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13 August 2010

EC file: 4703 001 079
NWB file: 2BE-KAZ0609

Richard Dwyer
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Via email: licensingadmin@nunavutwaterboard.org

RE: 2BE-KAZ0609 Baker Basin Project

Environment Canada (EC) has reviewed the information submitted with the above-mentioned application. 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*.

Aurora Energy Resources Inc. (Aurora) is applying to amend Type "B" water license 2BE-KAZ0609 to allow for open burning of untreated wood products at the Bissett Lake Camp. The camp is located at 63°46'38"N, 95°26'29"W, approximately 60 km south of the Hamlet of Baker Lake. Project activities include a reclamation program at the Bissett Lake Camp that will occur between 31 July 2010 and 19 September 2011 and will consist of 3 to 5 project personnel over 3 to 5 days. Aurora has provided the NWB with an Abandonment and Restoration Plan (A&R Plan) in support of these project activities.

EC does not encourage the open burning of waste wood as a means of disposal and provides the following comments and recommendations for the NWB's consideration:

- The proponent shall not deposit, nor permit the deposit of chemicals, sediment, wastes, or fuels associated with the project into any water body. According to the *Fisheries Act*, Section 36 (3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
- EC recommends the use of an approved incinerator for the disposal of combustible camp wastes. EC has developed a Technical Document for Batch Waste Incineration, and is available at the following web link:
<http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1>
The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting.
- Solid wastes that are conditionally suitable for open burning are paper products, paperboard packaging and untreated wood. Plywood, painted wood or other treated wood should not be disposed of through open burning. Burning wood waste that has been treated with preservative chemicals or protective coatings can release harmful substances such as

dioxins and furans into the environment. EC strongly recommends that the proponent remove all wood that are treated with preservatives and protective coatings from the project site upon final abandonment and dispose of these materials at an approved recycling or disposal facility.

- EC recommends that all non-combustible associated structure waste (i.e., plastics, tar paper, floor coverings, shingles, insulation, wiring, and tents) be thoroughly removed prior to burning and that all residual waste from the burning (i.e. nails and coals) be thoroughly collected, removed from site, and disposed of at a suitable facility.
- The proponent states that non-combustible solid waste will be shipped off site. EC suggests that confirmation and authorization for receipt of this waste be obtained from the intended community landfill (i.e., Baker Lake) prior to shipment.
- Finally, EC would like to commend Aurora for preparing a thorough and well written A&R Plan.

Comments previously submitted by C. Spagnuolo on behalf of EC on 11 May 2006 regarding water license 2BE-KAZ0609 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.

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)



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May 11, 2006

Our file: 4703 001

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RE: NWB 2BE-KAZ/GA – Pacific Ridge Exploration Ltd. – Kazan Falls Project

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*.

Pacific Ridge Exploration Ltd. is proposing to carry out a uranium exploration project in the Baker Lake area of the Kivalliq region. The proposed program will include the establishment of 2 to 3 person fly camps for 7 – 10 days at a time. These camps will support prospecting and sampling in areas of historic radiometric anomalies. Diamond drilling is planned to start around August 1/06 and continue until mid-September. Drilling will be supported from a 7-10 person drill camp.

Environment Canada recommends that the following conditions be applied throughout all stages of the project:

- The proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes or sediment into any water body. According to the Fisheries Act, Section 36(3), the deposition 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, is prohibited.
- Drilling additives or muds shall not be used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or demonstrated to be non-toxic.
- For "on-ice" drilling where drill additives are not being used, return water released must be non-toxic, and not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100mg/L).
- 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.
- Land based drilling should not occur within 30 m of the high water mark of any water body. Drilling wastes from land based drilling shall be disposed of in a sump such that the contents do not enter any water body.



- If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.
- The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use.
- Any sumps created for the disposal of camp sewage, grey water, or drill cuttings 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. Further, all sumps shall be backfilled upon completion of the field season and contoured to match the surrounding landscape.
- Environment Canada recommends the use of an approved incinerator for the disposal of combustible camp wastes. The proponent shall ensure that all non-combustible and hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
- All fuel caches shall be located above the high water mark of any water body. Further, EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location rather than relying on natural depressions.
- **All spills** shall be documented and reported to the 24 hour Spill Line at (867) 920-8130.
- Drip pans, or other similar preventative measures, should be used when refueling equipment on site.
- The Spill Plan makes reference to the use of a skimmer for the clean-up of larger spills on water. If a skimmer is not available on site, the Spill Contingency Plan should clearly indicate where a skimmer is located/available, and provide contact information for arranging for its use.
- The Spill Contingency Plan should provide a clear overview of the on-site chain of command for responding to and reporting spills. This should include job titles and contact information for first responders, on-site supervisors, etc...
- The Abandonment and Restoration Plan included with the submission refers to direction provided in the Spill Contingency Plan for the clean-up of contaminated soils at the site. However, the Spill Contingency Plan does not provide specific direction regarding the removal and/or remediation of contaminated soils. The proponent should ensure that any contaminated soils will receive proper treatment and/or disposal at an approved facility.
- Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the nests or eggs of migratory birds. Therefore, the Canadian Wildlife Service (CWS) recommends that all activities 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).
- If activities are permitted to occur during the breeding season, CWS 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 until nesting is completed (i.e. the young have left the vicinity of the nest).
- In order to reduce disturbance to nesting birds, CWS recommends that aircraft used in conducting project activities maintain a flight altitude of at least 610 m during horizontal (point to point) flight.
- In order to reduce disturbance to resting, feeding, or moulting birds, CWS recommends that 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.



- CWS 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. Incineration of camp waste is a recommended option.
- Section 35 of the *Migratory Birds Regulations* states that no person shall deposit or permit to be deposited, oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds.
- 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.
- 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.

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, EC asks that species listed on other Schedules of SARA and under consideration for listing also be included in this type of assessment.

Species at Risk that may be encountered	Category of Concern	Schedule of SARA	Government Organization with Expertise on Species
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

Impacts could be disturbance and attraction to operations.

Environment Canada recommends:

- The proponent should identify potential Species at Risk that could be encountered. Refer to the Species at Risk registry at www.sararegistry.gc.ca for information on specific species.
- If Species at Risk are encountered, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species.
- The proponent should consult with the Government of the Nunavut and appropriate status reports, recovery strategies, action plans, and management plans to identify other appropriate mitigation measures to minimize effects to these species from the project.
- 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.



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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) 975-4639 or by email at colette.spagnuolo@ec.gc.ca.

Yours truly,

Original signed by

Colette Spagnuolo
Environmental Assessment / Contaminated Sites Specialist

cc: (Stephen Harbicht, Head, EA North, Environment Canada, Yellowknife)