FINAL GUIDELINES FOR THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT

FOR URAVAN MINERALS INC.'S GARRY LAKE PROJECT

NIRB FILE NO. 08EN037

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Issued by:

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GLOSSARY

Please note that a reference has been provided for each of the terms below where possible.

Commissioner's lands – lands administered by the municipality or by the Government of Nunavut.

Crown lands – lands belonging to Her Majesty or in respect of which Government has the power of disposition (GC and TFN 1993).

Ecosystem – a functional unit consisting of all living organisms (plants, animals and microbes) in a given area, and all the nonliving physical and chemical factors of their environment linked together through nutrient cycling and energy flow. An ecosystem can include humans and be of any size, but it always functions as an integrated unit. Ecosystems are commonly described according to the major type of vegetation, *e.g.* forest ecosystems or grassland ecosystems (Tilleman 2005).

Food Security – means that food is available at all times; that all persons have means of access to it; that it is nutritionally adequate in terms of quantity, quality and variety; and that it is acceptable within a given culture (FAO 1996).

Hanningajurmmiut – former residents of the Garry Lakes area.

Harvest – the reduction of wildlife into possession, and includes hunting, trapping, fishing, as defined in the *Fisheries Act*, netting, egging, picking, collecting, gathering, spearing, killing, capturing or taking by any means (GC and TFN 1993).

Inuit Owned Lands – means (a) those lands that vest in the DIO [Designated Inuit Organization] as Inuit Owned Lands pursuant to Section 19.3.1 [of the NLCA], and (b) any lands that are vested in, acquired by or re-acquired by the DIO as Inuit Owned Lands from time to time pursuant to the [NLCA], so long as they maintain such status pursuant to the [NLCA] (GC and TFN 1993).

Inuit Quajimajatuqangit (IQ) – Inuit knowledge, insight and wisdom that is gained through experience, shared through stories and passed from one generation to the next. More than just knowledge, as it is typically termed, IQ includes a finely tuned awareness of the forever-changing relationship between "nuna" (land), "hila" (air, atmosphere, climate), wildlife and the spiritual world. It is local in scale, changing, aggregating, iterative, adaptive, based on oral tradition, intergenerational, complex and spiritual (Thorpe et *al*. 2001).

Mitigation – actions taken for the purpose of reducing the negative impacts on the environment of a particular land use or activity (Tilleman 2005).

Nunavummiut – residents of Nunavut.

Nunavut Land Claims Agreement (NLCA) – the "Agreement Between the Inuit of the Settlement Area and Her Majesty the Queen in Right of Canada", including its preamble and schedules, and any amendments to that agreement made pursuant to it (Tilleman 2005).

Precautionary Principle - where there are threats of serious or irreversible damage, lack of full scientific certainty must not be used as a reason for postponing cost-effective measures to prevent environmental degradation (United Nations 1972).

Project proposal – a physical work that a Proponent proposes to construct, operate, modify, decommission, abandon or otherwise carry out, or a physical activity that a proponent proposes to undertake or otherwise carry out, such work or activity being within the Nunavut Settlement Area, except as provided in Section 12.11.1 (GC and TFN 1993).

Proponent – the organization, company, or department planning to undertake a proposal (Tilleman 2005).

Reasonably foreseeable future developments – projects or activities that are currently under regulatory review, and those that will be submitted for regulatory review in the near future, as determined by the existence of a proposed project description, letter of intent, or any regulatory application filed with an authorizing agency (NIRB 2007).

Scoping – a process that pinpoints significant issues requiring study and analysis. This process aims to identify those components of the biophysical and/or socio-economic environment that may be impacted by the project and for which there is public concern (NIRB 2008b).

Significant environmental effects – either: (1) any irreversible damage to biological, commercial, or agricultural resources of importance to society, (2) any reversible damage to biological, commercial, or agricultural resources of importance to society if the damage persists beyond a single year, or (3) any known or reasonably anticipated loss of members of an endangered or threatened species. Endangered or threatened species are those species identified as such in accordance with the *Endangered Species Act*, as amended (Tilleman 2005).

Sustainable development – economic growth and activities that do not deplete or degrade the environmental resources on which present and future economic growth depend (Tilleman 2005).

Valued Ecosystem Component (VEC) [and Valued Socio-Economic Component (VSEC) in this document]– the environmental attributes or components identified as a result of a social scoping exercise as having scientific, social, cultural, economic, or aesthetic value (Tilleman 2005).

LIST OF ACRONYMS

CEA	- Cumulative Effects Assessment
EIS	- Environmental Impact Statement
GN-DoE	- Government of Nunavut – Dept. of Environment
GN-EDT	- Government of Nunavut – Dept. of Economic Development and Transportation
HTO	- Hunters' and Trappers' Organization
NIRB	- Nunavut Impact Review Board
NLCA	- Nunavut Land Claims Agreement
NPC	- Nunavut Planning Commission
VEC	- Valued Ecosystem Component
VSEC	- Valued Socio-Economic Component
LSA	- Local Study Area
RSA	- Regional Study Area

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 PURPOSE OF THE GUIDELINES

Pursuant to Section 12.5.2 of the Nunavut Land Claims Agreement (NLCA):

> *"When a project proposal has been referred to NIRB by the Minister for review, NIRB shall, upon soliciting any advice it considers appropriate, issue guidelines to the Proponent for the preparation of an impact statement. It is the responsibility of the Proponent to prepare an impact statement in accordance with any guidelines issued by NIRB..."* (GC and TFN 1993)

The present Guidelines are issued for the preparation of an Environmental Impact Statement (EIS) for the Garry Lake Project by Uravan Minerals Incorporated (the Proponent). An EIS is a documented evaluation of the project proposal, providing detailed information regarding the proposal's environmental and socio-economic impacts (NIRB 2006). It is designed to serve as the means of assessing the environmental impact of the project proposal, rather than to justify decisions already made. The EIS must be a stand-alone document that allows the reader to understand the Project and its likelihood to cause significant environmental effects.

