February 14, 2020

Municipality of West Grey
402813 Grey Road 4
RR#2
Durham, ON
N0G 1R0

Attention: Vance Czerwinski, Direct of Infrastructure and Public Works

RE: Neustadt Drinking Water System
2019 Annual Report

Vance,

Please find attached the 2019 Annual Operations Report for the Neustadt drinking water system, in accordance with Section 11(1) of O. Reg. 170/03. This report covers the period from January 1 to December 31 and meets the requirement of being prepared by February 28 of this year.

Please ensure that a copy of this report is given, without charge, to every person who requests a copy. In addition, please make certain that effective steps are taken to advise residents that copies of the report are available, and of how a copy can be obtained.

Finally, as per Schedule 22 of O. Reg. 170/03, please ensure that at least a copy of the Summary Report is given to the members of municipal council no later than March 31, 2020.

If you have any questions regarding the report, we would be pleased to address them and you should contact the undersigned accordingly.

Sincerely,

VEOLIA WATER CANADA INC.

Greg Prangley
Project Manager

Veolia North America
80 Birmingham St
Hamilton, ON L8L 6W5

www.Veolianorthamerica.com

2019 ANNUAL REPORT FOR WATER SYSTEMS

Part 1 – ANNUAL REPORT (as required by O. Reg. 170/03, Section 11)

Drinking-Water System Number:	220002147
Drinking-Water System Name:	Neustadt Drinking Water System
Drinking-Water System Owner:	Municipality of West Grey
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 – December 31, 2019

Complete if your Category is Large Municipal Residential or Small Municipal Residential		Complete for all other Categories	
Does your Drinking-Water System serve more than 10,000 people?	❑ Yes ✓ No	Number of Designated Facilities served:	n/a
Is your annual report available to the public at no charge on a web site on the Internet?	✓ Yes ❑ No	Did you provide a copy of your annual report to all Designated Facilities you serve?	❑ Yes ❑ No
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. Municipality of West Grey Grey Road #4 Durham, ON N0G 1R0		Number of Designated Facilities served:	n/a
		Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?	❑ Yes ❑ No

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?

n/a

Indicate how you notified system users that your annual report is available, and is free of charge.

✓ Public access/notice via the web	✓ Public access/notice via Government Office	❑ Public access/notice via a newspaper
❑ Public access/notice via Public Request	❑ Public access/notice via a Public Library	❑ Public access/notice via other method

Describe your Drinking Water System

Three GUDI wells: Well No. 2 with a capacity of delivering 10.6 L/s (well pump does not meet that capacity); Well No. 3 with a submersible pump capable of delivering 6.1 L/s; and Well No. 1 with a submersible pump capable of delivering 3.2 L/s. Pumping station No. 2 transfers flow monitored raw water from Well No. 2 and Well No. 3 (each well with online turbidity meters) to Well No. 1 pumphouse. Well No. 1 pumphouse contains the treatment equipment, including, but not limited to, flow meters, sodium hypochlorite disinfection system (primary disinfection), UV disinfection system, cartridge filters, online chlorine and turbidity analyzers, low level alarms and auto dialer.

There is a water tower with a volume of 1200m3. It is equipped with an on-line chlorine analyzer. Post

chlorinators are in place to booster chlorine levels leaving the tower, if required.

List all water treatment chemicals used over this reporting period
Sodium Hypochlorite 12%

Please provide a brief description and a breakdown of monetary expenses incurred
Cartridge filters – approx. $7,000 UV ballast - $1920 Updates to Neustadt tower and Well PLC system $1.5K Misc. incidentals ~$1,000

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
None					

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 (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)
Raw Well #1	52	0	0	n/a	n/a
Raw Well #2	52	0	0-1	n/a	n/a
Raw Well #3	52	0	0	n/a	n/a
Treated (POE)	52	0	0	52	0-1
Distribution	104	0	0	52	0-2

