

West Elgin Distribution System Operations Report Second Quarter 2018

Submitted by:
Ontario Clean Water Agency
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Facility Description

Facility Name: West Elgin Distribution System

Regional Manager: Dale LeBritton (519) 476-5898

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Business Development Manager: Susan Budden (519) 318-3271

Facility Type: Municipal

Classification: Class 1 Water Distribution

Drinking Water System Category: Large Municipal Residential

Title Holder: Municipality

Service Information

Area(s) Serviced: The West Elgin Distribution System receives water from the Tri-County Drinking Water System and services the communities of West Lorne, Rodney, Eagle, New Glasgow and Rural areas within the municipality.

Operational Description:

In addition to the watermains, valves, auto flushers, sample stations and fire hydrants, the West Elgin Distribution System has a water storage facility. The system is controlled at the Tri-County Water Treatment Plant by the SCADA system.

The Rodney Tower in conjunction with the West Lorne Standpipe (a part of the Tri-County Drinking Water System) provides water pressure to the distribution system. The highlift pumps at the Tri-County Water Treatment Plant start when the West Lorne Standpipe reaches the start set point and will continue to fill till the stop set point. Based on the elevations in the system, the Rodney Tower will only begin filling once the West Lorne Standpipe is full. There are four chambers located at Pioneer Line, Marsh Line, Silver Clay and Talbot Line West of Graham that control the flow to Rodney. These chambers contain automated valves so that when the Rodney Tower reaches the start set point the valves open up to allow water to be fed from the West Lorne distribution system. The highlift pumps stop set point of the West Lorne Standpipe will be overridden if the Rodney Tower has not reached its stop set point, and therefore will continue to run to fill up the Rodney Tower.

Key information on the Rodney Tower:

- Single fill/draw 300mm diameter pipe
- Constructed in 1994 by Landmark
- Volume of 1,200m³
- Base elevation: 210.8m; Storage elevations: 238.9m to 250.6m; therefore resulting water pressure 276-386kPa (40-56psi)
- Located at 192 Victoria Street in Rodney

Facility Name: West Elgin Distribution System
ORG#: 1266

SECTION 1: COMPLIANCE SUMMARY

FIRST QUARTER:

There were no compliance or exceedance issues reported for the first quarter.

SECOND QUARTER:

June 28, 2018 a Category 2 watermain break was reported to the Health Unit. Sampling was conducted after the repair, no issues.

SECTION 2: INSPECTIONS

FIRST QUARTER:

There were no MOL or MOECC inspections during the first quarter.

SECOND QUARTER: SECOND QUARTER:

There were no MOL or MOECC inspections for the second quarter.

SECTION 3: QEMS UPDATE

FIRST QUARTER:

There have been no updates to QEMS at this time.

SECOND QUARTER:

The MOECC released a new Drinking Water Quality Management Standard (DWQMS 2.0). The Operational Plan was updated to reflect the new DWQMS requirements.

SECTION 4: PERFORMANCE ASSESSMENT REPORT

All sampling and testing have met O. Reg. 170/03 requirements. The limit for Total Coliform and E. coli is zero, heterotrophic plate count (HPC) doesn't have a limit. This is an operational guide to initiate an action plan if results are continuously high in an area. Samples are taken at four different locations throughout the distribution system each week, see results below.

	# Samples	Total Coliform Range (cfu/100mL)	E. coli Range (cfu/100mL)	# Samples	HPC (cfu/100mL)
January	16	0 - 0	0 - 0	8	<10 – 10
February	12	0 - 0	0 - 0	6	<10 – 20
March	16	0 - 0	0 - 0	8	<10 – 50
April	16	0 - 0	0 - 0	8	<10 – 30
May	16	0 - 0	0 - 0	8	<10 – 20
June	22	0 - 0	0 - 0	14	<10 – <10
July					
August					
September					
October					

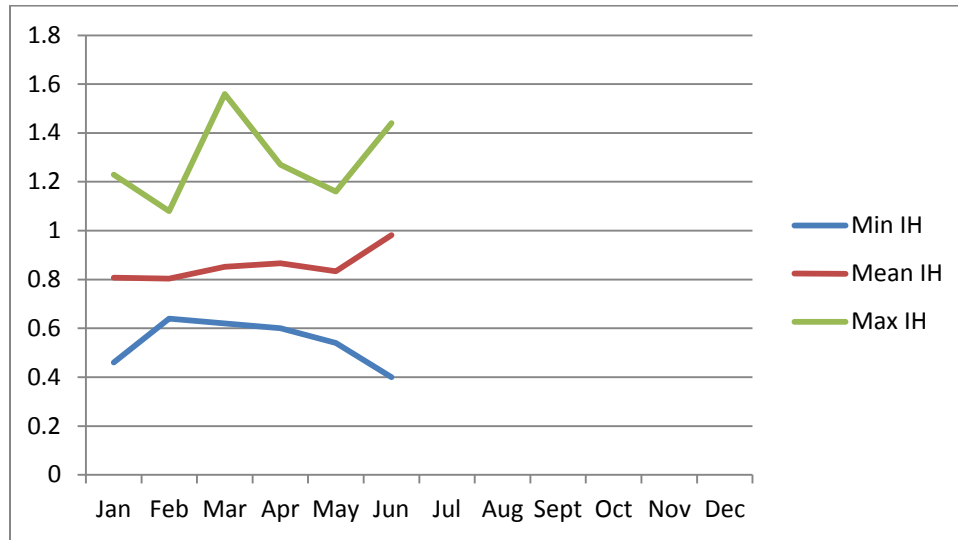
Trihalomethanes are sampled on a quarterly basis. The table below shows the running average in 2018. The annual average in 2017 was 52.2 µg/L, therefore the current running average has decreased 16.7% when compared to the annual average in 2017.

