



P.O. Box 119  
GJOA HAVEN, NU X0B 1J0  
TEL: (867) 360-6338  
FAX: (867) 360-6369

ᓄᓇᓂᓪᓴ ᐃᓕᓕᓂᓪᓴ ᑲᑎᓕᓪᓴ  
NUNAVUT IMALIRIYIN KATIMAYINGI  
NUNAVUT WATER BOARD  
OFFICE DES EAUX DU NUNAVUT

---

File No 3BM-CAP0207

October 10, 2007

**To: Cape Dorset Distribution List**

Sent via e-mail.

Subject: **Pre-hearing Meeting/Teleconference for the Hamlet of Cape Dorset Type B Water Licence Amendment Application**

Dear Parties,

The Nunavut Water Board (Board or NWB) has made a decision on the above noted file and asks that I communicate the following information to the parties:

In the Board's letter to the parties dated August 8, 2007, the Board directed staff hold a prehearing/technical meeting in accordance with Rule 14 of the Board's Rules of Practice and Procedure for Public Hearings. As a result, a pre-hearing/technical meeting/teleconference (PHC) was convened on October 1, 2007, at 8:30 a.m. (ET) to address the following matters:

1. To set a timetable for the exchange of information;
2. To finalize the list of issues to be dealt with at the hearing;
3. To identify interested Parties;
4. To consider the desirability of amending an application for the purposes of clarification;
5. To finalize procedures to be followed in a hearing; and
6. To consider any other matters that may aid in the simplification and disposition of the application at the Hearing.

The PHC agenda is provided in Appendix A.

The following parties participated at the PHC: Hamlet of Cape Dorset (HCD), Environment Canada (EC), Indian and Northern Affairs Canada (INAC), the Government of Nunavut: Department of Environment (GN-DOE) and Department of Community Government & Services (CGS), Dillon Consulting Limited (DCL), AMEC Earth & Environmental (AMEC), BGC Engineering (BGC) and Associated Engineering (AE) (the Parties). A list of participants is provided in Appendix B.

### **Application Before the Board**

The application for water licence was filed by the HCD (Applicant). Technical support for this application is being provided by the CGS which contracts the design and construction of the facility to DCL, who in turn uses AMEC to provide the geotechnical engineering services.

An application for the renewal of the Hamlet's municipal water licence for the existing facilities has been filed by the Hamlet of Cape Dorset. The Licence expired on August 31, 2007. This application will be dealt with separately and is for an amendment for the upgrading of the sewage lagoon at P Lake.

Since the original submission of an application for amendment for the construction of the sewage lagoon at P Lake in 2005 there have been numerous exchanges of correspondence, meetings and site visits with no resolution on a number of outstanding issues. An amended application for the construction of the sewage lagoon was submitted to the NWB in February 2006. This submission was provided to interested parties for comment until May 1, 2006. The NWB requested clarification from the Applicant and shortly thereafter notified parties of the NWB's intent to hire two independent consultants (BGC and AE) to assist in the review of the application.

The public review process culminated in a technical meeting held in Cape Dorset on September 19, 2006. On September 20, 2006, the Applicant was requested to resubmit the application. On January 3, 2007, the Applicant submitted to the NWB a (Final) Design Report dated December 21, 2006. The NWB requested additional clarification on March 27, 2007. Further information was received by the NWB on April 26, 2007.

The NWB staff met via teleconference with the regional project engineer on May 4, 2007. At that time it appeared the application was in order. However, following a detailed assessment of the application documents it was determined that a commitment made by the NWB to distribute the final design to parties for their consideration was not completed. Accordingly, on May 30, 2007, the NWB distributed the resubmission/final design information to the parties and requested comments by June 7<sup>th</sup>, 2007. Comments were received from AE, BGC, EC, DOE and INAC.

The application was considered by the Board on June 16, 2007. The Board's decision to require a Public Hearing on the application was communicated to the parties on June 19, 2007. As directed by the Board, the staff held a pre-hearing conference on July 3, 2007 and issued a pre-hearing decision on July 11, 2007. The initial PHC decision of the Board confirmed a hearing for September 18, 2007, with a deadline for submission from the parties of September 3, 2007. In addition, the Board encouraged the technical experts to meet to resolve issues before them. As a result, a meeting was held in Calgary on July 11, 2007.

It should be noted that the Board's July decision required clarification and information commitments of the applicant to be filed at least 30 days prior to September 3, 2007, to allow interested parties to review the information.

On July 26, 2007, CGS wrote to the Board requesting the Board consider the following option:

- Extend the timeframe for the document submission regarding P Lake; and

- Keep the date for the Public Hearing unchanged.

On August 2, 2007, the Board responded by providing options to the parties for proceeding with the process to ensure a fair and efficient process.

