

NIRB Assessment and Decision

After a thorough assessment of all material provided to the Board (please see Appendix A), the decision of the Board as per section 12.4.4 of the NLCA is:

12.4.4 (a): the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5

NIRB's decision is based on specific considerations that reflect the primary objectives of the Land Claims Agreement. Our considerations in making this decision included:

- storage and disposal of fuel, garbage, sewage, and gray water, and impact of these on the ecosystem;
- the potential impact and disturbance to nesting and migrating birds;
- the potential impact and disturbance of wildlife
- impact of noise from aircraft activities and its disturbance to wildlife
- the potential impact on terrain from the use of on-site mechanized vehicles;
- the impact on archaeological sites or cultural landmarks in the area;
- the impacts of activities on the environment;

Summary of Recommended Conditions

The Board is recommending the following or similar project-specific terms and conditions be imposed upon the Proponent through all relevant legislation:

General

1. The Mars Institute (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 to the NIRB obtained and required for this project prior to the commencement of the project.
3. The NIRB shall be notified of any changes in operating plans or conditions associated with this project prior to any such change.

Water

4. The Proponent shall be advised that the use of water, disposal of wastewater or waste as a result of the project proposal activities require a Nunavut Water Board license and the project cannot proceed until this is obtained.
5. The Proponent shall not construct or disturb any stream, lakebed or banks of any definable water course unless authorized by the Department of Fisheries and Oceans.
6. The Proponent shall ensure that all water intake hoses are equipped with a screen with an appropriate mesh size to ensure that there is no entrapment of fish.

Waste

7. 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.
8. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of.
9. The Proponent shall ensure compliance with Section 36 of the *Fisheries Act* which requires that no person shall deposit or permit the deposit of a deleterious substance on any type in water frequented by fish or in any place under any conditions where the deleterious substance may enter such a water body.

Fuel and Chemical Storage

10. The Proponent shall locate all fuel and other hazardous materials a minimum of thirty (30) 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 store all chemicals in such a manner that they are inaccessible to wildlife.
12. The Proponent shall report all spills of fuel, or other deleterious materials immediately to the 24 hour Spill Line at (867) 920-8130.

Wildlife

13. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation. Deliberate feeding of any wildlife is absolutely prohibited. The Proponent shall not hunt or fish, unless the appropriate permits and licenses are acquired.
14. The Proponent must avoid raptor nesting sites and concentrations of nesting or molting waterfowl by aircraft/helicopter at all times.
15. Pursuant to the *Migratory Bird Convention Act Regulations*, the Proponent shall not disturb or destroy the nests or eggs of migratory birds. If nests containing eggs or young are encountered, the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
16. The Proponent shall ensure that there is minimal disturbance to any nesting birds and wildlife in the area. Harassment of wildlife is prohibited. This includes persistently worrying or chasing animals, disturbing large groups of animals, hovering or circling animals.
17. In order to reduce disturbance to nesting birds, the Proponent shall ensure that any aircraft used in conducting project activities maintain a flight altitude of at least 610 metres during horizontal (point to point) flight during the nesting season.
18. In order to reduce disturbance to resting, feeding, or moulting birds, the Proponent shall ensure that any aircraft used in conducting project activities maintain a vertical distance of 1000 m and minimum horizontal distance of 1500 m from any observed concentrations (flocks / groups) of birds.
19. The Proponent shall ensure to minimize aircraft disturbance to wildlife. This includes minimizing the number of flights, fly at a time when there are few migratory birds around, plan routes that are likely to have least occurrences of wildlife, use smaller aircrafts when possible, use fixed-wing aircraft rather than helicopters when possible and inform pilots of wildlife sensitive areas.

