

November 16, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: October 2015 Drinking Water Systems Monthly Summary Report

Please find attached the October 2015 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the October 2015 report as presented.

Respectfully submitted,
Operations & Facilities Division



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

<p>Council approval of this report will accept the October 2015 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.</p>

c.c. – Doug Herr, Environmental & Facilities Supt.
Randy White, Senior WTP Operator

03CouncilwaterreportMarch 2015

October, 2015

**Monthly Summary Report
Water Systems**

**Prepared by: Randy White, ORO
Senior Water Treatment Plant Operator**

Dated: November 13, 2015

1) **Introduction -**

This report contains the major maintenance activities and operational events that occurred during the month of October 2015 at the Water Treatment Plant - Water Works # 220000978 and the Airport Groundwater Well Water Works # 26002736. This information report has been prepared for Council to better understand how the water systems they own and operate are maintained on a monthly basis. Also, this report will assist Council as Directors of the Corporation in exercising its obligation to meet a reasonable Standard of Care as outlined in Section 19 of the Safe Drinking Water Act.

2) **Flow Data**

Water Treatment Plant: See attached spreadsheet. No flow data for Airport groundwater well.

3) **Microbiological (Health Related) Water Analysis– Main Water System # 220000978**

Water Treatment Plant (treated): 4 samples taken no adverse results

Water Treatment Plant (raw): 4 samples taken no adverse results

Water Distribution System: 16 samples taken where 25% of samples were tested for heterotrophic plate count HPC no adverse results

We take microbiological samples on a weekly basis, which includes 1 raw sample, 1 treated sample and 4 distribution samples. The 4 distribution samples are taken at different locations throughout the distribution system.

4) **Microbiological (Health Related) Water Analysis– Airport Groundwater Well # 26002736**

No samples taken.

The Airport has signs posted in the men's and women's washroom stating that the water has not been tested or treated for drinking purpose in accordance with the Health Protection and Promotion Act – Section 7 of the Small Drinking Water Systems Regulation, O. Reg. 318/08 (*Amended to Safe Drinking Water Act, 2002 - Section 6 of Ontario Regulation 252/05*). The operators do a visual inspection of the warning notices at a minimum of once per week to ensure that they are legible and comply with Ontario Regulation 318/08, Section 7(5).

5) Free Available Chlorine Residual (FAC) – Main Water System – # 220000978

FAC residuals are taken at a minimum daily at both the Water Treatment Plant and within the Water Distribution System.

6) Free Available Chlorine residual (FAC) – Airport Groundwater Well System # 26002736

Signs posted, exempt from testing.

7) Maintenance Activities at the WTP

Oct. 1 st	worked on air compressors
Oct. 2 nd	cleaned top and bottom tanks on the poly unit cleaned all 4 check valves on the poly unit worked on air compressors (safety guards)
Oct. 5 th	calibrated dist chlorine analyzer took grab samples off the filters
Oct 13 th	changed all the filters on the dust collection system
Oct 16 th	calibrated dist chlorine analyzer
Oct 22 nd	took grab samples from filters
Oct 23 rd	calibrated the dist chlorine analyzer
Oct 29 th	cleaned top and bottom tanks on the poly unit cleaned all 4 check valves on the poly unit

8) Water Complaints –

- Poor Pressure – 0 complaint.
- Water quality – 0 complaint.

9) **Other Miscellaneous Information:**

Oct 5 th	routine micro sample collection new main samples – Kings Highway – 1 st set
Oct 6 th	new main samples – Kings Highway – 2 nd set new main samples – Nelson Street – 1 st set
Oct 7 th	new main samples – Nelson Street – 2 nd set
Oct 8 th	resample micro sample collection
Oct 13 th	routine micro sample collection lead testing samples on distribution system
Oct 14 th	received a bulk load of soda ash new main samples at Acklands – 1 st set
Oct 15 th	new main samples at Acklands – 2 nd set
Oct 19 th	routine micro sample collection new main samples Butler and Nelson – 1 st set main repair samples at Simplicity – 1 st set main repair samples at 526 First Street West – 1 st set
Oct 20 th	new main samples at Butler and Nelson – 2 nd set main repair samples at Simplicity – 2 nd set main repair samples at 526 First Street West – 2 nd set took samples on new main – Kings Highway – 1 st set
Oct 21 st	took samples on new main – Kings Highway – 2 nd set
Oct 26 th	routine micro sample collection took the DWSP samples
Oct 27 th	received a shipment of chlorine
Oct 28 th	repair samples at Riverview and Elm – 1 st set 560 Elm Avenue new main sample – 1 st set
Oct 29 th	repair samples at Riverview and Elm – 2 nd set 560 Elm Avenue new main samples – 2 nd set

10) In order to acknowledge that all levels of responsibility within the Corporation of the Town of Fort Frances have received and reviewed this monthly report, it is necessary to sign-off in the appropriate location below:

- Randy White, ORO, Senior WTP Operator: _____
- Doug Herr, Environmental & Facilities Supt.: _____
- Doug Brown, Manager of Operations & Facilities: _____
- Mark McCaig, CAO: _____
- Paul Ryan, Chair O& F Exec Committee: _____
- Roy Avis, Mayor: _____
- John Albanese, Councillor: _____
- June Caul, Councillor: _____
- Wendy Brunetta, Councillor: _____
- Doug Kitowski, Councillor: _____
- Ken Perry, Councillor: _____

Note: Once all signatures have been obtained, the report will be distributed and made available to the public. If you have any questions, please feel free to contact myself or Randy White, Senior WTP Operator at 274-2325.

