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Indian and Northern Affairs Canada's Information Request Submission to the Nunavut Impact Review Board on the Draft Environmental Impact Statement for the Bathurst Inlet Port and Road Project

March 20, 2008

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1.0 INTRODUCTION

Indian and Northern Affairs Canada (**INAC**) has prepared this letter to assist the Nunavut Impact Review Board (**NIRB**) with their coordination of the environmental review of the proposed Bathurst Inlet Port and Road (**BIPAR**) project. The comments are based on our review of the Draft Environment Impact Statement (**DEIS**) submitted for the BIPAR project (Rescan, December 2007: Volumes I-VIII). The comments are not intended as INAC's detailed technical evaluation of the project DEIS; rather, we identify herein especially those major issues from the DEIS which might be relevant for catalyzing additional thought and especially the resolution of knowledge gaps prior to commencing preparation and submission of a final project EIS document. Detailed EIS review comments will follow in the future.

In preparing these comments, we acknowledge that there has been limited time to undertake the review of information provided in the DEIS, including its seven major appendices. It is possible, therefore, that at least some of the information needed to address the data needs described herein may in fact already exist either within the appendices to the DEIS or elsewhere. Nonetheless, the issues identified herein arise out of either (i) an inability to find adequate explanatory information within the overall DEIS; (ii) apparent contradictions within different sections of the DEIS documentation; and/or (iii) concerns that the underlying issues have not been addressed by either the adequate identification of Valued Ecosystem Components (**VECs**) and potential impact scenarios, or by credible predictions of what might happen in association with various project activities and components.

Major issues identified from our examination of the DEIS are provided below in approximately the same order as information is laid out within the BIPAR DEIS. The majority of these were deemed by INAC to be substantive issues in the context of the overall environmental/regulatory review process.

As an overarching issue, we note that the proposed road alignment, anchored at either end by a proposed port location in Bathurst Inlet and a camp/staging area on the eastern shore of Contwoyto Lake, has not really changed since around 2000. This is in spite of the fact that a very good recent understanding has emerged about geology, landforms, ecosystems and biota - mapped at a relatively detailed scale along the Local Study Area corridor- from studies completed since then (based on documentation provided in various DEIS appendices), and especially based on 2007 field studies. An obvious question, therefore, is "*how has the new information gathered in support of the project application been used during project planning, to best support the project sustainability goals and minimize project impacts?*"

2.0 PROJECT RATIONALE

2.1 Information Request: Clarification of Project Rationale

Issue: There are possible discrepancies within the stated project rationale, associated in particular with the degree to which the new project will (i) reduce dependence on transport to/from current land-locked areas (or the coast) via the winter road, (ii) increase potential for and reduce costs of shipping of fuel from Bathurst inlet to more southerly operations, and/or (iii) increase options for transport of fuels and other supplies to other coastal communities.

Within the project description, it appears that there has been an attempt to demonstrate that current Kitikmeot and ISR region residents would be direct beneficiaries via increased access to cheaper goods and supplies, when the case for this might be relatively weak in comparison with the case for economic spin-offs associated with increased mineral resource extraction opportunities.

Appendix F-10: *Bathurst Inlet Port and Road: The Economic Benefits for Nunavut and Canada* did not formally assess economic benefits to northerners other than indirectly via enhanced operational efficiency/viability of Kitikmeot region mining activities.

There are other issues associated with the project justification as well. For example, if the annual fuel and supply haul period from the proposed port to Contwoyto Lake staging area is restricted to the January 31st to April 30th period as formally proposed, this would result in essentially the same timing implications associated with current use of the Tibbet to Contwoyto Winter Road, and the associated transportation cost benefits are not immediately apparent, since there would be an added requirement to move fuel and supplies to the new port facilities in addition to the over land/ice transportation costs.

The EIS would benefit from an enhanced description about the anticipated south to north or north to south movement of goods and services within periods of 2-5 years, 5-10 years, 10-20 years and beyond. A more concrete base case should be developed, without reference to e.g., fuel supply via ship from Europe of the middle east or other highly speculative events, unless the proponent specifically seeks approval for such events as core aspects of the project. Consideration of fuel transport via deep oceanic tanker has not been considered in the DEIS, and would significantly complicate the review of an already complicated project.

Reference: Executive summary, p. ii.; Appendix F-10 (Vol. VII)

Concern: The case for lower landed fuel and material costs at Cambridge Bay or other coastal communities in the Kitikmeot Region or Inuvialuit Settlement Region, and other direct benefits, might be over-stated.

Rationale: Based on the DEIS, impacts to some VECs cannot be absolutely precluded either through avoidance or mitigation. It is important, therefore, that residents of the region have information that is as accurate as possible about the reasonably anticipated benefits and costs.

3.0 PROJECT ALTERNATIVES

3.1 Information Request: Project alternatives

Issue: The DEIS does not contain an adequate assessment of alternatives within the project and alternatives to the project.

The Proponent should provide a much more detailed description and analysis for all alternatives within the project that were considered, as well as alternative means of carrying out the project. This should include a summary of the developments that lead to the 2003 project proposal.

A more complete and current list and analysis of alternative means of carrying out the project should be provided, including but not limited to a combined all-season road and winter road BIPR option. Formal applications for the Hackett River Project have been submitted, however the Izok Project has yet to be advanced. In light of this, an analysis of the option of constructing a portion of the BIPR road to all-weather standards to facilitate the development of the Hackett River project, followed by a winter-only road to Contwoyto Lake warrants consideration. Any proposed transportation routes that may have been announced since the alternatives assessment was completed should also be provided.

The assessment of alternatives within the project need to better consider finer-scale decisions for each major component (port, vessel type selected for fuel transport, fuel storage options, road, location and nature of construction and operations camps, airstrip, quarries and granular borrow areas), clearly indicating how the siting and size have been optimized in light of the overall need.

The alternatives and analysis presented should reflect the current development scenario in the Kitikmeot Region.

Reference: DEIS (vol. I.), Section 5.6; Appendix G-1.

Concern: The DEIS makes reference to 17 alternative project configurations that have previously been evaluated, toward selection of the preferred BIPAR option. These are not described at all in the DEIS, however. Furthermore, only three short-listed of 17 alternatives are discussed in Appendix G-1 (while four alternative road routes are shown on Figure 5.6-1 of the DEIS (Vol. I)). All alternatives presented in the 2007 DEIS are based on work that was completed in 2006 and 2007, most of it not in direct association with this proposed project.

The information provided is cursory. Only six pages of analysis are afforded this issue in the entire DEIS and appendices, including figures. Additional information is undoubtedly available in the EBA (2007) report referenced in Appendix G-1; however, this needs to be provided in the BIPAR EIS as well. The decision criteria used to rank the 17 alternatives (or three short-listed options) are not evident. Perhaps more importantly, several questions arise regarding the proposed project and alternatives that are not addressed in the DEIS:

- What port locations were considered within Bathurst Inlet?

- Why the choice of vessels for fuel supply of up to 50,000 tonne capacity and 213 m length?

- Why the choice for the fuel storage volumes at the port (220,000,000 L)?

- Why was the Contwoyto Lake terminus site chosen and what alternatives were considered? Could this impede future development of an all-weather road in future decades?

- What specific road alignments were considered in the context of route selection options such as maximizing traverses over exposed bedrock, and minimizing travel times, wetlands and surface water crossings, and wildlife habitat areas?

- Which, if any, of the options would allow extension of the operational window beyond Jan. 31 - Apr. 30, while minimizing environmental impact potential (e.g. to caribou populations on breeding and calving grounds, or to surface water resources)?

Rationale: The BIPAR EIS is not complete and cannot be adequately evaluated in terms of regional or cumulative impacts without better information on how various alternative routes and solutions for fuel and materials transport have been optimized in the context of ecologically sustainable economic development.

4.0 PROJECT DESCRIPTION

A well developed Project Description is critical to conducting an environmental impact assessment, including determining potential environmental impacts, risks, mitigation and monitoring requirements. Overall, Indian and Northern Affairs Canada (INAC) finds the Project Description to be conceptual and lacking certain critical details. In addition, a few components of the DEIS are self-contradictory with regard to project components or details. Such discrepancies merit resolution so that there is a clear understanding of the proposed project by all participants to the decision-making process.

It is clear that several aspects of the proposed project are not adequately documented within the DEIS. In particular, clarifications are sought on (i) materials handled at the port; (ii) camps/staging areas; (iii) anticipated road use; (iv) the airstrip; and (v) marine transportation.

4.1 Information Request: Materials moving through the port

Issue: The project description included in Volume 1 of the DEIS does not describe the types of materials anticipated for shipment via the proposed port on Bathurst Inlet other than diesel fuel, or for storage at the lay-down and storage areas. Figure 7.3-2 (Vol 1, p.24) shows “material laydown/rock quarry” area, but does not provide any details of design principles for adequate containment. Additional materials that need to be considered in the environmental assessment include the following:

- Various appendices to the DEIS (e.g. - Vol. II) make reference to the shipment and storage of concentrates from base metal mining. No plans were located for the storage or transport (terrestrial or marine) of concentrate, with the appropriate environmental safeguards.

- Given the obvious proposed users of the transportation route, it is reasonable to assume that process chemicals used especially in base and gold metal mining will be transported in the future, including but not necessarily limited to cyanide.

- It is stated on p. 25 of Vol. I that-

> "The ammonium nitrate prills will be barged or trucked to site in 1.5 tonne tote bags, packed in containers. Until mixed with fuel oil, ammonium nitrate is not an explosive, is stable, and requires no special storage facility."

This statement applies only to the explosive potential. Both diesel and ammonium nitrate must also be considered as potential contaminants (if released) in their own right, and must be handled and stored accordingly. Note also that it would be expected that the constituents of ANFO will be shipped and stored not just during road construction but also for the purposes of mining re-supply. Several sections of the EIS require adequate clarification in this regard.

The proponent should either indicate the limitations around materials that may be transported, handled and/or stored in the foreseeable future, or provide plans for the safe and environmentally benign movement and storage of various mining-related or other hazardous substances or other potentially contaminating materials.

Reference: Various, as listed above [Figure 7.3-2 (Vol 1, p.24); Vol. I, p. 25; etc.]

