



Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

Your file - Votre référence
3BM-PON1012

April 27, 2015

Our file - Notre référence
9545-2-3.3BM.PONA

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
Gjoa Haven, NU X0E 1J0

**Re: Aboriginal Affairs and Northern Development Canada's (AANDC) Review of the
Hamlet of Pond Inlet's Renewal Application for Water Licence #3BM-PON1012**

Dear Ms. Beaulieu,

On March 27, 2015, AANDC received notice from the Nunavut Water Board (NWB) regarding the above mentioned application, inviting interested parties to provide comments by April 27, 2015.

AANDC reviewed the amendment application and the results of our review are provided in the enclosed memorandum in Part A for the Board's consideration. Comments have been provided pursuant to the Department's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

AANDC's Field Operations division has reviewed the terms and conditions of the current licence and their suggestions for modifications are included after the memorandum, in Part B, for the Board's consideration.

Please do not hesitate to contact me at 867-975-3876 or sarah.forte@aandc-aadnc.gc.ca for any additional information.

Regards,

Sarah Forté
Water Management Coordinator

c.c.: Andrew Keim, Acting Manager of Water Resources, AANDC Nunavut
Erik Allain, Manager of Field Operations, AANDC Nunavut

PART A

Renewal Application Review Memorandum

To: Phyllis Beaulieu, Manager of Licensing, NWB

From: Sarah Forté, Water Management Coordinator, AANDC

Date: April 27, 2015

Re: Water Licence Renewal Application, #3BM-PON1012

Licensee: Hamlet of Pond Inlet
Project: Municipal Project
Region: Qikiqtani

A. BACKGROUND

On March 27, 2015 the Nunavut Water Board (NWB) provided notification to interested parties that the Hamlet of Pond Inlet (the Hamlet) had completed submission of a renewal application for their expired Type 'B' water licence, #3BM-POM1012.

The licence is for water use and waste disposal associated with municipal activities in Pond Inlet in the Qikiqtani region of Nunavut. The community of approximately 1500 people operates environmental infrastructure which consists of: a water truck filling station, a sewage lagoon, a solid waste management site and a landfarm. The previous licence allowed for water use of up to 67 000 m³/year and the annual reports state their use in 2014 was approximately 41 400 m³/year. This renewal also contains a request to build a water crossing on the Salmon River.

Interested parties were asked to review the information and provide comments by April 27, 2015

B. RESULTS OF REVIEW

General

- 1) Water reservoir: The application specifies that the reservoir volume is 188 000 m³, from which 31 581 m³ was extracted in 2014 for municipal purposes during months with expected ice cover. Aboriginal Affairs and Northern Development Canada (AANDC) recommends clarification be obtained as to whether the extracted volume meets the 10% guideline.

- 2) Water extraction from Salmon River: The application states that water is pumped from Salmon River to fill the reservoir during the summer. AANDC recommends monitoring and recording the abstraction rate as well as the stream discharge at the abstraction point to verify there are no adverse effects or to instate mitigation measures if necessary.
- 3) Water truck filling station: Information regarding the distance between the generator and fuel tank and the high water mark of the reservoir was not available, nor was information regarding secondary containment for the generator or fuel tank. AANDC recommends verifying that proper protection of the water reservoir is in place.

Annual Reports

- 4) Water sample identification: AANDC appreciates the water quality test results provided, however it is not always possible to determine where the samples were taken. The Final QAQC Plan submitted in 2014 describes monitoring locations and shows pictures of several of the signs which will hopefully help clarify sample identification. AANDC encourages the Hamlet to implement the labelling methodology presented in the Final QAQC Plan.
- 5) Water quality: Three of the water samples from 2014 present high values for oil & grease – total: B14-17035-1, B14-26834-1 and B14-29040-1. The first sample was labelled as #1, and the following two were labelled Waste Water. The water licence requirement for samples from the monitoring station associated with discharge from the sewage lagoon (PON-4) is that there be no visible sheen. No information was found as to whether visual observations were made, but the concentrations of oil & grease measured are sufficiently high to cause a sheen. Given the samples' unknown provenance, it is not clear if there is a problem with respecting discharging criteria. AANDC recommends finding where the samples are from, and if there is an issue with respecting discharge criteria, modifying the licence conditions for a measured oil & grease criterion if the visual criterion cannot be properly implemented.
- 6) Water quantity: The annual total water quantity of water obtained from all sources in 2012 and 2014 does not equal the sum of the monthly values. While the values remain well below the quantity allocated in the licence, AANDC recommends care be taken in doing additions to accurately reflect water quantity used.

