

From: Cynthia Ene [mailto:cynthia.ene@nwb-oen.ca]
Sent: Thursday, March 17, 2016 4:05 PM
To: Roy, Bhabesh
Cc: Atuat.Shouldice@aandc-aadnc.gc.ca; David Hohnstein; Ida Porter; Karén Kharatyan
Subject: 3BM-YRB0308, 2016 File Recap

Good Afternoon Mr. Roy,

The renewal water licence application for 3BM-YRB0308 is dated November 28, 2008, and on May 15, 2009 the Nunavut Water Board (NWB) solicited comments for this application. In June of 2009, comments were received from:

- Indian and Northern Affairs Canada (INAC)
- Environment Canada (EC)
- Government of Nunavut - Department of Environment (DOE)
- The Government of Nunavut - Department of Culture, Language Elders and Youth (CLEY)

Please refer to the NWB's ftp site to view all received submissions: <ftp://ftp.nwb-oen.ca>

In INAC's submitted comments, dated June 4, 2009, INAC states that they cannot support the approval of the renewal of this licence until such time as the applicant:

- addresses operational non-compliance matters (identified in their submission)
- submits a compliance plan
- submits missing information (including required revisions to operational plans, waste/water quality sampling information, etc.)

On October 23, 2009, the NWB emailed a requirement for the applicant to submit a Plan for Compliance which demonstrates the ways and means the Licensee will undertake to achieve full compliance with the applicable Licence conditions and non-compliance issues identified by INAC. In subsequent years, since 2009, the NWB has provided a Plan for Compliance template and has continued to request for this compliance plan. Please note that the Plan for Compliance template is available on the NWB ftp site, within the ADMIN/GENERAL folder for the 3BM-YRB0308 file.

Ans.: The updated Plan for Compliance is attached with the forwarding letter. This Plan addresses the issues and concerns of all the items from Part B to H of the water licence #3BM-YRB 0308.

The NWB will be able to proceed with reviewing this renewal application when a Compliance Plan is submitted. The compliance plan, including firm timelines, will need to address the following:

- 1) Requirements of the expired 3BM-YRB0308 licence:

- Part C, Item 1 and 2 - The existing 3BM-YRB0308 licence permits the use of 600 cubic metres per year, from Strip Lake. It has been noted however that the submitted 2012 to 2015 annual reports show water consumption well above this amount. Most notably, the 2012 and 2013 annual reports which indicate that over 89,000 cubic meters of water was sourced from Char Lake. Submit information that addresses the following:

- i. Is there any 'Off-stream storage of water' (reservoir capacity) of 60 000 m3 or more?

Ans.: Treated Water is receiving from the Signal Hill WTP. A private contractor ATCO has been buying water from the Municipal WTP and distributing to the Airport facilities for more than 12 yrs. There is no Off –stream storage of water of 60,000 m3 or more or less. But within the WTP area at Signal Hill, there is a storage tank of about 4000 cubic meters capacity.

The treated water from the Signal Hill WTP is shared roughly 5ML by the Airport users. The balanced amount is used for Utilidor system.

- ii. Is there a use of water that exceeds 299 m3/day?

Ans.: No. As per the annual consumption record, The average quantity of water daily used by Airport users is roughly 77 cubic meters.

- iii. Is water being collected from any other source than Strip Lake?

Ans.: The strip lake source was ceased. Yes, treated water is collected from the Signal Hill WTP. And the raw water is pumped from the South lake and is delivered to Signal Hill WTP for disinfection prior to delivery to the Utilidor system and partially to the Airport users.

- Part D, Item 3 – Submit a Sewage Disposal Plan to address INAC’s non-compliance concerns. (A Sewage Disposal Plan was also requested by EC and GN-DOE, in their June 2009 comments, as a “stand-alone sludge management plan”, to be received by the NWB prior to the approval of this renewal license).

Ans. In the lagoon treatment system of Nunavut, Sludge is retained at the bed of the Lagoon. The overall sludge management plan is to retain sludge at the bed of the Lagoon during the life cycle period of the facility. During abandonment of the lagoon, sludge is being treated by natural aeration system and covered by imported soil to restore that area to the natural ground level.

- Part D, Item 9 and Part H, item 1 – Submit a report identifying each Final Discharge Point (geo-referenced location and description). Use this Final Discharge Point description, i.e YRB-3, in the annual report and wastewater quality results from the lab. This will facilitate the review of the submitted annual reports and lab results, currently the lab results submitted to NWB show water quality information for sampling locations

that are identified by different names each year: at times as “Lagoon”, other times as “Airport Lagoon”, or “Decanting Lagoon”, and at other times with description names that appear to indicate the sample was collected for the 3BM-RUT1520 licence instead (with sample names listed as “Water Truck”, “Utilidor Pipe”, and “Utilidor Sewage Lagoon”, etc.

Ans: The name of the facility is called Airport Sewage Lagoon.

The contractor ATCO is responsible for sampling from both the Sewage lagoon and the Utilidor sewer line. They sent out all the wastewater samples from the Utilidor sewer pipe and sewage lagoon to Ottawa. The Ottawa Lab sent the results in one sheet.

This has created confusions.

However, we already asked the Lab to present the lab results in different sheets according to the name of the specific facility in future to avoid any confusion. YRB-3 is the compliance point of the sewage lagoon and located at 72°41.973'N and 77°55.902'W. The monitoring stations are YRB-1 , YRB-2 and YRB-3 whereas YRB-1 is the new station.

- Part F, Item 3 – An updated O&M plan (with revised operational drawings, site pictures, updated contact information, etc.)