Concern: Failure to adequately anticipate materials transport and handling will result in loss of opportunity to address environmental, safety, and associated concerns during project planning, both within the port area and along the larger transportation corridor.

Rationale: The economic feasibility assessment and environmental impact assessment should be more fully aligned in terms of expectations for future project activities.

4.2 Information Request: Additional camps/staging areas

Issue: It is evident from the project description (Vol. 1) that there will be a requirement for at least two construction camps, not just the Contwoyto Lake camp.

The port camp, and any additional temporary or longer term camp and construction or operational staging area should be fully described in the project scope. Number of seasonal or long-term occupants should be described, along with expectations for solid and liquid waste generation, water needs and medical as well as other basic needs.

Reference: Several sections of the DEIS make reference to a camp at the port facility.

Concern: Environmental issues associated with the port construction (and operational era?) camp facilities have not been addressed in the DEIS. Anticipated issues might include sewage treatment and discharge (including localized eutrophication), solid waste management, various aspects of materials handling, and over-exploitation of local natural resources by employees and contractors.

Rationale: The proponent has provided figures of the proposed port and camp layout; however, the overall level of detail is too superficial relative to regulatory interest at the EIS review stage, since it is both highly conceptual and lacks adequate accompanying descriptions about important design principles to be incorporated during subsequent preliminary and detailed design.

4.3 Information Request: Road

INAC requests more detailed estimates (along with the identified degree of uncertainty) regarding the predicted types, volume and seasonality of use of the road in each of the following categories:

- Heavy equipment use during the construction phase, including periods outside of the Jan.-Apr. window, and expected degree of wetland and stream crossings;
- Lighter vehicle transit during the construction phase, including smaller vehicles and ATVs;
- Routine fuel and freight haulage, and worker transit trips, from January to April during the post-construction operational phase, especially for mine supply (Bathurst Inlet to Contwoyto Camp);
- Routine fuel and freight haulage from January to April during the post-construction operational phase (Tibbett to Contwoyto Camp and continuing north);
- All traffic associated with worker/contractor movements and road/route maintenance outside of the Jan.-Apr. window;
- Incidental traffic by regional residents and works outside of the Jan.-Apr. window.

It should be confirmed that the current development scenario in the Kitikmeot Region is reflected in the estimates provided.

Issue: It is very difficult for the reader of the DEIS to gain an adequate appreciation of the anticipated amount and type of traffic on the proposed road. Reviewers were particularly interested in expectations for use outside of the Jan. 31 – Apr. 30 annual window.

Reference: DEIS Vol. I, p. 25; others

Concern: The particulars of seasonal use of what was originally proposed as an all-weather road is viewed by INAC as an extremely important aspect of the project from the perspective of avoidance or mitigation of project impacts, both under current climate regimes and under future altered climatic conditions. For example, finfish use of surface waters for most species is transient based on migrations. Stream crossings and various maintenance activities along the

road may have the potential to adversely impact fish at or downstream from some road crossings if they occur at an inopportune time relative to fish movements.

It is stated on p. 25 of Vol. I of the DEIS that –

> "During spring migration, almost all of the animals in the Bathurst caribou herd could move through the Project area. The road will operate between January and April, so there will be no interaction between traffic on the road and caribou during spring migration. There will be far fewer caribou along the road during the winter hauling seasons".

In addition, the road traverses important caribou calving grounds.

There is a strong seasonal component to surface runoff and freeze-thaw cycles in the active layer. It is relatively clear that proposal of an all-weather road open for use year-round would elevate various concerns about impacts to fish, wildlife and surface water supplies. Nonetheless, it is apparent from an evaluation of the proposed construction schedule and road maintenance schedule that there is anticipated to be some use of the road year-round. A large number of rock-filled ford crossings of surface flows is proposed, and the implications of vehicular traverses of such crossings during mid-winter and mid-summer (or during peak run-off periods) are likely to be very different.

Finally, there is expected to be significant pressure once the road is built to use it for especially the transportation of mining supplies and concentrate outside of the four month, January to April period. The possible future relaxation of restrictions on seasonal use of the BIPAR road alignment should be considered in the context of the larger environmental implications.

INAC acknowledges the proponent's plans to limit public access; i.e. -

> "Public access to the road will be restricted due to safety issues. A gatehouse will be located at the Bathurst Inlet port and the Contwoyto Camp operations to monitor and dispatch traffic, and will be active year round. Similar to the existing TCWR, use of the all-weather road will be monitored under radio/satellite communications control to let all users know where vehicles are, to schedule departures and arrivals, and monitor operations for safety."
>
> (BIPAR DEIS, Vol. 1, p. 36)

Rationale: DEIS addresses primarily road use after freeze-up (Jan. 31 - Apr. 30) period and would not address concerns for wildlife impacts or surface water quality issues associated with other proposed activities outside of this window, including the construction phase activities.

4.4 Information Request: Road embankment construction design

Issue: The design intent for the roadway embankment is not clear.

The Proponent is requested to provide (i) additional information with respect to the design intent(s) and the results of any geo-thermal modeling completed for the roadway embankment;

and (ii) re-consider whether the proposed design will have the intended benefit of substantially facilitating cross-flows of near-surface and surface waters in lowlands portions of the route.

Reference: Appendix A-2, Sect. 5.2.5 – BIPAR Feasibility Study – Abridged Version September 2007, pg. 5-14.

Concern: Based on extensive granular embankment case history review and experience at several Arctic locations, fill depths of 1.6 and 2.0 m were recommended by the Proponent for ice rich and flood plain soils respectively. It would be helpful if the case histories studied were documented or summarized as they relate to this Project.

The use of large diameter rock at the base of the embankment was noted in the DEIS to improve cross drainage. INAC questions if the use of this material could potentially cause a cooling influence (via convection) contributing to eventual aggradation (mounding) of permafrost below the embankment. Will the allowance for cross drainage be sufficient to prevent alteration to the natural hydrological regime and permafrost conditions in the vicinity of the road? How much reliance is placed on cross drainage compared with engineered crossings such as fords, arch culverts and bridges? How will a lower embankment height facilitate improved cross-drainage?

Rationale: Without more information, INAC is unable to assess the full extent of impacts to sensitive permafrost terrain. It is recognized in the DEIS that alterations to surface flows and ponding can result in both permafrost effects and shifts in plant communities. It is important, therefore, to understand the potential for alterations in surface hydrology associated with the road design and configuration.

4.5 Information Request: Refinements to road alignment

Issue: It is unclear if the limitations for road construction described in Table 8 have been used to refine the proposed road alignment.

INAC requests that information with respect to avoidance of problematic or sensitive areas be incorporated in a final proposed alignment.

Reference: Appendix D-5, Section 2.3, Preliminary Bedrock Geology Characterization, page 32 and 33.

Concern: The terrain along the road corridor has been classified based on air photo review and field classification. Table 8 identifies limitations for the road location based on parent material types; e.g. lacustrine. In several cases, it has been recommended that certain terrain types be avoided e.g. boulder fields. It is unclear if the proposed road alignment has taken these concerns into account. If not, will adjustments be made to the alignment at a later date, and if so, at what stage in the project implementation.

Rationale: Without more information, INAC is unable to assess the full extent of impacts to unique landforms and sensitive permafrost terrain.

4.6 Information Request: Airstrip

Issue: The DEIS is very vague on the airstrip component; i.e. –

> "The airstrip will be used year round for operating personnel and light/perishable (food) cargo movements. A 75 m by 75 m helicopter landing area will be provided at a gravel pad adjacent to the northwest end of the airstrip."

The DEIS does not describe critical components such as the inter-relationship with other project components, infrastructure associated with the airstrip, expected number and types of flight, or expected influence of overflights on avian or mammalian wildlife. Will the airstrip have storage facilities for Aviation gas and / or Jet B?

Each BIPAR project component (i.e. -port, tank farm, fueling and truck storage area, port camp, road, Contwoyto camp, et cetera) merits consideration of the rationale, possible alternatives, and optimum configuration – both in isolation and holistically with other project components.

Reference: Vol. I – Draft EIS, p. 26; Appendix A-2 (Vol. II) (Project Description) is essentially silent on the airstrip component.

Concern: No environmental assessment of the airstrip component of the project has been provided to date (limited analysis has been completed of aircraft noise: Appendix B-3).

Rationale: The airstrip, like all other individual project components, needs to be assessed to develop a better understanding of the overall project implications.

4.7 Information Request: Controlling fuel spills in surface runoff

Issue: The DEIS is missing important information to how the diesel fuel will be stored and dispensed.

The Proponent should provide more detailed information on the transferring of diesel fuel from the tanks to the equipment at the camps.

Reference: DEIS Vol.1 Sect. 7.3.3.5.

Concern: Are there drip/spill plans or berms being used when transferring diesel fuel from the tank to the equipment being used at the camp? Would surface runoff from fuel storage and transfer areas be treated for more than suspended sediments, prior to discharge into fish-bearing waters?

4.8 Information Request: Fuel handling and spill response plans

Issue: The Proponent has not presented sufficient information on project construction and operations, with regard to petroleum hydrocarbon spill prevention and response.

INAC requests more specific details regarding spill contingency plans found in Volume 8 of the DEIS.

Reference: DEIS Vol. 1. Sec. 7.3.2.5.

Concern: INAC is concerned that in this section of the DEIS, there is no mention of a spill contingency plan. There are going to be 73 trucks (58 being fuel trucks) operated on the road on an annual basis. Accidental and chronic releases of fuel might occur during:

- Marine transport;
- Offloading from tankers at the proposed port;
- Transfer by fuel lines to the tank farm;
- Transfer to B-train tanker trucks and along lines and valves connecting the filling station with the ten 220,000 L tanks;
- Transfer to barges at the barge facility, for delivery to coastal communities and other supply areas;
- Transport along the roadway;
- Offloading at the Contwoyto Lake staging area;
- Storage at the Contwoyto Lake staging area;
- Subsequent transfers for delivery to mines and other areas.

In addition, there is expected to be potential for low volume releases associated with general handling and disposal/recycling of waste oils; materials handling at maintenance facilities; temporary fuel storage, transfers and use during various construction activities; *et cetera*.