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 #)	Units
Turbidity - Treated	4860	0.00-5.00*	NTU
Chlorine-Treated	4860	0.00**-2.00	mg/L
Chlorine - Distribution	419	0.69-1.62	mg/L
Fluoride (If the DWS provides fluoridation)	NA	NA	

* High POE (Treated) turbidity events did not exceed regulations for duration (>15min), or were during events where no water was being sent to the tower

** the zero reading was due to the temporary relocation of the chlorine analyzer at the tower. There were no issues with disinfection

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	Date Sampled	Range of Results	Unit of Measure
December 1, 2009	UV transmittance	2019 (monthly)	96.0-99.0	% transmittance

Summary of Inorganic parameters tested during this reporting period or the most recent sample results					
Parameter	Sample Date	Result Value POE	Distribution	Unit of Measure	Exceedance
Antimony	Aug 6/19	ND	-	mg/L	NO
Arsenic	Aug 6/19	0.0036	-	mg/L	NO
Barium	Aug 6/19	0.12	-	mg/L	NO
Boron	Aug 6/19	0.021	-	mg/L	NO
Cadmium	Aug 6/19	ND	-	mg/L	NO
Chromium	Aug 6/19	ND	-	mg/L	NO
Lead-see rults below					
Mercury	Aug 6/19	ND	-	mg/L	NO
Selenium	Aug 6/19	ND	-	mg/L	NO
Sodium	Aug 6/19	5.6	-	mg/L	NO
Uranium	Aug 6/19	0.0004	-	mg/L	NO
Fluoride	Aug. 15/16	0.73	-	mg/L	NO
Nitrite	Feb 19/19	<0.01	-	mg/L	NO
Nitrate	Feb 19/19	<0.1	-	mg/L	NO
Nitrite	May 13/19	<0.01	-	mg/L	NO
Nitrate	May 13/19	<0.1	-	mg/L	NO
Nitrite	Aug 6/19	<0.01	-	mg/L	NO
Nitrate	Aug 6/19	<0.1	-	mg/L	NO
Nitrite	Dec 3/19	<0.01	-	mg/L	NO
Nitrate	Dec 3/19	<0.1	-	mg/L	NO

Summary ofead Results during this reporting period (Winter: Dec. 15/18-April 15/19; Summer: June 15-Oct5/1 9				
Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples taken)	Non-residential locations (µg/L)	Distribution System (µg/L)	Any Adverse Water Quality Incidents?
Winter	n/a	n/a	<0.50 (1)	NO
Summer	n/a	n/a	<0.50 (1)	NO

As per O. Reg 170/03 Schedule 15.1-5, residential lead sampling is no longer required

Summary of Organicrameters tested during this reporting period or the most recent sample results				
Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Aug 6/19	ND	µg/L	NO
Atrazine + N-dealkylated metobolites	Aug 6/19	ND	µg/L	O
Azinphos-methyl (Guthion)	Aug 6/19	ND	µg/L	NO
Benzene	Aug 6/19	ND	µg/L	NO
Benzo(a)pyrene	Aug 6/19	ND	µg/L	NO
Bromoxynil	Aug 6/19	ND	µg/L	NO
Carbaryl	Aug 6/19	ND	µg/L	NO

