

March 24, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

**SUBJECT: February 2015 Drinking Water Systems Monthly Summary Report**

Please find attached the February 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 February 2015 report as presented.

Respectfully submitted,  
Operations & Facilities Division



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

<p><b>Council approval of this report will</b> accept the February 2015 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.</p>
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c.c. – Doug Herr, Environmental & Facilities Supt.  
Randy White, Senior WTP Operator

**February, 2015**

**Monthly Summary Report  
Water Systems**

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

**Dated: March 12, 2015**

## 1) **Introduction -**

This report contains the major maintenance activities and operational events that occurred during the month of February 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**

Feb. 02<sup>nd</sup> - changed out the poly booster pump.

Feb. 04<sup>th</sup> - calibrated chlorine distribution analyzer.  
- took grab samples off filters.  
- calibrated Soda Ash and Alum feeders.

Feb. 06<sup>th</sup> - Honeywell here working on V.F.D. high lift motors.  
- flushed the poly lines to the clarifiers.

Feb. 09<sup>th</sup> - flushed the poly lines to clarifiers.

Feb. 13<sup>th</sup> - cleaned all 4 check valves on poly unit.  
- cleaned top and bottom tanks on poly unit.

Feb. 18<sup>th</sup> - Galbraith Electric working on High Lift No. 2 motor.  
- completed annual test on backflow preventer at 400 Scott St.

Feb. 20<sup>th</sup> - took soda ash line apart and cleaned.

Feb. 24<sup>th</sup> - cleaned the weirs going to filters.

Feb. 25<sup>th</sup> - greased clarifiers.  
- flushed the poly lines to clarifiers.  
- calibrated chlorine distribution analyzer.

Feb. 26<sup>th</sup> - cleaned all 4 check valves on poly unit.  
- cleaned top and bottom tanks on poly unit.

Feb. 27<sup>th</sup> - Honeywell here working on V.F.D. high lift motors.  
- completed annual test on backflow preventer at 400 Kin's Hwy.

8) **Water Complaints:**

- Poor Pressure – 0 complaints.
  - Water quality – 1 complaint.
    - 710 Crowe Avenue: Bad taste and smell in water.
- Visited residence. Tested the chlorine residual and took a bacti sample, as well as at a neighbour's. Sent to laboratory for analysis – results came back good.

9) **Other Miscellaneous Information:**

Feb. 02<sup>nd</sup> - took weekly routine bacti samples.

Feb. 03<sup>rd</sup> - took samples, customer complaint at 710 Crowe Ave.

Feb. 09<sup>th</sup> - took weekly routine bacti samples.

Feb. 17<sup>th</sup> - took weekly routine bacti samples.

Feb. 23<sup>rd</sup> - took weekly routine bacti samples.

Feb. 25<sup>th</sup> - took bacti samples, in Clear Well No. 2 - 1<sup>st</sup> 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: \_\_\_\_\_
- June Caul, Councillor: \_\_\_\_\_
- John Albanese, 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.

**Monthly Report February 2015**

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

Flow Data FEBRUARY	Units	2013		2014		2015	
		Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m <sup>3</sup>		125770		139720		146690
Raw Maximum Day	m <sup>3</sup>	Sunday 10th	5910	Friday 28th	6020	Tuesday 24th	6120
Raw Minimum Day	m <sup>3</sup>	Wednesday 13th	3480	Friday 10th	4560	Monday 2nd & Thursday 12th	4850
Raw Average Daily Consumption	m <sup>3</sup>		4490		4990		5240
Total Treated Water	m <sup>3</sup>		107000		124530		107690
Treated Water Maximim Day Consumption	m <sup>3</sup>	Thursday 07th	4820	Thursday 27th	5470	Saturday 28th	4470
Treated Water Minimim Day Consumption	m <sup>3</sup>	Friday 15th	3490	Tuesday 07th	3580	Thursday 12th	3340
Treated Water Average Day Consumption	m <sup>3</sup>		3820		4450		3850
Daily Average Per Household Consumption Rate	m <sup>3</sup>		1.010		1.176		1.018
* Daily Average Per Person Consumption Rate	m <sup>3</sup>		0.478		0.557		0.482
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		1.73		1.80		1.94
Total Chlorine Residual - Treated Water	mg/L		2.10		2.13		2.22
Aluminum Sulphate - Raw Water	mg/L		34.0		34.0		37.5
Aluminum Sulphate - Treated Water Residual	mg/L		0.07		0.06		0.06
Fluoride - Treated Water	mg/L		0.61		0.57		0.57
Soda Ash - Raw Water	mg/L		34.0		34.0		36.4
PH - Adjusted	mg/L		7.32		7.04		7.12
Temperature	C		2.00		2.00		2.00
Quantity of Chemical Used:	kg						
Aluminum Sulphate	kg		4276.2		4750.5		5499.3
Polyelectrolyte	kg		75.0		37.5		62.5
Chlorine Gas	kg		388		479		542
Soda Ash - Used for PH Adjustment	kg		4276.2		4750.5		5341.9
Fluoride	kg		345		473		290

