

August 7, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

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

Please find attached the July 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 July 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 July 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

03CouncilwaterreportMarch 2015

**July, 2015**

**Monthly Summary Report  
Water Systems**

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

**Dated: August 6, 2015**

## 1) **Introduction -**

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

- July 02<sup>nd</sup>
  - cleaned all 4 check valves on the poly unit.
  - cleaned top and bottom tanks on the poly unit.
- July 07<sup>th</sup>
  - filled reservoir and tower prior to plant shutdown. Contractor wired in new generator transfer switch into main electrical panel.
  - took grab samples from filters.
  - calibrated distribution chlorine analyzer.
- July 14<sup>th</sup>
  - continued painting the upstairs floor in the plant.
- July 15<sup>th</sup>
  - continued painting of pipes in the plant.
  - Sunset Protection Systems completed the annual inspection of the fire alarm system and fire extinguishers.
  - High Lift No. 4 motor failed during start-up.
- July 19<sup>th</sup>
  - came in early to prepare for scheduled power outage - cancelled.
- July 23<sup>rd</sup>
  - cleaned all 4 check valves on the poly unit.
  - cleaned top and bottom tanks on the poly unit.
- July 28<sup>th</sup>
  - contractor tested the newly installed generator and transfer switch. Fort Frances Power Corporation, Town Representatives, Consultant on site during testing.
  - worked on chlorine distribution analyzer with assistance of Galbraith Electric.
- July 29<sup>th</sup>
  - worked on chlorine distribution analyzer with assistance of Galbraith Electric.
- July 30<sup>th</sup>
  - cleaned in-line mixer.
- July 31<sup>st</sup>
  - changed chlorine tanks.

## 8) **Water Complaints –**

- Poor Pressure – 0 complaints
- Water Quality – 0 complaints

## 9) **Other Miscellaneous Information:**

- July 06<sup>th</sup> - took weekly routine micro samples.  
- King's Hwy. reconstruction project - bacti water samples - temporary water service - 1<sup>st</sup> set.
- July 07<sup>th</sup> - King's Hwy. reconstruction project - bacti water samples - temporary water service - 2<sup>nd</sup> set.
- July 13<sup>th</sup> - took weekly routine micro samples.
- July 15<sup>th</sup> - water main replacement/new water main on Third St. West/King's Hwy. (Bay City) - bacti water samples - 1<sup>st</sup> set.
- July 16<sup>th</sup> - took micro samples at Sunny Cove water system.  
- watermain replacement/new watermain on Third St. West/King's Hwy. (Bay City) - bacti water samples - 2<sup>nd</sup> set.
- July 17<sup>th</sup> - QMS meeting.
- July 20<sup>th</sup> - took weekly routine micro samples.
- July 21<sup>st</sup> - King's Hwy. reconstruction project - bacti. water samples - temporary water service - 1<sup>st</sup> set.
- July 22<sup>nd</sup> - King's Hwy. reconstruction project - bacti. water samples - temporary water service – 2<sup>nd</sup> set.
- July 27<sup>th</sup> - took weekly routine micro samples.
- July 29<sup>th</sup> - water main break repair - Sinclair St. (400 blk.) - bacti water samples - 1<sup>st</sup> set.
- July 30<sup>th</sup> - water main break repair - Sinclair St. (400 blk.) - bacti water samples - 2<sup>nd</sup> set.  
- watermain break repair - Fourth St. W. (100 blk.) - bacti water samples - 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: \_\_\_\_\_
- July 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 July 2015**

