

2. STATEMENT OF COMPLIANCE

The Ontario Drinking-Water Systems Regulation (O.Reg.170/03) under the *Safe Drinking Water Act, 2002* (the Act) prescribes stringent and mandatory requirements to monitor, test and report on drinking water quality. It requires an Annual Report to be prepared for the preceding calendar year that identifies specific details regarding the overall quality of drinking water supplies and that is made available to the public by February 28 of each year. The Annual Reports on water quality were prepared for each of the Region of Peel's drinking water systems and made available to the public in February, as required. Reports can be viewed on-line via the [regional website](#), and electronic or paper copy obtained upon request.

Under Schedule 22 of the O.Reg.170/03, the owner of a water system must also prepare a Summary Report and present it to Regional Council by March 31 of each year. The report must demonstrate regular review of compliance with the requirements of the Act and its regulations, and terms and conditions of approvals documents. Any regulatory requirement(s) that the drinking water system failed to meet must be summarized with a description of actions taken to correct the failure(s). The report must also include a summary of the quantities and flow rates of water supplied for the year, tallying monthly average and maximum daily flows for all municipal drinking water systems. Flow data can be found in Section 3 of this Report.

The Region of Peel fulfilled the requirements of the Act, the regulations, and the terms and conditions of all approvals, licences, and permits for the municipal groundwater and surface water systems, with the exception of the administrative and operational related events detailed below. These occurrences were found non-compliant with the conditions of the Ontario drinking water legislation and/or supplementary legislative instruments; however, the occurrences were not associated with the quality or safety of drinking water supplied to the consumers.

Ministry of Environment, Conservation and Parks (the Ministry) inspections conducted in 2018 yielded excellent ratings for the Region of Peel's groundwater and surface water systems, results of which have been presented in the table below.

Drinking Water System / Water Works	2018 Ministry Inspection Rating
Caledon Village – Alton	100%
Palgrave – Caledon East	95.34%
Cheltenham	100%
Inglewood	100%
Lakeview Water Treatment Plant	93.94%
Lorne Park Water Treatment Plant	100%
South Peel Distribution	100%

Also included in the 2018 Ministry inspections, through a desktop audit, was the Poltawa Country Club Distribution System (CCDS) located in Terra Cotta, Caledon. This Non-Municipal Year-Round Residential system is owned by the Poltawa Country Club and operated by the Region of Peel through Section 5 of O.Reg. 170/03 legal agreement. The agreement, approved by Peel’s Regional Council in January 2016, includes regular monitoring of water quality by Region of Peel water operations staff. Maintenance on water assets in the Poltawa CCDS is performed by a third-party contractor.

The outcome of Poltawa CCDS’ desktop audit inspection was excellent, with no findings of compliance related issues observed or reported. The 2018 deduced Ministry inspection rating of 100% is a result of no findings reported.

Drinking Water System	2018 Ministry Inspection Rating
Poltawa Country Club Distribution	100%

Section 2. Statement of Compliance - Summary of Operational and Administrative Events

Drinking Water System	Legislative Requirement	Statement of Non-Compliance	Corrective Action
<i>Municipal Groundwater Systems (North Peel)</i>			
<p>Palgrave – Caledon East</p>	<p>Ontario Regulation 170/03 Schedule 7-2 (3) At least seven (7) distribution samples are to be collected each week and tested immediately for free chlorine residual. Unless one sample is collected each day of the week, four (4) of the samples must be taken on one day of the week and three (3) of the samples are to be taken on a second day of the week, at least 48 hours after the last sample was taken on the previous day in the same week.</p>	<p>Grab samples are generally collected on Monday and Thursday of each week. On the weeks of April 16, 2017 and May 20, 2018, where Monday was a holiday, the first sampling day was pushed to Tuesday, but the second sampling day remained Thursday. Although more than seven (7) distribution samples were collected and tested for free chlorine residual every week, the minimum 48 hour separation was not maintained between the last sample collected on Tuesday and the first sample collected on Thursday on these two occasions.</p> <p>This finding of non-compliance was expected since the same sampling scheduling issue was reported during last year’s inspection of Caledon Village – Alton DWS and since these events fell outside of the inspection period of May 1, 2016 to April 2017 it was not reflected in the 2017 Palgrave – Caledon East Inspection Report.</p>	<p>Caledon Water Operations has amended its staffing schedule such that on weeks when the Monday is a holiday, facility inspections and sampling will be performed on Tuesday and Friday. This permanent scheduling change ensures that the distribution system chlorine residual operational checks will comply with the minimum 48 hours separation.</p> <p>Additionally, Microsoft Outlook notification reminders have been set to flag operations staff the week before and week of a long weekend.</p>

