



NIRB File No.: 08YN010

NPC File No.: 148252

May 27, 2016

Luke Copland
University of Ottawa
Department Geography
60 University Pvt.
Ottawa, ON K1N 6N5

Sent via email: luke.copland@uottawa.ca

Re: Notice of Screening for University of Ottawa's "Ice Dynamics and Cryospheric Changes in Northern Canada" project proposal

Dear Luke Copland:

On April 21, 2016 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen University of Ottawa's (U of O) "Ice Dynamics and Cryospheric Changes in Northern Canada" project proposal from the Nunavut Planning Commission (NPC or Commission) due to significant modification to the original project proposal. NPC noted that the conformity determination issued on February 4, 2008 continues to apply to this proposal

Due to the proposal containing activities that were sufficiently related to previously assessed activities under NIRB file number **08YN010**, the NIRB views this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number.

INFORMATION REQUEST

Following a preliminary completeness check, the NIRB determined that the proposal as submitted did not contain the necessary information for the NIRB to carry out its screening. On April 27, 2016 the NIRB requested that the U of O provide additional information in support of this proposal by May 11, 2016. On May 20, 2016 and May 25, 2016 the NIRB received the requested additional information and commenced the screening pursuant to Part 3 of the NuPPAA.

PROJECT SCOPE

Project Scope:

The proposed “Ice Dynamics and Cryospheric Changes in Northern Canada” project is located within the Qikiqtani region (North Baffin), approximately 80 to 700 kilometres (km) northwest to northeast of Grise Fiord and approximately 500 to 600 km west to north-northeast of Resolute Bay. The proponent intends to continue monitoring the characteristics, dynamics and recent changes of the glaciers, ice shelves and sea ice in the Canadian Arctic Archipelago. The program is proposed to take place from 2016 to 2040.

According to the project proposal, the scope of the project includes the following undertakings, works or activities:

- Glaciers to be studied to include glaciers on Axel Heiberg, Ellesmere and Devon Islands with installation of instruments at Trinity Glacier to occur in August 2016;
- Research activities to include the following to measure glacier motion and changes to ice cover:
 - Differential Global Positioning Systems (dGPS) to measure ice movement;
 - Chemical analyses of samples collected via shallow ice-coring with the use of an ice auger;
 - Operation of time-lapse cameras to monitor glacier melt and iceberg calving;
 - Installation of temporary weather stations to monitor ice-climate interactions;
 - Use of ground-penetrating radar to measure ice thickness and snow;
 - Installation of ablation stakes to measure snow and ice melt and accumulation;
- Use of twin otter and helicopter to transport personnel and equipment to and from field sites;
- Use of snowmobiles and komatiks to transport personnel to and from glaciers, ice shelves and sea ice;
- Use of the McGill Arctic Research Station camp facilities at Expedition Fiord on Axel Heiberg Island for two (2) to six (6) weeks/year;
- Set-up of temporary camp (3 sleeping accommodation and 1 kitchen) at Purple Valley, Northern Ellesmere Island for two (2) weeks/year;
- Transportation, storage and use of 135 gallons diesel, 135 gallons gasoline, 540 gallons aviation fuel and 300 pounds propane;
- Incineration of combustible and sewage wastes with ash removed;
- Grey water to be disposed in sump;
- All other wastes to be removed from research sites; and
- Use of water for domestic purposes

At this time, the NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB will proceed with screening the project based on the scope as described above.

REQUEST FOR COMMENTS

All documents received and pertaining to this project proposal can be obtained from the NIRB's online public registry at www.nirb.ca by using any of the following search criteria:

- Project Name: Ice Dynamics and Cryospheric Changes in Northern Canada
- NIRB File No.: 08YN010
- Application No.: 124664

The documents received include:

- *NPC Screening Referral and Conformity Determination*
- *NPC Application and Conformity Questionnaire*
- *NIRB's Online Application Form (formerly the NIRB Part 1 form in English)*
- *NIRB Part 1 Summary Form in Inuktitut*
- *Non technical Project Proposal summary in English and Inuktitut*
- *Maps noting research locations*

The NIRB will copy you on screening process related correspondence and upload related documents to the NIRB's online registry for public access. The NIRB may request additional information at any time during the process.