It must be made evident that the spill contingency plan will be put in place without reading the Environmental Management Plan. Adequate planning for all expected uses of fuel/hydrocarbons needs to be addressed both from a spill response and release prevention perspective.

In addition, INAC seeks re-assurance from the project proponent that – as part of fuel transfers via barge – fuel will not be stored in barges for extended periods, nor over winter.

Rationale: Given the large volumes of petroleum hydrocarbons that would be transported, handled and stored, an ability to respond to spills is an essential component of environmental impact minimization.

4.9 Information Request: Utilities, power supply and water supply

Issue: Utilities, Power Supply and Water Supply

The Proponent should provide a more detailed plan for taking water from Contwoyto Lake, including amount, water treatment measures, and wastewater issues.

Reference: DEIS Vol. 1 Sect. 7.3.3.4

Concern: Data showing the amount of water being taken from Contwoyto Lake was not found in the EIS. Information on both daily and yearly water use should be provided. Information on water treatment, including a discussion of the adequacy of treatment should be provided. If waste water will flow in the direction of another camp downstream, this should be discussed as well.

Rationale: INAC requires more information in order to fully understand the effects of the project on water quantity and quality based on proposed operations at the Contwoyto Lake camp.

5 VALUED ECOSYSTEM COMPONENTS

5.1 Information Request: Baseline assessment and Evaluation of Project impacts to land forms and permafrost features

Issue: The DEIS (especially as documented in Vol. I) has overlooked important VECs, especially eskers as important geomorphic forms and wildlife habitat, other important geomorphic forms and permafrost features, and wetlands in general. This is in spite of the inclusion of these in the NIRB 2004 Final BIPAR Project EIS Guidelines.

INAC requests that the proponent re-consider choice of VECS, which should include important/unique landforms and permafrost features, as well as wetland features. This should lead to an in-depth analysis of the project with these VECs in mind.

Reference: Vol. I – Draft EIS; Vol. II (Appendix A-5), Section 5.3.2 and Table 5.3.-1; Appendix D-4

Concern: According to the NIRB, 2004, Final BIPAR EIS Guidelines –

> "Reasonable goals for reclamation normally include the re-establishment of stable physical landforms and land-use productivity, and the long-term physical and chemical stability of water resources. The Closure and Reclamation Plan shall discuss reclamation methods, the feasibility of those methods in the north, schedule and time frame."

Furthermore, according to the guidelines –

> "Baseline description shall include, but not be limited by, the following Biophysical components and processes within the Regional Study Area:
>
> **4.6.2.1 Terrestrial Environment:**
>
> a) special, sensitive, or unique geological or landform features (including inventory of wetlands and their function in the Local Study Area);
>
> …
>
> c) surface Geology and soils (including eskers);

d) coastal and marine Geology, processes and stability;

e) sediment mobility;

f) granular sources and characterization;

g) permafrost and ground ice conditions;

i) fluvial geomorphology and stability of stream and river crossings;

j) coastal and seabottom stability;

k) areas of ground instability and flood zones, if any;

l) seismicity; and

m) existing or proposed protected areas, special management areas or conservation areas, such as those proposed by caribou co-management boards and land use plans."

Several of these have not been adequately documented at a geographic (or temporal) scale that is conducive to project planning. In particular, the BIPAR DEIS has not considered unique or important landforms within the proposed project footprint as Valued Ecosystem Components. The DEIS does not provide an adequate baseline description of important landforms, including wetlands, eskers, or major permafrost features including massive ice deposits (ice-core hills and eskers, e.g.); nor does it evaluate potential project impacts to such features.

Eskers are important geomorphic features in their own right, but also provide micro-habitat variations for plants, and are important denning grounds for terrestrial mammals such as wolverines, wolves, and bears.

According to Table 21.2-2 (Vol. I., p. 66), 26% of vegetation on 347 ha of esker in Local Study Area (LSA: within 0.5 km on either side of the road and around staging areas) will be lost or disturbed. The loss of esker habitat and area is not identified as a project impact (no other vegetative habitat will be as affected on a percent basis).

Furthermore, it is not clear from the DEIS how much esker area would be affected by road alignment versus borrow areas. The loss of esker as potential denning habitat was apparently not one of the criteria used in evaluating routing options. According to Appendix D-8, "Wolf denning and pup rearing habitat occurs mainly in esker complexes, which is limited habitat throughout the local and regional study areas."

The main body of the DEIS does not provide adequate summary of baseline status of "riparian tall shrub" plant associations or wetlands in general.

If esker habitat was considered as part of road and quarry siting criteria, a different alignment might have been proposed.

Rationale: Eskers within the LSA are significant and important regional features, with heights of up to 20 m and lengths of more than 30 km. The biophysical assessment justifies a higher degree of concern for such features.

METEOROLOGY AND CLIMATIC EFFECTS ASSESSMENT

INAC has only limited specific information requests at this time, pending more detailed review of the DEIS. The reconstruction of climate norms (1971 – 2000) for the port area appears reasonable. The Appendix B-1 assessment attempted to quantify the amount of greenhouse gases that will be generated as a direct result of the project, and rated the potential impact as "moderate" for the simple reason that the estimate would comprise more than 1% of the total projected emissions from the NWT and Nunavut.

5.2 Information Request: Climate change influences on DEIS assessments

Issue: Of greater interest to INAC is the possible influence that climate change might have on the expectations for project – environment interactions, and project planning/design.

INAC would appreciate some analysis about how future climate change scenarios (including both temporal changes in averages and changes in more extreme events) might influence the EIS conclusions and project design.

Reference: NA

Concern: Climate change is of major concern to arctic residents, based on recent observations of relatively rapid ecosystem-scale responses to climate change, with impacts that are likely to be of much higher magnitude than in more southerly regions. Longer-term, synoptic changes in climate 'norms', as described in the DEIS, Appendix B-1, could influence one or more of the following:

- Seasonality of fish and wildlife migrations and other life cycle traits,
- Average and upper end air temperatures, leading to permafrost degradation and associated failures,
- Severity and frequency of storms,
- Magnitude of frequency of extreme rainfall events, potentially leading to alterations in hydrograph profiles for various surface water flows in the vicinity of the project footprint,
- Changes in erosional tendencies of surface runoff, and/or effects associated with wind erosion or drying,
- Changes in sea ice,
- Presence, persistence and severity of ice fog,
- Other.

Rationale: Given the scope of the project and possible longevity, it will be important to assess whether the various EIS assessments and conceptual design features are robust in the face of various climate change predictions over a time horizon of ~20 to 50 yr.

6 NOISE

6.1 Information Request: Noise effects to wildlife from blasting/underwater noise in Bathurst Inlet

Issue: The formal assessment of noise-related impact potential excluded any consideration of ship's noise (including underwater acoustic disturbances) and blasting at quarries during road and site construction.

INAC requests that the Proponent extend the assessment of noise-related impact potential to include especially blasting at quarries, and underwater noise transmission and area of influence with Bathurst Inlet. The focus should be much more on wildlife than humans, relative to the information presented in the DEIS (including appendices). In addition, there needs to be strong substantiation for any recommended acceptance of blasting during critical reproductive, migratory and other periods of important wildlife species, including raptors, waterfowl, other bird species, carnivorous mammals, and ungulates.

Reference: BIPAR DEIS Appendix B-3; Appendix D-3; Vol. I.

Concern: The anticipated traffic-related noises appear to have been adequately assessed in the DEIS, with a focus primarily on human perceptions and effects, as opposed to wildlife aversion/effects. According to the DEIS –

> "The assessment for construction of the port and road is based on Snap Lake results for construction (Table 4.1-3)"

It was not clear what construction-related activities his would include. In addition, no details of model and modeling parameters/assumptions were provided in the DEIS support material. Such information must be included in the Final EIS.

The evaluation of noise impacts on wildlife appears to have been cursory. According to the DEIS –

> "For a detailed discussion of the effects of noise on wildlife see Appendix D-3 of the DEIS (Wildlife and Wildlife Habitat Effects Assessment)."

> "Research indicates that animals may habituate to periodic noises if the noises are predictable. Insome studies, for example, animals were not affected by airplane noise when they could see the airplane before hearing it, but responded negatively when the noise occurred without warning (Weisenberger et al., 1996; Conomy et al., 1998)."

Additional relevant information was not found in Appendix D-3. It also appears that no description of possible wildlife effects associated with blasting (e.g. during critical periods, or near occupied denning sites) has been provided in the DEIS.

Rationale: It was unclear to INAC reviewers why the project construction schedule did not consider modifying the type and intensity of various activities in relation to caribou migrations and calving, raptor and carnivorous mammal reproductive periods, or even fish windows. Such an encumbrance on the project construction schedule is typical for other similar types of activities within and beyond the region of interest. Relaxation of scheduling around wildlife effects avoidance periods would require a very strong technical substantiation with a very low degree of uncertainty about predicted impacts.

7 SURFACE WATERS

7.1 Information Request: Water extraction from un-named creek at port site

Issue: It is proposed on p. 26 of Vol. I that water will be drawn from an un-named creek at the Bathurst port facility site, and "used for concrete, granular fill materials washing and potable use"

Adequate information on seasonal and annual flows, and minimum stream flow requirements is a prerequisite to evaluating acceptability of this and indeed all proposed water sources.

Reference: DEIS Vol. I, p. 26.

Concern: More information on the predicted impatct to the un-named creek is needed. This should include seasonal, annual and minimal flows, the estimated volume of the un-named creek. If water will be released to the un-named creek, information on this should also be provided, including whether it will be treated.

Rationale: This information is necessary to verify that water utilization rates will not impair other important functions.

7.2 Information Request: Hydrological data

Issue: Appendix C-1 discusses hydrographic data availability and mean monthly discharge estimates for watersheds influenced by the proposed project; however, the information summary is largely derivative, and detailed underlying data would be useful.

INAC requests that the Proponent provide more detailed information on the hydrograph of the actual or estimated data for various streams, including the particulars of the underlying data.

Reference: DEIS Vol.1 Sect. 16.1; Appendix C-1; DEIS Vol. 2 A-2 Sect. 3.2; other (see below).