Ans.: Attached with the forwarding letter

- Part F, Item 4 – A standalone Spill Contingency Plan (addressing the concerns raised by INAC and EC in their June 2009 submitted comments)

Ans.: Attached with the forwarding letter

- Part H, Item 1 and 2 – Monitoring Program. The recently submitted 2015 annual report has no water quality information. The annual reports for 2012 to 2014 have some lab results, but the information submitted is incomplete. Part H, item 2 requires monitoring station YRB-3 be sampled monthly from the months of May through to August. If sewage waste is discharged at different times of the year, please notify the NWB and make a note to have the sampling time/frequency amended in the water licence.

Ans.: The ATCO has been contacted out for sampling following the direction of the water licence. It is expected to correct the deficiency from 2016.

2) Address the concerns raised by INAC in their submitted June, 2009 review comments and subsequent inspection reports/non-compliance letters.

Ans.: The issues have been addressed and working forward to bring the facility into compliancy.

Part B: Annual Report:

The annual reports are up to date from 2012 to 2015. We are considering annual consumption of Water by the Airport users was in average of 5ML in each year prior to 2012. The annual sewage production volume should be the same quantity. This has addressed the 2008 inspector's direction by the WRO of the requirement to submit annual reports.

Part D: Waste Disposal:

The existing sewage lagoon cells are unlined and exfiltration in nature. The wetland is considered as the part of the treatment. YRB-3 is the compliance point located in the wetland about 300 m from the lagoon. The station YRB-1 is proposed in between YRB-2 and the Sea. The Monitoring program has been enforced using the services of the local contractor ATCO. The 2016 summer lab testing results will be submitted along with the annual report to NWB on or before March 31, 2017.

There is no plan to upgrade the sewage lagoon to increase its capacity at the present time. The wetland will be considered for additional treatment

This process will be continued until the WWTP is built and commissioned. The new WWTP is expected to be operational tentatively in 2021/22.

Part D: Solid waste Disposal:

This item is proposed to be excluded from the expected new Water licence. This facility does not exist anymore under this licence. This facility belongs to TC and they are responsible for abandonment and restoration.

Part G: Abandonment and Restoration:

The initial water licence #NWB 3 YRB 0308 covered water supply from strip lake, sewage lagoon and sewage lagoon adjacent landfill site.

The strip lake water supply source including its WTFS and Landfill site are excluded from the proposed renewal.

The existing sewage lagoon will be operated until WWTP is built and commissioned. The abandonment and restoration plan of the existing sewage lagoon will be submitted to NWB at least 6 months prior to abandoning the facility and the construction of the new WWTP to replace this existing facility.

Part H: Monitoring Program:

The Monitoring program has been contracted out to ATCO. The accredited lab Caduceon in Ottawa is used for sample testing and reporting. The program is tightly monitored and supervised by GN-CGS.

3) Address the concerns raised by EC in their June, 2009 review comments.

Ans.: The issues have been addressed and working forward to bring the facility into compliancy.

Fuel storage and Spill contingency Plan:

The waste site is excluded from the proposed renewal. Therefore there is no need of a Spill contingency plan for Solid waste facility. However, a stand along spill contingency plan is attached for the operation of the sewage lagoon.

Sewage Treatment Facility:

- The Monitoring station YRB -3 is located in the wetland about 300m from the lagoon. A new station YRB-1 is proposed in between YRB-2 and the Sea.
- GN –CGS will be monitoring the effluent quality at YRB-1 and YRB-3 in summer three times until the lagoon is in active operation. The lab results will be published along with the annual report each year.
- Keeping 1m free board is not possible at this situation. The lagoon has only about 1ML capacity whereas the demand is more than 5ML. At present, there is no plan to increase the capacity of the Lagoon since the WWTP is expected to be operational tentatively in 2022 and truck sewage will be redirected into this plant. Therefore, the excess amount is allowed to overflow towards the wetland and expected to be treated there naturally prior to traveling into the Sea. However, the dykes will be inspected in each summer by the Municipal Engineer following the CGS report card in order to ensure structural stability.
 - The existing lagoon is unlined and subject to exfiltration.
 - The sludge will be remained at the bed of the lagoon during the life time of the lagoon.
 - The Monitoring sign at YRB-3 has been posted in the wetland and YRB-1 will be followed soon.

Solid waste Disposal Facility:

This facility is excluded from the proposed renewal. This item is not applicable any more under this licence.

Monitoring:

Monitoring is only done at the raw sewage disposal station at YRB-2 and sewage effluent stations at YRB-3 and YRB-1 on monthly basis from May to August **as long as** the flow is observed. The sampling is conducted by ATCO and tested in Caduceon Lab in Ottawa as per their contracts with GN- CGS .The process and procedure are explained in the

QA/QC Plan supported by the Lab.

4) Address the concerns raised by GN, DOE in their June, 2009 review comments.

Ans.: The issues have been addressed and working forward to bring the facility into compliancy.

A. Solid waste disposal:

This is excluded from the proposed licence. Not applicable any more under this licence.

B: Sludge waste management:

The sewage sludge will be managed keeping at the bed of the lagoon for the entire life time of the lagoon. During abandoning this lagoon, the sludge will be dried up, naturally treated by aeration and mixed with local granular materials and compacted the lagoon to the natural ground level. Lab test if required will be conducted to ensure that it has no adverse impact to the environment.

C. Monitoring program:

The attached QA/QC plan addresses the concerns of this item.

D. Spill Contingency Plan:

The attached standalone Spill Contingency Plan addresses the concerns of this item.

Please do not hesitate to contact the NWB if you have further questions.

Sincerely,