



Phyllis Beaulieu &lt;phyllis.beaulieu@nwb-oen.ca&gt;

1 message

Mon, Mar 2, 2015 at 3:32 PM

Please file in Central under the Renewal Application folder for 3BM-COR0813 (Note the attachments as well)

Cheers.



Technical Advisor- Conseiller Technique

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NUNAVUT WATER BOARD - OFFICE DES EAUX DU NUNAVUT  
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----- Forwarded message -----

From: **Lusty, Megan** <[MLusty@gov.nu.ca](mailto:MLusty@gov.nu.ca)>  
Date: Mon, Mar 2, 2015 at 3:26 PM  
Subject: RE: 3BM-COR0813 Followup  
To: Brady MacCarl <[brady.maccarl@nwb-oen.ca](mailto:brady.maccarl@nwb-oen.ca)>

Hi Brady,

Please see below for a response to your comments in **red**. If you require further clarification or have any other questions, please feel free to contact me.

Regards,

Megan

**Megan Lusty, EIT**

Municipal Planning Engineer-In-Training

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**From:** Brady MacCarl [mailto:[brady.maccarl@nwb-oen.ca](mailto:brady.maccarl@nwb-oen.ca)]  
**Sent:** February-20-15 2:48 PM  
**To:** Lusty, Megan  
**Subject:** 3BM-COR0813 Followup

Afternoon Megan,

There is still roughly a week left in the external technical review period for the renewal application for Coral Harbour; however, I have uncovered a few concerns in my own review of the current licence that I'm hoping you can shed some light on before I amalgamate the comments from other interested parties.

In the revised Plan for Compliance submitted with the current application, in regards to Part F, Item 3, of the current licence, it is states:

*"Annual inspection of the engineered facilities will be completed by the CGS Municipal Engineer upon commissioning the new sewage lagoon."*

I have reviewed the rest of the Application and can find no other reference to a new sewage lagoon. I know the current one is faulty, and that the Hamlet plans to build a new water intake facility, however I can't find anything regarding upgrades to the sewage lagoon. Please elaborate on this statement.

**There are currently no plans to upgrade the Coral Harbour sewage lagoon. Reference to a new sewage lagoon was included in the Plan for Compliance in error. In the *Schedule for Implementation* section of the Plan for Compliance, referring to Part F, Item 3 of the Licence, it should read:**

***"Annual inspection of the engineered facilities will be completed by the CGS Municipal Engineer. The 2015 annual inspection will take place in July or August."***

**This has been reflected in the attached Plan for Compliance – the revision has been highlighted. I apologize for the confusion.**

Also regarding the Plan for Compliance, conditions regarding Part B, Item 10 of the current Licence state

*"The Plan for Compliance must also address the issues raised by GN-DOE concerning sewage treatment and potential non-compliance during the winter when raw, untreated sewage may potentially be entering the environment with minimal or no treatment due to a combination of a leaky sewage lagoon and frozen conditions in the wetland area. This is of significant importance given the current design of the system, which consists of an exfiltration detention cell and large wetland area, both which have very limited capacity for the control of effluent discharge...The NWB reminds the Licensee of its responsibility to be in compliance with the conditions of the Licence. If monitoring results demonstrate that the wetland area is incapable of treating sewage, at any time of the year, the Licensee will be required to take the necessary remedial actions to remedy the situation"*

I realize this might be difficult to determine as I don't believe any sampling occurred in the wetland over the course of the Licence (Correct?). I am aware that berms were installed in the wetland to augment retention time and aerobic digestion, but has any assessment occurred to assess the effectiveness of the wetland in treating waste, or the deficiencies of the lagoon system (eg. it leaks) that you are aware of? Does the Hamlet currently have any Plan to assess its sewage treatment facility?

**The reports mentioned below were submitted to the NWB during the 2007 renewal process and are available on the NWB ftp site. They can be resubmitted upon request. The Sewage Treatment Facility is composed of a sewage lagoon and natural tundra wetlands area. A brief summary of the assessments supporting the effectiveness of the wetlands and improvements that have been done is as follows:**

- The sewage lagoon in Coral Harbour was constructed in 2003. Prior to 2003, sewage from the Hamlet was discharged directly from trucks into the tundra wetlands area. The berms of the sewage lagoon were determined to not be impermeable and between May and October, effluent seeps through the berms in the east and south-east boundaries of the cell into the tundra wetlands area.
- Jacques Whitford Limited was commissioned by CGS in 2005 to conduct a geotechnical evaluation of the lagoon and perform a study on a tundra wetland based sewage treatment facility. Please refer to *Study of the Wetland and Sewage Treatment Area, Coral Harbour, Nunavut* prepared by Jacques Whitford Limited, March 2005. Within the study is the geotechnical report, *Sewage Dike Evaluation, Coral Harbour, NU* prepared by EBA Engineering, April 2005.
- Nunami Jacques Whitford prepared the *Report of the Natural Tundra Wetland Sewage Treatment Facility, Coral Harbour, NU*, October 2007 for submission to the NWB. Based on the 2005 studies and subsequent sampling, it was determined that it was more practical and cost effective to enhance the natural tundra wetlands area for inclusion with the sewage lagoon as part of the Sewage Treatment Facility, than to repair the detention cell (sewage lagoon).
- The *Schematic Design Report, Natural Tundra Wetland Sewage Treatment Area Design, Coral Harbour, NU* prepared by Nunami Jacques Whitford, August 2007 described the schematic design of three granular diversion berms to direct flows in the tundra wetlands during periods of high flow.

