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NWB file: 2BE-BPC---

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V*ia email: licensing@nunavutwaterboard.org*

RE: Weststar Resources Corp. - 2BE-BPC – Bache Peninsula Coal Project – New – Type "B"

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 the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act,* and the *Species at Risk Act*.

Weststar Resources Corporation (Weststar) is applying for a Type "B" water license for their coal exploration program on the Bache Peninsula of Ellesmere Island, located approximately 623 km north/northeast of Resolute Bay and 407 km north/northeast of Grise Fiord. Exploration activities proposed include prospecting, staking, geological mapping, rock and soil/till sampling, airborne geophysics, ground geophysics, establishment of a camp, establishment of fuel caches and drilling. Activities commenced in 2009 and will continue through 2014. The camp will be established in 2010 and will include sleeping tents, kitchen, office, first aid station, core shack, outhouse, generator, and a garbage incineration area. A crew of approximately 10 to 20 people will be onsite at any time during project operations.

Upon review of the three project plans submitted by Weststar, EC recommends that the following conditions be applied throughout all stages of the project:

General

- 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
- The proponent shall not erect camps or store materials on the surface ice of lakes or streams, except which is for immediate us.
- All sumps, spill basins, and fuel caches should be located in such a manner as to ensure that their contents do not enter any water body, are to be backfilled, and re-contoured to match the surrounding landscape when they are no longer required.
- No disturbance of the stream bed or banks of any definable watercourse should be

permitted.
- Suitable erosion control measures should be implemented at all stream/lake crossings.

Drilling

- Chemical additives or drilling muds used in connected with this drilling program shall be disposed of such that they do not enter any waterbody either by surface or ground water flows.
- Regardless of type of drilling conducted, the following conditions will apply:
  - Drilling wastes from land-based drilling should be disposed of in a sump such that they do not enter any body of water.
  - For lake-based winter drilling the proponent may refer to the Interim Guidelines for On-Ice Drilling. Return water released to the lake must be non-toxic. Return water release must not result in an increase in total suspended solids in the waters of the lake that exceed Canadian Council of Ministers of the Environment (CCME) Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10 mg/L for lakes with background levels under 100 mg/L, of 10% for those above 100 mg/L).
  - Drilling activities or mud shall not be used in connection with holes drilled through lake ice unless they are re-circulated, contained such that they do not enter the water, or are demonstrated to be non-toxic.
- The proponent should be aware that the Canadian Environmental Protection Act lists calcium chloride (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.

Waste Management Plan

- Used absorbent materials, oily or greasy rags, and equipment servicing wastes (such as used engine oil, antifreeze, hydraulic oil, lead acid batteries, brake fluid, and other lubricants) should be safely stored and transported in sealed containers (odour free to prevent animal attraction) and safely transported to a facility that is authorized for the treatment and disposal of industrial hazardous wastes.
- EC is pleased to see that Weststar will be using EC's Technical Document for Batch Waste Incineration, as stated in the Waste Management Plan. Please note that this draft has been finalized and is now available at the following web link: http://www.ec.gc.ca/drgd-wrmd/default.asp?lang=En&n=82401EC7-1

Fuel storage/Spill Contingency Plan

- 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.
- Decanting of snow or water from the berm area should proceed only if the appropriate chemical analysis has determined that the contents will not violate the requirements of Section 36.3 of the *Fisheries Act*.
- Fuel containers, including barrels, should be marked with the responsible party's name, product type, and year purchased or filled.
- EC recommends that **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.
- The 24 hour pager number for Environment Canada in Sections 5.1, 5.3 and 6.2

should be removed as this number is no longer in service. However, the contact number for the Iqaluit Enforcement Officer is correct (867) 975-4644.

