve Thurtell)
8. Bill Ungar (UI-Argo)

With Board approval, Board staff can move forward with presenting the above noted agronomists to landowners for their consideration and response such that crop yield monitoring may commence in 2019. It will be requested that each landowner provide their preferred vendors in order of priority. Staff would then provide the relevant details for the property and easement conditions to the first vendor with a request for a quotation to provide the monitoring service for a three year period in conjunction with their recommended monitoring program.



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If the quotation and program appear to be acceptable, reasonably comparable to previous submissions provided during past public procurement processes, staff would award (administrative award) the assignment for the specific property. If the quotation and program is not deemed reasonable, or the vendor is not available to undertake the monitoring program, staff will proceed to request a quote and recommended monitoring program from the next preferred vendor indicated by the landowner.

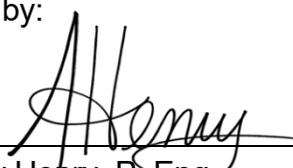
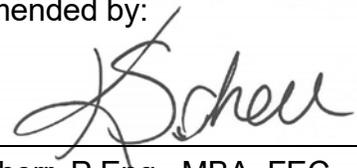
CONCLUSION

In accordance with the individual landowner agreements, the EAPWSS is to implement a crop yield monitoring program in each of the seventh, eighth and ninth year following construction of the Elgin Pipeline Twinning Project. Consistent with the policies and bylaws of the water system, Board staff initiated a REOI/RFQUAL process to establish a list of pre-qualified crop yield monitoring specialists.

Board staff recommend that the Board approve the list of pre-qualified agronomists from which landowners may select such that the three year crop yield monitoring program may commence in 2019.

Given the size of the water system's easement and total length of construction, utilizing a property-specific procurement process rather than a single vendor for the entire affected area ensures that a reasonable number of vendors are available and competitive pricing is obtained. This process further ensures a more integrated process is undertaken and involves the affected landowners to a greater degree.

Information for this report was provided by Billy Haklander, Environmental Services Engineer.

<p>Report by:</p>  <p>Andrew Henry, P. Eng. Director, Regional Water Supply</p>	<p>Recommended by:</p>  <p>Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer</p>
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To: Chair and Members
Elgin Area Primary Water Supply System Board of Management

From: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Meeting Date: December 7, 2017

Subject: EA4128 High Lift Switchgear Replacement Project – Update

RECOMMENDATION

That the Board of Management **AUTHORIZE** the increase in the approved Budget for High Lift Switchgear Replacement Project (EA4128) to \$1,450,000, it being noted that the Asset Replacement Reserve fund will be utilized for the source of funding.

PREVIOUS AND RELATED REPORTS

- October 6, 2016 Current Operating & Capital Budgets
- March 9, 2017 High Lift Switchgear Replacement – Administrative Award
- October 5, 2017 High Lift Switchgear Replacement Project

DISCUSSION

Construction of the high lift switchgear replacement is underway and the project is expected to be complete before the summer of 2018. To safeguard the longevity of the new switchgear equipment, the environment in which the equipment is located must be maintained through an adequate HVAC system. Engineering analysis during the design of the high lift switchgear determined that the current system is inadequate. On this basis, upgrades to the HVAC system in the high lift motor control centre are required to accommodate the additional heat generated by the new switchgear. The additional engineering and construction costs associated with the upgrade are not included within the approved budget for the High Lift Switchgear Replacement (EA4128) project.

Engineering design estimates the costs to upgrade the existing HVAC system to be approximately \$250,000. It is therefore the recommendation of staff that the budget of EA4128 be increased by \$250,000 from \$1,200,000 to \$1,450,000.



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PROJECT FINANCIAL STATUS:

Summary of Projected Costs

The following summary of estimated costs is provided for review and will be confirmed throughout the project:

Preliminary Design	\$ 64,542
Detailed Design and Contract Administration	\$ 119,134
Construction	\$ 1,183,510
Contingency	<u>\$ 80,000</u>
Total Projected Costs	\$ 1,447,186
Approved Budget	\$ 1,200,000

Summary of Expenditures Incurred to Date:

(as of November 22, 2017)

The following summary of expenditures incurred to date:

Preliminary Design	\$ 48,239
Detailed Design and Contract Administration	\$ 38,557
Construction	<u>\$ 8,161</u>
Total Expenditures	\$ 94,957

Budget Surplus/Deficit **(\$247,186)**



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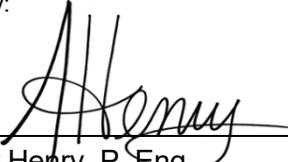
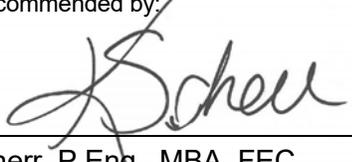
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File No. E27/2017

CONCLUSION

During the design of the high lift electrical switchgear project it was determined that the current heating, ventilation and air conditioning (HVAC) system in the high lift motor control centre where the electrical switchgear is located is undersized. To ensure a suitable environment for the new switchgear it is the recommendation of staff to increase the budget for EA4128 to upgrade the HVAC system in this area.

Information for this report was provided by Billy Haklander, Environmental Services Engineer.

Report by:  _____ Andrew Henry, P. Eng. Director, Regional Water Supply	Report Recommended by:  _____ Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer
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