Limited sampling was done in the wetlands in summer 2012 and included with the 2012 Annual Report. Limited sampling in the wetlands was again done this past summer, and a summary of results will be

included in the 2014 Annual Report. The Certificate of Analysis from samples taken August 27, 2014 is attached. A preliminary review of the results indicate that the sewage lagoon and tundra wetlands area are effective in treating the sewage effluent to the maximum average concentrations outlined in Part D, Item 3 of the Licence. The 2014 Annual Report will be submitted to the NWB by March 6, 2015 for review.

The Hamlet of Coral Harbour is committed to fully completing the required sampling outlined in the Monitoring Program during summer 2015 and subsequent years.

Related to the 2008 upgrades to the Wetland system, the current Licence (related to Part E, Item 4) states:

*"Within the Application, information was provided as to the plans to construct diversion berms to redirect wetland treatment flow away from the community. This information was contained in the report. This information was considered very preliminary and the Licensee is required to provide the NWB with finalized As-Built Drawings, stamped and signed by an Engineer, for all construction of diversion berms associated with the Sewage Disposal Facilities and the Solid Waste Disposal Facility."*

I recognize the O&M Plan indicates this work was completed. Yet the site-map indicates the install locations is preliminary in nature and no as-built drawings are included.

Please find attached the "Issue for Addendum No. 4" signed and stamped drawings for the Coral Harbour Sewage System, dated May 7, 2008. This drawing gives the GPS coordinates of the flow diversion berms. This is the final drawing produced by Nunami Jacques Whitford for this project. There are no as-built drawings from the construction of the natural tundra wetlands diversion berms.

As per Part E, Item 4 of the Licence, as-built plans and drawings, signed and stamped by a professional Engineer registered in Nunavut, will be submitted to the NWB within (90) days of completion of construction for all future projects.

Regarding the QA/QC Plan required under Part F of the Licence, the current application states it is contained within the O&M Plan submitted in 2010. There is no QA/QC Plan in the version of the document the NWB has on file. Can you provide more details?

The QA/QC Plan is not included as a separate document within the O&M Plan, but the contents of a QA/QC Plan (information on Monitoring Stations, sampling procedures and sample handling, instructions on record keeping, and lab contact information) is contained within the following sections of the O&M Plan prepared by Nunami Stantec in January 2010:

- Section 3.9 Monitoring & Sampling for the Water Distribution System
- Section 4.6 Monitoring & Sampling Procedures for the Sewage Disposal Facility
- Section 5.7 Monitoring & Sampling Procedures Solid Waste Disposal Facilities

○ **Appendix E: Sampling Procedures for General Water Samples from the Tundra Wetland**

**The QA/QC Plan will be updated and separated from the O&M Manual and submitted to the NWB as a stand-alone document by April 30, 2015. A cover letter from an accredited laboratory confirming acceptance of the QA/QC Plan will be included in the submission. The QA/QC Plan will be reviewed annually and the NWB will be notified of any modifications/updates in the Annual Report.**

**This commitment to submit the QA/QC Plan has been added to the attached Plan for Compliance, with the revision highlighted in the section referring to Part F, Item 1 of the Licence.**

Lastly, the current Licence identifies another Solid Waste Site about which little information is known:

*"The 2002 Application for water licence indicated that the Hamlet was currently using a Solid Waste Disposal Site located approximately 2.5km northwest of the community on the east side of a gravel ridge. The site covered an area of approximately 7,300m<sup>2</sup>. The recent Application indicates that the Hamlet will continue to collect and deposit solid waste in the Landfill.*

*Licence 3BM-COR0813*

*Comments provided by INAC noted a second waste storage location by the Coral Harbor Airport, which is not a licensed facility. The Supplementary Questionnaire submitted included a reference to this facility, however there is insufficient detail provided to licence its operation. The NWB requests that the Licensee submit for approval, the details concerning its location, construction including as-built design drawings stamped and signed by an Engineer, as well as including its operation within an Operations and Maintenance Manual. The Licensee will also be required to obtain an amendment to this licence for its use. Should the facility no longer be in use, the Licensee is required to comply with the abandonment and restoration conditions set out in Part G of this Licence and provide a Plan for the Abandonment and Restoration of the site."*

I have not seen an update on this issue. Can you provide a summary/plans to address these concerns?

**The Hamlet of Coral Harbour provided information that they do not use a second waste storage site near the airport, but that there was a site that was decommissioned and closed in the late 80s/early 90s. The *Water Licence Application Supplementary Questionnaire for Municipalities* mentioned above and submitted to the NWB September 9, 2007 makes reference to the decommissioning of this site and states:**

***"North East of the Community there is an old site that is not signed. This used to be a solid waste site as well as a honey bag drop off. Advised that this site has been successfully decommissioned."***

**The Hamlet is searching for report on this decommissioning in their office. If found, it will be forwarded to the NWB. Please see the attached email "RE: 3BM-COR0813 Followup" for correspondence between Megan Lusty, CGS, and Leonie Pameolik, SAO Coral Harbour.**

<https://mail.google.com/mail/u/0/?ui=2&ik=6896ea2ed2&view=pt&search=inbox&th=14bd...> 3/5/2015