20. The Proponent shall avoid caribou calving grounds between mid-May and mid-July. Large aggregations of caribou should also be avoided.
21. The Proponent shall follow procedures outlined in the "Territorial Safety in Bear Country Manual", and "Safety in Polar Bear Country", and should contact the Regional Biologist or the Wildlife manager for information and advice on measures which should be taken to minimize the possibility of conflicts/interactions with bears (especially polar bears). Consideration should be given to setting up an electric fence around the camp.
22. In accordance with GN procedures and sections 5.3.52 and 5.6.55 of the Nunavut Land Claims Agreement, the Proponent shall contact the nearest Government of Nunavut Wildlife Office in the event of a defense kill of a Polar Bear.
23. The proponent shall document any wildlife observations (i.e. polar bears, muskoxen, caribou, fox and wolves) in the general vicinity and provide annual reports on these observations to the Regional Wildlife Biologist (Seeglook Akeeagok, 867-975-7800 or sakeeagok@gov.nu.ca). Documentation shall include, location, species, number of animals, a description of the animals activity, and a description of the gender and age of animals if possible (i.e. female caribou and calf). The location shall be marked on a 1:50,000 scale map.

Physical Environment

24. 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.
25. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

Camp Sites

26. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
27. The Proponent shall not erect camps or store material on the surface ice of lakes or streams.

Archaeological

28. The Proponent shall ensure that any archaeological or palaeontological sites encountered are not disturbed.
29. The Proponent should be aware of the law regarding disturbance of archaeological and palaeontological sites and the removal of artifacts found. If a site is found it should remain undisturbed and its location should be reported to the Government of Nunavut Department of Culture, Language, Elders and Youth. See attached **Appendix B**.

Restoration

30. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
31. The Proponent shall complete all clean-up and restoration of the lands used prior to the expiry date of the permit.

Other

32. The Proponent should, to the extent possible, hire local people and to consult with local residents regarding their activities in the region.

Validity of Land Claims Agreement

Section 2.12.2

Where there is any inconsistency or conflict between any federal, territorial and local government laws, and the Agreement, the Agreement shall prevail to the extent of the inconsistency or conflict.

Dated Thursday, March 16, 2007 at Cambridge Bay, NU.



Lucassie Arragutainaq, Acting Chairperson

Attachments: Appendix A- File History
 Appendix B-Archaeological and Palaeontological Resources Terms and Conditions for Land Use
 Permit Holders.

APPENDIX A – FILE HISTORY

On November 29, 2006 the Nunavut Impact Review Board (NIRB or Board) received an application from Indian and Northern Affairs Canada (INAC) for the Haughton-Mars project proposal (Mars Institute). After a pre-screening review it was determined that NIRB required additional information from the Mars Institute prior to commencing the Part 4 Screening for the Haughton-Mars project. On January 31, 2007, NIRB received the additional information from the Mars Institute necessary to commence the screening process.

This application was distributed on February 6, 2007 to interested Parties on NIRB's distribution list. NIRB requested that interested Parties review the application and provide NIRB with appropriate comments.

Project Description

The Haughton-Mars Project (HMP) on Devon Island is an ongoing international research project with three main goals:

- a) Space Science: To advance our knowledge of planets (Earth, Moon, Mars, and beyond) through comparative studies & to investigate Life in extreme environments;
- b) Space Exploration: To prepare for future space and planetary exploration with robots and humans, including testing future Mars rovers and supporting astronaut training; and,
- c) To share with the public the excitement of space science and exploration.

Haughton Crater and surrounding terrain on Devon Island are of great scientific value for Earth, Space and Life Sciences Research. The site presents many exceptional attributes not found elsewhere on Earth, in particular the presence of a large, well-preserved meteorite impact crater and other unique terrain features similar to the Moon or Mars. Devon Island has been used by the Haughton-Mars Project (HMP) for this type of research since the project began in 1997. The base camp for this project is called the Haughton-Mars Project Research Station or HMP RS.

Current plans of government space agencies around the world include the possibility of sending humans to the Moon by 2017-2025 and on to Mars in 2025-2035. The Haughton-Mars Project plans to continue conducting research to help achieve these goals and also possibly the next steps beyond. It is anticipated that the HMP RS will continue to be operated in support of these endeavors until at least 2017 and possibly beyond.

The project activities include:

- Continued operation of the Haughton-Mars Project Research Station with minor camp facility upgrades
- Temporary camping facilities
- Addition of occasional temporary research structures
- Fuel storage
- Air surveys
- Use of on-site mechanized vehicles
- Generation of wastes and use of water
- Geoscientific soil and borehole core sampling

- Research activities including testing and validation of new technologies and approaches for space exploration using rovers, habitats, tools and instruments.

