2023 Summary of Non-Compliance Events

Drinking Water System	Legislative Requirement	Statement of Non-Compliance	Immediate Action Taken	Risk to Drinking Water Safety and Public Health	Control Measures
Cheltenham	**Drinking Water Works Permit # 009-204 Schedule B, section 4.6.1** Pre-approved minor alterations to the drinking water system must be recorded on the Ministry's *Form 2 - Record of Minor Modifications or Replacements to the Drinking Water System*, prior to the modified or replaced components being placed into service**.**	On January 8, 2024, during facility compliance checks, it was discovered through logbook review that the in-service date for the new chlorine tank at Wells 1 & 2 was not clearly indicated in the logbook. The new tank was installed on December 12, 2023 and Form 2 was submitted on December 21, 2023. The exact date when chlorine tank was placed into service is unclear.	The non-compliance was reported on January 22, 2024. A Director Notification was prepared, signed and submitted to the Ministry to document completion of the work.	**NONE**	On February 6, 2024, the finding of non-compliance was reviewed with operations staff. An overview of the Approval Forms process is scheduled in March 2024 to serve as training refresher.
Palgrave - Caledon East	**Drinking Water Works Permit # 009-205 Schedule B, section 4.6.1** Pre-approved minor alterations to the drinking water system must be recorded on the Ministry's *Form 2 - Record of Minor Modifications or Replacements to the Drinking Water System*, prior to the modified or replaced components being placed into service.	On January 12, 2024, during facility compliance checks, it was discovered through logbook review that the new chlorine tank was placed into service prior to Form 2 submission. Chlorine tank was installed and placed into service on December 15, 2023 and Form 2 was submitted on December 21, 2023.	The non-compliance was reported on January 22, 2024. A Director Notification was prepared, signed and submitted to the Ministry to document completion of the work.	**NONE**	On February 6, 2024, the finding of non-compliance was reviewed with operations staff. An overview of the Approval Forms process is scheduled in March 2024 to serve as training refresher.
Arthur P. Kennedy Water Treatment Plant	**O. Reg. 170/03 and the Procedure for Disinfection of Drinking Water in Ontario, section 3.4.6** Membrane filtration to meet the performance criterion for filtered water turbidity of less than or equal to 0.1 NTU in 99% of the measurements in each month**.**	OBM1 was out of service for the month of January for commissioning work on the new clean-in-place piping. Membrane trains 45, 46, and 54 were started up on January 31, 2023 and upon startup, entrapped air caused false turbidity spikes for a short period while trains were in service:. Train 45:13 minutes 5 seconds, with turbidity >0.1 NTU for 5 minutes Train 46: 16 minutes 10 seconds, with turbidity >0.1 NTU for 11 minutes Train 54: for 3 minutes 11 seconds, with turbidity >0.1 NTU for 3 minutes 11 seconds. During this startup, water from these membrane trains went to the distribution system. Since this was the last day of the month, it resulted in turbidity being over 0.1 NTU in less than 99% of the measurements for the month of January.	Once staff identified the calculation exceedance, they shut down the OBM1 plant. OCWA staff sent a due diligence notification to the local Ministry office to report the calculation exceedance.	**NONE** Air entrapment causes tiny air bubbles to falsely register as turbidity spikes. These do not impact water quality.	OCWA updated the standard operating procedure for OBM1 startup . Peel pursued and received regulatory relief to allow flexibility in the monthly turbidity compliance calculation where total membrane run time is less than 72 hours in a month, such that turbidity readings for the first 30 minutes following startup(s) of a membrane may be omitted from the data set for this calculation.

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	Procedure for Disinfection of Drinking Water in Ontario and Ontario Regulation 170/03 **Schedule 16-4** Duty to report an observation that indicates that a drinking water system is directing water to users that has not been disinfected in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario.	On February 13, 2023, during the warm-up phase of the OBM2 ultraviolet (UV) reactor #1, a fault was noted and the reactor shut down. OCWA staff investigated the fault and discovered one bulb had a pin-sized hole and a broken sleeve. This had the potential for a very small amount of mercury from the bulb to spill into the water piping exiting the reactor.	The alarm shut down the reactor immediately and staff investigated the event. Operations staff sampled the piping for mercury and drained the backwash supply tank. Sample results confirmed mercury was non-detect. The UV reactor was cleaned and repaired and placed back into service. The Ministry Spills Action Center was notified and sampling plan was approved by the local Ministry Office.	**LOW** The lab results indicated majority of the mercury was contained within the bulb. The water exiting the UVs passes through ultrafiltration membranes, which have a cleaning cycle. This multi-step treatment process provides additional assurance that material from a broken UV bulbs would not reach the drinking water system.	OCWA contacted the UV manufacturer to conduct a detailed investigation. The investigation report noted no abnormalities with the reactors. OCWA has a standard operating procedure for these events. They have put steps into place to ensure that sample bottles are available and sampling will be conducted if a reoccurrence of this incident were to happen.