The NIRB is copying parties and municipalities potentially affected by U of O's project proposal with this letter, and we invite interested parties to comment directly to the NIRB by **June 7, 2016**.

The NIRB would like parties to provide comments regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; if so, why;
- Whether the project is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (please provide any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

Please note that *proposed* project-specific terms and conditions, should the project proceed, have been attached for consideration and comment (**Appendix A**).

CONTACT INFORMATION

Please send your comments to the NIRB at info@nirb.ca or via fax at **(867) 983-2594**. **The NIRB has recently launched an updated online public registry, and parties can access project information as well as submit comments directly to the NIRB via www.nirb.ca.**

If you have any questions or require clarification, feel free to contact the undersigned at (867) 857-2052 or via email at sgranchinho@nirb.ca.

Sincerely,



Sophia Granchinho, M.Sc., EP
Manager, Impact Assessment
Nunavut Impact Review Board

cc: Distribution List
 Karén Kharatyan, Nunavut Water Board
 Joel Fortier, Qikiqtani Inuit Association
 Mosha Cote, Nunavut Research Institute
 Tracey McCaie, Indigenous and Northern Affairs Canada

Attachment: Appendix A – *Proposed* Project Specific Terms and Conditions

Enclosures 4: Public Notice of Screening (English and Inuktitut)
 Comment Forms (English and Inuktitut)

Appendix A

Proposed Project Specific Terms and Conditions

The following is a list of project-specific terms and conditions which, should the project proceed, may be recommended to be attached to any approval.

General

1. University of Ottawa (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.
3. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, April 21, 2016) and to the NIRB (additional information submitted on May 20, 2016).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water Use

5. The Proponent shall ensure that water extraction from any fish-bearing waterbody is done with appropriate care and caution. Small lakes or streams should not be used for water withdrawal unless approved by the Nunavut Water Board.
6. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board.

Waste Disposal/Incineration

7. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.
8. The Proponent shall incinerate all combustible wastes daily, and remove the ash from incineration activities and non-combustible wastes from the project site to an approved facility for disposal.
9. The Proponent shall ensure that no waste oil/grease is incinerated on site.

Fuel and Chemical Storage

10. Unless otherwise authorized by the Nunavut Water Board, the Proponent shall locate all fuel and other hazardous materials a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent their release into the environment.
11. The Proponent shall ensure that re-fueling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body, unless otherwise authorized by the Nunavut Water Board.
12. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.

13. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks), when storing barreled fuel and chemicals at all locations.
14. The Proponent shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available during any transfer of fuel or hazardous substances, and at all fuel storage sites.
15. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

Wildlife - General

16. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
17. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
18. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

Migratory Birds and Raptors Disturbance

19. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metres buffer around the nests). If active nests of any birds are discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
20. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
21. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl by three (3) kilometres.
22. The Proponent shall ensure its aircraft avoid excessive hovering or circling over areas where bird presence is likely.

Aircraft Flight Restrictions

23. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum altitude of 610 metres above ground level unless there is a specific requirement for low-level flying, which does not disturb wildlife and migratory birds.
24. The Proponent shall ensure that aircraft maintain a vertical distance of 1000 metres and a horizontal distance of 1500 metres from any observed groups (colonies) of migratory birds. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.

25. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.
26. The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

Caribou and Muskoxen Disturbance

27. The Proponent shall cease activities that may interfere with the migration or calving of caribou or muskox, until the caribou or muskox have passed or left the area.
28. The Proponent shall not block or cause any diversion to caribou migration, and shall cease activities likely to interfere with migration such as movement of equipment or personnel until such time as the caribou have passed.

Ground Disturbance

29. The Proponent shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles must be suspended if rutting occurs.

Temporary Camps and Land Use

30. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
31. The Proponent shall not erect camps or store material on the surface ice of lakes or streams.
32. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

Restoration of Disturbed Areas

33. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
34. The Proponent shall complete all clean-up and restoration of the lands used prior to the end of each field season and/or upon abandonment of site.

Other

35. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.
36. The Proponent should, to the extent possible, hire local people.
37. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.