Spill Contingency Plan

- 7) The Spill Contingency Plan (Section 10 of the Solidwaste Operation and Maintenance Plan) does not appear to include any local telephone numbers. AANDC recommends including a phone number for the respondent of the Spill Contingency Plan, the Foreman.

Pond Inlet Sewage Lagoon Dye Test Technical Report

- 8) According to the report filed, the test conditions were not ideal because of low liquid level in the lagoon and onset of freezing temperatures partway through the test period. The lagoon was not leaking under the conditions tested but the report authors had insufficient information to state whether it would leak under different conditions and recommended an additional tracer study when the lagoon is at near capacity and daily temperatures are not below 5°C. This report does not quell AANDC's concerns of possible seepage through the lagoon wall and AANDC would recommend an additional test under optimal conditions.

Compliance

Since the issuance of licence 3BM-PON1012, the Field Operations Division of AANDC has conducted three site visits: July 26 2010, July 26 2011 and August 5 2014. Many concerns were raised.

AANDC appreciates the Plan for Compliance provided with the application and has the following comments:

- Part B-1-a: Tabular summaries of some of the water quality data were presented, but the samples are not properly identified. Better reporting is needed before the applicant can be deemed compliant.
- Part B-1-e: A list of unauthorized discharges is included in the 2013 and 2014 annual reports but no follow-up actions are included. The mention "NIL" by the applicant does not seem appropriate.
- Part D-3: Results were attached but not identified, better reporting is necessary for compliance.
- Part D-14: No timeline is presented for following the guidelines. Details on a hazardous waste containment area are necessary.
- Part G-1: The Abandonment and Restoration Plan for the old sewage lagoon promised for December 31 2014 was not found.
- Part G-2: Sub-sections a to g and i to k, state "will be followed" when referring to an Abandonment and Restoration Plan. Since no plan exists, it is difficult to follow it.
- Part H-2: A timeline for building a new Water Truck Filling Station should be proposed.

- Part H-5: The licence refers to soil entering the Landfarm Facility and the applicant response refers to the Landfill. If soil remediated in the Landfarm is tested and meets criteria, it can be removed thus creating more space in the Landfarm. A log of the number of truckloads brought to the Landfarm would be helpful in estimating volume received.

C. CONCLUSION

AANDC considers the Hamlet of Pond Inlet's renewal application for water licence #3BM-PON1012 to be receivable. Much work remains to be done to reach compliance though encouraging progress has been made, so the five year term requested seems appropriate.

AANDC supports the Hamlet of Pond Inlet's request for a 5 year water licence renewal and would not oppose the Board if they wished to extend the request further to provide a 15-25 year term. AANDC recognizes that periodic amendments may occur to reflect changes to infrastructure as well as the possibility that the Hamlet may require an additional application to move to a Type 'A' licence.

PART B

April 27, 2015

Aboriginal Affairs and Northern Development Canada ("AANDC") supports the Hamlet of Pond Inlet (the "Licensee") request for a 5 year water licence renewal and would not oppose the Nunavut Water Board (the "NWB") if they wished to extend the request further to provide a 15-25 year term. AANDC recognizes that periodic amendments may occur to reflect changes to infrastructure as well as the possibility that the Licensee may require an additional application to move to a Type 'A' licence.

Furthermore, AANDC supports this move to 15-25 year water licence terms to address capacity building that may have been an issue within the communities and the Government of Nunavut in the past and may have lead to the number of water licences that have expired and remain expired. A staggered approach for the length of the water licences may also prevent a bottleneck of municipal water licences requiring renewal all within one or two years.

AANDC makes these recommendations for longer water licences recognizing that the communities and the Government of Nunavut are collaboratively working towards water licence compliance. Enforcement and compliance of a municipal water licence by AANDC can only be effective through administering water licence conditions for a valid water licence. A longer water licence term may help to ensure that licences are valid and reduce the risk of expiration while also reducing the administrative work required by the Government of Nunavut and the municipalities of renewing a water licence every 2-5 years, recognizing that communities can be viewed as permanent establishments requiring water licences in perpetuity.

As part of AANDC's program review as conveyed to Mr. Hohnstein on January 30, 2015 through correspondence from Erik Allain, Manager of Field Operations, the Field Operations Unit is reviewing previous conditions within existing water licenses and is making recommendations to the NWB to ensure the jurisdiction of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* applies to all terms and conditions and to maintain the integrity of the program delivery.

At this time AANDC is providing comments to the NWB on water licence applications where there appears to lack a clear connection between water use, waste deposit to water, or appurtenant undertakings related to water use and/or deposit of waste to water, subject to the act and regulations.

AANDC would like to bring to the attention of the NWB the following conditions that were part of the water licence 3MB-PON1012 that have been considered during this review and the subsequent recommendations of Field Operations Unit.

