Drinking-Water Systems Regulation O. Reg. 170/03

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	220000442
Drinking-Water System Name:	Sturgeon Falls Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the Municipality of West Nipissing
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2023 to December 31, 2023

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [x]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Sturgeon Falls Water Treatment Plant
11 Nipissing Street, Sturgeon Falls, ON

Complete for all other Categories.

Number of Designated Facilities served:

0

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [ ] No [ ] Not Applicable [x]

Number of Interested Authorities you report to: 0

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [ ] No [ ] Not Applicable [x]

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
N/A	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [ ] No [ ] Not Applicable [x]

Indicate how you notified system users that your annual report is available, and is free of charge.
[x] Public access/notice via the web

Describe your Drinking-Water System

The Sturgeon Falls WTP commissioned in 1991, consists of a full surface water treatment facility, with a design capacity of 14 200 m^3/day, drawing water from the Sturgeon River. The process consists of:

- Intake from the Sturgeon River, equipped with manually removable screens
- Four vertical turbine raw water pumps
- Two up-flow pre-treatment tanks for flash mixing for chemical assisted flocculation and sedimentation
- Four sets of three-cells-in-series flocculation tanks
- Two rectangular settling tanks, each with an inclined plate settling system
- Three anthracite/sand gravity filters, each with continuous turbidity monitoring
- Chlorine gas for primary disinfection
- One chlorine contact tank equipped with baffle walls, and discharge line to the underground reservoir
- Continuous Giardia log removal calculations to monitor adequacy of disinfection
- Hydrated lime (calcium hydroxide) addition for pH and alkalinity control
- Two cell in-ground storage reservoir
- A two-chamber clear well
- Five vertical high lift turbine pumps to Distribution
- Post-chlorine gas addition to Distribution with continuous monitoring
- Hydrofluosilicic acid (fluoride) addition to Distribution with continuous monitoring
- Filter backwash system consisting of two filter backwash pumps, serving all filters
- Backwash wastewater discharge to the backwash settling tanks
- Three backwash settling tanks; supernatant return to Sturgeon River; settled sludge to sludge thickening tanks
- Two square sludge thickening tanks; sludge discharge to municipal sewage collection system; supernatant return to the Sturgeon River
- Back-up diesel powered generator capable of servicing essential plant operations

List all water treatment chemicals used over this reporting period

- Polyaluminum chloride – for coagulation
- Specialty polymer – a coagulant aid
- Limestone – for raw water alkalinity adjustments to improve coagulation
- Chlorine (gas) – for primary and secondary disinfection
- Hydrated lime (calcium hydroxide) – for finished water pH adjustment
- Hydrofluosilicic acid – fluoridation
- Corrosion control and manganese sequesterant

Were any significant expenses incurred to?

[ ] Install required equipment
[x] Repair required equipment
[ ] Replace required equipment
[ ] Not Applicable

Please provide a brief description and a breakdown of monetary expenses incurred

Item	Water Plant	Distribution
Material/Supplies/Rentals/Maintenance	$129,485	$131,490
Process Chemicals	$204,460	
Water Quality Lab Testing	$16,238	
Consulting/Operator Training	$11,828	$4,250
Utilities	$177,462	$1,151
Insurance	$64,771	$30,333
Labour	$292,374	$431,660
Electrical/Instrumentation	$23,315	
Total	**$919,933**	**$598,885**

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Units	Corrective Action	Corrective Action Date
	Nil				

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Results CFU/100mL (min #)-(max #)	Range of Total Coliform Results CFU/100mL (min #)-(max #)
Raw	52	1 – 110*	26 – 730*
Treated	52	0 – 0	0 – 0
Distribution	260	0 – 0	0 – 0

* NDOGT (No Data Overgrown with Target) for January 16, July 4, July 10, July 17, July 31, and August 21 samples.

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8760	Daily Peak: 0.016 – 0.315 NTU
Chlorine	8760	Daily Average: 0.88 – 1.83 mg/L
Fluoride	359	Daily Average: 0.12 – 1.09 mg/L

***NOTE**: For continuous monitors use 8760 as the number of samples.*

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Sampled	Result	Unit of Measure
Feb. 18, 2021 – MDWL 202-102	Waste Residue Total Suspended Solids	46 samples	23.3	mg/L (annual average)

