



Mackenzie Valley Land and Water Board
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Staff Report

Applicant: City of Yellowknife	
Location: Yellowknife, NT	Application: MV2009L3-0007
Date Prepared: September 1, 2017	Meeting Date: September 14, 2017
Subject: 2016 Annual Water Licence Report	

1. Purpose/Report Summary

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (MVLWB/the Board) the 2016 Annual Water Licence Report submitted by the City of Yellowknife (City), in accordance with Part B, item 3 of their municipal Water Licence (Licence) MV2009L3-0007.

2. Background

- May 31, 2010 – Issuance of Licence MV2007L3-0007;
- March 31, 2017 – 2016 Annual Water Licence Report received;
- April 7, 2017 – Review commenced;
- May 18, 2017 – Reviewer comments and recommendations due and received;
- June 13, 2017 – Responses received;
- June 15, 2017 – Responses due;
- **September 14, 2017 – 2016 Annual Water Licence Report presented to the Board;** and
- May 30, 2022 – Expiration of Licence MV2007L3-0007.

3. Discussion

The City of Yellowknife has submitted an Annual Water Licence Report for 2016 (attached), to fulfill Part B, item 3 and Annex A (Surveillance Network Program (SNP)), Part E of their municipal Water Licence MV2009L3-0007. This submission is not for Board approval; however, it is being presented as an update to the Board.

4. Comments

The City has made major efforts over the past year to improve their compliance with their Licence, and have recently submitted outstanding plans and reports and received extensions for other submissions.

5. Reviewer Comments

By May 18, 2017, comments and recommendations on the 2016 Annual Water Licence Report were received from Environment and Climate Change Canada (ECCC), the Government of the Northwest Territories Department of Environment and Natural Resources (GNWT-ENR), and Board staff.

The City responded on June 13, 2017, two days ahead of the June 15, 2017 response deadline. The Review Summary and Attachments (attached) presents the concerns identified through the review of the Annual Report. The following presents a summary of the main issues raised:

Non-sewage Waste Characterization and Disposal

Reviewers raised concerns with non-sewage wastes being discharged to the sewage lagoon (Comment ID ECCC 1 and GNWT-ENR 6 and 7). This issue was recently raised during the Board's previous public reviews of the City's Sewage Disposal Facilities Operations and Maintenance Plan (Version 1), and the City's Solid Waste Disposal Facilities Operations and Maintenance Plan (Version 5):

- a) In the Board's August 17, 2017 letter to the City (attached), in which the Sewage Disposal Facilities Operations and Maintenance Plan (Version 1) was not approved, The Board outlined new requirements for the City to begin delineating and tracking non-sewage waste discharges to the lagoon system, and required these detailed be included in the next version of that Plan, as follows:
 - The addition of analytical parameters to Surveillance Network Program (SNP) stations 0032-F1 and 0032-F3, downstream of the sewage lagoon (Total Metals, BTEX and Total Petroleum Hydrocarbons); and
 - A plan that outlines how the City will fulfill Schedule 4, item 1(c) of Licence MV2009L3-0007 and meet the criteria set out in the Guideline for Industrial Waste Discharges in the NWT and/or the City's By-Law 4663.

- b) In a separate letter on August 17, 2017 (attached), the Board granted interim approval of the Solid Waste Disposal Facilities Operations and Maintenance Plan (Version 5) but required a revised Plan to include "Information regarding the number, type, locations and volumes of non-sewage waste streams intended for disposal in the lagoon system, which should also be taken into the account in the City's plan to work toward meeting the criteria set out in GNWT Industrial Waste Discharge Standards and/or the City's By-Law 4663", and that, "All monitoring and characterization results from non-sewage wastes destined for disposal in the Sewage Disposal Facilities, should be submitted each year with the City's annual Water Licence reports."

GNWT-ENR (Comment ID 3) also commented on the need to properly characterize the leachate from Cell A of the sewage lagoon prior to re-application or disposal in the sewage lagoon, as well as to provide results to an Inspector. The City responded to this comment by indicating that during 'the May 2017 Inspection, the Inspector confirmed that disposal of the leachate from Cell A to the sewage lagoon is acceptable under the City's current water licence.', and that they 'will continue to review other methods but has no plan to change.' In addition to the points mentioned above, the Board's August 17, 2017 letter regarding the Sewage Disposal Facilities further notes that:

- Future Annual Reports should include monitoring and characterization results for all non-sewage wastes disposed of in the lagoon (for example, leachate); and

- The City is required to revise this Plan to include immediate notification to the Board and Inspector of any analytical results outside the expected range.

SNP Exceedances (Phosphorus)

ECCC raised a concern about SNP exceedances (Comment ID ECCC 2), and recommended adaptive management be implemented to address monitoring results. However, Board staff agree with the City's response that the pH and phosphorus studies recently completed indicate that adaptive management is not required at this time. Board staff further note that the City is currently conducting a Phosphorus Risk Assessment, which will contribute to the understanding of the lagoon system's function.