Carbofuran	Aug 6/19	ND	µg/L	NO
Carbon Tetrachloride	Aug 6/19	ND	µg/L	NO
Chlorpyrifos	Aug 6/19	ND	µg/L	NO
Diazinon	Aug 6/19	ND	µg/L	NO
Dicamba	Aug 6/19	ND	µg/L	NO
1,2-Dichlorobenzene	Aug 6/19	ND	µg/L	NO
1,4-Dichlorobenzene	Aug 6/19	ND	µg/L	NO
1,2-Dichloroethane	Aug 6/19	ND	µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	Aug 6/19	ND	µg/L	NO
Dichloromethane	Aug 6/19	ND	µg/L	NO
2-4 Dichlorophenol	Aug 6/19	ND	µg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug 6/19	ND	µg/L	NO
Diclofop-methyl	Aug 6/19	ND	µg/L	NO
Dimethoate	Aug 6/19	ND	µg/L	NO
Diquat	Aug 6/19	ND	µg/L	NO
Diuron	Aug 6/19	ND	µg/L	NO
Glyphosate	Aug 6/19	ND	µg/L	NO
HAA (four quarter average)	Q1 – Q4 2019	<5.0	µg/L	N/A (limit takes effect Jan. 1/2020
Malathion	Aug 6/19	ND	µg/L	NO
MCPA	Aug 6/19			
Metolachlor	Aug 6/19	ND	µg/L	NO
Metribuzin	Aug 6/19	ND	µg/L	NO
(Mono)chlorobenzene	Aug 6/19	ND	µg/L	NO
Paraquat	Aug 6/19	ND	µg/L	NO
Pentachlorophenol	Aug 6/19	ND	µg/L	NO
Phorate	Aug 6/19	ND	µg/L	NO
Picloram	Aug 6/19	ND	µg/L	NO
Polychlorinated Biphenyls(PCB)	Aug 6/19	ND	µg/L	NO
Prometryne	Aug 6/19	ND	µg/L	NO
Simazine	Aug 6/19	ND	µg/L	NO
THM (NOTE: show latest annual average)	Q1 – Q4 2019	14.1	µg/L	NO
Terbufos	Aug 6/19	ND	µg/L	NO
Tetrachloroethylene	Aug 6/19	ND	µg/L	NO
2,3,4,6-Tetrachlorophenol	Aug 6/19	ND	µg/L	NO
Triallate	Aug 6/19	ND	µg/L	NO
Trichloroethylene	Aug 7/18	ND	µg/L	NO
2,4,6-Trichlorophenol	Aug 6/19	ND	µg/L	NO
Trifluralin	Aug 6/19	ND	µg/L	NO
Vinyl Chloride	Aug 6/19	ND	µg/L	NO

List any Iganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontaririnking Water Quality Standards.				
Parameter	Sample Date	Result Value	Unit of Measure	ODWS Criteria
None				

Part 2 – SUMMARY REPORT (as required by O. Reg. 170/03, Schedule 22)

Non-Compliance with Legislations, Regulations, Approvals & Orders
During this period, the Facility was operated in full compliance with the Act, the regulations and the Facility's approval, save and except for the following:

No non-compliances in 2019

System Capability Assessment								
Comparison of Flow Rates (m^3/d):								
Month	Average Flow	Maximum Flow	Well 1 Avg Flow	Well 1 Max Flow	Well 2 Avg Flow	Well 2 Max Flow	Well 3 Avg Flow	Well 3 Max Flow
January	89.2	142	21.0	52.3	43.4	146	40.7	100
February	86.1	126	16.7	55.1	53.5	120	30.3	95.2
March	89.8	162	16.0	43.4	57.3	209	32.7	86.8
April	92.8	129	12.7	51.3	65.3	154	25.7	109
May	117	151	22.3	54.5	51.5	148	46.6	108
June	133	187	19.6	62.8	75.8	163	37.9	124
July	158	312	18.4	65.6	103	312	38.0	143
August	169	476	29.3	71.0	78.8	438	61.2	155
September	129	237	28.9	88.9	40.3	163	62.1	192
October	126	338	20.0	48.9	63.3	204	42.3	104
November	113	199	18.3	60.5	56.1	199	38.5	130
December	113	187	16.1	60.7	63.2	168	33.7	126
AVERAGE	118		20.0		62.7		40.9	
MAXIMUM	-	476	-	88.9	-	438	-	192
SYSTEM (PTTW) CAPACITY	916	916		276		916		527
% CAPACITY	12.9%	52.0%		32.2%		47.8%		36.4%

*Due to rounding, the sum of the monthly well average totals may not equal the total average flow