

בּתַר הלצויטקים האיניקיה השל Department of Community and Government Services Nunalingni Kavamatkunnilu Pivikhaqautikkut Ministère des Services Communautaires et gouvernementaux

May 15, 2015

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# Re: CGS-Rankin Inlet Water Licence No. 3AM-GRA1015 Response to Completeness Check and Initial Technical Review Comments

Dear Ms. Beaulieu,

Please see below for a response to the comments provided by Aboriginal Affairs and Northern Development Canada (AANDC) and Environment Canada (EC) to the Nunavut Water Board (NWB) for the completeness check and initial technical review of Water Licence No. 3AM-GRA1015 (the Licence) held by Government of Nunavut, Community and Government Services (GN-CGS) for the Rankin Inlet Water and Sewage Utilidor.

#### Licence Term: Response to AANDC Comment #1 & EC Comment #4

As both AANDC and EC have expressed concern over the requested 25 year licence term, GN-CGS accepts the suggestion of an 8 year term included in the comments of both parties. A revised Application for Water Licence Renewal is submitted to the NWB with this letter, with changes to Section 25: Proposed Term of the Licence only. Subsequent discussion and/or submissions will therefore address the timeline of an 8 year renewal term until 2023.



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#### Sewage Treatment Facility: Response to EC Comments #1, 2 and 3

2. As acknowledged by EC in their comments, the Licence includes no effluent quality criteria as the marine discharge falls outside of the NWB's jurisdiction.

GN-CGS is aware that northern performance standards for wastewater effluent are being developed. However, the *Wastewater System Effluent Regulations (WSER)* do not currently apply to the North, as it was recognized in the CCME Canada-Wide Strategy for the Management of Municipal Wastewater Effluent that due to the extreme climatic conditions and remoteness of Canada's Far North, a viable means to improve human health and environmental health protection needs to be carefully considered. As Far North Performance Standards have not yet been proposed, the current renewal of the Licence should not be hindered by comparison of effluent quality to the current WSER standards.

Monitoring Program Station GRA-3, effluent discharge from the Sewage Treatment Facility, will be sampled quarterly and analyzed for the parameters outline in Part H, Item 4 of the Licence. These effluent quality results will be available for review in the Quarterly and Annual Reports. This historical effluent quality data will also be useful for any future sewage treatment design.

#### Lower Landing Lake Water Quality: Response to AANDC Comment #2

3. During the Technical Meeting/Pre-Hearing Conference (TM/PHC) and the Public Hearing held for Amendment No. 1 to the Licence, community concern was raised over the possible presence of hydrocarbons in Lower Landing Lake. GN-CGS provided water quality analysis of Char River and Lower Landing Lake which confirmed there are no hydrocarbons present. As per Part H, Item 14 of Amendment No. 1, Nipissar Lake, Char River and Lower Landing Lake will be sampled annually for Total Petroleum Hydrocarbons and BTEX to confirm there continues to be no hydrocarbons present in the drinking water sources.

If AANDC has knowledge of a source of hydrocarbon contamination or industrial activity at Lower Landing Lake beyond the statements made by community members during the TM/PHC and the Public Hearing, GN-CGS respectfully requests AANDC to provide reference to this information so that GN-CGS can investigate and respond accordingly.



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#### **Char River Pumping:** Response to AANDC Comment #4

4. GN-CGS would like to clarify that water will be pumped from Char River at a *maximum* of 3485 m<sup>3</sup>/day. This maximum pumping rate is the quantity of water use not to be exceeded as per Amendment No. 1, and is also the maximum pumping rate of the pump for the resupply pipeline. As per Part C, Item 13 of Amendment No. 1, water withdrawal shall also not exceed 10% of the instantaneous flow of Char River.

Because the water consumption of Rankin Inlet has been exceeding the natural recharge of Nipissar Lake for many years, the plan in 2015 is to pump for as many days as the in-stream flow objectives outlined in Amendment No. 1 are being met. If in stream flow objectives are not met, water pumping shall cease as per Part C, Item 15.

The pumping rate of water from Char River as discussed in this Licence renewal will not be increased beyond of 3485 m<sup>3</sup>/day, as this would exceed the authorized water quantity of Amendment No. 1.

