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REGULATORY COMPLIANCE REPORTING SUMMARY – MUNICIPAL DRINKING WATER AND WASTEWATER TREATMENT SYSTEMS

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, February 13, 2007, from the Commissioner of Transportation and Works:

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

This report provides a summary of regulatory compliance reporting requirements for York Region's municipal water and wastewater systems, within the Water and Wastewater Branch, in order to meet applicable legal and regulatory requirements.

A Summary Report, mandated under Schedule 22 of the Ministry of the Environment Drinking Water System Regulation 170/03, is attached.

3. BACKGROUND

Legislative amendments released in 2004 by the Ministry of the Environment (MOE) to the Safe Drinking Water Act, 2002 and other applicable regulations resulted in substantial changes to Water and Wastewater operations. Amendments to the Drinking Water System Regulation (O. Reg. 170/03) and Water Taking and Transfer Regulation (O. Reg. 387/04) increased the regulatory compliance requirements on the system operations. The amendments also imposed an increase in reporting requirements by the system owners on the performance of systems to the Ministry of the Environment and applicable stakeholders. In addition to the requirements prescribed under these regulations, additional performance objectives and reporting requirements are set for individual facilities under each Certificate of Approval (CofA), and Permit to Take Water (PTTW).

For each of York Region's registered water and wastewater facilities, the following reports are generated and distributed to the Ministry of the Environment (where required) and to stakeholders in order to meet York Region's regulatory compliance and communication commitment:

- Annual Water Quality Report – Regulated under O.Reg.170/03.
- Schedule 22 Summary Report – Regulated under O.Reg.170/03.

- Water Taking and Transfer Report – Regulated under O.Reg.387/04.
- Annual Permit to Take Water Report – Regulated under PTTW Condition
- Annual Wastewater Performance Report – Regulated under CofA Condition

4. ANALYSIS AND OPTIONS

4.1 Annual Water Quality Report

Section 11 of Ontario Regulation 170/03 (O.Reg.170/03) requires that an Annual Water Quality Report be prepared, and made available to the public, by February 28th of each year. This report is available on request through the Water and Wastewater Branch, available on-line through the York Region website, as well as distributed to the Local Municipalities serviced by the water system.

The Annual Water Quality Report is prepared to address the quality of water produced, treated and delivered by York Region to the local communities of Aurora, East Gwillimbury, Georgina, King, Newmarket, Whitchurh-Stouffville, and parts of Vaughan (Kleinburg). York Region is responsible for the transmission of drinking water from the City of Toronto and Regional Municipality of Peel to the communities of Richmond Hill, Markham, and the urban areas of Vaughan and Aurora.

The format for the Annual Water Quality Report was established by the Ministry of Environment (MOE). An Annual Report is required to be prepared for each water supply system and includes a brief description of the water system, summary of the chemicals used, water quality test results for microbiological, inorganic chemical and organic chemical parameters, and adverse water quality reports. In addition to the water quality performance aspects, a financial summary of expenses incurred for the system improvements is also required.

4.1.1 Overview of the Annual Water Quality Report Findings

Water quality in York Region is tested rigorously under Regulation (O. Reg. 170/03). York Region's regulatory sampling schedule for chemical testing of organic and inorganic parameters has been designed to exceed the requirements of the Ontario Drinking Water Systems Regulation (O. Reg. 170/03) as follows:

- Continual electronic recording of turbidity of treated water.
- Continual electronic recording of residual chlorine content of treated water.
- Weekly microbiological testing of samples of raw and treated water.
- Quarterly testing of samples of raw and treated water for metals and inorganic chemistry parameters.
- Annual testing of samples of raw and treated water for organic chemistry parameters.

The continual electronic monitoring has demonstrated that the water quality is maintained at a high quality.

The microbiological testing program demonstrated that the water quality maintains a high standard that meets the Ontario Drinking Water Standards. A very small proportion of samples tested required an additional sample to confirm water quality. In all cases, the second sample confirmed that the water quality met the standard.

The water quality testing for chemical parameters demonstrated that the water exceeds the Ontario Drinking Water Standards for all health-related parameters. Occasional samples contained concentrations marginally greater than the guideline but were not found in repeated tests.