Water Withdrawal Limits

The City's water consumption volume was raised (Comment ID GNWT-ENR 1 and MVLWB 1). The City stated they do not anticipate exceeding the maximum volume allowed by their Licence, but agreed to assess future water usage and submit an amendment application if necessary.

Landfill Closure and Reclamation Plan

GNWT-ENR's comments regarding the landfill Closure and Reclamation Plan (Comment ID GNWT-ENR 2 and 4) sought to clarify operations at the Solid Waste Disposal Facility, and timelines for closing the old landfill cell. The City agreed to consider updating the Closure and Reclamation Plan (CRP) to describe progressive reclamation/closure activities when reviewing the landfill CRP, which they have indicated will be submitted in early 2018.

Stormwater Characterization

GNWT-ENR recommended (Comment ID GNWT-ENR 5) that the City characterize the quality of stormwater, and any associated risks to the environment from uncontrolled releases of stormwater to local waters, including studies from other municipalities and if there are alternate ways to manage or treat stormwater prior to its release to local waters. The City noted that it is in the process of completing a Stormwater Trend Analysis, as required by Part D, item 10 of Licence MV2009L3-0008. Board staff note that the Stormwater Management Plan was recently reviewed, and expect to bring it before the Board in the near future.

As a result of issues raised during this review, Board staff believe it would be valuable to remind the City of the following:

- the requirements of Part F, item 2 of the Licence (Closure and Reclamation Plan), and the need to include closure details for Cell A of the Solid Waste Disposal Facilities in the CRP (Comment ID GNWT-ENR 2 and 4);
- a proposal to add SNP locations for groundwater monitoring wells should be submitted to the Board once locations have been determined as part of the Interim Groundwater Monitoring Plan, as outlined in Board staff's email to the City of October 27, 2016 (attached) (Comment ID GNWT-ENR 3); and
- the requirements of Part G, item 1 of the Licence (submission of final design drawings stamped and signed by an Engineer, to be submitted to the Board at least 60 days prior to construction of any dams, dykes or control structures intended to contain, withhold, divert or retain Waters or Wastes) (Comment ID MVLWB 2 and 4).

6. Security

N/A

7. Conclusion

Annual Water Licence Reports are not for Board approval; however, the Board may wish to follow up with the City based on the information provided in the Report and through the review process.

8. Recommendation

Board staff recommend the Board accept the 2016 Annual Water Licence Report, and have prepared a draft response letter (attached), with the following options for the Board's consideration. One or more of these options could be chosen to include in the Board's acceptance letter to address the issues that have been identified:

1. The Board reminds the City of the recent reviews of the Sewage Disposal Facilities Operations and Maintenance Plan (Version 1), and the Solid Waste Disposal Facilities Operations and Maintenance Plan (Version 5), and that as a result, the Board has revised the Licence SNP to add parameters to monitoring requirements for stations 0032-F1 and 0032-F3, and requires the following:
 - a. A revised Sewage Disposal Facilities Operations and Maintenance Plan (Version 2), to be submitted to the Board for approval by August 1, 2018, including the revisions listed in the Board's August 17, 2017 letter; and
 - b. A revised Solid Waste Disposal Facilities Operations and Maintenance Plan (Version 5.1), to be submitted to the Board for approval by August 1, 2018, including the revisions listed in the Board's August 17, 2017 letter;
2. The Board reminds the City of the following requirements:
 - a. Part F, item 2 of the Licence (Closure and Reclamation Plan), and the need to include closure details for Cell A of the Solid Waste Disposal Facilities in the CRP;
 - b. a proposal to add SNP locations for groundwater monitoring wells should be submitted to the Board once locations have been determined as part of the Interim Groundwater Monitoring Plan, as outlined in Board staff's email to the City of October 27, 2016; and
 - c. Part G, item 1 of the Licence (submission of final design drawings stamped and signed by an Engineer, to be submitted to the Board at least 60 days prior to construction of any dams, dykes or control structures intended to contain, withhold, divert or retain Waters or Wastes).

Board staff recommend that the Board remind the City that as per the August 17, 2017 interim approval letter for the Solid Waste Disposal Facilities Operations and Maintenance Plan (Version 5), all monitoring and characterization results from non-sewage wastes destined for disposal in the Sewage Disposal Facilities, should be submitted each year with the City's annual Water Licence reports.

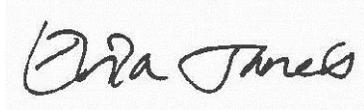
Board staff recommend including the following text in the decision letter:

- The Board thanks the City for their diligence in submitting Licence requirements.
- The City shall adhere to the commitments made in their responses to reviewer comments dated June 13, 2017.

9. Attachments

- [2016 Annual Water Licence Report](#)
- [August 17, 2017 Board letter to City not approving Sewage Disposal Facilities Operations and Maintenance Plan, Version 1](#)
- [August 17, 2017 Board letter to City granting interim approval to Solid Waste Disposal Facilities Operations and Maintenance Plan, Version 5](#)
- [October 27, 2016 email from Board staff outlining groundwater monitoring and SNP station identification requirements](#)
- Draft Decision Letter from the Board

Respectfully submitted,



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Regulatory Specialist



Heather Scott
Technical Advisor