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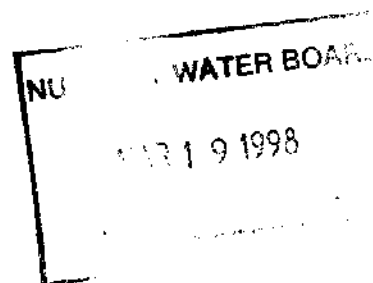
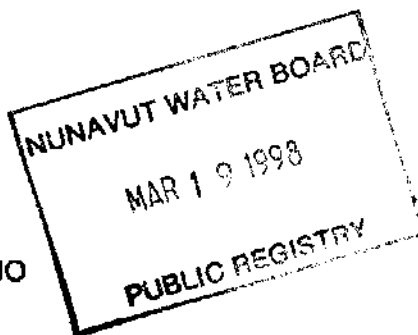
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File: 4782 045 PANGNIRTUNG - MUNICIPAL WATER LICENCE

March 19, 1998

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Pangnirtung Sewage Treatment Facility Planning Study, February 1998

In response to your letter, dated 9 February 1998, appropriate specialists within the Yellowknife Office of Environment Canada have reviewed the Pangnirtung Sewage Treatment Facility Planning Study dated February 1998. We are pleased that work is underway to improve the sewage disposal system for ~~Pelly Bay~~ ^{PANGNIRTUNG} and wish to offer some comments to assist in achieving that objective.

General

We support efforts by the Nunavut Water Board and community to work towards an upgraded system that will meet the objectives outlined in the Guidelines for the Discharge of Treated Municipal Wastewater in the NWT.

Mechanical Treatment Systems

The planning study identifies a number of legitimate challenges to operating and maintaining some type of mechanical treatment system. There are, however, opportunities to address those challenges which are not identified. The feasibility of utilizing them in Pangnirtung would depend on site specific conditions and community interest. In order for the community and Nunavut Water Board to make informed decisions in the planning stages, they should be aware of both restraints and opportunities. In this regard, there are some points which merit further comment:

- The planning study identified a shortage of skilled residents as a challenge to the efficient and reliable operation of a mechanical treatment system. While this may be currently true for Pangnirtung, there are well-funded training programs available to train Nunavut residents. Therefore, the lack of skilled residents could be remedied but success in this regard would depend on whether there is sufficient interest and commitment by local



residents and/or trades people to pursue such an opportunity. The information in the planning study would suggest this possibility was not discussed with the community.

- The planning study identified the high energy demands of a mechanical treatment facility as a challenge to the efficient and reliable operation of a mechanical treatment system. While this is true, there could be an opportunity to utilize residual heat from the local diesel power plant to heat the facility at a lower cost. Such arrangements are not unknown. Of course, whether such an initiative is feasible for Pangnirtung's situation would depend on local conditions such as the current location of the community power plant, type and proximity of nearby infrastructure, etc. Further advice as to the technical feasibility of such an initiative can be obtained for little or no cost from a number of sources including the Arctic Energy Alliance, NWT Power Corporation and the Energy Program of Natural Resources Canada. Financial assistance may also be available from each of those organizations for such an initiative.
- Reliability of the system, related to power outages, could be remedied through the installation of a back-up generator. Again, such an arrangement is not uncommon but involves some level of additional capital cost.

Sewage Lagoons

In regards to the sewage lagoon option, we wish to highlight two points for consideration:

- As identified in the planning study, encroaching upon the tidal flats presents risks associated with potential dike failure due to ice scouring as well as erosion from tidal flows and wave action. This leads to concerns from not only a cost perspective in terms of repairs but also in regards to impacts on fisheries under Section 36 of the *Fisheries Act*, should the dikes fail.
- The feasibility of deepening the sewage lagoon should be investigated. We noted that the current conceptual design for the lagoon involves a maximum depth of 2.25 metres. If the lagoon's capacity was met through greater depth and less area, there would be less need to encroach upon the tidal flats. This would lower the risk of dike failure and lessen associated concerns regarding repair costs and impacts on fisheries.

Should you have questions or require more information on our comments, please call me at (867) 669-4737.



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