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March 20, 2020

PWS 252.00

Moira L. Geer CPA, CA.
Director, Water and Waste Department
City of Winnipeg
101-1199 Pacific Ave
Winnipeg, MB R3J 3S8

2019 Annual Compliance Audit

Dear Moira Geer:

Please find enclosed the 2019 Annual Compliance Audit for the City of Winnipeg public water system (PWS). The report compares water system compliance to The Drinking Water Safety Act and its supporting regulations, and the terms and conditions of the water system's current operating licence (PWS-09-412-01).

Where non-compliance items are identified, the issues do not necessarily translate into increased public health risk. The Office of Drinking Water uses processes, including boil water advisories, to notify water users of a public health risk.

Please review the following terms and conditions of your operating licence to ensure ongoing compliance:

- Water quality sampling frequencies identified in *Table 2*.
- Water System Assessment (due date: March 1, 2022)
- 2019 Public Water System Annual Report (due date: March 31, 2020)
- Advisory Notification Plan (due date: May 1, 2020)

Non Compliance and Corrective Actions

Clause 3.1 of the operating licence requires disinfection and testing per AWWA standards or an alternate approved by Office of Drinking Water. The chlorine contact tank was accessed October 30, 2019 for concrete inspection. Following access it was determined that disinfection efforts did not meet AWWA standards. Plant design does not allow for the extended shut down required by the standard.

The facility was non-compliant with respect to disinfection and testing requirements of clause 3.1 of the Operating licence following chlorine contact tank entry. The selection, approval and adoption of an alternate protocol acceptable to the Director of Office of Drinking Water is underway.

Chlorine levels entering the distribution system following this incident were at all times above the regulatory minimum of 0.5 mg/L.

Corrective actions reports are submitted by the City of Winnipeg for a variety of regulatory purposes. In 2019 there were 11 corrective action reports submitted; 5 for low level bacteria detection in the distribution system, 3 for chlorine levels below regulatory requirements, and 3 for turbidity.

Low levels of total coliform analysis results were reported from the distribution system on 5 occasions. Corrective actions under Schedule A of MR 41/2007 were completed, and resamples were free of bacteria. The water system is fully compliant under The Drinking Water Safety Act with respect to bacteriological requirements.

Chlorine issues were reported on three occasions. On December 27 a low chlorine residual (<0.5 mg/L) was detected exiting branch 1. Branch 2 did not display the same trend suggesting there wasn't an issue with water coming from the treatment plant, and hand held chlorine testing devices did not confirm the readings from the branch 1 analyzer. The Analyzer was determined to have fallen out of calibration. This was not determined to be a non-compliance issue.

In May and September low chlorine residual levels were detected in the distribution system at the NW02 sample point. Detection of low chlorine residual at this location has occurred in the past and is typically short lived as it was in 2019. The low residual levels were only detected due to the proactive installation of an on-line chlorine analyzer at this location. No low levels were identified as part of the Operating Licence monitoring frequency (weekly at the same time as bacteria sampling) so consequently they are not included in the audit. The cause of the intermittent, infrequent low residuals continues to be investigated.

Corrective actions were submitted for turbidity levels on three occasions. On two occasions flushing the turbidimeter feed lines for cleaning was picked up by SCADA. The turbidimeter feed lines flow from the turbidimeter to waste. Turbid water produced by cleaning these lines is very short lived and not reflective of water quality exiting the filter. These are not captured as non-compliance issues in the audit.

Clause 5.1 of the operating licence requires three confirmatory grab samples from each operating turbidimeter each week. Filter 8 was off line December 8th to December 12th at 21:55. Grab samples were collected on December 13th and 14th, but omitted on December 12th. The issue is captured as a non-compliance item.

Facility Classification and Operator Certification

In 2020, Conservation and Climate will be enforcing on the Water and Wastewater Facility Operators Regulation MR. 77/2003 beginning with Public Water Systems classified at Level 3 and Level 4 Water Treatment Facilities and Water Distribution. The focus will be on operator certification and submission of an up-to-date Table of Organization.

Operational Guidelines

Water suppliers that own and operate a portion of their water supply on a seasonal basis, such as a campground or park, are reminded to follow Seasonal Water System Start-up/Shutdown procedures. Your operating licence may be amended in the future to reflect this requirement.

Water suppliers are reminded to immediately notify the Office of Drinking Water of any condition(s) that may affect the ability of the water system to produce or deliver safe drinking water. These conditions include:

- treatment upsets, bypass conditions, operation outside of licence conditions
- contamination of source or treated water
- a disinfection, filtration, or distribution system failure

Operational Guidelines to assist operators in meeting regulatory obligations for monitoring and reporting under The Drinking Water Safety Act, including Seasonal System and Emergency Reporting requirements, can be found on our website at: www.gov.mb.ca/drinkingwater.

Additional Information

Health Canada has updated National Guidelines, including algae (cyanobacteria toxins) manganese and lead. Owners and operators are encouraged to review Health Canada's guidelines and related chemistry results to determine what impact they may have on your water supply. You will receive notification of any changes to Health Canada's Guidelines for Canadian Drinking Water Quality and Manitoba Standards should they affect your water supply.

The Operating Licence issued to the City of Winnipeg Public Water System will expire on November 30, 2020. As the owner of the water system, you are required to apply for renewal of this Licence at least 60 days prior to the expiry date listed above. Please complete the attached the renewal application form which may be submitted to me either by e-mail (scanned), fax, or mail.

The 2019 Annual Compliance Audit is based on information submitted to this office. If you have questions regarding non-compliance items identified in this audit, please review your records prior to contacting this office. If your records conflict with the audit information, please call me at (204) 642-6134.

Sincerely,

Original signed by Derek Clarke

Signed original provided upon your request.

Derek Clarke
Senior Regional Drinking Water Officer

Enclosures

Copy:

City of Winnipeg
T. Shanks
Z. Bodioga
R. Grosselle
M. Szmon

Province of Manitoba
Dr. L. Richards
K. Philip
M. Betsill
M. Balcaen

2019 Annual Compliance Audit

Water System: WINNIPEG - PWS

Code: 252.00

Water System Owner: City of Winnipeg

Water System Operating Licence: PWS-09-412-01

Expiry Date: November 30, 2020

- 1) This report documents the Winnipeg Public Water System compliance for the period from January 1 to December 31, 2019.
- 2) Addendum A to this report provides specific information on the non-compliance incidents identified in the summary below.
- 3) Other than the information provided in attached Addendum A, the water supplier has complied with *The Drinking Water Safety Act*, its supporting regulations, and the terms and conditions of the water system's current operating licence
- 4) This report is based on information submitted by the water supplier, agents of the water supplier, and / or the Province of Manitoba.

Summary of Non-Compliance Incidents:

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| <ul style="list-style-type: none">• Failure to Meet Turbidity Requirements |
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Addendum A: Record of Non-Compliance
 Water System: WINNIPEG - PWS
 Report period: January 1, 2019 to December 31, 2019.

Enforcement Action Taken

Date	Incident	Outcome
	None reported	

Disinfection Requirements

Date	Incident	Outcome
	None reported	

Bacteriological Requirements

Date	Incident	Outcome
	None reported	

Microbial Requirements

Date	Incident	Outcome
	None reported	

Turbidity Requirements

Date	Incident	Outcome
December	Failure to take and/or record a confirmatory turbidity measurements	Non-compliant

Chemical Requirements

Date	Incident	Outcome
	None reported	

Operational Requirements

Date	Incident	Outcome
	None reported	