		On March 14, 2023, partial loss of power occurred at 9:24am during quarterly maintenance of natural gas generators. This caused OBM2 to shut down abruptly, which left low lift pump #9 running for 23 minutes until operations shut it down locally at 09:33am. This caused 6,572 ML of equalization tank water to overflow into the intake well due to some valves remaining in the open position.	Operations staff were dispatched to check valving manually to ensure all appropriate valves were closed and to prepare plant for a safe restart. The natural gas system parameters were adjusted to mitigate future incidents with power generation and plant loading. This event was reported to the local Ministry office promptly once identified.	**LOW** No impact to water quality. The turbidity, chlorine and CT values of all facilities were normal. All processes downstream of filtration were unaffected.	OCWA updated the existing generator standard operating procedure to describe the importance of keeping plant loads constant during generator testing and improve communications between operations and maintenance teams during this work.
	Municipal Drinking Water Licence # 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 August 10, Operations staff noticed 12 inches of water in the basement of OBM1. Sump pumps were not working in automatic mode. Staff ran the flood pumps in manual mode to drain the water from the area. The flood pumps discharge into the plant outfall after dechlorination. The water discharged had the potential to contain a small chlorine residual, as this water is a combination of unchlorinated process water and service water with free chlorine residual of 1.50 mg/L.	Electrical staff were called out to troubleshoot and found the fuse blown on the sump pump control electrical panel. Fuse was replaced and sump pumps were placed back into automatic mode. Compliance staff reported this as a spill of chlorinated water to the Ministry Spills Action Center and notified Environment and Climate Change Canada of event and resolution.	**NONE**	Operations staff increased frequency of OBM1 basement checks and are conducting a project to replace all sump pump panel components and move the panel to the permeate pump floor level above the basement.
		On December 30, 2023, at 8:35pm OCWA operations staff discovered flooding in the basement of OBM1 with approximately 6 inches of water on the floor. The temporary sump pumps were unable to keep up with the incoming water and the permanent sump pumps were not working at the time due to a over temperature relay trip. Operations staff manually turned on the flood pumps. The flood pumps discharge into the plant outfall after dechlorination. It was noted that the wastewater supernatant analyzer read a residual of 0.15 mg/L for less than 1 minute during the event. Staff manually tested chlorine residual shortly after and it measured zero mg/L.	OCWA Operations staff ran the flood pumps to prevent any damage to the equipment in the OBM1 basement. Operations staff called out electrical staff to investigate and repair the relay. Electrical staff arrived on site and replaced the relay and all sump pumps were placed back into service. Compliance staff reported the spill to the Ministry Spills Action Center and notified Environment and Climate Change Canada of event and resolution.	**NONE**	OCWA implemented recommendation by electical staff to have operations staff visually check the sump pump panel in the OBM1 basement for alarms during their rounds.

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Lorne Park Water Treatment Plant	**Municipal Drinking Water Licence # 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 February 22, 2023, operations staff turned off all holding tank transfer pumps and opened holding tank drain valve to transfer tank contents to the Jack Darling wastewater pumping station, due to an issue with the wastewater supernatant analyzer electrical breaker. At 2:00am on February 23, staff reported flooding in the garage, which has storm water floor drains.	Upon discovery of the flooding, operations staff closed holding tank drain. At 2:30am, staff confirmed flooding had stopped. Event was reported as a spill to the Ministry Spills Action Center. OCWA electrical staff repaired issue with the electrical breaker for the wastewater supernatant analyzer and returned the holding tank transfer pumps to normal operation.	**NONE**	OCWA replaced outlet plug to restrict other devices from being connected to a shared breaker with the wastewater supernatant analyzer to prevent future overloads. Wastewater drainage conduit flow meter alarm set points have been adjusted to provide an earlier warning of conduit backup if an event were to reoccur.
	Procedure for Disinfection of Drinking Water in Ontario and Ontario Regulation 170/03 **Schedule 16-4** Duty to report an observation that indicates that a drinking water system is directing water to users that has not been disinfected in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario.	On March 22, 2023, after isolating and draining surge tank #2 for routine inspection, staff discovered what appeared to be animal remains adhered to the seal of the tank hatch cover. Staff inspected the inside of the tank and no other remains were found. Operations staff was unable to confirm if it came into contact with the surge tank water.	Once identified, the finding was reported to the Ministry Spills Action Center and Peel Public Health. Operations staff cleaned the tank thoroughly and completed disinfection based on the AWWA Standard C652-19. Bacteriological samples were collected after disinfection and the results were all satisfactory.	**LOW** Bacteriological samples are tested 3 times each week on the treated water and continuous chlorine analyzers demonstrate adequate disinfection was maintained at all times. Many bacteriological samples are tested each week within the distribution system. All results since the last surge tank inspection were reviewed and no indication of any contamination was observed. The location of where the animal remains were found within the seal junction prevented majority of contact to with surge tank water.	OCWA operations staff checked all reservoir hatches, reservoir house and surge tank vent piping to ensure no animal infiltration. OCWA created a disinfection plan to be used for future surge tank disinfections.