#### Alternative Water Source: Response to AANDC Comments #5 and 6

5. Lower Landing Lake (also known as First Landing Lake) has been chosen as an alternative water source for Rankin Inlet. The project to *Locate Alternative Sources of Drinking Water for Each Nunavut Hamlet* prepared by Williams Engineering in 2014 identified Lower Landing Lake as an alternative source of water for Rankin Inlet and lab analysis confirmed that the water quality was similar to that of Nipissar Lake. Additionally, a bathymetric study was done in 2009 by Natural Resources Canada and determined the volume of Lower Landing Lake to be 4,200,000 m³, approximately 1.5 times the volume of Nipissar Lake determined in the same study. To confirm that Lower Landing Lake will be a sufficient supplemental water source for Nipissar Lake as the population and subsequent water consumption of Rankin Inlet grows, a hydrological study will be completed of Lower Landing Lake during summer 2015. Once this hydrological study is complete, design of the resupply pipeline extension from Char River to Lower Landing Lake will begin. Upon design completion, approval from the NWB will be sought prior to construction of the resupply pipeline extension.

If the hydrological study finds that Lower Landing Lake is not suitable as a long-term supplementary water source, additional work will be done to find an appropriate supplementary water source. The plan going forward is for Char River to be used as a supplementary water



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source only until a long-term supplementary water source can be identified, approval to use said source obtained, and the resupply pipeline extension has been constructed.

### Monitoring and Compliance: Response to AANDC Comments #3 and 7 & EC Comment #7

6. GN-CGS acknowledges that monitoring data is missing from past Annual Reports and that Quarterly Reports have not been filed in previous years. This monitoring data was not collected and cannot be retroactively produced. GN-CGS is committed to fulfilling the monitoring requirements of the Licence in the future and providing complete Quarterly and Annual Reports to the NWB.

The NWB confirmed receipt of the 2014 Annual Report on March 30, 2015 and the report is available on the NWB ftp site. The 2015 First Quarter Report was submitted to the NWB on May 11, 2015. This report includes the first quarter effluent quality analysis of Monitoring Program Station GRA-3.

GN-CGS would like to clarify that GRA-2 is an inactive Monitoring Program Station as per Part H, Item 1 of the Licence. There are no monitoring requirements associated with this Monitoring Program Station.

AANDC recently conducted a review of compliance items and determined that there were three outstanding items that needed to be met:

- Temporary signage to be posted in spring 2015 at all water monitoring sites until such time as the permanent signs are installed.
- 2. Record book or 'tally sheet' to be utilized to record estimates of sewage sludge leaving site. The results will be included in reporting requirements of the current water licence.
- 3. Copies of QA/QC manuals are required to be placed in the pump house.

Please refer to the letter *Review of Outstanding Compliance Items 3AM-GRA1015 Rankin Inlet-CGS* from Robert Savard, AANDC, to Megan Lusty, GN-CGS, dated May 14, 2015. GN-CGS is working to meet the above requirements and will verify these items have been complied with during AANDC's 2015 municipal inspection of the Licence.



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## Updated Plans: Response to AANDC Comments #8, 9 and 10 & EC Comments #5, 6 and 8

7. The Water Pumping Adaptive Management Plan, updated Sewage Treatment Facility Operation and Maintenance Plan, and updated Environmental Monitoring Program and Quality Assurance/Quality Control Plan are currently being produced by GN-CGS and their consultant. Due to unexpected delays, these documents are not yet complete but will be forwarded to the NWB as soon as available. This is anticipated to be no later than May 31, 2015.

GN-CGS will include consideration to EC's comments regarding the Sewage Treatment Facility Operation and Maintenance Plan in the completion of the updated version. The updated plans will also include the contact information provided by AANDC for the Manager of Field Operations.

For further clarification or additional information on the Water Licence No. 3AM-GRA1015 Renewal Application, please contact Megan Lusty at (867) 645-8176 or <a href="mailto:mlusty@gov.nu.ca">mlusty@gov.nu.ca</a>.

Sincerely,

Megan Lusty, EIT

Mey Ros

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cc: Ralph Ruediger, Director of Community Development, GN-CGS

Karén Kharatyan, Technical Advisor, NWB
lan Parsons, Regional Coordinator, AANDC

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