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By Licensing Administrative Assistant at 8:35 am, Aug 19, 2011

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Prairie and Northern
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August 17, 2011

Our File No.: 4703 001 070
Your File No.: NWB 3BC-HMP0712

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0

Via Email at licensing@nunavutwaterboard.org

Dear Ms. Beaulieu,

RE: 3BC-HMP0712 – Mars Institute, Dr. Pascal Lee – Spill Contingency Plan

Environment Canada (EC) has reviewed the information submitted with the above-mentioned application. The following specialist advice is provided pursuant to EC's mandated responsibilities arising from the *Canadian Environmental Protection Act* (CEPA), Section 36(3) of the *Fisheries Act*, and the *Migratory Birds Convention Act*.

It is our understanding that the Mars Institute (the Proponent) has submitted a Spill Contingency Plan (HMP-2011 Spill Contingency Plan, herein known as the SCP) to the Nunavut Water Board (the NWB) for review. The SCP for the Mars Institute applies to all activities and facilities at the scientific research camp located on Devon Island, Nunavut in the Qikiqtani region.

EC offers the following recommendations and comments for the SCP:

General

1. All mitigation measures identified by the Proponent, and the additional measures suggested herein, should be strictly adhered to in relation to the SCP. This will require awareness on the part of the Proponents' representatives (including contractors) conducting operations in the field. EC recommends that all field operations staff be made aware of the Proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.
2. Meeting the requirements of the *Fisheries Act* is mandatory, irrespective of any other regulatory or permitting system. Section 36(3) of the *Fisheries Act* specifies that unless authorized by federal regulation, no person shall deposit or permit the deposit of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water. The legal definition of deleterious substance provided in section 34(1) of the *Fisheries Act*, in conjunction with court rulings, provides a very broad interpretation of deleterious and includes any substance with a potentially harmful chemical, physical or biological effect on fish or fish habitat.

Fuel / Spill Contingency

3. Please note the new *CEPA Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations* that came into force on June 12, 2008. These regulations apply to both outside, aboveground and underground storage tank systems (including the piping and other tank associated equipment) under federal jurisdiction containing petroleum and allied petroleum products that have a capacity greater than 230 litres. This includes tanks located on federal or Aboriginal lands. Exceptions are pressurized tanks, mobile tanks, tanks regulated by the National Energy Board, and outdoor, aboveground storage tank systems that have a total combined capacity of 2500 litres or less and are connected to a heating appliance or emergency generator. All storage tank system owners must identify their tank systems to EC and installation of new systems must comply with the regulation's design requirements. Further information on these regulations can be found at www.ec.gc.ca/st-rs.
4. EC has reviewed the SCP and still feels that that plan should be updated. Copies of the spill plan must be made readily available on site, and all staff should be familiar with operational procedures in the event of a spill. The SCP should:
 - assign responsibilities to company staff and / or contractors and outline a clear path of response;
 - provide a list of agencies / persons to be contacted in the event of a spill including their phone numbers, etc. Note that the contact information for EC is no longer valid; EC will be notified through the NU / NWT 24-hour Spill Line process and does not need to be included on the Emergency Contact List. The Proponent should review their contact list and update accordingly;
 - create and maintain a list and indicate location(s), both on and off site, of equipment available to be used in the event of a spill;
 - ensure an appropriate spill kit with absorbent material is located at all sites where fuel storage and transfer occurs;
 - ensure drip pans are utilized when refuelling equipment;
 - ensure proper handling and disposal of contaminated materials resulting from the containment, clean-up, etc. of any spills; and
 - state that **all spills** of oil, fuel, or other deleterious materials, **regardless of size**, are to be reported to the NU / NWT 24-hour Spill Line (867) 920-8130. All releases of harmful substances, regardless of quantity, are immediately reportable where the release:
 - is near or into a water body;
 - is near or into a designated sensitive environment or sensitive wildlife habitat;
 - poses an imminent threat to human health or safety; or
 - poses an imminent threat to a listed species at risk or its critical habitat.
5. All fuel caches should be located above the high water mark of any water body. Further, EC recommends the use of secondary containment with an impervious liner, such as self-supporting insta-berms, for storage of all barreled fuel rather than relying on natural depressions to contain spills.
6. The Proponent should not store any materials on the surface ice of lakes or streams.

7. EC offers the following comments for fuel transfer operations:

- transfer operations should be attended by trained personnel at all times;
- secondary containment or a surface liner (drip pans, fold-a-tanks, etc.) should be placed under all containers or vehicle fuel tank inlet and outlet points, hose connections and hose ends during fuel or hazardous substance transfers; and
- secondary containment should be of adequate size and volume to contain and hold fluids for the purpose of preventing spills (the worst-case scenario).

Waste Treatment & Disposal

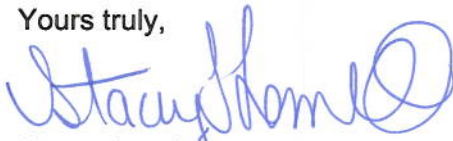
8. The Proponent should ensure that any fuel or hazardous wastes associated with the proposed project are to be properly handled, transported and disposed of at an approved disposal site.
9. All solid wastes (e.g. potable water bottles) should be disposed of at an appropriate facility. The Proponent is encouraged to make use of recycling facilities for all recyclable materials.

Wildlife

10. Section 5.1 of the *Migratory Birds Convention Act* prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter waters or such an area.

If there are any changes in the SCP or more information is available, EC should be notified, as further review may be necessary. Please do not hesitate to contact me at (867) 669-4748 or Stacey.Lambert@ec.gc.ca with any questions concerning the above points.

Yours truly,



Stacey Lambert
Environmental Assessment Coordinator, EPO

cc: Dr. Pascal Lee (Mars Institute)
Carey Ogilvie (Head, Environmental Assessment North, EPO)
Paula Smith (Environmental Assessment Coordinator, EPO)
Meghan Thomson (Environmental Assessment Intern, EPO)