	Limit (µg/L)	THM Result (µg/L)
July 2017	-	40
October 2017	-	57
January 2018	-	49
April 2018	-	28
Running Average	100	43.5

Haloacetic Acids (HAAs) are now required to be sampled on a quarterly basis in accordance with O. Reg. 170/03. The table below shows the running average so far in 2018. The limit for HAAs is 80µg/L, however this isn't enforced until 2018.

	Limit (µg/L)	HAA Result (µg/L)
July 2017	-	10.2
October 2017	-	25.3
January 2018	-	24.6
April 2018	-	13.9
Running Average	80	18.5

The Rodney Tower continuously monitors the free chlorine residual of the water. The results fluctuate based on fill cycles. The chart below shows the minimum, maximum and average daily free chlorine residuals. During the winter months the results are usually very good, however, once there is warmer weather the chlorine residuals dissipate. In Spring of 2018 the Rodney tower installed a re-chlorination facility. Chlorine residuals are taken throughout the distribution system in accordance to O. Reg. 170/03 requirements. The graph below provides the minimum, maximum and average chlorine residuals throughout the distribution system in 2018.



SECTION 5: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER:

There were no hazards identified during the quarterly health and safety inspection conducted this quarter.

SECOND QUARTER:

There were no hazards identified during the quarterly health and safety inspection conducted this quarter.

SECTION 6: GENERAL MAINTENANCE

FIRST QUARTER:

JANUARY:

09: Auto flusher at Crinan and Colley Line damaged and leaking water. Snowplow ran into auto flusher while operator was on site taking bacti sample. Operator was able to isolate auto flusher, using shut off valve 3ft east. All as directed by OIC.

16: Operator on site with H2Ontario for construction of future chemical room.

17: Selectra Electrical and H2Ontario on site for construction

18: Selectra on site to install conduit for new electrical.

19: Operator turned off auto flushers located at Gray Line, Marsh Line, and Hoskins Line in preparation for Rodney Tower repairs/upgrades.

22: 1515: Operator opened bypasses located in Eagle east chamber, Eagle west Chamber, Silver Clay Line, This was due to Rodney Tower being offline.

22: H2Ontario on site for installation of chlorine panel, construction of chlorine room and prep for system install. Rodney tower isolated from distribution system, and valve opened for draining tower. Prepared tower for pipe removal, and installation of new pipes. Inlet valve to Rodney tower isolated at road. Added de-chlor pucks to chamber for draining tower.

23: Rodney tower still isolated, and drained for upgrades. H2Ontario contractors on site for removal of current piping.

24: H2Ontario on site for installation of new piping. 12% hypo used for disinfection, on all new equipment installed.

25: H2Ontario on site to install new chlorine injector, and work on new chlorine room. Rodney tower remains empty and offline since January 22, 2017.

30: Selectra on site to replace PLC panel with new upgraded panel.

31: Selectra on site to wire milltronics, pressure transmitters, and also to finish PLC upgrades.

FEBRUARY:

01: Eromosa and Selectra contacted to ensure SCADA is working properly, and to prep for filling of tower. Operator opened valve to begin filling tower, maintaining pressure in distribution of 40psi as per pressure gauge on hydrant just east of water tower. Operator took grab sample to calculate grab sample to calibrate outlet chlorine. Eromosa adjusted scaling on SCADA so numbers are accurate. Inlet chlorine analyzer offline. Valve fully open to fill tower, Distribution pressure is reading 45psi from same hydrant.

06: H2Ontario onsite to repair small leaks on new piping. Metcon on site to begin placing chlorine system online.

06: Metcon, Stantec, Eromosa and Selectra all onsite for set-up and testing of new chlorine system, including SCADA upgrades. Chlorine system still offline. Alarms tested for tower level, and chlorine level.

13: Selectra and Eromosa onsite. Chlorine spike occurred during priming of chlorine system, over 5.00ppm for less than 15min. Operator to flush nearby hydrant to remove slug. Operator on site to flush hydrant due to high chlorine. Started flushing at 1045, grab sample free chlorine at 2.1mg/L for 10min. Flushed for another 30min, and chlorine level went back to normal, took grab sample 0.74ppm free. Went to another hydrant, flushed for 20min and took grab sample: 0.89ppm. Operator manually shut down chlorine system due to issues with spiking, to be tested for the next week.

15: Operator onsite to start chlorine system for daily test; shut off after test.

