

Annual Summary Report
For The
Aylmer Distribution System
2015

Prepared by: Bill Berry
Manager of Water Operations
Town of Aylmer

Overview

This Summary Report for the Aylmer Distribution System is generated in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1st, 2015 to December 31st, 2015. The Aylmer Distribution System (waterworks number 260002136) is categorized as Large Municipal Residential Drinking Water System. It is operated under the Municipal Drinking Water Licence (MDWL) #044-101 and Drinking Water Works Permit (DWWP) #044-201.

The Town of Aylmer is supplied water by the Aylmer Secondary System which delivers water from the Elgin Middlesex Pumping Station to the town limits by means of a 450 mm water main.

Compliance

The annual audit of the Aylmer Distribution System's Drinking Water Quality Management System (DWQMS) was conducted on October 12, 2015 by NSF auditor Rose Johnson. Two minor non-conformances were identified at that time.

Element 6 of the Operational Plan requires a description of critical upstream or downstream processes relied upon to ensure the provision of safe drinking water. A more detailed description of the processes performed on Town water from its' intake at the Water Treatment Plant to its' delivery at Chamber 16 was provided.

Element 20 of the Operational Plan requires that a management review occur at least once very twelve months. To eliminate any confusion, wording was changed in the Operational Plan from "annually" to "once every twelve months".

Requirements

The 2015 Summary Report for the Aylmer Distribution System is submitted to satisfy Schedule 22 of Ontario Regulation 170/03. As described in O.Reg 170.03, the report must:

- a) List the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water license and any orders applicable to the system that were not met at any time during the reporting period and
- b) For each requirement not met in part a), specify the duration of the failure and the measures that were taken to correct the failures

The Summary Report must also include the following information to assist the owner in assessing the capability of the system to meet existing and future uses:

- 1) A summary of the quantities and flow rates of the water supplied during this period covered by the report, including monthly average and maximum daily flows
- 2) A comparison of the summary results to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water license or if the system is receiving all of its water from another system under an agreement, to the flow rates specified in that agreement

Table 1

Drinking Water Legislation	List of requirements the system failed to meet	Duration of the failure	Measures that were taken to correct problem	Status: (complete or incomplete)
Safe Drinking Water Act				
Ontario Regulations				
DWL #044-101. DWWP #044-201 (as of Aug. 4/11)				
Provincial Officer's Order No.				
Works permit/ Licence				

Table 1 lists the requirements that the system failed to meet and the measures taken to correct the failure

Water Quantity Summary

Table 2 provides an overview of the quantity of water entering the Aylmer Distribution System at Chamber 16 as recorded by the SCADA system.

Table 2

	Total Flow (m3)	Average Daily Flow (m3/day)	Max Daily Flow (m3/day)	Min Daily Flow (m3/day)	Total Reverse Flow (m3)
January	100241	3223	3692	2851	5217
February	95355	3405	4364	2992	5630
March	111310	3590	4018	3264	5450
April	101828	3394	3774	3054	4707
May	106272	3428	4360	2394	5549
June	112435	3747	4321	3140	4577
July	121067	3905	4941	3230	3919
August	119235	3846	4262	3342	3703
September	115201	3840	4556	2811	3606

October	97681	3151	3656	2160	4520
November	96029	3201	3732	2357	4213
December	96970	3128	3644	2617	3146
Total	1273624	3497	4941	2160	54237

Flow data for the period Jan 1, 2015 to Dec 31, 2015

The maximum daily flow to the system occurred on July 30, 2015 with a daily total of 4941 m³. The total flow from the EMPS to Aylmer averaged 3497 m³/day. The numbers change when one takes into account the reverse flow through the meter at Chamber 16. When the reverse flow is subtracted from the total flow, the annual flow drops to 1219387 m³ for the year 2015. This also changes the average daily flow from 3497 to 3340 m³/day for 2015.

Using the figure 130 l/sec as the EMPS pump capacity, the total daily flow for the Aylmer Secondary line is 11232 m³/day. The current average daily flow (3497 m³/day) uses only 31.1 % of the system's capacity. This number is slightly higher than the previous year's total of 30.8% capacity.

Table 3 compares the flows from 2015 to those of 2014. Although there were considerable variations on a month to month basis, the overall change in flows showed a less than 1% increase from 2014 to 2015.

Table 3

Month	Total Flow 2015 (m3)	Total Flow 2014 (m3)	Average Daily Flow 2015 (m3/day)	Average Daily Flow 2014 (m3/day)	Difference between 2015 and 2014 (%)
January	100241	96329	3223	3107	+4
February	95355	88441	3405	3158	+7.8
March	111310	101594	3590	3277	+9.5
April	101828	96229	3394	3207	+5.8
May	106272	109323	3428	3526	-2.8
June	112435	115884	3747	3862	-2.9
July	121067	105666	3905	3408	+14.5
August	119235	122827	3846	3962	-2.9
September	115201	103795	3840	3459	+10.9
October	97681	107635	3151	3472	-9.2
November	96029	109108	3201	3636	-11.9
December	96970	105498	3128	3403	-8.1
total flow (m3)	1273624	1262329			+0.89
Average (m3/day)			3497	3466	+0.89

Table 4 shows the various flow parameters for 2015 and compares the daily average flow rates for 2015 to those of 2014

Table 4: Flow Rates

Month	Daily Average Flow Rate (L/s)	Max Flow Rate/Day (L/s)	Min. Flow Rate/Day (L/s)	Highest Hourly Average	2014 Daily Average Flow Rate (L/s)
January	37.45	45.03	33.27	137.3	35.97
February	39.48	50.37	34.91	138	36.60
March	41.62	47.07	37.76	137.3	37.98
April	39.29	43.43	35.30	137.4	37.13
May	39.67	50.32	27.78	138.9	40.81
June	43.32	49.9	36.3	152.2	44.68
July	45.25	57.31	37.38	153	39.53
August	44.46	49.25	38.67	146.2	45.84
September	44.49	52.84	32.85	138.9	40.11
October	36.37	42.76	25.31	320	40.18
November	36.99	42.96	27.71	136.7	42.04
December	36.16	42.36	30.12	136.2	39.37
	40.38				40.02

This information is collected in order to assist the owner in assessing the present capacity of the water system. A copy of this report shall be submitted to Council no later than March 31, 2016.