4.2 Schedule 22 Summary Report

Schedule 22 of Ontario Regulation 170/03 (O. Reg. 170/03) requires that a Summary Report be prepared, and submitted to Regional Council, by March 31st of each year. The 2006 document is attached to this report. Copies are available by request from the Water and Wastewater Branch.

The summary report provides an understanding of the drinking water systems status and capacities for the reporting year. The summary report includes the rated capacity and flow rates approved by the systems Permit to Take Water approval, the quantities and flow rates of water supplied, the monthly average and maximum daily flow rates and daily instantaneous peak flow rates.

In addition to the system's operational performance, general legislative requirements in relation to the Safe Drinking Water Act and associated regulations are also presented in the Summary Report. The report is also required to identify any Provincial Officer Order that the system failed to meet and the duration of the failure including corrective action.

4.2.1 Overview of the Schedule 22 Summary Report Findings

In 2006, all of York Region's Drinking Water Systems met the limits imposed by the Permit to Take Water. The report has been attached and submitted to council for review as mandated under Schedule 22 of Ontario Regulation 170/03 (O. Reg. 170/03).

Instantaneous peak flow rates have been plotted for all York Region Drinking Water Systems. Within York Region's Drinking Water System there were 22 wells in which the instantaneous peak flow rate was over the Permit to Take Water limit. On average the recorded peak flows over the Permit to Take Water limit were less than 5 minutes and are associated with operational pump start up. Scheduled operational maintenance contributed to the reduction of the peak flow rates, improving the overall operations of the water system.

In 2006, the Yonge Street Aquifer met all of the limits imposed by the Permit to Water (PTTW) with the only exception of the annual daily average, which was less than 1% above the allowable limit. In the 2005 report, it was stated that the York Region would investigate opportunities with the Ministry of the Environment to amend the annual

average in the interim. However, the Ministry of the Environment determined that an interim amendment was not required as the Region of Peel lake-based supply would reduce the demand on the well supply. Currently, the project schedule indicates project completion in early 2008.

There were no orders issued by the Ministry of the Environment under the Safe Drinking Water Act (2002) or the Ontario Regulation 170/03 for any of York Regions Municipal Drinking Water System in 2006.

4.3 Water Taking and Transfer Report

Section 9 of the Ontario Regulation 387/04 (387/04) requires that a Water Taking and Transfer Report must be prepared and submitted to the Director of the MOE by March 31st each year. The Water Taking and Transfer Regulation requires all permit holders to collect, record and report data on the volume of water taken daily for each reporting year. Reports are submitted electronically through the Water Taking Reporting System using an .xml format produced by York Region's Supervisory Control and Data Acquisition (SCADA) system. Continuous metering records the total volume of water from each approved Permit to Take Water and stores the information in the SCADA database. The data is then extracted into .xml format. Once reviewed for accuracy; it is submitted to the MOE through the Water Taking Reporting System.

Where a Permit to Take Water requires the permit holder to collect information at a greater frequency or to collect additional information, the permit holder must submit an Annual Permit to Take Water Report. The Yonge Street Aquifer system is the only York Region water system that is required to prepare this Annual Permit to Take Water Report.

4.3.1 Overview of the Water Taking and Transfer Report Findings

In 2006, all of York Region's Drinking Water Systems met the limits imposed by the Ministry of the Environment. The Kleinberg Drinking Water System was found to be above the limit imposed by the Permit to Take Water, but was granted approval by the MOE to do so. In June of 2006, the Kleinburg Well 3 experienced a major failure due to screen blockage and Well 2 was used to meet the demand for the water system while maintenance was performed on Well 3. In addition to system demand, the City of Vaughan was also undergoing their scheduled flushing preventive maintenance program, which added to the total demand.

4.4 Annual Permit to Take Water Report

A supplementary report required under select Permits to Take Water is an Annual Permit to Take Water Report. The Yonge Street Aquifer system is the only York Region water system that is required to prepare this report, which must be submitted to the Director of the MOE by March 31st each year. The report requires the permit holder to submit hydrographs and total daily water takings from all production wells and monitoring wells, yearly average daily withdrawal and the peak demand average daily withdrawal values. In addition to an update required to the "York Region Yonge Street Aquifer Groundwater

Monitoring Program.", new monitoring wells added to the program must be submitted with the report.