\* The Canadian Average is 450 Litres (0.45 m<sup>3</sup>) per day.

\* Population is 7986

\* Number of Households is 3783

February 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	Total	Average
		or Range																														
Flow rates																																
Raw Water	10^3 M^3	17	5.33	4.85	5.15	5.20	5.15	5.20	5.08	5.48	4.89	5.15	5.10	4.85	5.36	5.22	5.27	5.34	4.91	5.21	5.20	5.20	5.42	5.18	5.62	6.12	5.45	5.21	5.20	5.35	146.69	5.24
Peak Instantaneous - Raw Water	L/s	n/a	60.27	60.38	60.41	60.58	60.42	60.40	60.41	60.44	60.49	60.41	60.39	60.00	59.65	59.57	59.35	60.90	60.87	60.86	60.84	60.83	60.81	60.85	71.40	71.47	71.44	60.99	60.95	60.94	1726.32	61.65
Treated Water	10^3 M^3	17	3.97	3.75	3.58	3.71	3.74	3.79	3.61	4.01	3.68	3.86	3.82	3.34	4.27	3.72	3.82	3.85	3.87	3.48	3.79	4.19	3.75	4.06	4.11	3.87	3.70	3.74	4.14	4.47	107.69	3.85
Peak Instantaneous - Treated Water	L/s	n/a	77.36	82.98	80.77	68.46	68.17	68.69	110.97	96.40	99.74	104.72	84.61	83.27	81.87	81.22	82.68	99.39	91.86	68.17	102.75	84.81	79.18	81.62	79.57	83.61	93.80	84.49	83.09	83.56	2387.81	85.28
BackWash Water	10^3 M^3	n/a	0.220	0.238	0.217	0.223	0.242	0.218	0.465	0.218	0.225	0.236	0.217	0.227	0.224	0.216	0.225	0.215	0.215	0.230	0.238	0.216	0.239	0.237	0.216	0.226	0.237	0.215	0.229	0.144	6.47	0.231
Fluoride Information																																
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.55	0.51	0.61	0.52	0.51	0.58	0.50	0.52	0.51	0.56	0.51	0.61	0.63	0.65	0.65	0.65	0.63	0.55	0.57	0.55	0.60	0.61	0.52	0.52	0.54	0.62	0.58	0.62	15.98	0.57
Turbidity Information																																
Raw Water	NTU	n/a	0.35	0.37	0.41	0.42	0.44	0.40	0.46	0.43	0.39	0.35	0.37	0.38	0.35	0.32	0.37	0.39	0.41	0.46	0.43	0.39	0.37	0.45	0.48	0.39	0.36	0.40	0.39	0.34	11.07	0.40
Settled Water	NTU	n/a	0.09	0.12	0.11	0.12	0.13	0.16	0.10	0.09	0.11	0.10	0.12	0.14	0.12	0.12	0.14	0.10	0.14	0.14	0.14	0.12	0.14	0.11	0.14	0.15	0.14	0.11	0.12	0.13	3.45	0.12
Treated Water	NTU	1	0.05	0.06	0.09	0.08	0.09	0.10	0.10	0.08	0.09	0.08	0.06	0.05	0.06	0.07	0.05	0.04	0.09	0.07	0.08	0.05	0.07	0.05	0.08	0.09	0.1	0.10	0.08	0.06	2.07	0.07
Other Operating Parameters																																