Summary of Inorganic and Organic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Fluoride	2023-07-17	0.6	mg/L	No
Nitrite (N)	2023-01-11	< 0.1	mg/L	No
	2023-04-19	< 0.05		No
	2023-07-17	< 0.05		No
	2023-10-21	< 0.05		No
Nitrate (N)	2023-01-11	0.1	mg/L	No
	2023-04-19	0.08		No
	2023-07-17	< 0.05		No
	2023-10-21	< 0.05		No
Haloacetic Acids (Running Annual Averages)	2023-01-11	37.6 (38.6)	µg/L	No
	2023-04-19	40.7 (43.2)		No
	2023-07-17	66.1 (49.8)		No
	2023-10-21	52.3 (49.2)		No
Antimony	2023-11-09	< 0.0001	mg/L	No
Arsenic	2023-11-09	0.0002	mg/L	No
Barium	2023-07-17	0.010	mg/L	No
	2023-11-09	0.011		
Boron	2023-07-17	< 0.005	mg/L	No
	2023-11-09	< 0.005		
Cadmium	2023-11-09	< 0.000015	mg/L	No
Chromium	2023-11-09	< 0.0010	mg/L	No
Lead	2023-07-17	0.00015	mg/L	No
Mercury	2023-07-17	0.00003	mg/L	No
	2023-11-09	<0.00002		
Selenium	2023-11-09	<0.001	mg/L	No
	2023-11-09	<0.001		
Sodium	2023-07-17	1.2	mg/L	No
Uranium	2023-11-09	<0.00005	mg/L	No
Benzene	2023-07-17	< 0.5	µg/L	No
Carbon Tetrachloride	2023-07-17	< 0.2	µg/L	No
Dichlorobenzene,1,2-	2023-07-17	< 0.5	µg/L	No
Dichlorobenzene,1,4-	2023-07-17	< 0.5	µg/L	No
Dichloroethane,1,2-	2023-07-17	< 0.5	µg/L	No
Dichloroethene, 1,1-	2023-07-17	< 0.5	µg/L	No
Dichloromethane (Methylene Chloride)	2023-07-17	< 5	µg/L	No
Monochlorobenzene (Chlorobenzene)	2023-07-17	< 0.5	µg/L	No
Tetrachloroethylene	2023-07-17	< 0.5	µg/L	No
Trichloroethylene	2023-07-17	< 0.5	µg/L	No
Vinyl Chloride	2023-07-17	< 0.2	µg/L	No

Total Trihalomethanes (Running Annual Averages)	2023-01-11 2023-04-19 2023-07-17 2023-10-21	57.0 (49.8) 33.0 (48.0) 63.0 (50.5) 69.0 (55.5)	µg/L	No No No No
Alachlor	2023-07-17	< 0.3	µg/L	No
Atrazine + Metabolites	2023-07-17	< 0.5	µg/L	No
Azinphos-methyl	2023-07-17	< 1	µg/L	No
Benzo(a)pyrene	2023-07-17	< 0.006	µg/L	No
Bromoxynil	2023-07-17	< 0.5	µg/L	No
Carbaryl	2023-07-17	< 3	µg/L	No
Carbofuran	2023-07-17	< 1	µg/L	No
Chlorpyrifos	2023-07-17	< 0.5	µg/L	No
Diazinon	2023-07-17	< 1	µg/L	No
Dicamba	2023-07-17	< 1.0	µg/L	No
Dichlorophenol, 2,4-	2023-07-17	< 0.2	µg/L	No
Dichlorophenoxy acetic acid, 2,4- (2,4-D)	2023-07-17	< 1.0	µg/L	No
Diclofop-methyl	2023-07-17	< 0.9	µg/L	No
Dimethoate	2023-07-17	< 1	µg/L	No
Diquat	2023-07-17	< 5	µg/L	No
Diuron	2023-07-17	< 5	µg/L	No
Glyphosate	2023-07-17	< 25	µg/L	No
Malathion	2023-07-17	< 5	µg/L	No
2 methyl-4-chlorophenoxyacetic acid (MCPA)	2023-07-17	< 10	mg/L	No
Metolachlor	2023-07-17	< 3	µg/L	No
Metribuzin	2023-07-17	< 3	µg/L	No
Paraquat	2023-07-17	< 1	µg/L	No
Pentachlorophenol	2023-07-17	< 0.2	µg/L	No
Phorate	2023-07-17	< 0.3	µg/L	No
Picloram	2023-07-17	< 5.0	µg/L	No
Poly-Chlorinated Biphenyls (PCB's)	2023-07-17	< 0.05	µg/L	No
Prometryne	2023-07-17	< 0.1	µg/L	No
Simazine	2023-07-17	< 0.5	µg/L	No
Terbufos	2023-07-17	< 0.5	µg/L	No
Tetrachlorophenol, 2,3,4,6-	2023-07-17	< 0.2	µg/L	No
Triallate	2023-07-17	< 10	µg/L	No
Trichlorophenol 2,4,6-	2023-07-17	< 0.2	µg/L	No
Trifluralin	2023-07-17	< 0.5	µg/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Nil			

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non-municipal year-round residential, large non-municipal non-residential)