Drinking Water System	Legislative Requirement	Statement of Non-Compliance	Corrective Action
Inglewood	<p>Permit to Take Water (PTTW) #0838-AZRFZ5 (Issued June 22, 2018)3.2 The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in the Water Takings Table A. Water taking flow rate for Inglewood Well #3 shall not exceed 900 L/min (15.0 L/s).</p>	<p>On September 14, 2018, it was discovered that raw water taking flow rates for Inglewood Well #3 were exceeding the limit of the new PTTW which was issued on June 22, 2018. The new PTTW decreased this well's water taking flow rate by 25%, compared to the former PTTW allowance of 1200 L/min to 900 L/min (i.e. from 20 L/s to 15 L/s). In reviewing the daily water taking trends during the period of June 22 to September 14, 2018, the PTTW limit was exceeded by an average of approximately 72 L/min (1.2 L/s). Flow meter calibration variances may account for some of the flow rate exceedance.</p>	<p>On September 14, 2018, staff immediately manually adjusted Well #3's raw water flow rate to 13.5 L/s, which is below the new PTTW limit of 15.0 L/s. Additionally, the high-high flow set-point was adjusted such that the well will lock out if water flow exceeds 15.0 L/s for more than 30 seconds. Staff will conduct a detailed review of newly issued PTTWs to identify any changes, new conditions or specific monitoring requirements and ensure these are documented, communicated to impacted staff and the appropriate changes are applied promptly.</p>

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<i>Municipal Surface Water Systems (South Peel)</i>			
Lakeview Water Treatment Plant (Operated by the Ontario Clean Water Agency; OCWA)	Municipal Drinking Water Licence (009-201) Schedule E For conventional filtration, a chemical coagulant shall be used at all times when the treatment plant is in operation, unless a regulatory relief condition is in place with a different requirement. Municipal Drinking Water Licence (009-201) Schedule D - Regulatory Relief Item 2.3 Report interruption to chemical coagulant feed for duration of greater than fifteen (15) consecutive minutes.	On January 12, 2018, during monthly data review, a computer monitoring system trending data recording gap of 23 minutes was identified.	It was identified that during security system network upgrades, the data historian server was inadvertently disabled. Local panels continued recording daily minimum, maximum and averages during the time of incident; however, all historical data trending was lost for the event duration. Although conventional coagulant feed is believed to have been functioning appropriately during the data gap, trending is not available to demonstrate the actual minimum during that time. The event was reported appropriately.
	Ontario Regulation 170/03 Schedule 8, Section 8-2 (2) Manufacturer's instructions shall be followed with respect to the checking or maintenance of water treatment equipment.	During a review of trends on April 19th, 2018, it was identified that a required daily Membrane Integrity Test (MIT) had not been completed as scheduled for Membrane Train #76 on April 18th, 2018. Although an MIT was scheduled to start automatically at 12:01pm for Membrane Train #76, the scheduled MIT did not take place.	On April 18th, 2018, the maximum permeate turbidity for Membrane Train #76 was 20.5 mNTU (0.02 NTU). On April 19th, 2018, two MITs were performed on Membrane Train #76 – both met the required criteria, demonstrating that the integrity of Membrane Train #76 was intact.
		During a review of trends for June 21, 2018, it was identified that a required daily Membrane Integrity Test (MIT) had not been completed as scheduled for membrane train #76. Although an MIT was scheduled to start automatically at 12:01pm for Membrane Train 76, the scheduled MIT did not take place.	On June 21, 2018, the maximum permeate turbidity for Train #76 was 19.5 mNTU (0.02 NTU). On June 22, 2018, an MIT was performed on Membrane Train #76 with results that met the criteria, demonstrating that the integrity of Membrane Train 76 was intact. Programming was updated to include a new critical alarm to notify of MIT missed for 24 hours to help prevent this issue from re-occurring.