Town of Fort Frances - WTP - 220000978
October 2013/2014 vs. October 2015
Flow and Operating Data

Flow Data	October	Units	2013		2014		2015	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m ³		145180		132900		170410	
Raw Maximum Day	m ³	Sunday 13th	4990	Sunday 05th	4410	Saturday 24th	5730	
Raw Minimum Day	m ³	Monday 7th	4310	Monday 06th	4140	Monday 26th	5230	
Raw Average Daily Consumption	m ³		4680		4290		5500	
Total Treated Water	m ³		113160		106970		123450	
Treated Water Maximum Day Consumption	m ³	Wednesday 2nd	4100	Monday 27th	4020	Monday 05th	4720	
Treated Water Minimum Day Consumption	m ³	Tuesday 29th	3410	Monday 13th	3000	Monday 26th	3210	
Treated Water Average Day Consumption	m ³		3650		3450		3980	
Daily Average Per Household Consumption Rate	m ³		0.96		0.91		1.05	
* Daily Average Per Person Consumption Rate	m ³		0.46		0.43		0.50	
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water	mg/L		1.87		1.92		2.16	
Total Chlorine Residual - Treated Water	mg/L		2.19		2.22		2.55	
Aluminum Sulphate - Raw Water	mg/L		34.0		36.9		35.0	
Aluminum Sulphate - Treated Water Residual	mg/L		0.06		0.04		0.03	
Fluoride - Treated Water	mg/L		0.66		0.71		0.56	
Soda Ash - Raw Water	mg/L		34.0		35.0		35.0	
PH - Adjusted	mg/L		7.13		7.19		7.20	
Temperature	C		12.5		10.9		12.0	
Quantity of Chemical Used:								
Aluminum Sulphate	kg		4936.1		4906.5		5964.4	
Polyelectrolyte	kg		50.0		50.0		62.5	
Chlorine Gas	kg		609		583		789	
Soda Ash - Used for PH Adjustment	kg		4936.1		4651.5		5964.4	
Fluoride	kg		489		444		492	

* The Canadian Average is 450 Litres (0.45 m³) per day.

