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August 25, 2003

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### **Kugluktuk Water Licence Application**

On behalf of Indian and Northern Affairs Canada (INAC), I am pleased to submit the following comments on the water licence application for the Municipality of Kugluktuk.

#### **1. Introduction**

This submission, on the application for a municipal water licence by the Municipality of Kugluktuk, is submitted on behalf of the Water Resources division of INAC.

This submission will be based on the water licence application received by the Nunavut Water Board (NWB) dated June 2003. Past inspection reports have also been taken into consideration.

#### **2. Conditions Applying to Water Use**

The Municipality currently receives water from the Coppermine River, which is pumped into a reservoir. The water is treated by filters and sodium hypochlorite then distributed to the community by truck. The community has turbidity problems with their water in the spring, although it is believed that their new treatment plant has resolved this issue. Water consumption in 2003 is estimated at 53,474 m<sup>3</sup>/year. Water consumption is expected to reach approximately 60,533 m<sup>3</sup>/year in 2008 and 66,934 m<sup>3</sup>/year by the year 2012.

Assuming a 5 year water licence (2003 to 2008), INAC recommends that the annual volume of water pumped from the Coppermine River should not exceed 65,000 m<sup>3</sup>/year for the term of the licence.

SNP station 1 should be designated as "raw water supply from Coppermine River", to be measured at the truck fill point. It should be used to measure the monthly quantity of

water pumped from Coppermine River.

INAC also recommends the installation of warning signs along the Coppermine River at the point of pumping and several hundred meters upstream, indicating that the river is the source of the Municipality's drinking water.

### 3. Conditions Applying to Waste Disposal

The current sewage retention pond seems to be too small to meet the current needs of the community. The sewage lagoon has breached, and was repaired and reinforced. Previous inspection reports have indicated that fecal coliform, ammonia, and phenols were elevated in the effluent and suggested additional retention time as a potential solution. A natural wetland downstream of the retention pond provides additional treatment to the effluent.

INAC recommends that the Municipality submit plans and designs for the improvement of their sewage retention pond for the purpose of resolving retention issues to the NWB for approval.

Also, SNP station 3 should read as "runoff below the sewage disposal area prior to discharge into the ocean." This should include sampling of the sewage effluent prior to reaching the bay in the area of greatest flow. The sewage effluent at SNP station 3 should be sampled monthly during periods of flow for the following parameters and limitations (as per the *Guidelines for the Discharge of Treated Municipal Wastewater in the Northwest Territories* (1992)) :

<b>Total Suspended Solids</b>	180 mg/L
<b>BOD</b>	120 mg/L
<b>Fecal Coliform</b>	10,000 CFU/100 mL
<b>pH</b>	6 to 9
<b>Oil and Grease</b>	no visible sheen
<b>Ammonia</b>	monitor only

Warning signs should be posted along the flow path of the sewage effluent.

The Municipality of Kugluktuk periodically burns and compacts their solid waste within their landfill. Although a fence surrounds the main landfill, the bulky and hazardous waste disposal areas are not fenced. A pool of water has been noted at the berm of the landfill during inspections. The landfill was designed to meet the needs of the community until 2009.

INAC recommends that a proper fence be installed around the perimeter of the solid waste area.

INAC recommends that some sort of retention measure be created for the landfill to assure that the pooled water meets the effluent discharge criteria of the water licence prior to its release in the environment.

INAC recommends that the designs and plans for the new landfill, or expansion of the current landfill, be submitted to the NWB by the expiry of this water licence in 2008. This will allow for the implementation of their approved plan in 2009, when the current landfill will reach the end of its designed life.

INAC also recommends that SNP station 4 read as “runoff below the solid waste disposal area and prior to discharge into the ocean.” Monitoring should take place at station 4 on a monthly basis during periods of flow. The parameters to be monitored should not be too onerous for the Municipality.

#### **4. Conditions Applying to Abandonment and Restoration**

INAC recommends that an Abandonment and Restoration plan be submitted for the eventual abandonment of the honeybag pit once the final house that still uses honeybags changes to a flush system. This plan should be submitted within 6 months from the last use of the honeybag pit.

#### **5. Conditions Applying to Operation and Maintenance**

INAC recommends a requirement for an Operation and Maintenance (O&M) Plan for the waste disposal facilities be submitted to the NWB for approval within 6 months of the issuance of the licence. This O&M Plan should include - but not be limited to - provisions for the segregation and storage/disposal of hazardous waste such as petroleum or batteries.

#### **6. Recommended Terms of Licence**

The application form does not include any proposed term of licence for the Municipality of Arctic Bay. INAC recommends a 5 year term to allow enough time for the Municipality to establish a consistent compliance record. This should also give them time to resolve any unforeseen potential problems with their proposed sewage treatment facility.

Finally, INAC recommends allowing all interested parties to review and comment on the draft licence prior to it being issued. This will allow the Municipality of Arctic Bay to express any reservations they may have at this point. Hopefully, any reservations can be resolved early in the process and minimize any non-compliance issues in the future.

If you have any concerns or questions, please feel free to contact me.

Sincerely,

***Original Signed By: Michael Roy***

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