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Lakeview Water Treatment Plant (Operated by the Ontario Clean Water Agency; OCWA)	Ontario Regulation 170/03 Schedule 10, Section 10-4 Raw water shall be sampled once every week and tested for microbiological parameters including E. coli and total coliform. Schedule 6, Section 6-1.1 Weekly samples must be collected and tested at least five (5) days and not more than ten (10) days after the sample collected in the previous week.	Raw water was not sampled for the week of April 29, 2018. Raw water sampling is generally performed on Monday however, the sample scheduled for Monday April 30, 2018, was not collected. As soon as the issue was identified, a raw water microbiological sample was collected on Friday May 4, 2018. However, since the previous week's sample was collected on Monday, April 23, 2018, there were eleven (11) days between the samples, which was beyond the allowable 10 day window.	This event was reported appropriately. To prevent a reoccurrence of missed weekly sampling, raw water microbiological sampling frequency has been increased to three times per week.
	Ontario Regulation 170/03 Schedule 6, Section 6-5(1) Continuous monitoring and recording must be carried out every 15 minutes for filter effluent turbidity readings.	The effluent turbidity analyzer on conventional Filter #2 was found to not be recording between June 7 and June 20, 2018. This event was the result of the turbidity analyzer being left in local maintenance mode following calibration.	As soon as it was discovered, the Filter #2 turbidity analyzer was removed from maintenance mode. The event was reported appropriately. During June 7-20, filter backwashes were conducted regularly and the combined effluent turbidity remained within regulatory limits. Bacteriological samples were collected three times per week on the treated water and all results during this time met the Ontario Drinking Water Quality Standards. A new procedure was implemented to further emphasize analyzer monitoring during rounds. The analyzer work order in the Computerized Maintenance Management System was updated to include text stating mandatory requirement to not place analyzer in maintenance mode on the local device. Maintenance mode instructions were reviewed during staff meetings in June and July, and reinforced during training by the instrument manufacturer in September.

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Lakeview Water Treatment Plant (Operated by the Ontario Clean Water Agency; OCWA)	Municipal Drinking Water Licence No. 009-101, Schedule E Duty ultraviolet (UV) disinfection units' intensity sensors shall be checked at least monthly against a reference sensor.	The monthly reference sensor checks were completed as required with an exception of June 2018 for sensors on conventional UV Reactors 1, 2 and 3. The conventional UV reactors were installed May 14, 2018. It was identified that a work order for monthly reference sensor checks for the conventional UV reactors had not yet been created.	As soon as it was discovered, the reference sensor checks for the conventional UV reactors were completed on July 4, 2018. Recurring monthly work orders for the UV reference sensor checks were created to prevent future reoccurrences.
	Municipal Drinking Water Licence No. 009-101, Schedule B, Section 10.1 Water systems must not discharge a contaminant into the natural environment that causes, or is likely to cause, an adverse effect.	On December 18, 2018, during routine monthly reference sensor checks on the conventional UV reactors, it was found that the UV reference sensor used in the previous month's check had mistakenly been left inside of UV Reactor #2. As a result, it was determined that the duty UV intensity sensor for UV Reactor #2 had been mistakenly used to complete the reference sensor check on two (2) duty UV intensity sensors in UV Reactor #3 on November 14, 2018.	Immediately after discovering the issue, the reference sensor was removed from UV Reactor #2 and replaced with the Reactor #2 duty UV intensity sensor. The monthly reference sensor checks for December for Conventional UV Reactors 1, 2 and 3 were completed using a calibrated spare UV reference sensor. The event was reported appropriately. To prevent reoccurrence, a visual identifier (tag and colouring) was placed on the outside handle of all UV reference sensors used in the facility.
		On June 21, 2018, at approximately 6:00 pm, staff discovered untreated lake water overflowing from the OBM2 treatment process to the facility driveway, which entered stormwater catch basins and sewer chambers. Staff measured a free chlorine residual of 0.03 mg/L and total of 0.08 mg/L on the overflowed water. Approximate volume of water discharged during the event was 1000 L.	As soon as the overflow was discovered, the low lift pumps and OBM2 treatment plant were immediately shut down. Dechlorination agent was applied to the storm water catch basins.