Concern: Underlying data are needed, along with assumptions, so that flow projections and seasonal trends can be better understood. Annual runoff for the area ranges from approximately 200 to 250 mm, depending on latitude and precipitation amounts, of which the freshet period can be greater than 70% of this volume. Where did this data come from and can it be provided? Does this data have a range of at least 25 years?

Additional questions arising from the initial review of the hydrological assessment follow:

Reference; DEIS Vol.2 A-2 Sect. 3.2

- Figure 10 and 13: Are these extreme daily maximums or monthly highs or average monthly highs (1956-1982)?
- Figure 11 and 14: Is this the mean monthly precip? …or the average of extremes? Should include max and min monthlys for period of record.

- Figure 12 and 15: Provide wind roses. Consider combining Contwoyto Lake and Lupin records.

Reference; DEIS Vol.2 A-2 Sect. 3.4

- Where are the calculations on precipitation and runoff? The numbers and precipitation profile don't add up (For example figure 15).

- Estimated hydrology of Amageok Creek and Mara River?

Reference; DEIS Vol. 3 B-1 Sect. 2.2.2

- Table 2.2-3 & figure 2.2.-4: Monthly rainfall(mm) at the Port, Lupin, Kugluktuk and Cambridge Bay for the period of August 2001 to August 2004. Are there any data collected from September 2004 to the present date (March 2008)?

- Table 2.2-4: Precip Climate Normals for Lupin and Bathurst Inlet. How were the monthly averages calculated?

Reference; DEIS Vol. 3 B-1 Sect. 2.3.2

- Not enough info about the climate along the road; specifically precipitation. The Proponent should indicate the year(s) the data from Figure 2.3-4 was taken. INAC is concerned about Figure 2.3-4 Adjusted Climate Normals for Precipitation at Lupin…This figure does not show a timeline…What year(s) is this data taken from? Where does this data come from?

Reference: DEIS Vol. 3 B-5 Sect. 3.2

- Concerns: Table 3.2-1 and Figure 3.2-1: Total Monthly Precip at Bathurst Inlet and Regional Meteorological Stations, August 2001 to August 2002…. Provide data that is more recent!! Also provide a longer time period of data! Recommend 25 year period.

Rationale: Underlying data descriptions needed to assess accuracy of EIS assessment/predictions.

7.3 Information Request: Wetlands and distributed flows

Issue: The hydrological analysis, water quality, and effects assessments appear to be virtually silent on the role of wetlands habitats in water conveyance/supply or based on ecological value. The wetlands can likely be variously divided in arctic bogs, fens, marshes, swamps, and shallow open waters (e.g. based on the Canadian wetlands ecosystem classification system or a system better suited to arctic wetlands ecosystesm). In addition, various fens and bogs along the route could be classified as ombrogenous or geogenous depending on seasonal and annual water supply and fluctuations.

A better understanding of the extent and types of wetland in the LSA would provide an improved understanding of several emergent characteristics of relevance to the EIS, potentially including –

- Open-channel stream flow elevations and seasonal trends;
- Expectations associated with road-induced changes in surface flows and subsequent thermokarst formation potential;
- Water movements through road beds;
- Migration potential of any ML/ARD releases;
- Vegetation community status.

INAC requests that more discussion in the EIS be focussed on wetlands in the LSA.

Concern: Failure to appreciate water flows through not just open channels flows but also contiguous wetlands might result in underestimation of stream height variation or erosional potential at road crossing sites.

Rationale: Adequate consideration of wetlands processes and distribution may help with planning around the type and specific configuration of stream crossings, especially in light of the very limited hydrographic data available at each proposed crossing.

7.4 Information Request: Culverts and bridges

Issue: There is inadequate information on design parameters for culvert and bridge crossings.

INAC requests additional information on (i) the conceptual design guidelines and rationale (i.e., what design standard that was followed?), and (ii) how local site water elevation benchmarks will be established.

Reference; DEIS Vol. 1 Sect. 16.2

Concern: Information should be provided to allow reviewers to assess the validity of the following information. A basis for estimation of the 1 in 25 year level should also be provided:

- Arch culverts and bridges will be designed to pass a 1 in 25 year flood event with additional 0.3m of freeboard to pass ice and snow debris during the freshet period.

Rationale: INAC requires this information to assess the suitability of various stream crossing options. Given the large number of stream crossings over the 211 km of road length, it will be important that the design features are clearly laid out, substantiated, and consider all relevant issues such as future changes in extreme and longer term flows.

7.5 Information Request: Fords

Issue: Fords and Stream Crossings

The Proponent should provide evidence of researching the stability of fords during spring runoff.

Reference; DEIS Vol. 2 A-3 Sect. 5.2.8

Concern: INAC is concerned that during the spring fords may wash away due to their loose structure. Fords, which are essentially a combination of loose gravel and rock, are designed to accommodate some amount of runoff, but may become impassable with heavy runoff.

Rationale: The possibility of fords washing away should be discussed to ensure a complete assessment of the impacts of the project.

7.6 Information Request: Surface water quantity monitoring

Issue: Plans for surface water quantity monitoring/hydrographic data collection, beyond the port area, were not evident in the DEIS.

The Proponent should provide a detailed description of any surface water quantity monitoring plans.

Reference; DEIS Vol. 1 Sect. 16.4

Concern: Plans for a surface water quantity monitoring program were not found in the DEIS. Without these it is not clear how the proponent will ensure that predictions with respect to surface water quality are accurate and how surface water quality will be ensured.

Rationale: Without these it is not clear how the proponent will ensure that predictions with respect to surface water quality are accurate and how surface water quality will be ensured.

8 SURFACE WATER QUALITY

8.1 Information Request: Stream and wetland crossings

The Proponent has not presented sufficient information concerning the effects of the project on stream and wetland ecosystems.

INAC requests references for these specific indications.

Reference: DEIS Vol. 1 Sect. 7.3.2.3 (Stream crossings); Appendix C-1

Concern: Are there any data for the rate of natural flow (speed, direction) for all the streams? Is the data taken from a minimum of 25 years? Are there any data showing the estimated flow change when stream crossing are put into place. Are the stream crossings built to last the flow of water? What type of stream crossings are being used for the three large streams (catchment areas of > 100km^2)? When installing stream crossings, it may cause a constriction in the waterway which can obstruct flood flow and cause flow backups or washouts. Also water levels may rise causing ice dams?

Table 7.3-1 (Road Design Criteria) shows the width of the bridges at 6.0m. Where did this 6.0 m come from? Table 7.3-2 (Numbers of Crossings per Watershed Size) shows the watershed area range (km^2). What about showing flow, speed, width and direction! When referring to handling peak flows(ie., 1:25-year event) where did the numbers 1:25 come from?

Rationale: In order to fully understand the full effects of water quantity of the stream crossings, INAC requires a more detailed description.

8.2 Information Request: Bank stability/permafrost conditions at bridge and culvert stream crossing

Issue: Descriptions of bank stability and permafrost conditions at bridge crossings are not provided.

INAC requests that information be provided with respect to the stability of banks where bridge abutments or culvert installations are planned; e.g. Mara River.

Reference: Appendix A2, Sect. 5.2.7 – BIPAR Feasibility Study – Abridged Version September 2007, pg. 5-21

Concern: Failures of frozen soils at river crossings are of particular importance in permafrost settings. Has the condition of the riverbanks been characterized with particular attention to

potential failure modes associated with degrading permafrost or ice lensing/wedging in sedimentary bedrock formations?

Rationale: INAC is currently unable to fully assess the suitability of major river crossings proposed for this project.

8.3 Information Request: Construction site water management

Issue: There is missing information about the dewatering process at the construction sites.

The Proponent should provide a more detailed plan of the de-watering process of construction sites.

Reference; DEIS Vol. 1 Sect. 16.3,

Concern: It is stated that during construction, erosion will be minimized by de-watering construction sites as required. However, the proposed methodology for dewatering is not provided.

Rationale: INAC does not have enough information on the dewatering process to determine the significance of environmental effects, if any.

8.4 Information Request: Planning associated with potentially acid generating (PAG) materials

Issue: ML/ARD from quarry materials and granular material has the potential to influence especially surface water quality. The mitigative measure that will be employed should it be determined that bedrock or granular resources have the potential for acid rock drainage is not clear.

INAC requests that the Proponent clarify the mitigative measures that will be employed should it be determined that quarry or granular sources have the potential for acid rock drainage.

Reference: Appendix A2, Sect. 3.1 – BIPAR Preliminary Project Description, pg. 25

Concern: Two mitigative measures are proposed. One is to blend acid generating rock with basic rock so that the acid run-off is neutralized. The second measure, described as a more satisfactory strategy, is to avoid using road-building materials that show acid generation potential. It is not clear if these are alternatives and if they are what rationale would be followed for the selection of the preferred strategy. If the strategy is to avoid the use of quarries or granular sources that have a high potential for acid rock drainage, the Proponent should respond to the following questions:

- Will additional quarry sources be identified or will the currently proposed sources (deemed to have a low potential for acid rock drainage) be expanded to obtain the required granular volumes?

- Are there any associated environmental considerations associated with increased haul distances that may be required if fewer quarry sites are utilized?

- If blending is proposed, where and how will the buffer material be incorporated within the road embankment and what material will be used as a buffer?

Rationale: Without information concerning the selection of mitigation measures and the rationale for the selection of these measures, it is difficult for INAC to determine if the impact assessment is appropriate.

8.5 Information Request: Existing water quality data

Issue: Missing data in DEIS regarding water quality in Contwoyto Lake.

The Proponent should provide stream water quality data from 2001 and 2007, justification of gathering the temperature at Contwoyto Lake. They should also provide data on turbidity and water quality.

Reference; DEIS Vol. 1 Sect. 17.1

Concern: INAC reviewers were not able to ascertain from the DEIS where the data 2001 and 2007, showing the water quality of each stream, was collected from. How was the average temperature for August of 12.7^{o}C arrived at for Contwoyto Lake? Was the average taken from a minimum of 25 years?

This is a relatively high summer-time temperature for a mid-arctic lotic system. There might be greater concern, therefore, about the localized or broader influence of sediment and nutrient inputs (e.g. from treated sewage effluent) on bacterial and algal productivity and composition.

Rationale: It will be necessary to evaluate in more detail the proposed treatment type and performance levels of various wastewater treatment options for the camp at Contwoyto Lake. The characteristics of the receiving environment will have some bearing on the effluent quality requirements.

