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Via email: info@nirb.ca

RE: Notice of Part 4 Screening for the Department of National Defence's "Nanisivik Naval Facility" project proposal

Environment Canada (EC) has reviewed the information submitted with the above-mentioned project proposal to the Nunavut Impact Review Board (NIRB). 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*.

The Department of National Defence is proposing to establish a deep-water refuelling and supply station at Nanisivik for the Arctic Offshore Patrol Ships (AOPS), Canadian Coast Guard, and other government ships during the navigable season through the Northwest Passage. Project activities include the establishment of a construction camp between 2012 and 2015; use of existing dock facilities during construction; upgrading of berthing/wharf infrastructure; construction of a helicopter landing area; construction of a Shore Support Building, and a Cargo Storage and Marshalling Area; construction of bulk fuel storage facilities; upgrading existing roads and development of new access roads; use of the Arctic Bay airport during construction to transport personnel to the facility; use of the all-weather road between Arctic Bay and the facility during construction and operation to transport personnel and materials and potentially medical, police, and community services; potential use of borrow sites for rock and aggregate; water withdrawal from East Twin Lake to provide water for the facility; generation of waste; chemical and hazardous material storage; and potential use of a project management office in Arctic Bay.

Upon review of the supporting documents for this project proposal, EC provides the following comments and recommendations for the NIRB's consideration:

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.

- In Section 3.3.2 Disposal at Sea, EC notes that the project description includes a substantial amount of in-water work but does not indicate dredging will occur. However, if disposal at sea activities are to occur a permit for such works must be obtained from EC prior to any such activities.
- In Section 5.2.3 Aquatic Species (Fish and Marine Mammals) and Habitat, EC suggests that, prior to pile driving for the wharf upgrades, bubble curtains be installed to prevent impacts rather than after impacts occur should noise levels be expected to be greater than 150 dB at 10m from the pile driving activities.

Quarrying

- It is recommended that an undisturbed buffer zone of at least 100 metres be maintained between any quarrying that may occur and the normal high water mark of any water body.
- Suitable erosion control measures shall be implemented. The proponent shall not deposit nor permit the deposit of sediment into any fish bearing waters. Stream bank disturbances must be minimized and all disturbed areas stabilized upon completion of the project
- The proponent shall ensure that silt fences/curtains are installed down gradient of any quarrying activities.
- No disturbance of the stream bed or banks of any definable watercourse is permitted; clearing adjacent to streams/lakes should be done without disturbing the organic layer.
- EC recommends that an Abandonment and Restoration Plan be prepared for the proposed quarry sites. This Plan should communicate the proponent's reclamation objectives and procedures for the area affected by excavation activities.
- The Proponent shall ensure that quarry activities do not result in the contamination of groundwater. Excavation and/or removal of material from the quarry should only take place to within one metre of the high water mark above the ground water table.

Appendix C: Waste Management Plan

- Under Section 3.1, Domestic Wastewater Treatment, EC recommends the proponent apply the *Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments (1976).*
- Section 36(3) of the *Fisheries Act* prohibits any person from depositing or permitting the deposit of a deleterious substance 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 deposit of a deleterious substance to water frequented by fish constitutes a violation of the *Fisheries Act*, whether or not the receiving water itself is made deleterious by the deposit, except where federal regulations under subsection 36(5) of the Act, or other Governor in Council regulations, permit the discharge of the deleterious substance to levels set out in the regulations.
- It is important to be aware that On March 20, 2010, the Government of Canada published, in *Canada Gazette*, Part I, proposed *Wastewater Systems Effluent Regulations* under the *Fisheries Act*. The North, including the Territory of Nunavut, is excluded from this proposed regulation for a 5-year period for research on factors that affect performance of wastewater facilities in northern conditions. Within the lifetime of this project, wastewater effluent regulations applicable to this system can be expected. In the meantime, effluent quality requirements in existing authorizations including Subsection 36(3) of the Fisheries Act which prohibits any person from depositing or permitting the deposit of a deleterious substance of any type in water frequented by fish will continue to apply.
- Oily Wastewater - EC recommends that all oily wastewater transferred from vessels or collected on-site be treated separately from the domestic wastewater treatment. EC supports the proponents plans for off-site treatment and disposal.
- The burning of waste products releases numerous contaminants to the air, many of them persistent, bio-accumulative and toxic (e.g. polycyclic aromatic hydrocarbons - PAH's –

heavy metals, chlorinated organics – dioxins and furans). These contaminants can result in harmful impacts to human and wildlife health through direct inhalation and they can also be deposited to land and water, where they bio-accumulate through food chains affecting wildlife and country foods. Therefore, burning should only be considered after all other alternatives for waste disposal have been explored and the devices used for incineration meet the emission limits established under the CCME Canada-wide Standards (CWS) for Dioxins and Furans and the CWS for Mercury Emissions. The Government of Canada, the Governments of the Northwest Territories, Nunavut and the Yukon are signatories to these standards and are required to implement them according to their respective jurisdictional responsibilities.

- 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. This information should be incorporated into an incineration management plan for the facility. EC would like the opportunity to review this plan prior to implementation.
- Solid wastes that are conditionally suitable for burning are paper products, paperboard packaging and untreated wood. EC is concerned with possible side effects of dioxin and furan emissions which can occur due to the incineration of certain wood structures and therefore requests that only clean wood, which has not been coated with preservative chemicals or paint, be considered for incineration.
- A waste manifest form shall accompany all hazardous waste in transit and all parties will be properly registered as per the Environmental Protections Service (EPS) of the Department of Sustainable Development of the Government of Nunavut.
- The Plan states that hazardous waste will be transported from to off-site facilities for disposal. Under the *Canadian Environmental Protection Act* (CEPA 1999) and the Interprovincial Movement of Hazardous Wastes Regulations, the transportation of hazardous waste between territories and to provinces requires that the proponent completes movement documents. The Government of Nunavut only regulates waste in Nunavut and has no authority outside of Nunavut. An approved movement document must be completed.

