



Water Resources Division
Nunavut Regional Office
Iqaluit, NU
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NWB File: 3AM-ARV----
CIDMS #: 413522

June 29, 2010

Richard Dwyer
License Administrator
P.O. Box 119
Gjoa Haven, NU
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**Re: 3AM-ARV---- - Type "A" Water License Application – Final
Intervention Statements - Renewal of Type "B" 3BM – ARV0308 -
Hamlet of Arviat**

Please be advised that Indian and Northern Affairs Canada (INAC) have completed a review of the updated plans for water license application 3AM-ARV – Hamlet of Arviat. The NWB circulated the updated plans for final intervention statements on June 3, 2010. All associated documents related to this application posted on the NWB ftp site under 3AM-ARV were included in my review (See attached Technical Review Memo).

Should you have any questions or comments, please do not hesitate to contact me at (867) 979-4282 or by email at Ian.Parsons@inac.gc.ca.

Sincerely,

Original signed by

Ian Parsons
Water Resources Technician

Cc. Lou-Ann Cornacchio, Manager of Water Resources – Indian and Northern
Affairs Canada, Nunavut Regional Office



Technical Review Memorandum

To: Richard Dwyer – License Administrator, NWB

From: Ian Parsons – Water Resources Technician, Indian & Northern Affairs Canada.

**Re: 3AM-ARV---- – Type “A” Water License Application – Final
Intervention Statements - Renewal of Type “B” 3BM – ARV0308 -
Hamlet of Arviat**

Background

The Hamlet of Arviat's water license expired on December 31, 2008. The Hamlet of Arviat has been operating without a water license since this date. The Hamlet of Arviat is now in the process of renewing their water license as all the appropriate paperwork has been submitted for review.

Comments/Recommendations

The 2009 water license application for the Hamlet of Arviat submitted by Nuna Burnside on behalf of the Government of Nunavut's Department of Community and Government Services addressed most parts of the water license application. However, it has been noted that the following items remain outstanding or require further explanation.

1. The following items remain outstanding and were required as part of a complete application:

- 1a) Operating capacity of pump used and intake screen size used.
- 1b) Conditions applying to the monitoring Program of the water licence; water sampling is required. (see Part H of the licence)
- 1c) Monthly and annual data for water use and waste disposal is based on water delivery records (water delivered equals effluent waste disposal). INAC considers this an adequate record



1d) Items under **Part B Item #1** of the water license remain outstanding. These include i) tabular summaries of all data generated under the Monitoring Program. ii) a summary of modifications and major maintenance work carried out on water supply and waste disposal facilities. iii) list of unauthorized discharges. iv) a summary of abandonment and restoration work completed and any work anticipated for the next year.

1e) Hazardous waste management plans, procedures and protocols should be adopted.

Nuna Burnside, on behalf of the proponent, did address these issues in their March 23rd submission by commenting that the application was done based on records that were available. There was a lack of monitoring data available to complete certain sections of the application. However, the proponent is required to carry out and perform the tasks that are contained in the Water License.

2. Items requiring further clarification or discussion:

2a) It is stated in the O & M Plan that “seven hundred and fifty cubic meters of contaminated soil was reportedly removed from the N.W.T. Power Corporation (NWTPC) tank farm and brought to the Bulky Waste site for landfarming. Some of the soil has been spread out on site with approximately 300 m³ still in piles. The soil is believed to be contaminated with diesel. The proposed new landfill site will have an area set aside for bulky metals and a landfarm. INAC recommends that the soil be monitored and tested for hydrocarbons before doing anything with the soil.

2b) Ponding and runoff from the solid waste disposal site is required to be prevented and controlled from moving into the environment. As of the last INAC inspection this has not been done.

3. Sewage Lagoon:

3a) In the Operation and Maintenance plan of sewage lagoons it states that the lagoon continuously seeps sewage through the berm to the wetland area. The O and M Plan states that the seepage out of the lagoon equals input into the lagoon (208,000L/day calculated from an annual volume of 76,185,000 L in 2009) as the level of the lagoon remains constant. The O and M plan also calculates retention time in lagoon as 149 days, but this calculation does not consider seepage amounts.

3b) There are two discontinued sewage lagoons that are no longer in use. As a result there should be an abandonment and restoration Plan



Summary;

The outstanding items in comments #1 and #2 above should be addressed but are not critical to the issuance of the licence. Comment #3 however should be resolved prior to the issuance of the licence. Specifically our concern is around the lack of knowledge of the impact of the sewage seeps through the berms. The concerns are based on the seeps affecting the integrity of the berm and the impact of seepage on the environment as there is no monitoring data to assess impacts. INAC inspectors have noted CCME exceedances during previous inspection years.

Clearly the lagoon would afford some form of the intended treatment if some retention time was provided, rather than seeping out at a constant rate as suggested by comment #3a above. Repairs to the berm along with some monitoring would provide some assurance that the lagoon is operating as intended reducing the potential for environmental impacts as well as the potential for catastrophic failure of the berm.

This information has been forwarded to our Field Operations Unit.

Cc. Lou-Ann Cornacchio, Manager of Water Resources – Indian and Northern Affairs Canada, Nunavut Regional Office
Peter Kusugak, District Manager – Indian and Northern Affairs Canada, Nunavut Regional Office