9 FRESHWATER LIFE

9.1 Information Request: Impact associated with increased fishing pressure

Issue: Increased exploitation pressure of fish and wildlife is expected near focal points of human activity, especially the Contwoyto Lake and Port Camp areas.

The Final EIS should better address possible pressures on fish and wildlife populations associated with increased pressure by especially employees and contractors working on the BIPAR project.

Reference: None – this issue has not been addressed in the DEIS (?). Camp workers will be precluded from hunting while in camp, but no mention is made regarding fishing.

Concern: It is stated on p. 62-63 of Vol I of the DEIS that –

> "There are 104 stream crossings along the proposed road from Bathurst Inlet to Contwoyto Lake. These were sampled in 2001 and 2002 for fish habitat and fish community. The majority of active streams were wide and shallow, with low gradient and low discharge in the late summer. Glides were the dominant habitat type, with riffles and pools also present. Cascade habitat was rare. Few pools occurred due to the wide, shallow nature of the streams typical of the region."
>
> "All potential lethal effects were classified as having **Negligible** residual significance for Arctic char, lake trout and whitefish because these species use the streams in the Project area mainly as migratory corridors. Streams may be used by some fish as spawning or rearing habitat, but the presence of these species outside of Contwoyto Lake was uncommon to rare. Impacts in Contwoyto Lake were deemed to be **Negligible** because of the size of the lake relative to the small footprint of the camp."

The assignation of impact ratings to various fish populations in the DEIS did not account for direct mortality associated with exploitation.

Rationale: Increased access to an area is generally accompanied by increase access to fish and wildlife stocks. Without adequate anticipation or management, impacts may occur.

10 TERRESTRIAL – GEOLOGY AND SOILS

10.1 Information Request: Use of esker materials

Issue: The expectations for use of esker material for road construction are not clear from the DEIS.

The Proponent is requested to give an estimate of how much esker material is anticipated to be used compared to other materials, and to minimize the use of esker materials so that there is consistency between this proposed project aspect, the wildlife baseline assessment information, and proposed risk management measures.

Reference: Appendix A2, Sect. 2.4 – BIPAR Preliminary Project Description, pg. 12

Concern: Although it appears that the road embankment is to be constructed using crushed rock, it is unclear if the crushed rock will be exclusively sourced from bedrock quarries. The comment on non-availability of esker material in the winter months contradicts the proposed schedule that shows production and placement of granular material during the summer. It is also possible that granular material from Gravel-site G5 (esker) might be used as a buffer to offset the ARD potential in other zones (reference Appendix D-2, Section 2.1, Bedrock Geology, Surface Material, and soils Effects Assessment, pg. 2-2).

Rationale: Without more information, INAC is unable to assess the full extent of impacts to unique landforms such as eskers which may be deemed Landforms and Soil VEC.

10.2 Information Request: Granular materials grain size analysis

Issue: Laboratory test results for the engineering properties of granular material from the eskers have not been provided.

INAC requests that any information with respect to the engineering properties of the granular material from eskers be provided, in particular grain size distributions.

Reference: NA

Concern: Without further descriptions of this material, its suitability for the intended purposes cannot be assessed. Gradation results would help assess the fraction of the material that meets the requirements of the project and what percentage of reject material might be encountered.

Rationale: INAC is unable to fully assess the suitability of granular resources from eskers for use on this project.

10.3 Information Request: Ice core eskers

Issue: The potential for and measures to deal with massive ice that may be encountered in eskers is not described.

INAC requests that the likelihood of massive ice be evaluated and mitigative measures be proposed should massive ice be encountered in granular borrow areas, or in areas immediately adjacentn to disturbed areas.

Reference: Appendix A2, Sect. 5.2.9 – BIPAR Feasibility Study – Abridged Version September 2007, pg. 5-26.

Concern: INAC is concerned that massive ice within eskers may be encountered and there exists a potential for run-away thermokarst in these areas of thick massive ice, should such features be disturbed.

Rationale: INAC is currently unable to assess the full extent of impacts to uncommon landforms such as eskers which are a Landforms and Soil VEC.

10.4 Information Request: ML/ARD from quarried materials

Issue: Potential quarries sites were not available at the time samples were collected for ARD testing. Where possible, the potential for ARD has been determined by comparing rock types between quarry locations and bedrock outcrops which were sampled and tested for ARD.

The Proponent is requested provide the protocol and timing for a screening program to determine the potential for ARD at proposed quarry sites.

Reference: Appendix D-5, Section 4.0, Preliminary Bedrock Geology Characterization, page 4-1

Concern: The preliminary ARD screening process demonstrated that potentially acid generating bedrock may be present within the vicinity of the proposed road route. A more detailed ARD screening program is required for each of the proposed quarry sites and bedrock cuts. Of particular concern is the timing of the screening program with respect to construction start-up and what screening measures are planned during quarry development or are to be included in the Project Environmental Management Plan.

Rational: Without confirmatory information concerning the site specific potential for ARD from the quarried rock or rock cuts, it is difficult for INAC to determine the potential for environmental impacts.

10.5 Information Request: Physical and chemical characteristics of potential quarry sites

Issue: Site specific characterization of bedrock at potential quarry sites was not carried out.

The proponent is requested to provide the timing for additional geological mapping/investigations at proposed quarry sites to confirm or determine rock type classification.

Reference: Appendix D-5, Section 3.1.6, Preliminary Bedrock Geology Characterization, page 3-9

Concern: Potential quarry sites and road cuts were identified after field work and field mapping. Bedrock evaluation and rock type classification has been based on bedrock geology maps and the results of field-mapping in nearby outcrops. Quarries that did not occur on or near field-mapped outcrops were not assigned a rock type classification.

It would also be helpful if the boundaries for IOL and Crown Land be provided on drawings where quarry sources are provided or if this information was provided in a summary table with the requested information on physical and chemical properties.

Rationale: INAC is unable to fully assess the suitability of quarry sites for use on this project.

10.6 Information Request: Additional field sampling of surficial soils

Issue: Additional field sampling of surficial soils is required for detailed planning.

INAC requests that the details and timing for any additional field sampling be provided.

Reference: Appendix D4, Section 2-3, Geology, Soils and Ecosystem Mapping, pg. 31

Concern: The comments provided in the report are for the general surficial geological conditions described for each material. Detailed planning will require additional field sampling in particular to determine adverse terrain types.

Rational: INAC is unable to fully assess the suitability of the roadway alignment with respect to adverse soil conditions without the benefit of additional field sampling to confirm parent material types and limitations for road construction.

10.7 Information Request: Saline permafrost occurrences.

Issue: There is no mention of permafrost salinity.

INAC requests that information with respect to permafrost salinity be provided.

Reference: NA

Concern: Saline permafrost may impact the freezing point depression.

Rationale: Measured values would help INAC assess the expected performance of constructed works.

10.8 Information Request: Additional soils/geology issues

Issue: In addition to the five items discussed above, INAC's preliminary review of the BIPAR DEIS has raised a variety of other questions.

INAC requests clarifications regarding the following additional points.

- Vol II, Appendix A-3, Section 4.4.1: Port Geotech – Could permafrost agrade into the wharf structure and causeway? If so, what is the implication to performance and operation?
- Vol II, Appendix A-3, Section 5: Road. It is stated that the bedrock for the first 70 km is predominately sedimentary. Page 5-11 states "gritstone, mudstone and shale". Experience with shallow sedimentary rock (shales for example) in the Igloolik area has shown that some outcrops are very ice rich. The shales have fractured along bedding planes and allowed water to enter forming ice lenses. Has the presence of ice-rich sedimentary bedrock been considered in the routing and road design?
- Vol II, Appendix A-3, Section 5.2.5: Geotech design of the embankment – DEIS states that a lower embankment height is better than a high one. The text further indicates that a lower embankment improves cross drainage.

11 TERRESTRIAL – ECOSYSTEMS, VEGETATION, WILDLIFE

11.1 Information Request: Uncommon plants and communities

Issue: The main body of DEIS is dismissive of plants as VECs, stating –

> "No rare or sensitive ecosystems or plants were identified within the RSA or port or road LSAs; they are all commonly distributed throughout the Arctic coast wherever the terrain is suitable."

This statement is inconsistent with the summary of the plant assessment, which states –

> "Although there are locally uncommon species such as ferns, orchids, louseworts, legumes, and violets, in this study no species considered "rare" by international standards were encountered. In many cases, the project area occurs at the edges of the ranges of certain species, or in habitat that does not support them. This study produced a few range extensions, not unexpected, as the area is not botanically well known."

The possibility of and merits of avoidance of disturbance to locally uncommon plant (and allied faunal) species should be considered in the project design.

Reference: Appendix D-4

11.2 Information Request: Spatial scale of wildlife assessments and associated project planning issues

Issue: The proposed project siting and timing do not adequately reflect the stated impact avoidance guidance

INAC requests that the appropriate impact avoidance and mitigation measures addressed in detailed DEIS appendix material be better used and referenced in defining the overall project scope, siting, and as captured in the main body of the DEIS. In particular, it appears that wildlife and habitat management recommendations arising from earlier assessments is not reflected in the currently documented project design.

Reference: Appendix D-3. Wildlife and Wildlife Habitat Effects Assessment; Appendix D-7, Wildlife Baseline Studies, 2001-2002.

Concern: Appendix D-7, and especially Figures 2.3-2 and 2.3-3 provide detailed locations of observed wildlife observations, raptor nests and carnivorous mammal denning sites. Since this information is only available at the LSA as opposed to RSA scale, it is not known whether minor or major route alternatives could result in reductions of potential project conflicts. Since the proposed route has not been substantively altered since prior to completion of the 2001-02 wildlife surveys, it raised the question about whether route selection has adequately considered minimizing risks to raptors, carnivores and/or other VECs.

According to the DEIS Project Description (Vol. I, p. 32) –

> "A number of competing alternative route corridors were investigated based on construction, operating costs, terrain controls, and the following factors:
>
> …
>
> - environmental controls, impacts and mitigative measures;
>
> …
>
> Potential effects on caribou were also considered in the route selection and road engineering study."

