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, 2024 to December 31, 2024

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 – 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 – for 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 Treatment Plant	Distribution
Operation Total	**$856,965**	**$585,635**
Material/Supplies/Maintenance	$76,070	$105,516
Process Chemicals	$171,504	
Water Quality Lab Testing	$22,575	
Consulting/Training	$12,917	$6,876
Utilities	$185,831	$1,288
Insurance	$74,790	$32,891
Labour	$295,033	$439,064
Electrical/Instrumentation	$18,244	
Capital Total	**$96,183**	**$119,572**
Maintenance - turbine pumps	$84,175	
Engineering Designs - Generator	$12,008	
Distribution valve replacement		$16,163
Engineering Designs - Feedermain		$8,093
Watermain Industrial Park		$95,316

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	53	<5 – 70 *	30 – 740 *
Treated	53	0 – 0	0 – 0
Distribution	265	0 – 0	0 – 0

* NDOGT (No Data Overgrown with Target) for March 11, July 15, August 6, and August 19 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: 0.06 – 0.41 NTU
Chlorine	8760	Daily Average: 0.79 – 2.23 mg/L
Fluoride	366	Daily Average: 0.24 – 0.95 mg/L

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

Date of legal instrument issued	Parameter	Sampled	Result	Unit of Measure
Feb. 18, 2021 – MDWL 202-102	Waste Residue TSS	40 samples	14.1	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	2024-07-23	0.3	mg/L	No
Nitrite (N)	2024-01-29 2024-04-22 2024-07-23 2024-10-16	< 0.05 < 0.05 < 0.05 < 0.05	mg/L	No No No No
Nitrate (N)	2024-01-29 2024-04-22 2024-07-23 2024-10-16	<0.05 <0.05 < 0.05 < 0.05	mg/L	No No No No
Haloacetic Acids (Running Annual Averages)	2024-01-29 2024-04-22 2024-07-23 2024-10-16	31.6 (47.7) 46.6 (49.2) 63.6 (48.5) 54.2 (49.0)	µg/L	No No No No
Antimony	2024-07-23 2024-10-16	< 0.0001 < 0.0001	mg/L	No
Arsenic	2024-07-23 2024-10-16	0.0004 0.0003	mg/L	No
Barium	2024-07-23 2024-10-16	0.013 0.011	mg/L	No
Boron	2024-07-23 2024-10-16	< 0.005 < 0.005	mg/L	No
Cadmium	2024-07-23 2024-10-16	< 0.000015 < 0.000015	mg/L	No
Chromium	2024-07-23 2024-10-16	< 0.0010 < 0.0010	mg/L	No
Lead	2023-07-17	0.00009	mg/L	No
Mercury	2024-07-23 2024-10-16	0.00003 <0.00002	mg/L	No
Selenium	2024-07-23 2024-10-16	<0.001 <0.001	mg/L	No
Sodium	2024-07-23 2024-10-	1.4	mg/L	No
Uranium	2024-07-23 2024-10-16	<0.00005 <0.00005	mg/L	No
Benzene	2024-07-23	< 0.5	µg/L	No
Carbon Tetrachloride	2024-07-23	< 0.2	µg/L	No
Dichlorobenzene,1,2-	2024-07-23	< 0.5	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Dichlorobenzene,1,4-	2024-07-23	< 0.5	µg/L	No
Dichloroethane,1,2-	2024-07-23	< 0.5	µg/L	No
Dichloroethene, 1,1-	2024-07-23	< 0.5	µg/L	No
Dichloromethane (Methylene Chloride)	2024-07-23	< 5	µg/L	No
Monochlorobenzene (Chlorobenzene)	2024-07-23	< 0.5	µg/L	No
Tetrachloroethylene	2024-07-23	< 0.5	µg/L	No
Trichloroethylene	2024-07-23	< 0.5	µg/L	No
Vinyl Chloride	2024-07-23	< 0.2	µg/L	No
Total Trihalomethanes (Running Annual Averages)	2024-01-29 2024-04-22 2024-07-23 2024-10-16	47 (53.0) 51 (57.5) 76 (60.8) 41 (53.8)	µg/L	No No No No
Alachlor	2024-07-23	< 0.3	µg/L	No
Atrazine + Metabolites	2024-07-23	< 0.5	µg/L	No
Azinphos-methyl	2024-07-23	< 1	µg/L	No
Benzo(a)pyrene	2024-07-23	< 0.006	µg/L	No
Bromoxynil	2024-07-23	< 0.5	µg/L	No
Carbaryl	2024-07-23	< 3	µg/L	No
Carbofuran	2024-07-23	< 1	µg/L	No
Chlorpyrifos	2024-07-23	< 0.5	µg/L	No
Diazinon	2024-07-23	< 1	µg/L	No
Dicamba	2024-07-23	< 1.0	µg/L	No
Dichlorophenol, 2,4-	2024-07-23	< 0.2	µg/L	No
Dichlorophenoxy acetic acid, 2,4- (2,4-D)	2024-07-23	< 1.0	µg/L	No
Diclofop-methyl	2024-07-23	< 0.9	µg/L	No
Dimethoate	2024-07-23	< 1	µg/L	No
Diquat	2024-07-23	< 5	µg/L	No
Diuron	2024-07-23	< 5	µg/L	No
Glyphosate	2024-07-23	< 25	µg/L	No
Malathion	2024-07-23	< 5	µg/L	No
2 methyl-4-chlorophenoxyacetic acid (MCPA) * QC - standard tested outside acceptable limits	2024-07-23 2024-08-13	< 10* < 10	mg/L	No
Metolachlor	2024-07-23	< 3	µg/L	No
Metribuzin	2024-07-23	< 3	µg/L	No
Paraquat	2024-07-23	< 1	µg/L	No
Pentachlorophenol	2024-07-23	< 0.2	µg/L	No
Phorate	2024-07-23	< 0.3	µg/L	No
Picloram	2024-07-23	< 5.0	µg/L	No
Poly-Chlorinated Biphenyls (PCB's)	2024-07-23	< 0.05	µg/L	No
Prometryne	2024-07-23	< 0.1	µg/L	No
Simazine	2024-07-23	< 0.5	µg/L	No
Terbufos	2024-07-23	< 0.5	µg/L	No
Tetrachlorophenol, 2,3,4,6-	2024-07-23	< 0.2	µg/L	No
Triallate	2024-07-23	< 10	µg/L	No
Trichlorophenol 2,4,6-	2024-07-23	< 0.2	µg/L	No
Trifluralin	2024-07-23	< 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			