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Sent by email to:
nwblic@polamet.ca

Hall Beach 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 Hall Beach.

1. Introduction

This submission, on the application for a municipal water licence by the Municipality of Resolute, 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) in January 2003. Past inspection reports have also been taken into consideration. Also taken into consideration was the application for the nearby Fox-M DEW Line site water licence.

2. Conditions Applying to Water Use

The Municipality currently receives its water from the Water Supply Lake located 1.6 km west of the Fox-M DEW Line station. Within that lake is a bermed area called the Water Reservoir that has a capacity of 600,000 m³. The Water Reservoir historically served as the water source for the old DEW Line station and the Municipality. The Municipality has recently constructed its own reservoir, which INAC will call the Municipal Reservoir, situated adjacent to the Water Reservoir that has a capacity of 103,000 m³. Water is pumped from the Water Reservoir into the Municipal Reservoir.

The Municipal Reservoir has a pump house that pumps the water into the water trucks. The water is treated with chlorine and trucked 4.6 km to Hall Beach. Current water consumption is approximately 25,193 m³/year. It is expected to reach 29,864 m³/year in 2008,

and 33,502 m³/year in 2012. For a 5 year duration of a water licence, this would indicate that 30,000 m³/year would be sufficient for the Municipality's needs.

Although not mentioned in the application, an additional consideration regarding water use is the nearby DEW Line Clean-Up project for the Fox-M DEW Line site. It is possible that the camp at the site will be using the municipal facilities with regards to water use. If the camp plans on using the municipal reservoir as their water source (assuming permission is granted by the Municipality), that may require the use of up to an additional 5000 m³/year (from the Fox-M water licence application). Although it is possible that the DEW Line camp will instead gather it's own water from the Water Supply Lake/Water Reservoir rather than using the Municipal Reservoir, INAC believes that it may still be worthwhile to increase the permitted water use of the Municipality by 5000 m³/year anyway, just in case such an arrangement is indeed made between the camp and the Municipality.

Assuming a 5 year water licence (2003 to 2008), INAC therefore recommends that the annual volume of water pumped from the Water Reservoir/Water Supply 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 Water Supply Lake." It should be used to measure the monthly quantity of water pumped from the Water Reservoir and Water Supply Lake.

3. Conditions Applying to Waste Disposal

Sewage is collected by truck and brought to a sewage treatment system approximately 3 km north of the Municipality. The treatment facilities consist of two exfiltration lagoons. These lagoons were recently enlarged to accommodate a twenty-year volume. These exfiltration lagoons empty into two wetlands connected by a ditch with a combined area of 6 hectares. It is reasonable to assume that the amount of sewage generated should approximate the amount of water used, and thus will be approximately 30,000 m³/year by 2008. If permission is granted to the DEW Line Clean-Up camp to use the municipal facilities, that will likely generate an additional 1,500 m³/year of sewage (from the Fox-M water licence application).

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

Also, SNP station 3 should read as "runoff from sewage lagoon prior to discharge into marine waters." This should include sampling of the sewage effluent after traversing the wetlands but prior to reaching marine waters. 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 | 10,000 CFU/100 mL |
| 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.

The solid waste disposal site is located approximately 3 kilometers north of the Municipality. The waste is burned regularly, while compaction and covering of the site is done on an annual basis. The site is only partially fenced.

INAC recommends that SNP station 4 read as "runoff below the solid waste disposal area and prior to discharge into marine waters." 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.

INAC also recommends that an adequate fence be installed around the perimeter of the solid waste disposal area to prevent windblown debris from leaving the site.

Bulky waste is stored in two separate areas. The first is located adjacent to the solid waste disposal area. The second is 750 m south of the first.

Batteries are stored in the old maintenance garage, while other hazardous wastes are stored in the bulky waste area.

4. Conditions Applying to Abandonment and Restoration

The proponent does not plan to abandon any of their current waste treatment facilities. 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, as well as options for the disposal of sewage sludge should it become an issue in the lagoon.

6. Recommended Terms of Licence

The application form requests a water licence for a 5 year period. INAC also recommends a 5 year term to allow enough time for the Municipality of Hall Beach to establish a consistent compliance record.

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 Hall Beach 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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