Furthermore, on July 30, 2007, the CGS notified the Board that construction of the facility was on-going and was expected to reach substantial completion in coming weeks. In follow up, on August 8, 2007, the Board stated in a letter to CGS and INAC “that to some extent, the Board’s licensing process, depends on the stage of construction of this facility; in other words if the facility is nearing completion, it may be that the Board hearing becomes in part, moot. If that is the conclusion drawn from the INAC inspection, the Board would like to know as soon as possible.” Accordingly, on August 8, 2007, the Board decided to postpone (but not cancel) the public hearing, until clarification of the above is provided to the Board, with the required prior to the Board rescheduling the public hearing:

1. GN-CGS submitting all necessary information by September 17, 2007;
2. INAC is requested to report back to the Board regarding inspection and compliance issues; and
3. The Board has directed the staff to conduct a Pre-hearing Conference (PHC) with the parties on the application in Iqaluit on September 27, 2007 to clarify the above concerns.

With the consent of the parties, the PHC scheduled for September 27, 2007 was held on October 1, 2007, to accommodate the technical experts.

### **Purpose of the Pre-hearing/Technical Meeting**

The purpose of the PHC is to discuss the Rule 14 matters set out above. The Board acknowledges that this application has challenging technical issues on which the experts do not agree. This is reflected in the Board’s decision to proceed to a public hearing.

### **Pre-hearing Review of the Application**

#### **Formulation of Issues**

As stated previously, the PHC was set to finalize a list of issues to be dealt with at the hearing and consider any other matters that may aid in the simplification and disposition of the application at the hearing. As a result, the parties through detailed discussion of technical issues confirmed the following list:

1. Seepage;
2. As-built;
3. Operation and Maintenance;
4. Ownership of the Lagoon;
5. Geothermal Assessment;
6. Stability Assessment;
7. Identification of Geotechnical Engineer of Record;

8. Discharge Criteria;
9. Sludge Management;
10. Use of current treatments system as a contingency measure;
11. Abandonment and Reclamation; and
12. Monitoring.

Following the PHC, BGC filed with the NWB on October 2, 2007, a summary of geotechnical items which require follow-up prior to the hearing (see Appendix C). In the absence of confirmation on a deadline for submission of as-built information from CGS the Board requires that clarification and as-built drawings be provided to the Board **no later than November 15, 2008**.

The Board encourages the Parties and technical experts to work together to resolve as many issues as possible prior to a public hearing. Given the history of this application and the needs of the affected community, it is particularly important that all of the Parties and technical experts work cooperatively toward reaching agreement as to how these issues may be resolved. Accordingly, the Board expects a cooperative approach and if necessary, encourages the Parties and technical experts to have further meetings before the date for final submissions for the Public Hearing.

Should further meetings take place the Board asks that it be advised by joint submission of any agreement that is reached on outstanding issues.

#### Identification of Interested Parties

Parties that identified themselves as having a role in the Public Hearing include:

1. INAC
2. EC
3. GN – DOE

In the Board's decision of July 11, 2007, it was determined that the Department of Fisheries and Oceans Canada (subject to confirmation of whether any affected water bodies are fish bearing) might provide assistance in the disposition of this application. EC confirmed on issues related to compliance with the Fisheries Act that they would be the primary contact.

#### Identification and Service of Documents

Parties agreed that the Board would set final dates for the hearing but requested that dates be set to allow a minimum of 30 days review following submission of new information. As set out below, the Board has set a public hearing date of January 23 and 24, 2008.

The NWB Rules of Practice and Procedures for Public Hearing require that parties submit their written interventions no later than 15 days before the commencement of a Hearing. As such the Board requests **final interventions statements be filed no later than January 8, 2008**, at 3:00 p.m. Mountain Time. Executive summary translations in Inuktitut are also required at that time.

All submissions from the date of this decision will be posted to the NWB's ftp site (<http://.nunavutwaterboard.org/ftp/>) and public registry upon receipt. A copy of the public registry for this application is available for public review at the Hamlet of Cape Dorset Office.

### Translation and the Record

In order to facilitate public participation and to accommodate the language requirements of Board members the Public Hearing will be translated simultaneously in Inuktitut. The NWB will provide for a stenographer to record the Public Hearing. Should Parties require additional language services please advise the NWB **no later than January 8, 2008**.

### Hearing

#### Date, Time and Location

In accordance with the provisions of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* ("Act"), the NWB shall hold a public hearing in the community or communities most affected. The Board is aware of the logistical issues associated with the conduct of a hearing; however, confirms that the hearing will be held in Cape Dorset on **January 23, 2008, and January 24, 2008**.

The Public Hearing date is contingent on technical experts obtaining the necessary clarification from the applicant and that additional information submitted by the Applicant is received **no later than November 15, 2007**.