Since route selection seems to have been substantially established prior to availability of the wildlife baseline studies, it is difficult to see how wildlife and water quality effects minimization was considered.

Rationale: The overall DEIS, and in particular road routing and granular material source assessment should be far better linked to the recommendations arising from highly detailed biophysical assessment work completed to date.

12 MARINE ENVIRONMENT

12.1 Information Request: Marine transport methods

Issue: The BIPAR DEIS (Vol. I) addresses only two of many important aspects associated with the transportation of diesel fuel and other materials to and from the proposed port facility via large marine vessels (up to 50,000 tonne capacity, 213 m length and 12 m width): (i) general features of potential shipping routes via the eastern and western arctic; and (ii) recommendations for additional navigational aids for Bathurst Inlet. Figure 7.3-5 (Vessel Approach Route and Navigation Aids) makes it very clear that navigation through the Bathurst Inlet access route without incident for a large sea-going vessel will be far from trivial.

There is restricted passage especially in the vicinity of Entry Islands, Breakwater and Fishers Islands, Ekalulia/Shoe Islands, Red Islands, Quadyuk Islands, and near Kingaok, which will make safe navigation difficult even on clear, fair weather days. Freighters or tankers may be hauling large amounts of refined hydrocarbons, metal concentrates, and a wide variety of potentially hazardous materials.

INAC requests additional information on the following:

- types of marine vessels proposed;
- whether tankers will be single- or double-hulled;
- anticipated needs for tug support (port selection criteria include adequate turning/wharfage area for “tugless” operation; however, this may not alleviate the need for tugs for other purposes. Interested parties should evaluate tanker traffic safety and environmental requirements for Prince William Sound);
- anticipated needs for use of a harbour pilot and vessel to assume control of ship operations within constricted waters and near the community and port;
- expectations regarding safe and environmentally sustainable operational window with regard to wind and sea state, visibility, sea ice, presence of marine mammals, presence of other vessels (including small boats);
- grounding and spill avoidance measures;
- spill response measures;
- availability of oil spill response infrastructure and capacity;
- presence of viable shellfish beds along the Bathurst Inlet portion of the route, the future use of which could be encumbered or lost as a result of accidental or chronic spills and contaminant inputs);

- baseline data on PAH (as petroleum hydrocarbon constituents) and metal levels in representative shellfish (clam, other) samples;
- presence of important marine mammal or fish foraging grounds within Bathurst Inlet;
- mapping of sensitive shoreline habitat, including estuaries and staging areas for migrations of aquatic species such as anadromous stocks of arctic char;
- needs for financial securities against future marine accidents.

Reference: BIPAR DEIS, Vol. I., sections 7.3.4 and 7.4.3.1; Figure 7.3-5 (Vol. I); Appendix E.

Concern: There is a concern that the large number of avoidance/mitigation measures proposed by technical experts (DEIS Appendix E) for water and sediment quality, plankton, fish, seabirds, and marine mammals will be lost in the larger planning and implementation process. In addition, the spatial scale and depth of knowledge documented in Appendix E is not adequate relative to project issues and planning needs.

Rationale: The ability to transport large quantities of fuel and supplies via the marine environment is an integral part of the project rationale as well as acceptability from an environmental and socio-economic perspective. Since no detailed EIS has been completed of proposed marine activities to date, no reasonable set of decisions can be provided on the project acceptability.

12.2 Information Request: Probability of marine oil spills

Issue: The methodology used to estimate probabilities of a marine oil spill are not considered to be useful for the BIPR project, owing to an expected departure between marine, climatic and operational conditions of the Bathurst Inlet area from the expected range of conditions at other global temperate and tropical sites.

INAC questions the applicability of the U.S. Mineral Managements Service (MMS) marine oil spills database to the BIPR project, and recommends against reliance on the low stated probabilities of release as the primary impact avoidance/risk management measure. Furthermore, INAC seeks a strongly supported prediction of hydrocarbon releases from all major reservoir types and transit points.

Reference: Draft EIS, Appendix E-6.

Concern: The MMS database primarily reflects deep-sea, large tanker traffic moving in largely unconfined waters except when leaving or entering port over a very small portion of the overall transportation route. In addition, the MMS would not be generalizable to waters with sea ice and strong limitations to visibility by ice fog. Furthermore, it is not clear that the MMS database

captures all release types of interest, including release of hydrocarbons in bilge water discharge, limited leakage at transfer points, and other types.

Most ports require escort of ships by a harbour pilot, and occur in waters for which regulatory oversight of ship movement and illicit or accidental contaminant releases is more easily derected and deterred. Such is not the case for the proposed BIPAR marine transportation route. Another issuee is that the MMS database might be biased relative to the current proposal, given that movement of larger tankers through such constrained access areas enroute to port would not be favoured for port location. It needs to be considered that the Bathurst Inlet portion of the route is at the atypical end of the spectrum of current use fueling ports based on ease of coastal marine access.

Finally, INAC would argue against use of a median or average spill incidence as a conservative estimate of impact potential for the BIPAR project; rather a reasonable, relevant upper-bounds estimate should be used.

Rationale: Expectations regarding fuel release are a very important aspect of the decision process. It will be important to obtain feedback from several different objective sources before INAC can make a rationale decision about the actual potential risks.

12.3 Information Request: marine facilities – sediment dredging/excavation

Issue: The design currently proposed by the Proponent requires excavation and disturbance of very soft seafloor sediment for the wharf and Causeway that will likely release a large quantity of fine-grained sediments into the water.

INAC requests that the Proponent propose mitigation measures that will address the release of sediment into the water.

Reference: Appendix A2, Sect. 4.4.2 – BIPAR Feasibility Study – Abridged Version September 2007, pg. 4-23.

Concern: Geotechnical investigations conducted by the Proponent determined that the seabed at the wharf location is about 20 m thick, consisting of soft clay. The Proponent considered three wharf foundation types; pre-built concrete cells, reinforced concrete drilled piers and steel sheet pile cells (SSPC). The Proponent justifies the selection of the SSPC based on successful performance in Arctic locations. INAC agrees that a SSPC may be appropriate, however, is concerned that the excavation of soft clay seabed material for backfilling with rock is expected to release large quantities of sediments into the water. The same concern exists for the construction of the causeway that may or may not require the excavation of seabed sediments. Information on the transportation, disposal and closure of the landfill area along the road at the Port Facility is limited as well as environmental control measures to prevent the release of sediment for the landfill location to the water.

Rationale: Without further information concerning mitigation measures, INAC is unable to evaluate whether the impacts to the environment under the current design scheme are sufficiently addressed.

13 TRANSBOUNDARY EFFECTS ANALYSIS

13.1 Information Request: Transboundary Effects- missing information

Issue: The DEIS does not contain sufficient analysis of transboundary effects

The transboudary effects of the proposed project should be further characterized, including a discussion of the nature, magnitude and geographical extent and how these were determined.

Reference: DEIS Vol. VIII, Appendix G-3

Concern: The transboundary effects analysis presented in the DEIS is limited to the following: 1. listing which effects presented in the broader assessment may extend across boundaries, 2. stating what rating the broader impacts received, and 3, in some cases, stating a rating for the transboundary effects. No or very limited analysis is provided to justify these statements and a description of the broader effects is only occasionally provided. The entire Appendix is limited to five pages in length. Descriptions of the nature of impacts that will occur across boundaries are generally not included. Information needs with respect to transboundary socio-economic effects is detailed in section 18 of this document.

Rationale: In order to adequately assess transboundary effects, a more detailed analysis should be conducted. The effects should be characterized and detailed information on how the analysis was conducted and how conclusions were reached should be provided.

14 ACCIDENTS AND MALFUNCTIONS

14.1 Information Request: Accidents and Malfunctions- missing information

Issue: The DEIS does not contain an adequate assessment of the potential environmental impacts of accidents and malfunctions

A comprehensive assessment of the potential environmental and human health risks of accidents and malfunctions should be provided. This should include an assessment of their likelihood and of the magnitude and significance rating of their potential effects.

Reference: DEIS Vol. VIII, Appendix G-4, Section 6

Concern: The assessment of the potential effects of accidents and malfunctions contained in the DEIS is limited to listing what the proponent has identified as "major environmental and safety risks" and for each of these, listing the plan that will describe prevention, mitigation and response. It should be noted that these plans are not contained in the DEIS.

Rationale: The environmental impacts of potential accidents and malfunctions should be considered potential impacts of the project, and as such, should be assessed comprehensively.

15 CUMULATIVE EFFECTS ASSESSMENT

15.1 Information Request: Cumulative Effects- outdated information

Issue: It is not clear that the cumulative effects assessment reflects the current development scenario in the Kitikmeot Region.

INAC requests that the proponent confirm whether the cumulative effects assessment reflects the current development scenario in the Kitikmeot Region and provide an updated assessment if warranted.

Reference: DEIS Vol. VIII, Appendix G-5

Concern: The cumulative effects of the BIPR project will be highly dependant on predicted resource development activity in the project area. As this activity can be highly dynamic in nature, it should be confirmed that the December 2007 assessment accurately portrays the current scenario.

Rationale: Ensuring that the cumulative effects scenario that is considered is as accurate and current as possible will enable a better assessment of the cumulative effects of the proposed project

16 SUSTAINABILITY ANALYSIS

16.1 Information Request: Sustainability Analysis- missing information

Issue: The proponent has not demonstrated how they have incorporated sustainable development principles throughout all phases of the project.

The application of the sustainable development principles should be specifically documented and referenced for all phases of the project.

Reference: DEIS Vol.2, Appendix A-5 p. 1-1

Concern: The DEIS does not contain specific information about how sustainable development principles have been applied, including an analysis of the capacity of renewable resources affected by the project. The proponent's analysis is limited to stating that "The Project has been developed to facilitate economic development in accordance with sustainable development principles…" and that "the environmental assessment process has been designed to ensure that the Project does not affect the availability of renewable and non-renewable resources in the Project area…" These are statements rather than analysis. Specific measures that have been taken to incorporate sustainable development should be documented and discussed for all phases of the project. Information needs with respect to the assessment of sustainability from a socio-economic perspective is detailed in section 18 of this document.

Rationale: INAC cannot assess how the principles of sustainable development have been implemented by the proponent. A sustainability analysis is required as per NIRB's 10 minimum EIS requirements for a part V review.