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Lorne Park Water Treatment Plant (Operated by the Ontario Clean Water Agency; OCWA)	Ontario Regulation 170/03 Schedule 6, Section 6-5 (1) Continuous monitoring and recording must be carried out every 15 minutes for filter effluent turbidity readings.	On March 9, 2018, it was discovered that the drain plug had fallen out of the turbidity analyzer on Membrane Train # 56. The turbidity meter had been cleaned during the day and the plug was not adequately tightened afterward. Review of trends revealed that the plug was out for 53 minutes (two production cycles).	As soon as it was discovered, Membrane Train #56 was shut down. The drain plug was put back on the turbidity analyzer and a turbidity grab sample was tested from Membrane Train #56 with a result of 0.06 NTU. All membrane train turbidity values were below 36.23 mNTU (0.04 NTU) during the event. Treated water turbidity trends were reviewed and all membrane train turbidity analyzer drain plugs were checked. The event was reported appropriately.
	Ontario Regulation 170/03 Schedule 8, Section 8-2 (2) Manufacturer's instructions shall be followed with respect to the checking or maintenance of water treatment equipment.	During a review of trends on March 9th, 2018, it was identified that a required daily Membrane Integrity Test (MIT) had not been completed as scheduled for Membrane Train #53 on March 8th, 2018. Although an MIT was scheduled to start automatically at 06:00AM for Membrane Train 53, the scheduled MIT did not take place.	On March 8, 2018, the maximum permeate turbidity for Membrane Train #53 was 50.11 mNTU (0.05 NTU). On March 9, 2018, two MITs were performed on Membrane Train #53 – both met the required criteria, demonstrating that the integrity of Membrane Train #53 was intact. Programming was updated to include a new critical alarm to notify of MIT missed for 24 hours to help prevent this issue from re-occurring.

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South Peel Distribution	Watermain Disinfection Procedure In addition to other requirements, mandatory sampling for bacteriological parameters and chlorine residual is required following each Category 2 watermain break repair.	On December 24, 2018, there were two separate Category 2 watermain breaks in Brampton, located on Greenwood Cr and on Norbert Rd. Following repair of the watermains, samples were collected as required and delivered to the laboratory. Due to lab error, the samples were not analyzed within the holding time.	Region of Peel was notified of this error and requested the samples be processed even though it was beyond the holding time. Secondary samples were also collected for each main break location. All sample results met the Ontario Drinking Water Quality Standards. The laboratory provided a Corrective Action Report. The event was reported appropriately.
	Municipal Drinking Water Licence No. 009-101, Schedule B, Section 10.1 Water systems must not discharge a contaminant into the natural environment that causes, or is likely to cause, an adverse effect.	On several occasions throughout 2018, water emerging from a watermain break picked up soil (silt) and washed it into a nearby storm sewer or water body, until the water supply was isolated for watermain repair efforts to be initiated.	The Region of Peel Environmental Control responds to these events to assess impact to fish, wildlife, or plant life and report the event to the MECP. During these events, staff strive to maintain drinking water system pressure and ensure the integrity of the drinking water supply.