An agenda confirming the particulars of the Public Hearing will be circulated to all intervenor parties before the hearing.

#### Site visit

The Parties agreed that a site visit would be beneficial and propose that it be scheduled in conjunction with the hearing and prior to presentations by the Applicant and/or intervenor parties. The Board will confirm a site visit with the agenda confirming the particulars of the Public Hearing.

#### Order of Events

The Board hereby confirms that the Public Hearing will proceed by intervenor party in accordance with Rule 20.1 of the Board's Rules of Practice and Procedures for Public Hearings.

#### Equipment

Parties who need special audio-visual equipment at the Public Hearing are requested to inform the NWB of their specific needs within their intervention/written statements to the Board so that arrangements can be made in advance.

Please contact David Hohnstein ([dts@nunavutwaterboard.org](mailto:dts@nunavutwaterboard.org)) for technical issues, and Phyllis Beaulieu ([licensing@nunavutwaterboard.org](mailto:licensing@nunavutwaterboard.org)) for any other matter related to the Public Hearing.

Regards,

A handwritten signature in black ink, appearing to read 'D. Filiatrault', written in a cursive style.

Dionne Filiatrault, P. Eng.,  
A/Executive Director

Attachments: Appendix A: Agenda  
Appendix B: List of Participants  
Appendix C: Summary of Geotechnical Issues

**APPENDIX A: AGENDA**

PRE-HEARING/TECHNICAL MEETING  
CAPE DORSET TYPE 'B' WATER LICENCE APPLICATION  
FROBISHER INN, IQALUIT  
OCTOBER 1, 2007  
8:30 AM EST

Teleconference Call in information:

Dial-in Number: 1-877-579-4178

Participant Code: 807543#

1. Introduction
2. Application to the Board
3. Purpose of the Meeting
4. Pre-hearing Review of the Application
  - a. Opening remarks from the Applicant or designate
  - b. Opening remarks from Interested Parties
  - c. Formulation of Issues
  - d. Identification of Interested Parties
  - e. Identification and Service of Documents
  - f. Translation and the Record
5. Hearing
  - a. Date, time and location
  - b. Site visit, if any
  - c. Order of events
  - d. Equipment
6. Other Issues
7. Close of the meeting

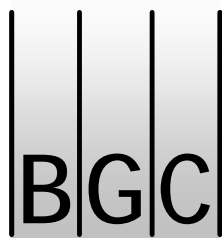
## APPENDIX B: LIST OF PARTICIPANTS

Dionne Filiatrault*	NWB	<a href="mailto:exec@nunavutwaterboard.org">exec@nunavutwaterboard.org</a>	(867) 360-6338
Dave Hohnstein*	NWB	<a href="mailto:dts@nunavutwaterboard.org">dts@nunavutwaterboard.org</a>	
Don Carr*	NWB		
William Tilleman*	NWB		
John Grainger*	Associated Engineering		
David W. Abernethy	INAC	<a href="mailto:AbernethyD@inac.gc.ca">AbernethyD@inac.gc.ca</a>	(867) 975-4555
Jen Hayward	INAC	<a href="mailto:haywardj@inac.gc.ca">haywardj@inac.gc.ca</a>	(867) 975-4744
Cindy Parker	EC	<a href="mailto:cindy.parker@ec.gc.ca">cindy.parker@ec.gc.ca</a>	(867) 975-4631
Mike Atkinson	GN - DOE	<a href="mailto:matkinson@gov.nu.ca">matkinson@gov.nu.ca</a>	(867) 975-7732
Helen Yeh	GN - DOE	<a href="mailto:hveh@gov.nu.ca">hveh@gov.nu.ca</a>	(867) 975-7733
Holger Hartmaier	BGC	<a href="mailto:hhartmaier@bgcengineering.ca">hhartmaier@bgcengineering.ca</a>	(403) 250-5185
Andrew Keim	INAC	<a href="mailto:Keima@inac.gc.ca">Keima@inac.gc.ca</a>	(867) 975-4289
Jim Rogers	INAC	<a href="mailto:rogersji@inac.gc.ca">rogersji@inac.gc.ca</a>	(867) 975-4550
Carl McLean	INAC	<a href="mailto:mcleanc@inac.gc.ca">mcleanc@inac.gc.ca</a>	(867) 975-4546
Art Stewart	Hamlet of Cape Dorset	<a href="mailto:muncdsao@capedorset.ca">muncdsao@capedorset.ca</a>	(867) 897-8943
Fred Schell	Hamlet of Cape Dorset		(867) 897-8943
John Dawe	CGS – GN		(867) 975-5367
Bhabesh Roy	CGS – GN		(867) 899-7314
Johnathan Palluq	CGS – GN		(867) 899-7301
Tom McDonald	CGS – GN		(867) 899-7307
Heather Scott	Dillon		(867) 920-4555
Paul Cavanagh	AMEC		(403) 207-7612
Froeyois Reinhart	INAC – Water	<a href="mailto:ReinhartF@inac.gc.ca">ReinhartF@inac.gc.ca</a>	(867) 975-4548
Charlotte Lamontagne	INAC	<a href="mailto:LamontagneC@inac.gc.ca">LamontagneC@inac.gc.ca</a>	(867) 975-4552

