



#16 Yellowknife Airport  
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June 21, 2005

Your file - Votre référence

Our file - Notre référence

Mackenzie Valley Land & Water Board  
Box 2130  
Yellowknife, NT X1A 2P6

Mackenzie Valley Land  
& Water Board  
MV2001L3-0012

File

JUN 27 2005

Attention: Stephen Mathyk  
Regulatory Officer

Application # MV2001L3-0013

Copied To SM

**Re: Department of Transportation - Water License Renewal Application**

Dear Mr. Mathyk:

The following are my comments on the Department of Transportation - Yellowknife Airport, Water License Renewal Application.

It is recommended that the MVLWB establish the effluent quality criteria for glycol at the guideline level of 100 mg/L.

SNP sampling related to the abandoned septic field should be assessed on an annual basis to determine future monitoring requirements.

**Glycol Mitigation Operational Plan**

- Though the North Apron expansion area is planned to be paved and sloped towards the infield, it may not be prudent to relocate deicing operations to an area that is even closer and therefore has a greater chance of affecting Long Lake. The YK Airport is located in a region of discontinuous permafrost, and ground movement associated with cracking asphalt is common. Glycol could flow through these cracks and drain towards the lake. Would it be possible to put the expansion area to another use, and locate deicing operations further from the lake?
- Appendix D is a map of the Deicing Areas at the YK Airport. The map does not show Braden Burry Expediting, Adlair or Buffalo. These locations are referenced as deicing locations on page 7, and should be included on the map. Also as gates 1-4 are being differentiated from gates 5-7 because the majority of deicing occurs at gates 1-4 (see page 7), these two locations should be clearly labelled on the map, as well as the new North Apron area..
- On page 7 it is mentioned that small amounts of deicing occurs at five areas in addition to the main air terminal building. Can DOT provide a breakdown of glycol used at these

smaller sites as opposed to at the main air terminal building? If a significant amount of glycol is used at these small sites would it be feasible to also collect pink snow at these sites and transport it to the Glycol Retention Facility?

- Page 9 refers the reader to Appendix D for a map of glycol storage locations at the airport. This map does not appear in Appendix D and should be provided.
- Page 12. More information is needed on the Glycol Retention Facility. A map and drawing of the facility will be needed. Information on the composition and integrity of the liner, and the storage capacity are also critical.
- Page 12. What municipal waste storage system is the plan referring to for the disposal of glycol contaminated snow? It is my understanding that glycol contaminated snow is not an approved waste that can be deposited in the Fiddler's Lagoon system.
- Page 12. A map showing the location of the YK Airport landfarm should be provided, and rationale for choosing this location for disposal of remediated water from the Glycol Retention Facility.
- Page 12. Note that the proponent should be consistent in naming the facility either Glycol Retention Facility or Fire Training Area.
- Page 13. The Airport Manager's Report submitted to the MVLWB and EC should also include the amount of water remediated in the Glycol Retention Facility and disposed of at the YK Airport Landfarm, as well as the amount of snow removed from the Glycol Retention Facility and disposed of at an approved location.
- Page 13. Note that the 100 mg/L glycol figure is an Environment Canada guideline and is not legislated.
- Page 13. Environmental Reporting: a.) should read: During the deicing season (*September* through May).
- Ensure that response to spills of glycol is included in the updated YK Airport Contingency Plan.

#### **Surveillance Network Program (revised April 2005)**

- 1.1. Sampling at SNP station S3 is no longer necessary for deicing purposes. It has been determined in the last two years of sampling that runoff from the deicing area is collected at station S1. SNP station S3 can remain in use for monthly septic field abandonment sampling.
- 1.2.1. Analyzing for total coliforms is not necessary. Fecal coliforms and E. Coli are good indicators of sewage in water. Also, the total and dissolved metals are not required when analyzing for sewage.
- 1.2.2. Is the MG1 groundwater well accessible at this time? It is my understanding that a new groundwater well is to be drilled summer 2005. Should this be taken into account in the SNP?

- 1.2.3. Remove BOD from deicing sampling parameters. COD is a better measure of the oxygen demand created by the addition of glycol to water. Also, the sampling frequency for stations L1 - L5 should be twice per year, once in spring and once in the fall. There is no need for weekly sampling at these stations.
- 1.2.4. Weekly sampling of the Glycol Retention Facility is not necessary. One regulatory sample would be required to be submitted to the Inspector prior to planned discharge from the facility.
- 1.3. Sampling Methodology should also include a triple rinse of bottle, discarding the rinse downstream, prior to filling the sample bottle.
- Appendix 1. The QA/QC Program will be required to be submitted to the DIAND designated analyst for review and approval.
- Appendix 3. Map of YK Airport sampling locations. Unused SNP locations should be removed from the map. Piezometers should be re-labelled as groundwater wells.
- Appendix 4. Remove photos of unused SNP locations.
- Appendix 7. Maintenance Garage Septic Tile Field. SNP station MG1 and Long Lake should be labelled.

Should you have any questions please do not hesitate to contact me at (867) 669-2767.

Regards,



Julian Kanigan  
Resource Management Officer  
South Mackenzie District, DIAND  
Inspector under the Northwest Territories Waters Act and Mackenzie Valley Resource Management Act