17 GENERAL

Issue: The Proponent has not used the same scale for Mapping

The Proponent should make sure that all maps should be 1:50,000/1:250,000.

Reference: All maps in entire DEIS and appendices.

Concern: The scale of maps within the DEIS are very inconsistent

Rationale: It is difficult to interpret maps when they are different scales and very inconsistent.

Issue: The Proponent has not distinguished between Crown Land and Inuit Owned Land on all maps of the Road nor do they indicate quarry locations.

INAC is requesting the proper delineation of IOL and Crown Land on all maps in the entire DEIS and its appending documents. Quarry locations need to be clearly indicated on all the maps referencing roads.

Reference: All maps in entire DEIS and appendices.

Concern: It is difficult to determine which quarries are on Crown Land and which are on IOL. It would be beneficial to have a layer added indicating which is IOL or crown lands. This feature will help provide information pertaining to quarry royalties, lease cost, etc.

Rationale: INAC cannot fully assess the impacts of the quarries without knowing what land they are sitting on.

18 INFORMATION REQUESTS: SOCIO-ECONOMICS

INAC has completed its review of the socio-economic elements of the Bathurst Inlet Port and Road (BIPAR) DEIS. INAC collaborated with the Government of Nunavut on the formulation of IRs and technical socio-economic comments. For the benefit of the both governments, Jacques Whitford was contracted to provide a technical evaluation and expert advice on issues related to the design of the project and its associated socio-economic effects. The GN and INAC identified key issues for Jacques Whitford to address in its analysis of the BIPAR DEIS. These include:

- Impacts of the proposed project on cultural and heritage resources;
- Impacts of the proposed project on tourism in the area surrounding the BIPAR project;
- Impacts of the proposed project on local and regional transportation patterns;
- Impacts of the proposed project on community barge service and community resupply, and;
- Use of IQ/Traditional Knowledge in the development of the BIPAR DEIS.

Technical advice was also obtained in such areas as trans-boundary and cumulative effects, and training and employment opportunities. The results of the technical evaluation were provided to both INAC and the GN to assist them with their overall assessment of the proposed project, and to support their respective interventions to NIRB's environmental review process. Below, 10 Information Requests (IRs) are provided related to the adequacy of the DEIS.

NOTE

The following notes with respect to Aboriginal consultation provide some background regarding the Information Requests ("IRs"). Given the uniqueness of this issue, it is recommended that these points be forwarded together with the Information Requests.

1. "Aboriginals" in this report includes Inuit of Nunavut and First Nations/Aboriginals of the Northwest Territories.

2. In the IRs listed below, consultation is most often referred to as "engagement" rather than "consultation" given the legal, serious, somewhat ambiguous and sensitive nature of the word "consultation" at this point in time in Canada. The reviewers were unable to locate definitive and consistent definitions of "consultation" in NIRB documents. As there is no specific and consistent definition of consultation, the word "engagement" is used interchangeably with consultation as engagement is more generic.

3. The ("IRs") attached below refer to "community" consultation/engagement in the description of the assessment rather than "Aboriginal" consultation/ engagement as there is no apparent requirement under the governing documents for separate

Aboriginal engagement. All references to consultation within the BIPAR Final Guidelines 2004 issued by NIRB refer to consultation with people in general ie public, stakeholders etc. without any reference to Aboriginals. The NIRB "A Proponents Guide to Conducting Consultation for the NIRB Environmental Assessment Process dated 2006 ("Proponents Guide") does not provide specific references to Aboriginals. General NIRB EIS Principles do not include a particular reference to Aboriginals. Accordingly "community engagement" was viewed as more appropriate for the purposes of this review.

4. A detailed conformity review between the Table of Concordance and the Final Guidelines was not conducted. Assessments were based on the requirements as outlined in the Table of Concordance/Final Guidelines.

5. It should be noted that a few references to consultation within the Table of Concordance are obligatory/mandatory (the proponent "shall") whereas many are discretionary (proponent "should"). This difference should be taken into account when assessing the DEIS.

6. The Proponents Guide outlines general guidelines for consultation and a few specific requirements. The Guide states the following principles "which underlie the concept of effective and appropriate consultation":

   a) Consultation should be part of an ongoing relationship between the Proponent and the potential affected communities by a project proposal, in which mutual trust and understanding is built up over time, through a continuing process of discussion, decisions, and follow-through. Importantly, consultation generally takes place before a project proposal is developed and decisions are made regarding the project.

   b) Consultation is a two-way communication process in which all parties listen and contribute views, information and ideas. The Proponent should communicate back to participants to confirm understanding of the information, and indicate what happened with their views, information and ideas.

   c) Consultation leads to action. It is an opportunity for genuine and respectful listening. This does not necessarily mean that every suggestion made in a consultation is implemented, but that input will always be taken into account before a decision is made.

   d) NIRB recognises that the extent to which consultations are conducted will depend upon the scope, size and location of the project proposal.

18.1 Information Request # 1

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: The DEIS does not clearly outline how public consultations have influenced the design of the Project.

INAC recommends that the Proponent clearly outline how public consultation has influenced the design of the BIPR Project.

EIS Guidelines Reference: 4.5.2 DEIS (Section 11), Appendix A-4

Concern: The BIPR team has conducted numerous meetings, interviews and presentations over time with various communities within the area of influence. Section 4 of Appendix 2 attached to A-2 (Project Description) requires that the Proponent identify how consultation has affected project design prior to the issuance of the EIS Guidelines. Section 4.5.2 of the Final 2004 Guidelines also states this requirement. The referenced documents in the Table of Concordance, Section 11 of the DEIS and Appendix A-4, describe the nature of community consultation methodology as well as the feedback from various communities but the referenced documents do not clearly indicate how the feedback from the community engagements was incorporated into the design of the project

It appears that previous community interests and concerns were taken into consideration in the initial design, for example the Project Description indicated the Draft West Kitikmeot Regional Land Use Plan by the Nunavut Planning Commission 1997 was used in the selection of the route. As well, there seems to be an employee rotational change from three weeks in/one week out to two week in/two weeks out, presumably at least partially because of community concerns for community wellness etc. as indicated in community interviews. However, these and various other community interests are not clearly identified as being incorporated into the current design as revealed in DEIS Section 11 and A-4.

It is noted that the project description was prepared in 2003 after community engagement in 2001/2002. The project feasibility study was prepared in September 2007 after community engagement again in 2006/2007. Accordingly, there should be ample opportunity within the feasibility study and the DEIS to indicate where engagement has affected project design. Additional references in the Table of Concordance would help capture the efforts the Proponent has already undertaken and how they were transformed into action by way of inclusion in project design.

Rationale: This information is required in order for INAC to assess the comprehensiveness of the consultation efforts. Many community members may view this information as necessary components to meaningful engagement and in some respects, is what many people view as “consultation”. This section may be a key section of the EIS that is reviewed by community members.

18.2 Information Request #2

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: Section 5.5 of the DEIS "Community Support Analysis" does not include the full range of socio-economic groups engaged and requires a reassessment of conclusions based on this information.

INAC recommends that the Proponent include all of the socio-economic groups engaged in DEIS Section 5.5 and that it re-examine its assessment of community support, referencing in the Table of Concordance applicable support within the DEIS documents.

EIS Guidelines Reference: 4.4 DEIA Section 5.5, Appendix A-3.

Concerns: Section 4.4 of the Guidelines indicates that the Proponent should provide an analysis of the support for and opposition to the project, including the groups that stand to benefit and lose from the Project and including a description of how the Proponent has sought input from a broad range of socio-economic groups. Section 5.5 of the DEIS and Appendix A-3 outlined in Section 4.4 of the Guidelines do not clearly address the requirements in Section 4.4 of the Guidelines as pertains to community support.

Section 5.5 of the DEIS states that responses from the communities included local organisations such as elders, youth groups, Inuit leaders, hunters and trappers associations, government officials and RCMP officers and that they were generally positive given factors which will affect lower costs of living. This section also states that an assessment on a community by community basis was not possible as this was not the way the SEIA process was conducted (impacts on VSECs and VECs in Nunavut and NWT were assessed).

The description within this section is limited and somewhat confusing. It is recommended that the Proponent reassess this section and clarify if each of those socio-economic groups were engaged in their entirety or if individual members from each group were engaged. Additional references in the Table of Concordance might be helpful so that the reader can clearly identify support for the project. By viewing the sign-up sheets from various engagement activities, various socio-economic groups seemed to be left out of this description including educational groups/teachers, mining business/executives, tourism lodges, members of Inuit communities (not just leaders), etc. The overall conclusion of positive support based on longer term stable employment and lower fuel costs requires further information regarding how this conclusion was derived at, including references within the DEIS where this sort of overall assessment has taken place. The various studies that have taken place regarding consultation processes might be referenced.

Rationale: This information is required in order for INAC to assess the comprehensiveness and adequacy of the consultation efforts.

18.3 Information Request #3

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: The DEIS does not include copies of all materials presented at consultation meetings and other relevant materials.

INAC recommends that the Proponent include all materials presented at community meetings as well as any correspondence regarding interests and concerns from community members.

EIS Guidelines Reference 4.12

Concern: Section 4.12 of the 2004 EIS Guidelines requires that the Proponent provide in an appendix copies of all materials presented at consultation meetings and other relevant materials. Understanding the information presented at meetings is important to understand the nature of the engagement process and whether all key aspects of the project have been discussed with communities, including the public's use of the road, anticipated closure plans etc. Clarifying the nature of the information which has been distributed is especially important given the notations by Jemma Scoble in her 2006 report of consultation activities (Appendix F-8 p. 39 & 40) of a) the discrepancy in the nature of project related messages or "mixed messages" in Cambridge Bay and Kugluktuk and b) the importance of improving the mechanism for the dissemination of project information and the handling of interests and concerns. While efforts were made to engage communities during 2007 prior to the completion of the feasibility study, it is unknown if the material presented in Nunavut and NWT in 2007 was substantially consistent with the material contained in this EIS.