4.4.1 Overview of the Annual Permit to Take Water Report Findings

In 2006, the Annual Permit to Take Water Report for the Yonge Street Aquifer Drinking Water Systems met the limits imposed by the Permit to Take Water.

4.5 Annual Wastewater Performance Report

A supplementary report required under the wastewater Certificates of Approval requires that all York Region six wastewater treatment systems submit an Annual Wastewater Performance Report to the Director of the MOE by March 31st each year.

The requirements of the report include compliance with quality and quantity criteria in order to meet effluent objectives, operating issues and corrective actions, scheduled/unscheduled maintenance, effluent quality assurance through the ISO 14001 Environmental Management System, calibration, sludge generation and management and odour/other complaints.

4.5.1 Overview of the Annual Wastewater Performance Report Findings

As outlined in these reports, the Regional Municipality of York has taken all necessary measures to comply with the terms and conditions prescribed in each wastewater treatment facility's Certificate of Approval.

There were recorded non-compliances to the Certificate of Approval relating to E. Coli, exceeding the 100 organisms per 100ml monthly geometric mean density for the Sutton and Keswick Wastewater Treatment Plants in 2006. Although the geometric mean density was exceeded, these were solely due to isolated high E. Coli counts, which elevated the monthly averages about the limit. All other effluent limits and loading limits were met, excluding one monthly average Total Ammonia limit recorded for the Mount Albert Wastewater Treatment Plant which resulted from an isolated high result, elevating the monthly average. All recorded exceedence have been reported to the ministry as required by the Certificate of Approval.

The average daily flow recorded for all wastewater facilities did not exceed the design capacity of the works. Monitoring data and analytical results were compared to the effluent concentration criteria and loading criteria in the report meet compliance.

All recorded scheduled, unscheduled maintenance and calibrations carried out did not interfere with the physical treatment process, nor compromise the quality of the effluent.

Effluent quality assurance or control measures put into place for the reporting period include the increased frequency of ISO 14001 Environmental Management System internal and external audits and the development of operating procedure.
There were no bypasses, spills or abnormal discharges that occurred during the reporting period for the works. Where the terms and conditions were not met and non-compliance

was reported, changes to facility processes were implemented to meet the Certificate of Approval requirements.

4.6 Public Information

The Annual Water Quality Report is no longer submitted to the Ministry of the Environment. This report will be available on request through the Water and Wastewater Branch, available on-line through the York Region website, as well as distributed to the Local Municipalities serviced by the water system after February 28th, 2007.
The Schedule 22 Summary Report will be submitted to the members of Transportation and Works Committee on March 7, 2007 and the members of Regional Council by March 31, 2007 as mandated under Schedule 22 of Ontario Regulation 170/03 (O. Reg. 170/03).

The Water Taking and Transfer Report will be submitted electronically through the MOE Water Taking Reporting System (WTRS) on March 31, 2007 and kept on file for internal reference as well as for MOE inspection verification.

The Annual Permit to Take Water Report will be submitted to the MOE on March 31, 2007 and kept on file for internal reference as well as for MOE inspection verification.

The Annual Wastewater Performance Report will be submitted to the MOE on March 31, 2007 and kept on file for internal reference as well as for MOE inspection verification.

5. FINANCIAL IMPLICATIONS

There are no financial implications associated with the Municipal Drinking Water and Wastewater Treatment Systems Reporting Requirements.

6. LOCAL MUNICIPAL IMPACT

Local municipalities are provided with the added assurance that York Region Drinking Water and Wastewater Treatment Systems meet all regulatory compliance prescribed through applicable federal and provincial legislation, Certificates of Approval and Permits to Take Water.

7. CONCLUSION

The Annual Report and Summary Report findings for 2006 continue to demonstrate that York Region meets and, in some areas, exceeds all regulatory compliance and communication prescribed through applicable federal and provincial legislation.

For more information on this report contact Courtney Daniels, extension 5013, Acting Regulatory Compliance Manager of the Water and Wastewater Branch in the Transportation and Works Department.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)