* Population is 7986

* Number of Households is 3783

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
October 2015

Operating Data	Units	*MAC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	Average
		or Range																																	
Flow rates																																			
Raw Water	10^3 M^3	17	5.59	5.53	5.35	5.63	5.57	5.50	5.51	5.52	5.49	5.62	5.56	5.56	5.27	5.50	5.50	5.52	5.46	5.49	5.45	5.47	5.45	5.53	5.38	5.73	5.51	5.23	5.47	5.42	5.51	5.49	5.60	170.41	5.50
Peak Instantaneous - Raw Water	L/s	n/a	64.65	64.66	64.58	64.54	64.58	64.62	64.58	64.46	64.53	64.38	64.43	64.37	64.27	64.23	64.29	64.21	64.13	64.03	63.97	63.88	64.09	64.13	64.03	64.03	64.12	63.93	64.07	63.95	63.97	64.13	63.88	1991.72	64.25
Treated Water	10^3 M^3	17	4.38	4.68	4.18	4.41	4.72	4.56	4.58	4.31	4.22	4.32	4.56	4.13	4.29	4.18	4.22	4.09	3.65	3.42	4.03	3.58	4.06	3.40	3.66	3.42	3.72	3.21	3.43	3.75	3.49	3.23	3.57	123.45	3.98
Peak Instantaneous - Treated Water	L/s	n/a	74.83	75.85	75.07	75.63	74.42	74.65	76.42	74.43	74.99	75.27	74.09	75.06	87.24	83.99	88.41	84.91	83.18	89.70	85.12	82.40	84.28	81.55	83.04	81.87	84.17	83.13	83.00	79.34	80.98	72.85	2399.87	80.00	
BackWash Water	10^3 M^3	n/a	0.231	0.250	0.229	0.234	0.246	0.225	0.232	0.250	0.220		0.237	0.233	0.219	0.232	0.240	0.224	0.233	0.244	0.224	0.232	0.225	0.225	0.229	0.229	0.225	0.231	0.243	0.225	0.232	0.244	0.224	6.967	0.232
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.62	0.53	0.60	0.62	0.53	0.55	0.51	0.61	0.60	0.55	0.52	0.55	0.57	0.61	0.58	0.52	0.57	0.56	0.57	0.57	0.58	0.59	0.57	0.55	0.53	0.51	0.51	0.53	0.58	0.57	0.52	17.38	0.56
Turbidity Information																																			
Raw Water	NTU	n/a	1.70	1.68	1.59	1.63	1.71	1.46	1.37	1.62	1.51	1.56	1.47	1.49	1.74	1.62	1.88	1.51	1.63	1.45	1.75	1.44	1.53	1.47	1.58	1.51	1.44	1.57	1.37	1.50	1.53	1.45	1.37	48.13	1.55
Settled Water	NTU	n/a	0.11	0.11	0.10	0.10	0.16	0.13	0.12	0.13	0.12	0.11	0.12	0.12	0.19	0.14	0.15	0.12	0.11	0.16	0.15	0.14	0.15	0.12	0.11	0.12	0.11	0.14	0.11	0.17	0.13	0.12	0.11	3.98	0.13
Treated Water	NTU	1	0.07	0.07	0.05	0.04	0.08	0.08	0.07	0.09	0.09	0.08	0.09	0.10	0.09	0.08	0.10	0.08	0.08	0.10	0.08	0.08	0.07	0.05	0.04	0.06	0.06	0.08	0.08	0.09	0.08	0.09	0.07	2.37	0.08
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.30	7.15	7.24	7.16	7.26	7.23	7.21	7.18	7.15	7.19	7.12	7.17	7.18	7.21	7.21	7.14	7.18	7.18	7.24	7.19	7.23	7.27	7.24	7.25	7.21	7.16	7.25	7.27	7.19	7.15	7.12	223.23	7.20
pH - Settled water	no units	n/a	6.59	6.34	6.21	6.19	6.42	6.45	6.41	6.62	6.54	6.50	6.41	6.39	6.37	6.52	6.68	6.72	6.78	6.53	6.77	6.54	6.54	6.42	6.36	6.31	6.40	6.84	6.62	6.34	6.48	6.37	6.39	201.05	6.49
pH - Raw Water	no units	n/a	7.12	7.05	7.01	7.04	7.13	7.09	7.00	7.18	7.15	7.09	7.00	7.12	7.08	7.16	7.16	7.17	7.09	7.14	7.13	7.08	7.10	7.06	7.01	7.00	70.07	7.16	7.15	7.19	7.12	7.09	7.01	282.95	9.13
FAC - Treated Water	mg/l	0.2 to 4	2.46	2.09	2.09	2.07	2.46	2.42	2.21	2.54	1.99	1.86	2.26	2.18	2.19	2.22	2.08	1.92	2.15	2.01	2.15	2.23	2.18	2.10	2.21	2.08	2.10	2.12	1.97	2.10	2.08	2.23	2.28	67.03	2.16
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.70	2.86	2.62	2.52	2.80	2.88	2.37	2.82	2.20	2.17	2.39	2.37	2.92	2.70	2.74	2.68	2.66	2.72	2.68	2.64	2.68	2.56	2.63	2.25	2.30	2.50	2.40	2.22	2.24	2.31	2.39	78.92	2.55
Temperature	C	15	16.0	16.0	16.0	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.0	13.0	12.0	12.0	11.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	8.0	8.0	371.0	12.0	
Fluoride used (Total Daily Consumption)	kg	n/a	16.0	16.0	16.0	16.0	17.0	16.0	16.0	16.0	16.0	16.0	16.0	15.0	15.0	16.0	16.0	16.0	15.0	16.0	16.0	16.0	15.0	16.0	15.0	17.0	15.0	15.0	15.0	16.0	18.0	17.0	492.0	15.9	
Chlorine used (Total Daily Consumption)	kg	n/a	27.0	27.0	25.0	27.0	27.0	26.0	27.0	26.0	26.0	27.0	26.0	26.0	26.0	26.0	26.0	27.0	26.0	26.0	26.0	25.0	26.0	26.0	25.0	26.0	24.0	22.0	23.0	22.0	23.0	24.0	23.0	789.0	25.5
Soda ash (Total Daily Consumption)	kg	n/a	195.7	193.6	187.3	197.1	195.0	192.5	192.9	193.2	192.2	196.7	194.6	194.6	184.5	192.5	192.5	193.2	191.1	192.2	190.8	191.5	190.8	193.6	188.3	200.6	192.9	183.1	191.5	189.7	192.9	192.2	196.0	5964.4	192.4
Soda Ash - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1085.0	35.0
Alum residual - (Total Daily Consumption)	kg	n/a	195.7	193.6	187.3	197.1	195.0	192.5	192.9	193.2	192.2	196.7	194.6	194.6	184.5	192.5	192.5	193.2	191.1	192.2	190.8	191.5	190.8	193.6	188.3	200.6	192.9	183.1	191.5	189.7	192.9	192.2	196.0	5964.4	192.4
Alum residual - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1085.0	35.0
Alum residual - Treated Water	mg/l	0.1	0.03	0.01	0.02	0.03	0.03	0.01	0.01	0.02	0.04	0.04	0.02	0.04	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.03	0.04	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.04	0.02	0.81	0.03
Poly bags added (25 kg bags)	kg			0.5				0.5								0.5						0.5								0.5				62.5	