It can be noted that Section 1.3 of Appendix F-8 (Review of Socio-economic Impacts, Cambridge Bay and Kugluktuk, by Jemma Scoble dated March 2006) indicates that there are transcripts of hearings and presentations available as well as correspondence from stakeholders. The inclusion of all materials presented at consultation meetings and all correspondence from stakeholders outlining issues of concern and interest, including any responses that were provided to the communities, would be valuable information in the assessment of this project.

Rationale: This information is required in order for INAC to assess the comprehensiveness and meaningfulness of the consultation efforts. This is particularly important as the Feasibility Study was produced in September 2007 after most, if not all, of the initial consultations were concluded (or consultation invitations had been distributed). Ensuring that the Feasibility study approximates the information presented at community consultations is important to understanding community expectations and facilitating the EIS review of this project.

18.4 Information Request #4

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: A list of organisations consulted has not been provided in the DEIS.

INAC recommends that the Proponent provide a complete list of the organisations invited to "stakeholder meetings" and those who attended. An indication as to why those stakeholders were invited in particular would be helpful in this assessment process.

EIS Guideline Reference: 4.12 A-4 and associated appendices

Concern: Section 4.12 of the EIS Guidelines requires that the Proponent prepare a list of the organisations consulted, including the time, place and purpose of the consultation and the contact information for the organisation. A-4 and associated appendices provide lists of names but do not always identify their affiliated organisation. Section 1.1.3 of A-4 indicates that stakeholders were notified of the meeting by email and telephone, at least the stakeholders of Cambridge Bay. Accordingly lists of organisations contacted for engagement should be easily obtainable.

Rationale: This information is required in order for INAC to assess the comprehensiveness of the consultation efforts.

18.5 Information Request #5

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: The Proponent's analysis of how the proposed BIPR Project will contribute to sustainable development, particularly in Nunavut is inadequate.

INAC recommends that the Proponent be required to develop a more substantial analysis of how the BIPR project will contribute to the creation of self-sustaining and self-sufficient communities. In undertaking this analysis, the Proponent should take into account the key goals associated with Sustainable Development that NIRB has highlighted in its EIS Guidelines.

EIS Guidelines Reference: Subsection 2.1.1, pgs.2-3.

DEIS Reference: Vol. VII, F-2, ss. 4.2.2 pgs. 4-13 to 4-14, ss. 4.2.3 pgs. 4-24 to 4-25.

Concerns: The Proponent deals with the proposed BIPR Project's contribution to "Sustainable Development", as defined on pg. 3 of the EIS Guidelines, in a cursory and incomplete fashion. Its assessment of the Project's contribution to the sustainability of cultures and communities in

Nunavut is notably inadequate. “Sustainability” issues are explicitly dealt with only twice in the DEIS, and in both cases the treatment is brief. This analysis claims, in relation to the construction and operations phases of the Project, that it “will meet the regional and territorial economic development goal of assisting in the creation of self-sustaining and self-sufficient communities by providing additional employment opportunities within the Kitikmeot region.” However, it gives few details on how exactly the Project will assist in creating “self-sustaining” communities. In general, the Proponent fails to effectively demonstrate that the Project will contribute to a key goal identified by NIRB as being crucial to sustainable development: “the attainment of durable social and economic benefits, particularly in Nunavut.”

Rationale: Without a more detailed analysis from the Proponent, INAC will be unable to adequately assess the proposed BIPR Project’s contribution to the sustainability of cultures and communities in Nunavut.

18.6 Information Request #6

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: It is unclear which tourism-related groups were included as stakeholders within the consultations.

INAC recommends that Bathurst Inlet Port and Road Joint Venture Ltd. provide a comprehensive listing of all groups / organizations included within the stakeholder consultations and a summary specific to the tourism industry on the nature of the concerns raised with respect to the project’s potential effects on tourism.

Reference: DEIS, Vol. 2, Appendix A-4

Concern: Many communities within the area of influence have identified growth in the tourism industry as a goal for local economic development initiatives. The DEIS does not address the extent to which tourism-related industries were included in the consultation process.

Rationale: In order for INAC to assess the comprehensiveness of the consultation efforts this information is required.

18.7 Information Request #7

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: The current DEIS does not consider the tourism industry in the NWT communities included in the area of influence.

INAC recommends that baseline conditions for the tourism industry in the NWT be included in the DEIS. INAC also recommends that the comprehensiveness of the impacts assessment portion of the DEIS be re-evaluated in the context of this information.

Reference: DEIS, Vol. 7; Appendix F-7;

Concern: That the current baseline report is incomplete because the tourism industry in the NWT is not adequately addressed.

Rationale: Without an understanding of the extent to which the tourism industry is currently operating in the NWT, the potential implications of the proposed project on the tourism industry cannot be determined.

18.8 Information Request #8

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: The DEIS does not provide an analysis of the potential impacts to local and regional transportation patterns resulting from the project.

INAC recommends that Bathurst Inlet Port and Road Joint Venture Ltd. provide an analysis of the potential impacts to local and regional transportation pattern shifts resulting from the project.

Reference: DEIS Section 5.3 "Implications for Regional and Territorial Transportation Networks". Abridged Feasibility Study, Document A3, Section 3.0 Port and Road Users. Socio-Economic Assessment, Document F2.

Concern: The DEIS and supporting documents do not clearly state the changes to the existing transportation patterns on either the barge service or traffic patterns on the Tibbit to Contwoyto Winter Road that will result from the project or present an analysis of potential impacts to existing transportation systems and patterns. For example, will removal of the majority of fuel and some operating supplies from the bulk cargo of the existing barge service raise the rates for supplies shipped by the existing barge service?

Rationale: Section 5.3 of the DEIS acknowledges difficulties with the Tibbit- Contwoyto Winter Road and benefits provided by the project; however an analysis of transportation pattern shifts is not presented. Tables 3.4-1 and 3.5-1 in the Abridged Feasibility Study appear to indicate that all diesel fuel and operating supplies currently being delivered by existing barge and winter road infrastructure will be delivered through the project. Section 3.5 states that only 10% of operating supplies to Nunavut communities will be delivered through the project with the remainder being transported on the existing barge system.

18.9 Information Request #9

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd.

Issue: Proponent provides insufficient information on the trans-boundary social and economic effects of the Project.

INAC recommends that the Proponent be required to present more detailed information to support its conclusions on the trans-boundary social and economic effects of the proposed BIPR Project. This information must be more clearly linked with the analysis in the Proponent's Social and Economic Impact Assessment of the social and economic impacts of the Project in the Northwest Territories. As it presently stands, the Proponent's analysis does not provide an adequate basis for assessing the trans-boundary impacts of the proposed Project.

EIS Guidelines Reference: 2.1 NIRB Principles, p. 2

DEIS References: Vol.VIII, Appendix G-3, p. 5; Vol. VII. F-2, Sections 4.2.4-4.2.5

Concern: The Proponent's Trans-boundary Effects Analysis devotes three lines to Social and Economic Effects. It simply states that: "Potential trans-boundary effects on the Valued Social and Economic Components (VSEC) for the Project are minimal and positive. In addition to bringing job opportunities in Nunavut, the Project will contribute to GDP growth in the Northwest Territories and all of Canada." No further justification is offered for these conclusions. Also, no reference is made to the relevant sections of the draft Social and Economic Impact Assessment relating to the Project's social and economic impacts in the Northwest Territories.

Rationale: INAC requires further information in order to adequately assess the impacts of the Project on the well-being of Canadians outside of the Nunavut Settlement Area, particularly residents of the Northwest Territories.

18.10 Information Request #10

Directed to: Bathurst Inlet Port and Road Joint Venture Ltd

Issue: Proponent provides an incomplete analysis of the cumulative effects of the project on three key Valued Socio-Economic Components (VSECs).

INAC recommends that the Proponent be required to provide significance ratings and an indication of confidence levels in its analysis of the potential cumulative impacts of its Project on the VSECs of Health and Wellness, Economic Development, and Aboriginal Culture. If it is unable to do so, the Proponent should be required to offer some justification for this.

EIS Guidelines Reference: Sections 4.6.1 p.18; 4.7.1 p. 22-24, 4.7.2 p. 24

DEIS Reference: Vol. VIII, Report G-5, Section 18.

Concern: The Proponent's Cumulative Effects Analysis of the three key Valued Socio-Economic Components (VSECs) lacks key details. The analysis doesn't assign any "Significance" ratings in its assessment of the potential cumulative impacts of the BIPR Project on Health and Wellness, Economic Development and Aboriginal Culture. As well, it fails to offer any indication of the "Confidence Levels" of its assessment of these impacts. This stands in marked contrast to the analysis, for example, of the cumulative impacts on Archaeology and Heritage Resources in Section 17, and of cumulative impacts in the other sections of the Analysis.

Rationale: INAC requires a more complete analysis from the Proponent if it is to adequately assess the cumulative impacts of the proposed BIPR Project on the VSECs identified as crucial in its Cumulative Effects Analysis.

Information Request to NIRB

Issue: It is unclear what consultation methodology NIRB has required throughout the period between BIPR project was initiated until the EIS guidelines were issued.

INAC recommends that NIRB outline any specific requirements with respect to consultation/engagement methodology that existed during the period between the initiation of the project and the finalisation of the 2004 EIS Guidelines.

EIS Guidelines Reference: 4.2

Concerns: Section 4.2 of the BIPAR Final Guidelines December 2004 indicates that the Proponent shall identity all federal and territorial environmental and other related laws, regulations and associated standards that require compliance in respect to the Project and explain how such requirements will be met. The BIPR project has been ongoing for some time, during a time when Nunavut was developing as a territory. Throughout the development of the project, various laws, guidelines and standards were presumably adopted by Nunavut which would guide project proponents. In assessing the engagement process for this project over the years, and to put the engagement process in the proper context, it is important to consider if there were any specific engagement methodology requirements at various points in time with respect to consultation methodology. Section 4 of Appendix 2 attached to A-2, Project Description, outlines general requirements for consultations in terms of results (example the VECS that were identified by consultation) but does not provide details as to specific methodology (i.e. the "how, when, where, who of consultation").

It would be helpful to the reader of the EIS to understand which specific requirements regarding consultation methodology, if any, governed the project prior to the 2004 EIS Guidelines being finalised.

Rationale: This information is required in order for INAC to assess the comprehensiveness and adequacy of the engagement efforts over the course of the entire project.