Review Findings

The following conditions do not appear to have a clear connection between water use, waste deposit to water, or appurtenant undertakings related to water use and/or deposit of waste to water, subject to the act and regulations. Field Operations would like to propose the following recommendations for the Board's consideration to ensure all terms and conditions reflect AANDC's jurisdictional ability to enforce.

Part B: General Conditions

Item 10: Recommend Change

Existing text: The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan

if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.

Proposed text: The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board or an Inspector may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan. The Inspector will notify the Board of any alteration or modification.

Part D: Conditions Applying to Waste Disposal

Item 6: Recommend Change

Existing text: The Licensee shall, prior to the removal of any treated soil from the Landfarm Facility, confirm with the Government of Nunavut Environmental Protection Service that the soils have been treated so as to meet all legislatively-required Soil Quality Remediation Objectives

Recommend removal of condition and recommend Government of Nunavut Environmental Protection monitor and inspect.

Item 9: Recommend Change

Existing text: The discharge location for all treated effluents described in Part D, Items 7 shall be to the satisfaction of an Inspector and shall be located at a minimum of thirty one (31) metres from the ordinary high water mark of any water body and where direct or indirect flow into a water body is not possible and no additional impacts are created.

Proposed text: The discharge location for all treated effluents described in Part D, Items 7 shall be located at a minimum of thirty one (31) metres from the ordinary high water mark of any water body and where direct or indirect flow into a water body is not possible and no additional impacts are created.

Item 10: Recommend Removal

Existing text: The Licensee shall direct Petroleum Hydrocarbon Impacted Soil to the Landfarm Facility.

Recommend removal of condition and recommend Government of Nunavut Environmental Protection monitor and inspect activity.

Item 11: Recommend Removal

Existing text: The Licensee shall dispose of soils containing contaminants in excess of *Canadian Environmental Protection Act (CEPA)* Guidelines, off site at an approved treatment facility.

Recommend removal of condition and recommend Environment Canada monitor and inspect activity.

Item 13: Recommend Removal

Existing text: The Licensee shall dispose of and permanently contain all solid wastes at the Solid Waste Disposal Facilities or as otherwise approved by the Board in writing.

Recommend removal of condition and recommend Government of Nunavut, Environmental Protection monitor and inspect activity.

Item 14: Recommend Change

Existing text: The Licensee shall segregate and store all hazardous materials and hazardous waste within the Solid Waste Disposal Facilities in a manner to prevent the deposit of deleterious substances into any water, until such a time that the materials have been removed for proper disposal at licensed facility.

Proposed text: The Licensee shall store all hazardous materials and/or hazardous waste in a manner to prevent the deposit of waste into any inland water.

Part E: Conditions Applying to the Modification and Construction**Item 2: Recommend Change**

Existing text: The Licensee may, without written approval from the Board, carry out modifications to the Water Supply and Waste Disposal Facilities provided that such modifications are consistent with the terms of this Licence and the following requirements are met:

- a) the Licensee has notified the Board in writing of such proposed modifications at least sixty (60) days prior to beginning the modifications;
- b) these modifications do not place the Licensee in contravention of the Licence or the Act;
- c) the Board has not, during the sixty (60) days following notification of the proposed modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
- d) the Board has not rejected the proposed modifications.

Proposed text: The Licensee may, without written approval from the Board, carry out modifications to the Water Supply and Waste Disposal Facilities provided that such modifications are consistent with the conditions of this Licence and within the scope of the water licence application. The Licensee is required to provide a 30 day notification to the Inspector and the Board prior to the modifications.

Part F: Conditions Applying to Operation and Maintenance**Item 1: Recommend Change**

Existing text: The Licensee shall submit to the Board for review, a Solid Waste Disposal Facilities Update Report and photographic record by November 30, 2010, which demonstrates the implementation of the commitments and measures to clean-up the existing current facility.

Recommend removal of condition and recommend Government of Nunavut, Environmental Protection monitor and inspect.

Item 2: Recommend Change

Existing text: The Licensee shall submit to the Board for approval, by July 31, 2010 an updated consolidated Operations and Maintenance (O&M) Manual, consisting of:

- a. Spill Contingency Plan, Hamlet of Pond Inlet (2010);
- b. QA/QC Plan approved by the Analyst;
- c. Sewage Treatment Facility O&M Plan;
- d. Sludge Management Plan;
- e. Solid Waste Management Facility O&M Plan;
- f. Landfarm O&M Plan; and
- g. Water Supply Facility O&M Plan.

Where appropriate, the Manual shall be prepared, in accordance with the *“Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996”*. The updated Manual shall take into consideration the comments received during the application review.