Wildlife

- Environment Canada recommends that food, domestic wastes, and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) be made inaccessible to wildlife at all times. Such items can attract predators of migratory birds such as foxes, ravens, gulls, and bears. Although these animals may initially be attracted to the novel food sources, they often will also eat eggs and young birds in the area. These predators can have significant negative effects on the local bird populations.
- 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.
- EC acknowledges that low level altitudes will be required for the airborne surveys. However, in order to reduce the cumulative impacts of aircraft disturbance to migratory birds, EC recommends the following mitigation measures be used for flights between survey areas and/or camp locations:
  - Plan flight paths that minimize flights over habitat likely to have birds and maintain a minimum flight altitude of 650 m (2100 feet).
  - Minimize flights during periods when birds are particularly sensitive to disturbance such as migration, nesting, and moulting.
  - Plan flight paths to avoid known concentrations of birds (e.g., bird colonies, moulting area) by a lateral distance of at least 1.5 km. If avoidance is not possible, maintain a minimum flight altitude of 1100 m (3500 feet) over areas where birds are known to concentrate.
  - Avoid the seaward side of seabird colonies and areas used by flocks of migrating waterfowl by 3 km.
  - Avoid excessive hovering or circling over areas likely to have birds.
  - Inform pilots of those recommendations and areas known to have birds.
- Section 6 (a) of the *Migratory Bird Regulations* states no one shall disturb or destroy the nests or eggs of migratory birds. If active nests are encountered during project activities, the nesting area should be avoided until nesting is complete (i.e., the young have left the vicinity of the nest).
- 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.

Terrestrial Species at Risk [1]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility [2]
Ivory Gull	Endangered	Schedule 1	EC
Red Knot (*islandica* subspecies)	Special Concern	Pending	EC
Porsild's Bryum	Threatened	Pending	Government of Nunavut
Peary Caribou	Endangered	Pending	Government of Nunavut
Polar Bear	Special Concern	Pending	Government of Nunavut

Wolverine (Western population)	Special Concern	Pending	Government of Nunavut

1 The Department of Fisheries and Oceans has responsibility for aquatic species.
2 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. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the Species at Risk registry at 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.
- Monitoring should be undertaken by the proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of Species at Risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested
- For species primarily managed by 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

- Ivory Gulls are medium-sized gulls that can be identified by their pure white plumage and black legs. Ivory Gulls nest in colonies on windswept plateaus, ice-choked islands, or on steep cliffs of mountains protruding from glaciers. Ivory Gulls nest on Ellesmere Island, although the proposed project is not near any known Ivory Gull nesting colonies. It is possible that Ivory Gull colonies exist in the High Arctic that have not been noted. If inland groups of gulls are encountered that could be nesting Ivory Gulls, these areas should be avoided to prevent disturbance and observations reported to the Canadian Widlife Service of Environment Canada.
- Environment Canada notes that the Red Knot (a shorebird) was designated as at risk by COSEWIC in April 2007. Red Knot may breed on Ellesmere Island. Although the major threats to Red Knot relate to habitat degradation in the wintering areas and decreases in food resources during spring migration, the proponent should ensure that extra precautions are taken to avoid any disturbance to the Red Knot or its habitat during the breeding season. Red Knots nest on barren habitats (often less than 5% vegetation) such as windswept ridge, slopes, or plateaus. Nest sites are usually in dry, south-facing locations, and may be located near wetlands or lake edges, where the young are led after hatching. Nests are simple scrapes on the ground in small patches of vegetation. Nesting will occur in June with hatching in early July. If an active Red Knot nest is encountered during project activities, or observations of Red Knot in the area suggest that a nest could be nearby, the proponent should avoid all activities in the area until nesting is complete (i.e., likely only resume activities in the area until after mid-July).
- Observations of Red Knots, Ivory Gulls or other birds can be reported to the

Canadian Wildlife Service of Environment Canada through the NWT/NU Bird Checklist program.
NWT/NU Bird Checklist Survey
Canadian Wildlife Service, Environment Canada
Nova Coast Plaza, 5019-52 Street
P.O. Box 2310
Yellowknife, NT
X1A 2P7
Phone: (867) 669-4773
Email: NWTChecklist@ec.gc.ca

- 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 and Species at Risk, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act, Migratory Birds Regulations,* and the *Species at Risk Act*. The proponent must ensure they remain in compliance during all phases and in all undertakings related to the project.

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,

Original signed by

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