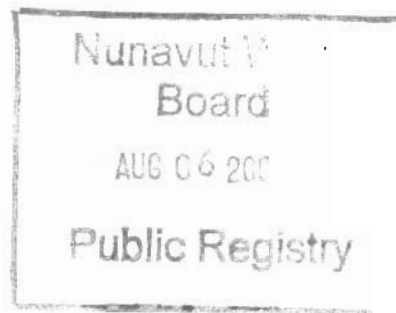


Environment  
CanadaEnvironnement  
Canada

Northern Division  
Environmental Protection Branch  
Prairie and Northern Region  
#301 - 5204 - 50<sup>th</sup> Ave  
Yellowknife, NT X1A 1E2  
Ph, (867) 669-4700

August 5, 2002

Jim Wall  
Technical Advisor  
Nunavut Water Board  
P.O. Box 119,  
Gjoa Haven, NT X0B 1J0



Our File: 4782 026

By email: nwbtech@polarnet.ca  
By facsimile: (867) 360-6369

INTERNAL	
PC	
LA	<i>PS</i>
OM	
TA	
BS	
ST	
ED	
CEO	
BRD	
EXT.	

Re: Pangnirtung Municipal Water Licence Renewal - Water Licence NWT3PAN

I have reviewed the above water licence application and supplementary on behalf of Environment Canada (EC); please note that no documentation on the proposed mechanical sewage treatment system was available for review. Information was obtained by telephone from the company supplying the system. The following comments are offered for your consideration:

#### General

EC is pleased that measures are being undertaken to improve the sewage disposal system in Pangnirtung, and encourages installation of a system which will both meet the objectives outlined in the "Guidelines for the Discharge of Treated Municipal Wastewater in the NWT" (1992) and comply with the *Fisheries Act*.

#### Sewage Treatment

- Effluent limits should be set which reflect treatment capabilities while allowing for fluctuations in process efficacy. To allow the biological treatment process time to stabilize, and to track improvements in the treatment, EC recommends monthly sampling be done (for monitoring only), with regulated limits coming into effect 8-12 months after commissioning of the treatment plant. Plant effluent specifications are 45 mg/L BOD, 45 mg/L total suspended solids,  $10^5$  fecal coliforms, and pH of 6.5 to 8.5. However, reductions in ammonia are not expected once full throughput is reached. Given these optimum target numbers, meeting guidelines outlined in the "Guidelines for the Discharge of Treated Municipal Wastewater in the NWT" should be a reasonable expectation.
- The need for disinfection should be evaluated, in light of the potential for local use of shellfish and fish from the fjord. If there are concerns with coliform levels, it is recommended that methods other than chlorination be used, unless dechlorination of the final effluent is done.
- Screenings from the front end of the treatment process will be washed, compressed, and bagged in tubes for disposal. To deal with the process sludges, a 21,000 gallon sludge digester will be employed, with aeration and flocculation used to stabilize the sludge, which will then be bagged in semi-porous bags, allowed to drain, and then disposed of to the landfill. It is recommended that disposal be such that screenings and sludges are contained or properly incinerated.

Canada

020802 PAN, EC, Comments - ITAE



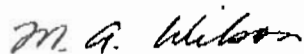
- It is my understanding that the treatment package incorporates a aerated 40,000 gallon equalization tank on the front end of the system, and that in the event of an upset, any part of the system can be bypassed. The equalization tank will allow for buffering of fluctuations in flow and in influent quality, and the bypass capacity allows for operational flexibility in the face of problems. However, it is recommended that the operations and maintenance plan be developed with clear responses to problems within the system, to minimize any treatment bypass time.
- Will the fish plant wash water be disposed to the RBC? There is concern that the soapy residues could compromise the biological community in the treatment system.
- The outfall configuration utilizes a heated pipe which discharges onto a splash pad at the high water mark of the ocean. This will be set up as a new discharge location, and will impact a new area of the tidal flats and nearshore waters. In addition to total suspended sediments, fecal coliforms, biological oxygen demand, and pH, the Surveillance Network Program should require measurement of a full suite of parameters at the outfall at regular intervals, including metals, major ions, ammonia, nitrate, and total phosphorus.

### **Solid Waste Management**

- The application states that the existing landfill capacity is adequate until at least 2012. Planning for a new facility will need to be done within the term of the present licence renewal. Licence conditions should contain provisions for a planning study for design and siting of a new facility, and closure of the existing site.
- The need for fencing installation and repair was flagged in both the application and the inspection reports, and should be a requirement as a measure to keep windblown debris from entering any waterbodies.
- It is recommended that the municipality investigate waste compaction and reduction measures, including setting up a salvage area, to be incorporated into the O&M plan. Support for community-based recycling or similar initiatives may be available from the Eco-Action Program. Information on programs can be obtained from Environment Canada's Green Lane ([www.ec.gc.ca](http://www.ec.gc.ca)) or by calling Theresa Chilkowich at 780-951-8724.
- The diagram of the solid waste site does not show a separate area for honeybag disposal. It is recommended that a separate cell be constructed for the disposal of honeybags and sewage treatment plant screenings and sludges.
- Past sampling of the leachate from the landfill site has identified high toxicity. To prevent migration of poor quality leachate, improved operational methods need to be in place, and surface drainage diverted around the landfill. Better waste segregation and diversion of hazardous wastes from the landfill are needed to prevent generation of poor quality leachate.
- An operation and maintenance plan should be submitted which includes steps for properly managing waste oil and hazardous materials from receipt to final disposal. Plans for remediation of the waste oil storage site should be developed and implemented.
- An abandonment and restoration plan for the existing site should be developed which addresses site contamination and remediation.
- A spill contingency plan should be developed and appropriate inventories of spill response materials maintained.

Please do not hesitate to contact me at (867) 669-4735 with any questions or comments regarding the foregoing.

Yours truly,



Anne Wilson  
Water Pollution Specialist

cc: Steve Harbicht (Head, Assessment & Monitoring, EPB)  
Paula Pacholek (Environmental Assessment Coordinator, EPB)