MARCH:

06: Operator on site to troubleshoot pressure gauge reading problems, and clean up facility. Shut off feed line to chlorine analyzer, and opened tower drain valve to bring down tower level, closed drain valve, and set flow rate to chlorine analyzer. Chlorine analyzer reading 0.18ppm, due to calibration and troubleshooting feed line, all as directed by OIC.

Analyzer currently reading 0.0ppm, related to turning off power supply to reset reading of 0,38ppm. Changed measuring settings back to 0-10ppm, now reading accurately on analyzer, all systems now appear to be operating normally.

28: H2Ontario onsite today to finish duct work on chemical room ventilation.

SECOND QUARTER:

APRIL:

11: Stantec on site for final evaluation of new Chlorine system, at Rodney tower.

12: Rodney Tower isolated due to Glencoe Reservoir project.

13: 0853- Opened both isolation valves at Rodney Tower.

13: 0958- Closed isolation valve to Rodney tower to allow Glencoe Tower to be filled.

16: Opened up isolation valve at Rodney Tower to mix both inlet and outlet water in pipe. Closed valve and isolated tower.

18: 1140- Operator onsite to return Rodney Tower into service. Operator flushing nearest hydrant during process.

18: 1144- Tower no longer isolated; everything appears normal.

18: 1203- Operator flushed Darling Hydrant east of Rodney Tower from 1138-1200. Obtained a free chlorine residual of 0.65ppm; all as directed by OIC.

24: Flowmetrix onsite to install new pressure transmitter.

MAY:

04: Watech on site to inspect Rodney tower for pipe leak on overflow.

05: Turned re chlorination on at Rodney Tower, current setpoints- In :1.20ppm, Out: 1.0ppm

16: Operator changed electrolyte on chlorine analyzer AIT-2, due to abnormal numbers.. waited for probe to stabilize. Reading 3.30ppm on analyzer, grab 1.19ppm, calibrated as required.

JUNE:

13: Autoflusher controller at HWY 401 service center: old controller not working and display screen not operating properly. Corrosion noted on battery connections. Set new controller for 30 min flushes between 2-3am once per day. Tested and ensured proper operation, obtained 0.97ppm free chlorine residual after 5 min of flushing.

18: New service installed on Crinan Line, east of Graham, Second side no #911 yet.

20: Operator found first hydrant north of TCWTP broke off at traffic flange, upper barrel on its side and rod broke. Weber contracting hit hydrant with vehicle yesterday. Closed secondary valve to hydrant, and now looking into quotes on replacement parts.

26: Operator onsite 1100hrs, 21468 Silver Clay line for a 2inch service to property on Thomson Line, off site at 14:10.

28: Operator received call from OPS manager about manager about main break at 0939, arrived on site 0945, called hydro to hold Pole at 10:11, isolated valves at Ridge and Maple St. 3 in intersection, throttled down valve at Ridge and Main. Once uncovered, classified as class 2 break, notified ORO, and PCT, MOH at 1634. Repaired as per water main repair form; for details see form. Obtained samples and flushed system back to service at 1930.

SECTION 7: ALARM SUMMARY

FIRST QUARTER:

JANUARY:

08: 1713: Operator received page for level reading error at Rodney Tower, related to quick temperature change, causing false reading from transducer. Operator switched to pressure mode on control panel. All as directed by OIC

09: 1810: Operator on site at 254 Graham Road for service leak. Operator turned off curb stop after locating in snow bank. Received a second page from laundry mat in Rodney, located on Furnival Road for service leak. Attended site, and found meter split and damaged from temperature. Water service was shut off to residents before operator arrived.

FEBRUARY:

There were no alarms this month.

MARCH:

There were no alarms this month.

SECOND QUARTER:

APRIL:

16: 0645- Onsite for chlorine alarm low level, 0.46ppm, opened isolation valve to system to flush lines.

0650-Closed Isolation valve to system, chlorine at 0.82ppm.

26: Operator received complaint of water leaking inside of Rodney Tower at 1840, arrived on site at 1935, inspected control room, and main door entrance to find a small amount of water on floor. No leaking inside of tower. Logged onto SCADA to find tower level at 8.81m, reviewed trending and found tower level had remained stable for most of the day. Spectrum was onsite when operator arrived, and had covered all electronics. Obtained contact for Spectrum in case we need further assistance. All as directed by OIC.

MAY:

19: Low pressure at Hickory Grove Trailer Park. Arrived onsite to find 60psi reaching the park from the distribution system via Hickory Grove's water chamber/pressure gauge.

Informed park rep onsite that the pressure issue must be on their side of the system.

JUNE:

No alarms this month.

SECTION 8: COMMUNITY COMPLAINTS & CONCERNS

FIRST QUARTER:

JANUARY:

22: Complaint received of moldy water in tap, from resident at 220 Sandford Street, Rodney. Operator arrived on site shortly after and flushed closest hydrant, obtained a free chlorine reading of 0.71ppm. All as directed by OIC.

FEBRUARY:

No complaints or concerns.

MARCH:

No complaints or concerns.

SECOND QUARTER:

There were no complaints or concerns this quarter.