Proposed text: The Licensee shall submit to the Board for approval, by month, day, year, an updated consolidated Operations and Maintenance (O&M) Manual related to water use, waste deposit to water, or appurtenant undertakings related to water use and/or deposit of waste to water, subject to the Act and Regulations., consisting of:

- a. Spill Contingency Plan, Hamlet of Pond Inlet (2010);
- b. QA/QC Plan approved by the Analyst;
- c. Sewage Treatment Facility O&M Plan;
- d. Sludge Management Plan;
- e. Solid Waste Management Facility O&M Plan;
- f. Landfarm O&M Plan; and
- g. Water Supply Facility O&M Plan.

Where appropriate, the Manual shall be prepared, in accordance with the *“Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996”*. The updated Manual shall take into consideration the comments received during the application review.

Item 3: Recommend Change

AANDC supports modifying the requirement of a geotechnical engineer to inspect engineered facilities. We recognize the risk associated with not having the inspection conducted annually, but also understand the significant resources needed to conduct geotechnical inspections on an annual basis in every community in Nunavut by CGS or the Hamlets.

Existing text: An inspection of all engineered facilities related to the management of water and waste shall be carried out annually in July or August by a Geotechnical Engineer. The engineer's report shall be submitted to the Board for review, within sixty

(60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing the Geotechnical Engineer's recommendations

Proposed text: An inspection of all engineered facilities related to the management of water and waste shall be carried out annually in July or August by a Geotechnical Engineer or a Municipal Engineer. The engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations. A geotechnical engineer will be contacted to conduct an inspection if deficiencies were noted by the Municipal Engineer. The Inspector may also request the Licensee to conduct a geotechnical inspection to address compliance with the Act or the Licence.

Part G: Conditions Applying to Abandonment, Restoration and Closure

Item 2: Recommend Change

Existing text: The Licensee shall submit to the Board for approval in writing, an *Abandonment and Restoration Plan* at least six (6) months prior to abandoning any facilities or upon submission of the final design drawings for the construction of new facilities to replace existing ones. Where applicable, the Plan shall include information on the following:

- a. water intake facilities;
- b. the water treatment and waste disposal sites and facilities;
- c. petroleum and chemical storage areas;
- d. any site affected by waste spills;
- e. leachate prevention;
- f. an implementation schedule;
- g. maps delineating all disturbed areas, and site facilities;
- h. consideration of altered drainage patterns;
- i. type and source of cover materials;
- j. future area use;
- k. hazardous wastes; and
- l. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.

Proposed text: The Licensee shall submit to the Board for approval in writing, an *Abandonment and Restoration Plan* at least six (6) months prior to abandoning any facilities or upon submission of the final design drawings for the construction of new facilities to replace existing ones. Where applicable, the Plan shall include information on the following activities related to water use, waste deposit to water, or appurtenant undertakings related to water use and/or deposit of waste to water, subject to the Act and Regulations., consisting of:

- a. water intake facilities;
- b. the water treatment and waste disposal sites and facilities r;

- c. remove;
- d. any site affected by waste spills;
- e. leachate prevention;
- f. an implementation schedule;
- g. remove;
- h. consideration of altered drainage patterns;
- i. remove;
- j. remove;
- k. remove;
- l. remove;

Item 4: Recommend Removal

Existing text: All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work and restored as practically as possible to a pre-disturbed state.

Item will be recommended by AANDC for inclusion under any land authorization.

Item 5: Recommend Removal

Existing text: The Licensee shall measure and record the volume of all soil, from all locations entering the Landfarm Facility.

Recommend removal of condition and recommend Government of Nunavut, Environmental Protection monitor and inspect activity.

Item 6: Recommend Removal

Existing text: The Licensee shall assess and record the concentration of petroleum hydrocarbon contaminated soil entering the Landfarm Facility from all sources, as per the CCME *Canada-Wide Standard for Petroleum Hydrocarbons in (PHC) in Soil*.

Recommend removal of condition and recommend Government of Nunavut, Environmental Protection monitor and inspect activity.

Part H: Conditions Applying to the Monitoring Program

AANDC wishes to modify *Part H, Item 11* to better capture the intent and remove any possible confusion that may lead to non-compliance. AANDC would also like to propose changes so the licensee is not limited by techniques for water sampling that may be requested from an accredited lab and following a specific methodology.

Item 11: Recommend Change

Existing text: All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.

Proposed text: Proposed Condition: All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of

Standard Methods for the Examination of Water and Wastewater, or by such other methods approved by a laboratory certified by the Canadian Association of Environmental Analytical Laboratories (CAEAL).

Item 11: Recommend Removal

Existing text: The Licensee shall measure and record the annual quantities of Sewage Sludge removed from the Sewage Disposal Facilities.

Recommend removal of condition.