pH - Treated Water	no units	6.5 to 8.5	7.12	7.09	6.92	6.97	6.99	7.05	7.18	7.10	7.16	7.22	7.17	7.10	7.15	7.11	7.21	7.19	7.00	7.06	7.10	7.12	7.05	7.10	7.00	7.16	7.2	7.36	7.26	7.11	199.25	7.12
pH - Settled water	no units	n/a	6.39	6.41	6.33	6.39	6.40	6.37	6.70	6.66	6.73	6.82	6.70	6.66	6.71	6.69	6.57	6.71	6.45	6.37	6.41	6.35	6.47	6.52	6.36	6.31	6.55	6.98	6.77	6.85	183.63	6.56
pH - Raw Water	no units	n/a	6.89	6.88	6.67	6.66	6.69	6.63	6.67	6.74	6.78	6.70	6.69	6.80	6.82	6.89	6.81	6.93	6.76	6.83	6.85	6.89	6.81	6.91	6.85	6.75	6.7	6.78	6.82	6.70	189.90	6.78
FAC - Treated Water	mg/l	0.2 to 4	2.1	2.08	1.92	1.97	2.01	1.96	1.94	1.9	2.03	2.05	2.01	1.75	1.81	1.88	1.8	1.86	1.9	2.04	1.9	1.98	1.85	1.88	1.70	2.00	2.15	2.14	1.89	1.88	54.38	1.94
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.26	2.25	2.28	2.30	2.28	2.28	2.24	2.34	2.30	2.40	2.29	2.15	2.10	2.09	2.01	2.10	2.09	2.18	2.15	2.20	2.07	2.01	1.91	2.36	2.42	2.46	2.28	2.28	62.08	2.22
Temperature	C	15	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	56.0	2.00
Fluoride used (Total Daily Consumption)	kg	n/a	10.0	10.0	10.0	10.0	10.0	10.0	9.0	11.0	9.0	10.0	10.0	10.0	11.0	10.0	10.0	11.0	9.0	10.0	11.0	11.0	10.0	11.0	11.0	12.0	11	11.0	11.0	11.0	290.0	10.36
Chlorine used (Total Daily Consumption)	kg	n/a	20.0	18.0	19.0	19.0	18.0	19.0	18.0	21.0	18.0	19.0	18.0	18.0	20.0	18.0	19.0	20.0	18.0	19.0	19.0	20.0	20.0	19.0	23.0	25.0	21.0	18.0	19.0	19.0	542.0	19.36
Soda ash (Total Daily Consumption)	kg	n/a	190.3	173.1	183.9	189.8	188.0	189.8	185.4	200.0	178.5	188.0	186.2	177.0	195.6	190.5	192.4	194.9	179.2	190.2	189.8	189.8	197.8	189.1	205.1	223.4	198.9	190.2	189.8	195.3	5341.9	190.78
Soda Ash - Dosage	mg/l	n/a	35.7	35.7	35.7	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	1019.6	36.41
Alum residual - (Total Daily Consumption)	kg	n/a	199.3	181.4	192.6	195.0	193.1	195.0	190.5	205.5	183.4	193.1	191.3	181.9	201.0	195.8	197.6	200.3	184.1	195.4	195.0	195.0	203.3	194.3	210.8	229.5	204.4	195.4	195.0	200.6	5499.3	196.41
Alum residual - Dosage	mg/l	n/a	37.4	37.4	37.4	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	1049.7	37.49
Alum residual - Treated Water	mg/l	0.1	0.06	0.06	0.05	0.06	0.05	0.04	0.07	0.04	0.06	0.08	0.08	0.06	0.04	0.06	0.05	0.06	0.09	0.09	0.08	0.09	0.08	0.07	0.05	0.06	0.06	0.1	0.07	0.07	1.79	0.06
Poly bags added (25 kg bags )	kg				0.5			0.5										0.5					0.5					0.5			62.5	