Town of Fort Frances - Water treatment Plant - Water Works # 220000978  
Monitoring Record  
July 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	5.68	5.70	5.60	5.52	5.56	5.63	6.35	4.17	6.29	6.61	6.20	6.97	6.50	6.49	6.54	6.55	6.62	6.23	6.45	6.56	6.45	6.50	6.56	6.54	6.49	6.55	6.56	6.59	6.12	6.53	6.26	193.37	6.24
Peak Instantaneous - Raw Water	L/s	n/a	66.32	66.43	66.24	65.24	65.71	65.63	77.38	77.38	77.18	77.15	76.57	76.39	76.59	76.73	76.58	76.28	76.55	111.16	76.22	76.01	75.12	75.47	76.11	76.34	76.46	76.28	76.17	76.52	77.12	109.95	76.82	2376.10	76.65
Treated Water	10^3 M^3	17	4.07	4.04	4.00	4.76	4.01	3.94	4.22	3.47	5.21	4.24	5.39	5.44	3.63	4.05	4.38	4.18	4.89	3.96	3.97	3.73	3.89	3.83	4.64	4.71	3.92	4.38	5.12	5.53	4.14	4.11	4.99	134.84	4.35
Peak Instantaneous - Treated Water	L/s	n/a	84.81	82.74	85.35	91.20	86.09	82.37	84.54	84.54		85.82	85.47	88.27	86.35	81.39	83.62	89.70	81.34		86.89	81.03	82.19	81.40	81.77	83.26	86.60	83.08	84.74	83.35	88.90		76.82	2363.63	84.42
BackWash Water	10^3 M^3	n/a	0.219	0.242	0.221	0.239	0.218	0.219		0.242	0.228	0.215		0.232	0.249	0.219	0.258	0.244	0.215	0.256	0.240			0.707	0.216	0.259	0.235	0.216	0.257	0.234	0.726		0.240	7.046	0.271
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.54	0.51	0.51	0.52	0.52	0.51	0.58	0.54	0.56	0.58	0.58	0.60	0.60	0.52	0.52	0.54	0.55	0.56	0.54	0.52	0.52	0.53	0.55	0.58	0.55	0.63	0.56	0.54	0.54	0.65	0.64	17.19	0.55
Turbidity Information																																			
Raw Water	NTU	n/a	1.52	1.09	1.24	1.12	0.82	1.49	1.49	1.94	1.20	1.43	1.36	1.46	0.99	1.05	0.87	0.78	0.81	0.89	0.80	1.55	1.67	1.23	1.05	1.05	1.22	1.10	0.85	1.05	1.41	1.52	1.38	37.43	1.21
Settled Water	NTU	n/a	0.05	0.49	0.05	0.24	0.07	0.65	0.08	0.25	0.08	0.09	0.07	0.08	0.30	0.05	0.11	0.07	0.11	0.12	0.12	0.26	0.08	0.08	0.26	0.13	0.18	0.21	0.16	0.16	0.11	0.47	0.33	5.51	0.18
Treated Water	NTU	1	0.01	0.02	0.01	0.04	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.01	0.01	0.04	0.02	0.05	0.07	0.06	0.03	0.01	0.04	0.03	0.01	0.05	0.04	0.05	0.06	0.04	0.05	0.06	1.08	0.03
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.18	7.20	7.25	7.29	7.30	7.30	7.24	7.44	7.41	7.46	7.40	7.36	7.47	7.47	7.35	7.31	7.29	7.21	7.22	7.08	7.10	7.30	7.38	7.37	7.30	7.19	6.81	6.47	6.87	6.81	7.09	216.74	7.22
pH - Settled water	no units	n/a	6.20	6.04	6.09	6.50	6.15	6.09	6.17	6.17	6.14	6.11	6.09	6.12	6.15	6.08	6.17	6.07	6.04	6.14	6.15	6.11	6.16	6.11	6.20	6.13	6.04	6.15	6.13	6.13	6.04	5.91	5.96	189.74	6.12
pH - Raw Water	no units	n/a	7.20	7.30	7.03	7.18	7.19	7.18	6.99	7.21	7.12	7.15	7.10	7.14	7.26	7.25	6.95	7.00	7.19	7.10	7.15	6.90	6.99	7.18	7.23	6.96	6.90	6.90	6.91	6.94	6.96	6.97	7.03	219.56	7.08
FAC - Treated Water	mg/l	0.2 to 4	1.62	1.66	1.70	1.65	1.59	2.11	1.91	2.11	2.09	2.09	2.06	2.10	1.76	1.92	2.09	2.01	2.09	2.07	2.00	1.99	2.04	2.15	2.08	1.93	1.95	1.94	2.14	2.16	2.26	2.34	2.22	61.83	1.99
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.14	2.26	2.22	2.32	2.14	2.22	2.36	2.22	2.52	2.39	2.41	2.37	2.20	2.32	2.40	2.30	2.26	2.20	2.20	2.20	2.18	2.46	2.30	2.26	2.20	2.34	2.56	2.52	2.41	2.58	2.70	72.16	2.33
Temperature	C	15	21.0	21.0	18.0	20.0	21.0	21.0	20.0	21.0	22.0	24.0	25.0	22.0	21.0	21.0	21.0	22.0	22.0	22.0	22.0	22.0	22.0	21.0	23.0	21.0	21.0	21.0	23.0	23.0	23.0	21.0	21.0	669.0	21.6
Fluoride used (Total Daily Consumption)	kg	n/a	19.0	19.0	18.0	18.0	18.0	18.0	20.0	11.0	17.0	17.0	15.0	17.0	16.0	16.0	15.0	17.0	20.0	18.0	18.0	19.0	17.0	18.0	22.0	21.0	21.0	22.0	21.0	21.0	21.0	21.0	21.0	572.0	18.5
Chlorine used (Total Daily Consumption)	kg	n/a	23.0	27.0	25.0	26.0	26.0	26.0	32.0	21.0	30.0	32.0	30.0	34.0	32.0	31.0	33.0	32.0	32.0	30.0	31.0	32.0	32.0	32.0	32.0	32.0	31.0	32.0	32.0	32.0	30.0	32.0	31.0	933.0	30.1
Soda ash (Total Daily Consumption)	kg	n/a	198.8	199.5	196.0	193.2	194.6	197.1	222.3	146.0	220.2	231.4	217.0	244.0	227.5	227.2	228.9	229.3	231.7	218.1	225.8	229.6	225.8	227.5	229.6	228.9	227.2	229.3	229.6	230.7	214.2	228.6	219.1	6768.0	218.3
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	198.8	199.5	196.0	193.2	194.6	197.1	222.3	146.0	220.2	231.4	217.0	244.0	227.5	227.2	228.9	229.3	231.7	218.1	225.8	229.6	225.8	227.5	229.6	228.9	227.2	229.3	229.6	230.7	214.2	228.6	219.1	6768.0	218.3
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	0.03	0.02	0.03	0.02	0.04	0.01	0.02	0.03	0.02	0.04	0.04	0.03	0.02	0.04	0.02	0.03	0.04	0.03	0.03	0.02	0.03	0.01	0.02	0.02	0.03	0.02	0.04	0.04	0.02	0.01	0.83	0.03
Poly bags added (25 kg bags )	kg									0.5						0.5		0.5												0.5		0.5		75.0	

