



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

*Your file - Votre référence*  
1BR-THI1419

September 1, 2015

*Our file - Notre référence*  
CIDM #941498

Robin Ikkutisluk  
Acting Manager of Licensing  
Nunavut Water Board  
Gjoa Haven, NU X0E 1J0

**Re: Aboriginal Affairs and Northern Development Canada's (AANDC) Review of Qikiqtaaluk Environmental Inc.'s Operation and Management Plan for Water Licence #1BR-THI1419 – Hydrocarbon impacted water treatment facility**

Dear Ms. Ikkutisluk,

Thank-you for the email notice received on August 13, 2015 regarding the above mentioned plan.

AANDC Water Resources Division reviewed the operation and management plan submitted and the results of our review are provided in the enclosed memorandum 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*.

Please do not hesitate to contact me at 867-975-3876 or [Sarah.Forte@aandc-aadnc.gc.ca](mailto: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  
Justin Hack, Water Resource Officer, AANDC Nunavut  
Erik Allain, Manager of Field Operations, AANDC Nunavut

## **Technical Review Memorandum**

To: Robin Ikkutisluuk – Acting Manager of Licensing, Nunavut Water Board

From: Sarah Forté – Water Management Coordinator, AANDC

Date: September 1, 2015

Re: Operation and Management Plan Submission for Water Licence #1BR-THI1419

Licensee: Qikiqtaaluk Environment Inc.  
Project: Hydrocarbon Impacted Water Treatment Facility  
Region: Qikiqtani

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### **A. BACKGROUND INFORMATION**

On August 13, 2015 the Nunavut Water Board provided notification to interested parties that Qikiqtaaluk Environment Inc. (the licensee) had submitted an Operation and Management Plan, as required in Part G Item 4 of their Type 'B' water licence #1BR-THI1419.

The licence was granted for treating hydrocarbon impacted water and snow at a facility located at 1571 Kakivak Court in Iqaluit and the Operation and Management Plan describes how the facility is to be run.

Interested parties were requested to review the Operation and Management Plan and provide comments by September 13, 2015.

### **B. EXPRESSION OF CONCERN**

Aboriginal Affairs and Northern Development Canada (AANDC) is concerned that the Operation and Management Plan submitted by the licensee does not reflect the actual operations on site. Moreover, activities occurring site which may require a water licence are not currently covered under licence 1BR-THI1419.

On a visit to site on August 28<sup>th</sup> 2015, we saw the berms to be constructed for secondary containment were not yet built and there were two very large piles of presumably contaminated soil on site. The first, which was uncovered and spilt over the property-line fence was approximately 25 x 5 x 3m. The second pile was even larger and was covered by tarps. No secondary containment was present to keep leachate from these soil piles from contaminating water and AANDC believes they pose a threat to water quality. There is no watercourse within 100 m, but runoff from the property will eventually reach nearby water bodies.

An additional source of concern is the lack of adequate water testing before discharge. According to the licence Part E Items 1, 10 and 11, prior to any planned discharge the effluent must be analysed to ensure it conforms to effluent quality limits. One sample should be taken per tank, provided the liquid in the tank is well mixed and the sample is representative. The 2014 annual report states 56.59 m<sup>3</sup> of contaminated water was collected, treated and discharged in 2014 and provides analytical results for a single water sample. The stated liquid storage capacity for the facility is 30 m<sup>3</sup> (section 1.1 of Plan), therefore an insufficient number of samples were collected and analysed because at least two discharge events would have been necessary if the liquid was stored in a single 30 m<sup>3</sup> reservoir. Without adequate testing, it is not possible to determine the efficacy of the water treatment facility. AANDC is concerned that the licensee may be discharging water from its water treatment facility that does not meet effluent quality limits, in contravention to its licence.

## **C. RESULTS OF REVIEW**

The Operation and Management Plan submitted was reviewed by comparing it to the requirements in Part G Item 4 of water licence #1BR-THI1419. On behalf of AANDC, the following comments and recommendations are submitted to the Nunavut Water Board for consideration:

### **1. Effluent quality limits and monitoring requirements**

- Section 1.7 of the Plan submitted describes effluent parameters to be tested and the maximum limits as required in the licence. AANDC notes that the total lead concentration in the water sample analysis presented in appendix B exceeds the maximum allowable concentration.
- The location of the monitoring station established, THI-1, is not shown on the site plan provided. A single sampling station is insufficient to adequately ensure the effluent quality of several storage tanks.

AANDC recommends that monitoring station THI-1 be identified on the site plan and that the Plan describe how adequate monitoring will be done on the different storage tanks.

- The timing of the sampling and analysis with respect to discharge is unclear. Section 1.7 of the Plan states “*One sample is collected at Monitoring Station THI-1 prior to each batch discharge event and prior to completion of discharge. The sample is to be analyzed for ...*” The first sentence can be read as if it is necessary to take two samples. Only one is needed and it should be both collected and analysed prior to discharge. AANDC recommends that the wording of the Plan be clarified.

## **2. Secondary containment provisions**

- Section 1.3 of the Plan and Figure 1 describe two secondary containment areas with berms to be constructed in spring 2015. Apart from the approximate height of the berm around the liquid waste storage area, no information is available regarding the construction plans, dimensions or volumes of liquid stored. AANDC notes that the licensee is to provide as-built drawings and requests that they be made available for review.
- Section 1.2 of the Plan states “*All fuel storage containers will be situated in a manner that allows easy access and removal of containers in the event of leaks or spills.*” During the visit to site, drum caches were not situated in secondary containment areas. AANDC recommends that all fuel storage containers and caches be in secondary containment and that the Plan clarify this point.

## **3. Petroleum hydrocarbon impacted soils**

- Section 1.4 of the Plan states “*Impacted soils are containerized and shipped for off-site disposal at authorized facilities or are disposed of at the Nunatta Environmental Services Landfarm Facility*”. AANDC notes that the general considerations of the licence mention contaminated soil as a waste type potentially generated by the Water Treatment Facility but the licence does not include authorization to accept or stockpile petroleum hydrocarbon impacted soils. The quantity of soil seen on site during the visit is unlikely to have been generated by the Water Treatment Facility.
- AANDC recommends that the licensee be required to amend their licence in order to accept or stockpile contaminated soils and provide plans for structures that will prevent stockpile leachate and contact water from being discharged without prior testing.

## **4. Facilities and equipment maintenance and inspection**

- Daily inspections are included in the Plan for fuel caches in excess of 20 drums. No other references to inspections or maintenance were found in the Plan. AANDC recommends that the licensee incorporate in the Plan the preventative measures they will take, as required in the licence.

## **D. CONCLUSION**

AANDC recommends that the licensee be required to immediately submit a licence amendment application to reflect the activities on site. The application should include a revised Operation and Management Plan.