Appendix D: Spill Contingency Plan

- Under Section 7.0 Emergency Contacts, EC's contact information should be updated to: Environment Canada Enforcement Offer (867) 975-4644.
- A spill kit, including shovels, barrels, absorbents, etc. should be readily available at all locations where fuel is being stored or transferred in order to provide immediate response in the event of a spill and should accommodate 110% of the capacity of the largest fuel storage container.
- EC recommends that a copy of the Plan be posted at any location where these products are stored and at each fuel cache and refuel station, accessible to on-site crew members.
- Spills are to be documented and reported to the NWT/NU 24 hour Spill Line at (867)920-8130. EC recommends that all releases of harmful substances, regardless of quantity, are immediately reported 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.
- 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.

Appendix E: Emergency Response Plan

- In Section 2.0, the EMP states that the proponent is going to rely on Arctic Bay for ancillary emergency response assistance. Has the proponent discussed the requirements and possible demands of this project on community services?
- Under Section 3.0 Potential Emergencies, the list of potential emergencies does not include air or ship emergencies or disasters.
- EC recommends that the plan should include an examination and discussion of the ways in which allowances have been made to adjust emergency response to extreme weather events.

Appendix F: Wildlife Mitigation and Monitoring Plan / Wildlife and Species at Risk

- Section 6 (a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds. Although the proposed Nanisivik Naval Facility will be built on a previously disturbed site, nesting habitat for migratory birds may nonetheless exist within the project boundaries. The best mitigation measure to ensure compliance is to conduct activities with a risk of disturbing or destroying nests or eggs outside of the migratory bird nesting season. High risk activities include disturbance of large amounts of habitat during the nesting season or conducting activities in areas with large concentrations of nesting birds.

  Other mitigation measures may help reduce the risk of accidental disturbance or destruction of nests or eggs during the nesting season, but will not necessarily completely eliminate the risk. Flushing nesting birds also increases the risk of predation of the eggs or young, or may cause the parent bird to abandon its nest. If project activities are conducted during the nesting season, areas should be checked for nests before work begins and all crew members should be trained on how to recognize signs that a bird might be nesting in the area. If an active nest is found, the area should be avoided until nesting is completed (i.e. the young have left the vicinity of the nest).

  In the northern Arctic region of the Northwest Territories and Nunavut, migratory birds may be found incubating eggs from May 31 until August 4, and young birds can be present in the nest until August 28.
- EC recommends that food, domestic wastes, and petroleum-based chemicals (e.g., greases, gasoline, and 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.
- Marine birds are vulnerable to oil spills and to pollution of their feeding areas. Environment Canada recommends that the proponent consider what steps would be taken to protect wildlife (including marine birds) in the event of a spill. This information could be incorporated into an existing emergency response and/or spill response plan. This could include specific measures to keep wildlife out of a contaminated area, equipment available to

do this, what measures would be taken if animals do come in contact with the spill, and when such procedures should be used. Having this information outlined not only benefits wildlife, but also gives clear direction to the field crew on what to do in a spill situation if wildlife is nearby.

- In order to reduce aircraft disturbance to migratory birds, Environment Canada recommends the following:
    - Fly at times when few birds are present (e.g., early spring, late fall, winter)
    - If flights cannot be scheduled when few birds are present, 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 areas) 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 these recommendations and areas known to have birds.
- 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.

  EC notes that the proponent incorrectly identified Ivory Gull as a species of Special Concern on Schedule 1 of SARA in their project description and wildlife management plan. The designation for Ivory Gull on Schedule 1 of SARA was elevated to **Endangered** in 2009, and the recovery strategy for this species is expected to be available on the SARA registry in 2012. The proponent should be aware of the location of historical and active Ivory Gull breeding colonies found on the Brodeur Peninsula. The closest colony to the project site is roughly 50 km away. Polar Bear will likely be added to Schedule 1 of SARA as a species of Special Concern in November 2011.

  The Table below lists terrestrial species that may be encountered in the project area that have been assessed by COSEWIC as well as their current listing on Schedules 1-3 of SARA (and designation if different from that of COSEWIC). Project impacts could include species disturbance and attraction to operations.

Terrestrial Species at Risk [1]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility [2]
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Peregrine Falcon	Special Concern (*anatum-tundrius*	Schedule 3 – Special Concern (*tundrius)*	Government of Nunavut

	complex[3])		
Red Knot (*rufa* subspecies)	Endangered	Pending	EC
Red Knot (*islandica* subspecies)	Special Concern	Pending	EC
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 (EC) 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. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.
[3] The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was listed by COSEWIC as Special Concern.

  - For any Species at Risk that could be encountered or affected by the project, the proponent should note any potential adverse effects of the project to the species, its habitat, and/or its residence. 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.
- 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.
- The Canadian Wildlife Service of Environment Canada is interested in observations of birds, especially observations of birds identified as Species at Risk (e.g., Ivory Gull, Ross's Gull, and Red Knot). Observations can be reported through the

NWT/NU Bird Checklist program.

NWT/NU Bird Checklist Survey
Canadian Wildlife Service, Environment Canada
5019 - 52 Street, 4th Floor
P.O. Box 2310
Yellowknife NT, X1A 2P7
Phone: 867.669.4771
Email: NWTChecklist@ec.gc.ca

Blank checklist survey forms are available at:
http://www.ec.gc.ca/reom-mbs/default.asp?lang=En&n=D19D8726-1

If there are any modifications to 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,

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