

Environmental Protection Branch  
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Iqaluit, NU X0A 0H0  
Tel: (867) 975-4631  
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16 July 2010

EC File: 4703 001 082  
NWB File: 2BE-ANG0813

Richard Dwyer  
Licensing Administrator  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 0J0

Via email: [licensingadmin@nunavutwaterboard.org](mailto:licensingadmin@nunavutwaterboard.org)

**RE: 2BE-ABG0813 Angilak Project amendment application Kivalliq Energy Corporation**

Environment Canada (EC) has reviewed the information submitted with the above-mentioned application to the Nunavut Water Board (NWB). The following specialist advice has been provided pursuant to the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Kivalliq Energy Corp. has been operating on the Angilak Property since 2008 and is requesting an amendment to their current water license, increasing the total daily volume from 58m<sup>3</sup> to 100 m<sup>3</sup> to allow for a second drill at the site.

Upon review of the supporting documents, EC provides the following comments and recommendations for the NWB's consideration:

**General**

- EC does not foresee any major issues with the increased water use as long as there are proper measures in place to cope with the increase in waste water. With respect to drilling, will additional sumps be created or do the current sumps have enough capacity to deal with the increased waste water? Should additional sumps be needed, are there enough suitable locations available?
- EC reminds the proponent that EC recommends that all sumps are located a sufficient distance from the high water mark of any water body and that they are constructed such that the contents do not migrate out from the sump.

Comments previously submitted on behalf of EC by C. Spavor on 20 November 2009, in response to the initial amendment to this water license, and by R. Bujold on 18 July 2008 in response to the NIRB Part 4 Screening, would still apply to this project (see attached). If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at [paula.c.smith@ec.gc.ca](mailto:paula.c.smith@ec.gc.ca)

Yours truly,



Paula C. Smith  
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, Environmental Assessment-North, EPO, Yellowknife, NT)  
Ron Bujold (Environmental Assessment Technician, EPO, Yellowknife, NT)



**Environment Environnement  
Canada Canada**

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November 20, 2009

Our file: 4703 001 082  
NWB file: 2BE-ANG0813

Phyllis Beaulieu  
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*Via email at: [licensing@nunavutwaterboard.org](mailto:licensing@nunavutwaterboard.org)*

**Re: NWB 2BE-ANG- Angilak Project- Amendment –Type “B” Water License**

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Kivalliq Energy Corporation (Kivalliq Energy) is applying for an amendment of their water licence to move the location of their exploration camp. It was determined that the location of the small camp established in 2008 was in a low lying area with high potential for flooding. Two new locations have been selected at UTM 6937404m N/ 526312 m E or 6937672 m N/ 528031m E, and is pending approval from the Nunavut Water Board (Board) and Indian and Northern Affairs. The proposed exploration camp would support various project activities including an airborne geophysical survey, rock sampling, and sampling of old core samples. The project is proposed to occur from March 2008 to March 2013.

Based on the information presented at this time, EC has no real concerns with amending this water license. Comments and recommendations submitted for the project on July 18, 2008 in response to the NIRB Part 4 Screening, would apply to this water license application (see attached). Further, Environment Canada provides the following comments and recommendations for the Board's consideration:

**Camp**

- Kivalliq Energy has indicated that they will be using an incinerator to manage some camp wastes. EC would like to note that a Technical Document for Batch Waste Incineration has been developed, and is available at the following web link:  
<http://www.ec.gc.ca/drgd-wrmd/default.asp?lang=En&n=82401EC7-1>  
The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting.

**Spill Contingency Plan and Abandonment and Reclamation Plan**

- Please note section 7.0 of the Abandonment and Reclamation Plan and Sections 5.1, 5.3 and 6.2 of the Spill Contingency Plan the 24 hr emergency line for Environment Canada (867-

- 766-3737) should be removed as this number is no longer in service.
- Once a camp location is determined, the revised Spill Contingency Plan should contain a site map which includes fuel caches and spill kit locations.
  - According to the Indian and Northern Affairs Inspection Report, completed August 11, 2009, no secondary containment was found for any fuel cache on site. When storing barreled fuel on location, EC recommends the use of secondary containment, such as self-supporting insta-berms, rather than using natural depressions. Further, all fuel caches shall be located above the high water mark of any water body and in such a manner as to prevent the contents from entering any water body frequented by fish.