Comments

NIRB received comments from the Government of Nunavut, Department of Environment (DOE) and the Government of Nunavut Department of Culture Language Elders and Youth on February 16, 2007.

Government of Nunavut, Department of Environment

DOE had comments and recommendations in regards to aircraft disturbance on wildlife, polar bear interactions and collection of wildlife observations. These recommendations have been attached in Appendix A.

DOE recommended that the proponent documents any wildlife observations (i.e. polar bear, muskoxen, caribou, fox and wolves) in the general vicinity of their operations and encourages the proponent to provide the reports on wildlife observations annually to the Regional Wildlife Biologist (Seeglook Akeagok).

Government of Nunavut Department of Culture Language Elders and Youth

The GN-CLEY provided archaeological and palaeontological resources terms and conditions for land use permit holders. These recommendations have been attached as Appendix B to the list of terms and conditions for your consideration.

GN-CLEY recommended approval of the application on the condition that the proponent's activities avoid known archaeological sites listed.



SCREENING DECISION REPORT NIRB FILE NO.: 06LN083

APPENDIX B



BACKGROUND

Archaeology

As stated in Article 33 of the Nunavut Land Claims Agreement:

The archaeological record of the Inuit of Nunavut is a record of Inuit use and occupancy of lands and resources through time. The evidence associated with their use and occupancy represents a cultural, historical and ethnographic heritage of Inuit society and, as such, Government recognizes that Inuit have a special relationship with such evidence, which shall be expressed in terms of special rights and responsibilities. [33.2.1]

The archaeological record of Nunavut is of spiritual, cultural, religious and educational importance to Inuit. Accordingly, the identification, protection and conservation of archaeological sites and specimens and the interpretation of the archaeological record is of primary importance to Inuit and their involvement is both desirable and necessary. [33.2.2]

In recognition of the cultural, spiritual and religious importance of certain areas in Nunavut to Inuit, Inuit have special rights and interests in these areas as defined by Article 33 of the Nunavut Land Claims Agreement. [33.2.5]

Palaeontology

Under the Nunavut Act¹, the federal government can make regulations for the protection, care and preservation of palaeontological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*², it is illegal to alter or disturb any palaeontological site in Nunavut unless permission is first granted through the permitting process.

¹ s. 51(1)

² P.C. 2001-1111 14 June, 2001

Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

“archaeological site” means a place where an archaeological artifact is found.

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement.

“palaeontological site” means a site where a fossil is found.

“fossil” includes:

- (a) natural casts
- (b) preserved tracks, coprolites and plant remains; and
- (c) the preserved shells and exoskeletons of invertebrates and the eggs, teeth and bones of vertebrates.

Terms and Conditions

- 1) The permittee shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 2) The permittee shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 3) The permittee shall immediately contact the Department of Culture, Language, Elders and Youth (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035 should an archaeological site or specimen, or a palaeontological site or fossil be encountered or disturbed by any land use activity.
- 4) The permittee shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation, until permitted to proceed with the authorization of the Department of Culture, Language, Elders and Youth, Government of Nunavut.
- 5) The permittee shall follow the direction of the Department of Culture, Language, Elders and Youth and DIAND in restoring disturbed archaeological or palaeontological sites to an acceptable condition.
- 6) The permittee shall provide all information requested by the Department of Culture, Language, Elders and Youth concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 7) The permittee shall make best efforts to ensure that all persons working under authority of the permit are aware of these conditions concerning archaeological sites and artifacts, and palaeontological sites and fossils.
- 8) The permittee shall avoid the known archaeological and/or palaeontological sites listed in Attachment 1.

9) The permittee shall have an archaeologist or palaeontologist perform the following functions, as required by the Department of Culture, Language, Elders and Youth:

- a) survey
- b) inventory and documentation of the archaeological or palaeontological resources of the land use area
- c) assessment of potential for damage to archaeological or palaeontological sites
- d) mitigation
- e) marking boundaries of archaeological or palaeontological sites
- f) site restoration

The Department of Culture, Language, Elders and Youth shall authorize by way of a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit, all procedures subsumed under the above operations.