Flow Data JULY	Units	2013		2014		2015	
		Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m^3		180670		168590		193370
Raw Maximum Day	m^3	Sunday 04th	7320	Friday 25th	6470	Sunday 12th	6970
Raw Minimum Day	m^3	Tuesday 27th	3790	Sunday 06th	4480	Wednesday 08th	4170
Raw Average Daily Consumption	m^3		5830		5440		6240
Total Treated Water	m^3		134850		129810		134840
Treated Water Maximim Day Consumption	m^3	Sunday 04th	5780	Thursday 31st	5540	Friday 31st	5530
Treated Water Minimim Day Consumption	m^3	Tuesday 27th	2360	Wednesday 02nd	3350	Thursday 02nd	3470
Treated Water Average Day Consumption	m^3		4350		4190		4350
Daily Average Per Household Consumption Rate	m^3		1.15		1.11		1.15
* Daily Average Per Person Consumption Rate	m^3		0.54		0.52		0.54
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		1.83		1.83		1.99
Total Chlorine Residual - Treated Water	mg/L		2.12		2.16		2.33
Aluminum Sulphate - Raw Water	mg/L		34.0		36.0		35.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.06		0.05		0.03
Fluoride - Treated Water	mg/L		0.61		0.59		0.55
Soda Ash - Raw Water	mg/L		34.0		36.0		35.0
PH - Adjusted	mg/L		7.12		7.15		7.22
Temperature	C		21.4		18.8		21.6
Quantity of Chemical Used:	kg						
Aluminum Sulphate	kg		6142.8		6069.2		6768.0
Polyelectrolyte	kg		75.0		75.0		75.0
Chlorine Gas	kg		800.0		797.0		933.0
Soda Ash - Used for PH Adjustment	kg		6142.8		6069.2		6069.2
Fluoride	kg		453.0		408.0		572.0

\* The Canadian Average is 450 Litres (0.45 m^3) per day.

\* Population is 7986

\* Number of Households is 3783