If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at [carrie.spavor@ec.gc.ca](mailto:carrie.spavor@ec.gc.ca).

Yours truly,

***Original signed by***

Carrie Spavor  
Environmental Assessment Coordinator

c.c: Carey Ogilvie (Head, Environmental Assessment-North, EPO, Yellowknife, NT)  
Ron Bujold (Environmental Assessment Technician, EPO, Yellowknife, NT)



**Environment Environnement  
Canada Canada**

Environmental Protection Operations (EPO)  
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Yellowknife, NT X1A 1E2

18 July 2008

Our File: 4703 001 082

Nunavut Impact Review Board  
P.O. Box 1360  
Cambridge Bay, NU X0B 0C0

[lpayette@nirbnunavut.ca](mailto:lpayette@nirbnunavut.ca)

Attention: Leslie Payette

**Re: NIRB 08EN052 – Angilak Project – Kivalliq Energy Corporation - Mineral Exploration.**

Environment Canada's (EC) contribution to your request for specialist advice is based on the mandated responsibilities for the enforcement of **Section 36(3)** of the *Fisheries Act*, the *Canadian Environmental Protection Act* (CEPA), the *Migratory Birds Convention Act* (MBCA) *Regulations* and the *Species at Risk Act* (SARA).

EC has reviewed the above noted application to carry out preliminary exploration activities within the proponents Angllak property located in the Kivalliq Region and would like to add the following comments and recommendations.

Raw sewage has high moisture content and low heat content making this type of waste difficult to incinerate. Advanced incineration technology and a great deal of auxiliary fuel will be necessary to ensure complete combustion and air pollution control equipment will be needed to mitigate air emissions (such as mercury, dioxins and furans). The National Pollutant Release Inventory (NPRI) requires that emissions from sewage incineration, regardless of camp size, are reported annually. There are also sanitation and human health concerns regarding manual handling and transportation of the raw sewage from the Pacto Toilet to the incinerator.

Environment Canada requests the following information:

- What is the manufacturer, model, and year of the incinerator to be used to incinerate the sewage?
- What air pollution control equipment will be used?
- Will the emissions from the sewage incineration be reported to the NPRI?
- What are the handling procedures for transporting the sewage from the Pacto Toilet to the incinerator?

### **Comments and Recommendations**

- The proponent shall ensure that any chemicals, fuel or wastes associated with the proposed land use permit application do not enter waters frequented by fish. It is a requirement of **Section 36(3)** of the *Fisheries Act* that all effluent discharged into water frequented by fish, be non-deleterious.
- The proponent should ensure that combustible waste is burned in a device that promotes efficient combustion and reduction of emissions and is capable of meeting the emissions limits established under the Canada-wide Standards (CWS) for Dioxins and Furans and the CWS for Mercury Emissions. Both the Government of Canada and the Government of Nunavut are signatories to these standards and are required to implement them according to their respective jurisdictional responsibility.
- Drip pans should be used when refuelling any equipment on site. An appropriate spill kit with absorbent material should be located at all fuel transfer sites.
- When storing barrelled fuel at a location, EC encourages the use of a secondary containment rather than relying on "natural depressions". Self supporting insta-berms are available from various suppliers within Canada.
- Operational practices for the handling of fuels and hazardous fluids should be posted and made available to all personnel required to work on site and should outline a clear path of response.

- A dedicated area should be used for refuelling equipment with measures taken to ensure capture and containment of drips and spills. Drip pans should be used when refuelling any equipment on site. An appropriate spill kit with absorbent material should be located at all fuel transfer sites and drill sites.
- Spill contingency plans should also include the locations of disposal sites which are approved to accept wastes and the proponent should have a means of proper storage of wastes prior to disposal.
- The proponent should be aware that the *Canadian Environmental Protection Act* lists CaCl as a toxic substance. The proponent shall therefore ensure that if CaCl is used as a drill additive, all sumps containing CaCl are properly constructed and located in such a manner as to ensure that the contents will not enter any water body.
- The contacts and numbers for Environment Canada in the proponents application should be changed to the following:  
**Environment Canada's 24 Hour Duty Officer**  
**Phone: 867-766-3737**  
**Fax: 867-873-8185**

The Canadian Wildlife Service (CWS) of Environment Canada has reviewed the above-mentioned submission and makes the following comments and recommendations pursuant to the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations*), and the *Species at Risk Act* (SARA).

