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Building Nunavut Together
Nunavut liuqatigiingniq
Bâtir le Nunavut ensemble

February 10, 2023

Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1L0

Attention: Richard Dwyer, Manager of Licensing

RE: 3BM-NAU2126 –Municipality of Naujaat – Renewal and Amendment Application

Dear Richard,

The Government of Nunavut Department of Community and Government Services (CGS) on behalf of the Municipality of Naujaat has prepared a response to the comments submitted by Environment and Climate Change Canada (ECCC) and Crown Indigenous Relations and Affairs Canada (CIRNAC) on the water license renewal and amendment application.

Regards,

Kayla Clouter
Project Manager
Government of Nunavut
Community and Government Services
Email: kclouter@gov.nu.ca

Agency	Comment	Recommendation	Licensee Response
ECCC	01	ECCC supports the Licensee's request that the parameter for BOD5 be amended to CBOD5. CBOD5 more closely represents the oxygen demand associated with biodegradation of organic constituents of domestic or industrial wastewaters than does BOD5. If biochemical oxygen demand is to be used as both loading and performance parameters when designing for aerobic removal of organic matter in wastewater treatment systems, CBOD5 is the recommended parameter.	N/A
ECCC	02	Regarding effluent discharge from the sewage treatment system, ECCC recommends that the effluent quality limit for the Oil and Grease parameter be amended to "5 mg/L and no visible sheen".	The licensee agrees.
ECCC	03	ECCC recommends that the Licensee clarify whether there are any hydrocarbon-contaminated areas that will remain the Hamlet's responsibility. The Licensee may consider retaining the use condition to potentially allow for repurposing of any soils that CIRNAC reclaims.	As far as the licensee is aware, there are no contaminated areas that remain the Hamlet's responsibility.
ECCC	04	ECCC recommends monitoring influent quality and monitoring the effluent quality of each component of the wastewater disposal/ treatment system, in order to assess the treatment performance of each system component and the system as a whole. The monitoring program should be updated to include a new station to monitor effluent quality at the pump-out point from the proposed new lagoon to the existing lagoon. Additionally, ECCC recommends measurement and recording of field parameters (e.g., pH and temperature of effluent) and field notes (e.g., weather conditions, watercourse/waterbody conditions, effluent observations) at the time of sampling for all stations and use this information to support interpretation of monitoring results.	The licensee agrees, however is requesting that there be no effluent quality limits at the lagoon sampling station, only at the end of the wetland treatment area.

ECCC	05	ECCC recommends that secondary containment be provided for hazardous wastes, and that the Operation and Maintenance Plan for Solid Waste Disposal Facilities be updated to discuss secondary containment.	GN-CGS will work with the municipality to use secondar containment. The Operation and Maintenance plan will be updated and submitted within 30 days.
ECCC	06	ECCC recommends that the community investigate/consider waste disposal practices that minimize or eliminate the use of open burning to the extent practicable.	Noted.
CIRNAC	01	(R-01) CIRNAC recommends that GN-CGS clarify the scope of the application and provide the Nunavut Water Board (the Board) any outstanding information on additional amendments before this amendment be approved.	The scope of this application includes: • Approval of the new lagoon and wetland treatment area • Request to amend the effluent quality limits • Request to amend BOD5 to CBOD • Request for a 10-year license term • Request to remove daily solid waste reporting • Request to remove daily reporting requirement for water obtained from the Water Supply Facility • Request that the annual report which includes the CIRNAC report and any other inspection reports that have been reviewed by a CGS municipal engineer in that year be sufficient to meet the requirement to have engineered facilities inspected by an Engineer annually. • Request to remove clauses G-4 and G-5 concerning preparation of disturbed surfaces and reclamation of hydrocarbon contaminated areas, respectively, as those activities have been taken over by CIRNAC
CIRNAC	02	(R-02) CIRNAC supports a 10 year term of licence with the consideration that additional monitoring stations, sampling and analyses may be required by an Inspector and or the Board to achieve legislative objectives.	N/A

CIRNAC	03	(R-03) CIRNAC recommends that the condition reads *"The Licence shall post signs to identify the Water Intake/ Water Treatment Facilities, Sewage and Waste Disposal Facilities. All signage postings shall be in the Official Languages of Nunavut, and shall be located and maintained to the satisfaction of the Inspector."* An additional condition to be included is *"The Licensee shall post the necessary signs to identify the stations of the Monitoring Program. The signs shall be located and maintained to the satisfaction of an Inspector.".*	The licensee agrees.
CIRNAC	04	(R-04) CIRNAC recommends that regular collections of samples under the current monitoring program be completed prior to any changes to the criteria. These results and analysis should then be provided to the Board for future consideration if evidence is presented that a change is necessary. Part H, condition 14 of the Water Licence allows for modifications to the monitoring program upon request to the Board.	GN-CGS will continue to support communities in collecting regular samples under the summer monitoring program. Sampling was unable to occur during summer 2022 due to a bottle supply shortage at ALS laboratories, which is the laboratory that supplies water and wastewater sampling bottles to the Kivalliq region. Sampling from the current wastewater system will have no bearing on the performance of the proposed facility. Previous monitoring will not inform the performance of the new facility, as they are different facilities. The new lagoon will improve the quality of effluent being released to the environment, particularly with the ability to hold wastewater throughout the year and decant in a controlled manner. The current discharge point and wetlands area effluent results would meet the NWB limits, but that was due to the large amount of dilution taking place. Controlled decant will allow for the spring melt/freshet to pass and the wetland vegetation to develop, in addition to not overloading the wetland through rapid discharge, which will allow for further biological treatment to take place in the wetlands area. The 100/120mg/L cBOD/TSS effluent quality limits are based on NU specific research that CGS completed in partnership with Dalhousie University from 2010-2016, along with an additional field study completed by Dalhouise of the Naujaat wetlands in 2017. These effluent quality limits are technology based (ie. what a lagoon and wetland system is capable of realistically achieving), along with confirming that effluent of this quality would not have a negative impact on the receiving environment.

CIRNAC	05	(R-05) CIRNAC recommends that the GN-CGS clarify why the parameters CBOD5 should replace BOD5.	The basis for using CBOD in this amendment process is that the effluent parameter recommendations from the Nunavut specific research is CBOD not BOD5 and there is generally a 20% difference between these test results based on significant research in this area in North America, BOD5 being higher. Setting the limit at 100 mg/L BOD5 is more stringent than 100 mg/L CBOD. Additionally, CBOD is known to be a more stable and reliable result. There is precedent for using CBOD by NWB on the 3AM-RUT2035, 3AM-ARV2232, 3BMWHA-2126, and 3BM-TAL1926 licences. BOD is an obsolete parameter, as is evident by its' replacement in the Federal Wastewater System Effluent Regulations. ECCC has expressed support for the amendment of BOD5 to CBOD.
CIRNAC	06	(R-06) CIRNAC recommends that the submitted plans be reviewed in a separate process by interested parties before they are approved by the Board and implemented by the Licensee.	The licensee agrees.
CIRNAC	07	CIRNAC recommends that GC-CGS clarify which design option has been selected and provide the constructions drawings and plans as may be required, for review by intervenors prior to any construction.	GN-CGS has selected a single cell sewage lagoon with 12-month storage capacity. 99% drawings for this selection were provided for distribution and review on January 18, 2023. Details of these drawings were discussed with CIRNAC on January 24, 2023.