South Peel Distribution System	**Watermain Disinfection Procedure** Watermain tap not witnessed by Peel Operator.	On April 26, 2023, a watermain tap at John Street and Centre Street South in Brampton was completed without a Peel operator onsite to oversee disinfection.	Peel staff sent a due diligence notification to Ministry inspector on May 2, 2023 with event information and corrective actions.	**LOW**	Once incident was reported to Compliance and Peel Public Health, seven system samples were immediately collected in the area. All sample results passed, confirming water safety.
	Municipal Drinking Water Licence Schedule B Section 14.1 All materials used in the alteration or operation of the drinking water system that come into contact with water shall meet all applicable standards set by both the American Water Works Association and the American National Standards Institute safety criteria standards.	On June 4 and 5, 2023, an unapproved material was used to make a small closure piece on a distribution watermain. The material was adequately disinfected per Ministry's *Watermain Disinfection Procedure* prior to being welded and work was witnessed by a certified operator. Samples were collected as the pipe was placed into service on June 5 and the bacteriological results were satisfactory.	Upon Compliance staff becoming aware of the situation on June 8, the section of pipe was immediately isolated. A courtesy notification was sent to Ministry inspector on June 8, 2023 with event information and corrective actions.	**LOW**	On July 31, the acceptable closure piece was installed and this section was placed into service. Applicable staff were reminded about acceptable pratices and materials that come into contact with water.
	Municipal Drinking Water Licence # 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.	During an inspection of Beckett Sproule Reservoir on Aug 4 and Aug 10, a leak was discovered in Cell 2 and Cell 3 at rates of 0.4 L/s and 0.86 L/s respectively. At the time, it was believed the leakage was going to the sanitary sewer. After isolation of the two cells, leak investigation was done in mid-August. Further review suggested that a portion of the water may have gone to the storm sewer or soil, although what proportion went to the environment is unknown. Date the leakage started and total volume released are unknown. Free chlorine at Beckett Sproule Reservoir at the time of discovery was in the range of 1.19 to 1.65 mg/L.	Cell 3 was isolated on Aug 11. After water modeling was performed, Cell 2 was isolated on Aug 16. Dive team entered isolated cells for dye testing to locate leaks on Aug 15 for Cell 3 and Aug 16 for Cell 2. Controlled draining and dechlorination of Cells 2 and 3 began on Aug 22. Upon determining that some water was likely released to the environment, staff reported this as a spill of chlorinated water to the Ministry Spills Action Center.	**NONE**	Repairs have begun at the Beckett Sproule Reservoir Cells 2 and 3. Once this work is complete, Cells 1 and 4 will be inspected for leakage and repaired as needed. Completion is expected by late Spring 2024.

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	Municipal Drinking Water Licence # 009-101, Schedule B **section 16.2.6** Operations and maintenance manual shall include procedures for the operation and maintenance of monitoring equipment. **Section 16.4** All of the procedures included or referenced within the operations and maintenance manual must be implemented.	A review of handheld chlorine analyzer digital verification records for 2023 showed that verifications were not completed monthly for some handheld analyzers, as required by the procedure. Maintenance of handheld testing equipment and documentation transitioned from being a manual process to digital, with auto-reminders when verification is not completed within specified time. New process implementation presented a few gaps, which resulted in some handheld chlorine analyzers not verified every month. Also, the process for ensuring completion of records for verification-pending units was found to be inconsistent.	Upon a discovery of this finding, operations staff have been reviewing the process to identify the cause of auto-notification on equipment verification not being actioned in a timely manner and to update the process path. Peel staff sent a due diligence notification to our Ministry inspector on October 30, 2023 to self-declare the missed verification.	**LOW** Handheld chlorine analyzers are manufacturer factory-calibrated to ensure accurate and reliable measurement results. Monthly checks have been implemented to test instrument response and accuracy for added confidence. In addition, continuous chlorine analyzers at water storage and pumping facilities provide confidence of secondary disinfection being maintained.	Staff are working to refine the digitized process to prevent incidences of missing verification records, including documenting when a unit is taken out of active use, and ensuring units are verified monthly as required.
	Municipal Drinking Water Licence # 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 2023, water emerging from a watermain break picked up soil (silt) and washed it into nearby storm sewers or waterbody until the water supply was isolated for watermain repair efforts to be initiated.	All the events were reported to the Ministry appropriately. Peel Region Environmental Control immediately responds to these events to assess impact to fish, wildlife, or plant life and report the event to the Ministry.	**NONE**	During these unplanned events, staff strive to maintain drinking water system pressure to ensure the integrity of the drinking water supply, and also minimize impact on the environment and the public.