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Nunavut Regional Office
P.O. Box 2200
Iqaluit, NU, X0A 0H0

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September 16, 2002

Phyllis Beaulieu
Acting Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0E 1J0

Sent by email to:
rbecker@polarnet.ca

Arctic Bay 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 Arctic Bay.

1. Introduction

This submission, on the application for a municipal water licence by the Municipality of Arctic Bay, 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) on July 18, 2002. Past inspection reports have also been taken into consideration.

2. Conditions Applying to Water Use

The Municipality currently receives water from Marcil Lake. The water is treated by sodium hypochlorite then distributed to the community by truck. Although no data was presented regarding specific volumes of water consumption, water consumption can be considered to be the equivalent to sewage generation. Therefore, water consumption was approximately 18,250 m³/year in 2001. Water consumption is expected to reach approximately 30,000 m³/year in 2009 and 43,800 m³/year by the year 2018.

Assuming a 5 year water licence (2002 to 2007), INAC recommends that the annual volume of water pumped from Marcil Lake should not exceed 35,000 m³/year for the term of the licence.

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

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INAC also recommends the installation of warning signs along Marcil Lake indicating that the lake is the source of the Municipality's drinking water.

3. Conditions Applying to Waste Disposal

The current sewage lagoon is too small to meet the current needs of the community. Also, portions of the berm have become plugged, which has caused sewage to breach the berm in the past. The Municipality plans on creating a new sewage lagoon (the "ice pack holding area") with a large capacity immediately adjacent to the current lagoon, as well as creating various ponding areas downstream of the sewage effluent to increase retention time.

INAC recommends that SNP station 2 be designated as "raw sewage from the pumpout truck." Station 2 should be used for the monthly measure of sewage generated by the Municipality.

Also, SNP station 3 should read as "runoff below the sewage disposal area prior to discharge into the bay." 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:

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

Warning signs should be posted along the flow path of the sewage effluent, particularly near the section of road that passes through the effluent's path.

The Municipality of Arctic Bay periodically burns and compacts their solid waste within their landfill. The Municipality is also in the process of consolidating their scrap metal.

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

INAC also recommends that SNP station 4 read as "runoff below the solid waste disposal area and prior to discharge into the bay." However, due to fact that the solid waste disposal area and sewage lagoon are in roughly the same location, this may result in SNP stations 3 and 4 being in the same location. Should there be a need to distinguish between what parameters are generated from the solid waste area and what parameters are generated from the sewage lagoon, perhaps SNP station 4 should be the runoff from the solid waste disposal area prior to reaching the sewage effluent discharge path. 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

The proponent does not plan to abandon any of their current waste treatment facilities, although the current sewage lagoon will likely become the future honey bag disposal pit. Should the Municipality plan on abandoning any facility in the future, an Abandonment and Restoration Plan should be submitted to the NWB prior to abandoning any of the facilities.

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

Michael Roy
Qikiqtani Regional Coordinator, Water Resources
INAC - Nunavut Regional Office
P.O. Box 2200, Iqaluit, NU, X0A 0H0
(867) 975-4555
fax: (867) 975-4560
roymjp@inac.gc.ca