\*Participated via teleconference



**APPENDIX C: SUMMARY OF GEOTECHNICAL ISSUES FROM BGC**



# BGC ENGINEERING INC.

## AN APPLIED EARTH SCIENCES COMPANY

### APPENDIX C: SUMMARY OF GEOTECHNICAL ISSUES FROM BGC

1605, 840 – 7 Avenue S.W. , Calgary, Alberta, Canada. T2P 3G2  
Phone (403) 250-5185 Fax (403) 250-5330

## PROJECT MEMORANDUM

<b>To:</b>	<b>Nunavut Water Board</b>	<b>Fax No.:</b>	<b>Via email</b>
<b>Attention:</b>	<b>Dionne Filiatrault</b>	<b>CC:</b>	
<b>From:</b>	<b>Holger Hartmaier (Ext. 113)</b>	<b>Date:</b>	<b>October 2, 2007</b>
<b>Subject:</b>	<b>Cape Dorset Sewage Lagoon- October 1, 2007 Pre-Hearing- Geotechnical Items for Follow-up.</b>		
<b>No. of Pages (including this page): 2 Pages</b>		<b>Project No:</b>	<b>0308-003-02</b>

The following is a brief summary of the geotechnical related items that were identified during the hearing for follow-up by the applicant.

1. Confirmation of who is the geotechnical engineer of record for the design and construction of the sewage lagoon.
2. As-built construction drawings, including design criteria, inspection records during construction, materials used, quality assurance protocols and quality control documentation.
3. Installation of thermistors to monitor freeze-back of foundation and confirm geothermal modeling predictions. Details to include location, depth, bead locations (depths), method of monitoring (data logger or manual reading), frequency of readings, who will carry out the readings. Thermistors should go below the depth of zero annual temperature change in at least one of the locations that is representative of general site conditions so that the regional geothermal gradient can be determined. Geotechnical logs of the holes drilled for each thermistor should be provided.
4. Calibration of the geothermal analysis to the thermistor temperature measurements and site data.
5. Confirm that the lagoon water temperatures used in the geothermal analysis are conservative with respect to operational water temperatures.
6. O&M manual to include thermistor monitoring protocol and lagoon operation (annual discharge) required to maintain a frozen geothermal regime in the base of the lagoon. Changes in operations with respect to operating pond levels should trigger a review of the need to reassess geothermal model to check that frozen conditions are maintained.
7. Confirm rate of drawdown of lagoon during annual discharge.
8. Check stability of upstream slope under rapid drawdown conditions based on maximum potential drawdown rate. Stability analysis should assess stability of the thin unfrozen zone of the upstream shell predicted from the geothermal analysis as well as conservatively assuming that the entire shell upstream of the liner is thawed, with a failure zone that incorporates the GCL liner as a potential low strength element within the slope.
9. Conduct a seepage analysis for the case assuming there are undetected defects/holes in the liner, with seepage taking place through the active zone in the downstream shell. Assess potential for this seepage to affect slope stability and integrity of frozen conditions in the berm and foundation.

10. What was the protocol/criteria used in the field to establish the base of the cut-off trench?
11. For the areas where rock was encountered, what was the condition of the rock at the base of the core trench? (i.e. tight, fractured with open fractures, ice filled fractures, etc.).
12. Was any stripping done of the foundation under the upstream and downstream shells?
13. Provide an as-built longitudinal section of the cutoff trench showing original ground surface, depth of any stripping and final depth of cutoff trench, top of rock and top of permafrost. Add any other information from previous investigations (air track holes).
14. Were any seepage tests done in the base of the trench.
15. Was any leakage testing done at the completion of the berm?
16. Confirmation of material type used to backfill the cutoff trench.
17. Provide operational protocols with respect to the potential for freezing of the discharge pipe.
18. Ditch liner detail provided by applicant does not prevent seepage from entering the lagoon since it does not go below the active zone. Seepage inflow was noted at site through the recently completed berm.

Further detailed comments will be provided on each of the above items when information is received from the applicant.

Yours truly,  
**Per BGC Engineering Inc.**

Holger Hartmaier, M.Eng., P.Eng.  
 Senior Geotechnical Engineer