



Environment Canada
Environnement Canada

Environment Canada
Prairie and Northern Region
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January 11th, 2010

Your File: 3BM-ARV0308

Our File: 4782 047

David Hohnstein
Director, Technical Services
Nunavut Water Board
PO Box 119
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**Re: Hamlet of Arviat – Water Licence Renewal Application 3BM-ARV0308 –
Completeness Check**

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities under the *Canadian Environmental Protection Act*, and Section 36(3) of the *Fisheries Act*.

The Hamlet of Arviat is applying to renew their water license for a 5 year term to allow for the municipal use of water and deposit of waste. The Nunavut Water Board (NWB) identified that the water license application would be for a Type A Licence. The NWB is asking interested parties to review the application and provide comments with respect to the completeness of the application.

Environment Canada has reviewed the documents provided for the Water Licence renewal application and found that, in general, the application includes appropriate documentation to go forward with the licence renewal process. However, further clarification and information on the following components is requested:

1. Number of Sewage Lagoon Cells

The Annual Report for the year 2008, produced in May 2009, indicates the existence of three lagoons and implies that all of the lagoons are currently being used, as it states the following:

"The sewage treatment system consists of three sewage lagoons and a wetland treatment area. The lagoons are discharged at a slow continuous rate during the growing season to make room for the following year's sewage."

However, the water licence renewal application as well as the Operation and Maintenance Manual state that only one lagoon, the newest lagoon, is in use. EC recommends that confirmation on the current status of each of the three cells be sought.

2. Sewage Effluent Wetland

The images provided in this application indicate that the wetland treatment area and SNP ARV-4 are directly south of the lagoon. However, it is our understanding that the wetland was designed for effluent to flow south westerly, and that a berm was constructed to direct and slow down the flow. Therefore, EC recommends that clarification on the current wetland flow path as a shorter flow path may compromise the level of treatment.

3. Sewage Lagoon Discharge

The description of the discharge in the application documents varies. The application indicates that *"the lagoon is decanted seasonally in June and September for 3 to 4 week periods"*, while the 2008 Annual Report describes *"the lagoons are discharged at a slow continuous rate during the growing season"* and the O&M Manual describes *"The lagoon seeps discharge at a slow continuous rate through the lagoon berm."* Furthermore, the Water Licence Application Supplementary Questionnaire for Municipalities indicates a ~160 day retention time, which further confuses the operation of the lagoon discharge. Therefore, EC recommends that the actual time, duration and method of discharge be clarified.

4. Solid Waste Site Leachate Sampling

Environment Canada notes the lack of SNP sampling at the Solid Waste Disposal Facilities at station ARV-2. In Part D.8, the expired licence required that this Final Discharge Point be identified with plans, specifications, a general description and a geo-referenced location. The application documentation is lacking information on ARV-2, which will require monitoring while the current solid waste facility is in use as well as during the abandonment and restoration phase. Environment Canada recommends that one or several Final Discharge Points from the Solid Waste Disposal Facilities be identified as per Part D.8 and 9 of the expired licence.

5. Solid Waste Site Design Drawings

The application documentation indicates that a new Solid Waste Disposal Facility site was approved by Hamlet Council in October 2008 and that construction was planned for 2009. Environment Canada recommends that design drawings for the new Solid Waste Disposal Facility be submitted to the Board for approval as per Part E.1 of the expired licence. If the new facility has already been commissioned, or will shortly be put into use, the renewal application should include details on the design and operation.

6. Abandonment and Restoration Plans

Environment Canada notes that the Hamlet began using the new sewage lagoon cell in May 2005. Clarity is being sought on the use of the two older cells, but if they are no longer in use, an abandonment and restoration plan is required. Furthermore, the current Solid Waste Facility will require a similar plan six months prior to constructing the new facilities, if the facility has not already been constructed. It would be useful to have these plans included as part of the renewal documentation; however, if it will be some time before they are available, Environment Canada recommends that it be a condition of the renewal that an Abandonment and Restoration Plan for both the Sewage Treatment Facility and the Solid Waste Facility be submitted to the Board for approval.

Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 669-4715 or by email at mary.kelly@ec.gc.ca

Yours truly,

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