



Report to: General Committee

Date Report Authored: April 23, 2018

SUBJECT: The Ontario Ministry of Environment and Climate Change –
Markham Distribution System – Drinking Water System
Inspection Report, December 14, 2017

PREPARED BY: Helena Frantzke, Ext. 2449
Waterworks, Water Quality Coordinator

RECOMMENDATION:

- 1) That the report entitled “The Ontario Ministry of Environment and Climate Change – Markham Distribution System – Drinking Water System Inspection Report, December 14, 2017” be received;
- 2) And that Staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

Not Applicable.

PURPOSE:

The purpose of this report is to provide Council with an update on the findings of the Ministry of Environment and Climate Change (MOECC)’s inspection of Markham’s Water Distribution System undertaken on December 14, 2017. This MOECC inspection covered regulatory compliance since our last inspection conducted on February 02, 2017.

BACKGROUND:

The objective of the MOECC Inspection is to provide a rigorous and comprehensive inspection program for municipal residential drinking water systems to determine if the systems are in compliance with the Safe Drinking Water Act, 2002 (SDWA) and associated Regulations. The Safe Drinking Water Act, 2002 (SDWA) states that a provincial officer may at any reasonable time conduct an inspection for the purpose of determining compliance with regulatory requirements contained within the Act, or any of the associated Regulations. Traditionally, the MOECC has conducted an annual inspection of Markham’s Water Distribution System.

On December 14, 2017 the MOECC conducted an unannounced on-site inspection of Markham’s Water Distribution System. The MOECC Inspector reviewed Waterworks procedures, policies and records since their last inspection which was held on February 02, 2017.

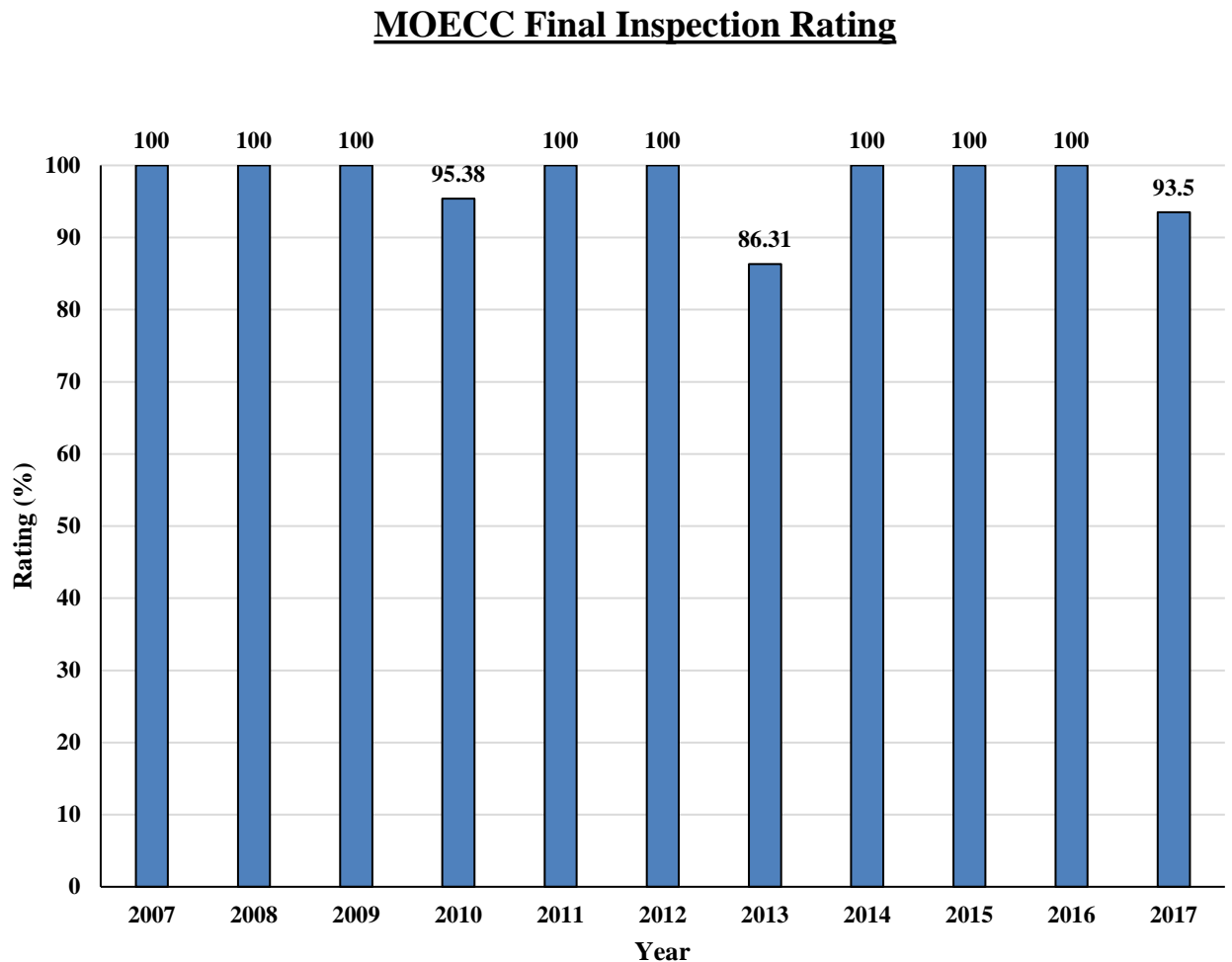
The MOECC inspection report was received on January 10, 2018, (see attachment “A”).