1. Section 6 (a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds. Therefore, Environment Canada recommends that all activities in which there is a risk of disturbing or destroying nests or eggs be conducted outside the migratory bird breeding season, which extends from approximately May 15 to July 31. These dates are approximate, and if active nests (i.e. nests containing eggs or young) are encountered outside of these dates the proponent should avoid the area until nesting is complete (i.e. the young have left the vicinity of the nest).
2. For activities permitted to occur during the breeding season, Environment Canada recommends that the proponent confirm there are no active nests (i.e. nests containing eggs or young) in the vicinity of their operations before activities commence. If active nests of migratory birds are discovered, the proponent should halt all activities in the nesting area until nesting is completed (i.e. the young have left the vicinity of the nest).
3. In order to reduce disturbance to nesting, moulting, and migrating birds, Environment Canada recommends that aircraft used in conducting project activities maintain a flight altitude of at least 610 m during horizontal (point to point) flight unless safety or cloud ceiling do not permit. Environment Canada also recommends that aircraft maintain a vertical distance of 1000 m and minimum horizontal distance of 1500 m from any observed concentrations (flocks / groups) of birds.
4. Environment Canada recommends that camp waste be made inaccessible to wildlife at all times. Camp waste can attract predators of migratory birds (e.g., foxes and ravens) to an area if not disposed of properly.
5. 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 such waters or such an area.
6. All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. Environment Canada 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.
7. Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations*). The proponent must ensure they remain in compliance with the *Act* and *Regulations* during all phases and in all undertakings related to the project.
8. The following comments are pursuant to the *Species at Risk Act* (SARA), which came into full effect on June 1,

2004. Section 79 (2) of SARA, states that during an assessment of effects of a project, the adverse effects of the project on listed wildlife species and its critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This section applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, Environment Canada suggests that species on other Schedules of SARA and under consideration for listing on SARA, including those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), be considered during an environmental assessment in a similar manner.

Species at Risk that may be encountered	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility <sup>1</sup>
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peregrine Falcon (subspecies tundrius)	Special Concern	Schedule 3	Government of Nunavut
Grizzly Bear	Special Concern	Pending	Government of Nunavut
Wolverine (Western Population)	Special Concern	Pending	Government of Nunavut

<sup>1</sup> Environment Canada has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the *Migratory Birds Convention Act* (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Thus, for species within their responsibility, the Territorial Government is best suited to provide detailed advice and information on potential adverse effects, mitigation measures, and monitoring.

Impacts could be disturbance and attraction to operations.

Environment Canada recommends:

- Species at Risk that could be encountered or affected by the project should be identified and any potential adverse effects of the project to the species, its habitat, and/or its residence noted. Refer to species status reports and other information on the Species at Risk registry, at [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca) for information on specific species.
- If Species at Risk are encountered or affected, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species, its habitat, and/or its residence.
- The proponent should record the locations and frequency of any observations of Species at Risk and note any actions taken to avoid contact or disturbance to the species.
- For species under the responsibility of the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.
- Mitigation and monitoring measures must be, taken in a way that is consistent with applicable recovery strategies and action/management plans.

EC should be notified of any changes in the proposed or permitted activities associated with this application.

Please do not hesitate to contact me at (867) 669-4744 or [ron.bujold@ec.gc.ca](mailto:ron.bujold@ec.gc.ca) with any questions or comments.

Yours truly,

Ron Bujold  
Environmental Assessment Technician

cc: Carey Ogilvie (Head, Assessment & Monitoring, EPO)  
Mike Fournier (Northern Environmental Assessment Coordinator, A&M, EPO)  
Dave Fox (Air Issues Specialist)