OPTIONS/ DISCUSSION:

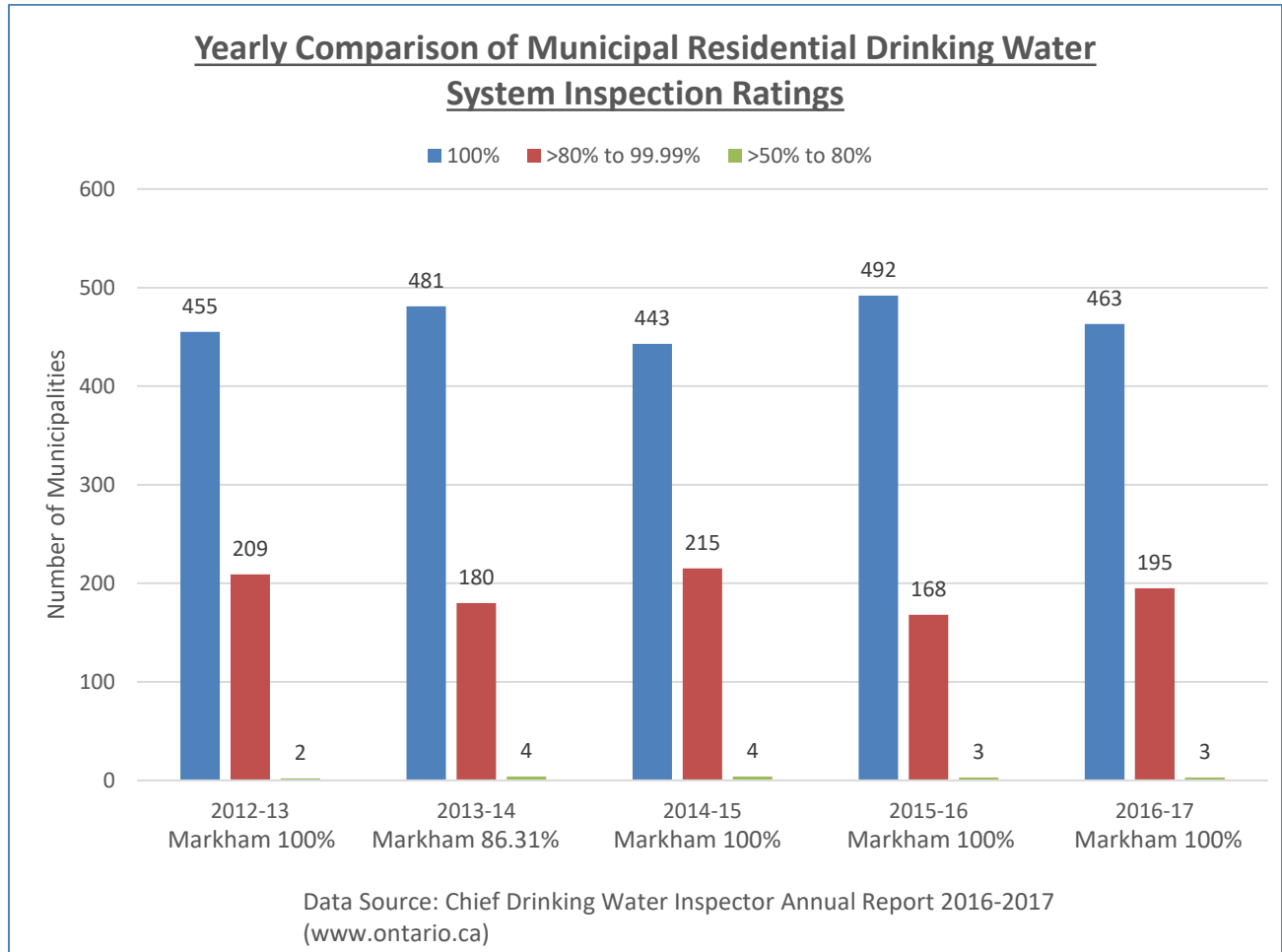
During the time period between the inspections on February 02, 2017 to December 14, 2017 there was one incident of regulatory non-compliance identified. (An Adverse Water Quality Incident (AWQI) of a combined chlorine residual was not immediately reported

to the MOECC and York Region Public Health Department.) As a result, the City of Markham received a Final Inspection Rating of 93.50% for compliance with the MOECC's Drinking Water Systems Regulation 170/03 during the period covered. This Inspection Rating is used to measure Municipal Residential Drinking Water System Inspection Results. The MOECC's inspection program is an important aspect of the MOECC's drinking water safety net and the primary goal is to encourage ongoing improvement of drinking water systems and to work toward the goal of 100% regulatory compliance.

Below is a summary of Markham's MOECC Inspection Ratings since the introduction of the rating system in 2007:



Below is a comparison of Markham's MOECC Inspection Ratings to other municipalities over the last 5 years. The 2017-2018 Municipal ratings will be published in October 2018 by the MOECC.



Details of Non-Compliance Identified for the February 02, 2017 to December 14, 2017 Period

On October 04, 2017 a Waterworks Operator was flushing a dead end watermain and took an initial combined chlorine residual which fell below the MOECC limit of 0.25 mg/L. The operator flushed the main for 15 minutes and obtained a combined chlorine residual of 1.37 mg/L as is protocol. The Operator however did not immediately report the AWQI to the Waterworks Supervisor.

On October 05, 2017 while reviewing work orders from the previous day, the Supervisor noticed the adverse chlorine residuals. The AWQI was immediately reported to the MOECC and the York Region Public Health Department as required under O. Reg. 170/03. As well, a residual was taken at the hydrant in question that day and a combined chlorine residual of 0.95 mg/L was obtained, well over the MOECC limit of 0.25 mg/L, resolving the AWQI.

On October 06, 2017 an After Action Review was also conducted to determine the root cause of the incident and determine actions to prevent this non-compliance from reoccurring in the future. Minutes of the meeting were taken and the following actions have been put in place by Waterworks staff:

1. Work Instructions for “Water Sampling – Chlorine Residual (Daily)” and “Flushing of Dead-End Watermains” were both immediately revised to make reference to reporting combined chlorine readings less than 0.25 mg/L to better outline the process to assist Operators in completing their tasks at hand promptly and fully. The operators undertaking this work were immediately notified of the work instruction changes.
2. On October 25, 2017 the changes made to the Work Instructions were reviewed with all operations staff at the next Operations and Maintenance meeting.
3. The automated Daily Chlorine Report process was reviewed and revised through implementing an additional chlorine report, ensuring missed sampling data from the previous day is captured and reported.
4. A more thorough inspection of the equipment used to measure the chlorine in the field during the monthly colorimeter calibration will be undertaken starting January 2018.
5. Waterworks Operations and Maintenance staff have a work assignment rotation process to keep their skills current and to help train new Operators. During the rotation process of the different areas within Operations and Maintenance (water quality, customer service, water and wastewater), the “Refresher On the Job Training” for all Operators assigned to Water Quality will occur prior to starting new tasks.
6. In order to get more rounded exposure to all groups in Operations and Maintenance, the City of Markham has reviewed the rotation process to possibly have longer durations. Changes to the rotation process are anticipated to be finalized in Q3-2018.

MOECC BEST PRACTICE ISSUES AND RECOMMENDATIONS

There were no best practice issues or recommendations identified during this inspection period.

FINANCIAL CONSIDERATIONS AND TEMPLATE: (external link)

Not Applicable.

HUMAN RESOURCES CONSIDERATIONS:

Not Applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Not Applicable.

BUSINESS UNITS CONSULTED AND AFFECTED:

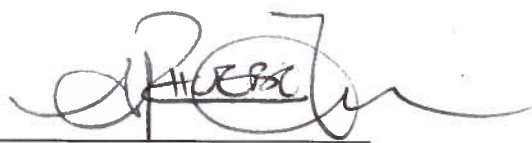
Not Applicable.

The report presented herein, communicates the results of the annual MOECC Inspection conducted on December 14, 2017.

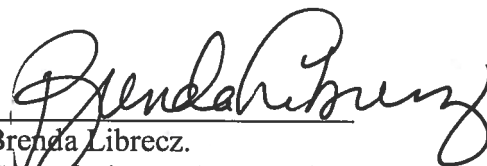
The undersigned represent the Top Management of the City of Markham's Drinking Water Distribution System and by signing below the Top Management of the Operating Authority have reviewed the MOECC Inspection Report.

RECOMMENDED

BY:



Phoebe Fu
Director, Environmental Services



Brenda Librecz.
Commissioner, Community & Fire Services



Andy Taylor
Chief Administrative Officer

ATTACHMENTS:

Attachment "A" – Ontario Ministry of the Environment and Climate Change, Markham Distribution System – Drinking Water System Inspection Report, December 14, 2017.