1.2 ENVIRONMENTAL ASSESSMENT AND REGULATORY PROCESS

The Garry Lake Project (the Project) is subject to the environmental review and related licensing and permitting processes established by Part 5 of Article 12 of the NLCA. See the September 25, 2008 decision of the Minister of Indian and Northern Affairs Canada (the Minister) for further reference to the Part 5 Review (INAC 2008).

The EIS developed in accordance with these Guidelines will serve as the basis for the Nunavut Impact Review Board's (NIRB or Board) review of the Project and will enable the Board and any interested party to understand and assess the potential adverse and beneficial environmental and socio-economic effects that are related to the Project.

The NIRB has developed these EIS Guidelines based on the information contained within the applications comprising the original January 2008 *Garry Lake Project Proposa*l as submitted by the Proponent and on the NIRB's public scoping process. The scoping period began on October 8, 2008 and continued through to the conclusion of the NIRB Public Scoping and Guideline Development Workshop in Baker Lake on November 7, 2008. During the scoping period, the NIRB reviewed with the public the *Garry Lake Project Proposal* prepared by the Proponent and the NIRB's environmental assessment process[1]. Additionally during this period, the NIRB solicited and received oral and written comments from individual members of the public, government, and representatives of various groups regarding the issues to be included in the environmental review.

1.3 PREPARATION AND REVIEW OF THE EIS

While the EIS guidelines provide a framework for preparing a complete and accessible EIS, it is the responsibility of the Proponent to provide sufficient data and analysis on any potential environmental

[1] For additional details on the NIRB Part 5 Review process, see NIRB Guide 5: Guide to the NIRB Review Process (NIRB 2008b)

effects to permit proper evaluation by the NIRB, the public and regulatory agencies. The EIS guidelines outline the minimum information requirements while providing the Proponent with flexibility in selecting methods to compile data for the EIS. The EIS should be concise and should focus on the assessment of significant environmental effects. In particular, the Proponent cannot invoke omissions in these Guidelines to justify any inadequacies in its EIS. Exchanges between the Proponent and other government departments, Inuit organizations, Nunavummiut and stakeholders, where appropriate, are encouraged to ensure that the EIS responds adequately to these guidelines.

The NIRB shall conduct an internal review of the material presented in the Proponent's submission of an EIS to determine whether the document conforms to these Guidelines (conformity review). The guideline conformity review is focused on identifying whether any information requested in the Guidelines has been omitted from the EIS. Guideline conformity review is a presence or absence analysis; it is not intended to evaluate the quality of the information presented; although the NIRB may point out significant deficiencies encountered. Should any omissions be identified, the Proponent is responsible for submitting supplementary information, and may be required to revise and resubmit the EIS. The Proponent is advised that if there is any conflict with these Guidelines or any legislation cited herein and the NLCA, the latter shall prevail.

Following a positive conformity determination by the NIRB and acceptance of the EIS submission, the Board will distribute the EIS to the NIRB panel, government, Inuit organizations, community stakeholders, regulatory bodies, technical advisors, and other interested parties for a technical review of the document. A technical review is a more detailed review of the EIS than the guideline conformity review. Its intent is to analyze the quality of the information presented by the Proponent. A technical review of an EIS by interested Parties comprises the following:

- Determination of whether Parties agree/disagree with the conclusions in the EIS regarding the alternatives assessment, environmental impacts, proposed mitigation, significance of impacts, and monitoring measures – and reasons to support the determination;
- Determination of whether or not conclusions in the EIS are supported by the analysis – and reasons to support the determination;
- Determination of whether appropriate methodology was utilised in the EIS to develop conclusions – and reasons to support the determination, along with any proposed alternative methodologies which may be more appropriate (if applicable);
- Assessment of the quality and presentation of the information in the EIS; and
- Any comments regarding additional information which would be useful in assessing impacts and reasons to support any comments made.

All technical reviews are project-specific, and NIRB may advise interested Parties of additional requirements to be included in the technical review phase of the EIS.

1.4 REASSESSMENT OF GUIDELINES

NIRB reserves the right at any time on a reasonable basis to reassess these Guidelines and to update and amend them accordingly to allow for consideration to changes in the project description, baseline information, relevant technological advances, or changes in the regulatory and/or regional environments.

2.0 GUIDING PRINCIPLES

The following general principles should guide the creation of the Proponent's EIS and NIRB's assessment of the Project's impacts:

2.1 NIRB MANDATE UNDER ARTICLE 12 OF THE NLCA

In accordance with the NIRB mandate under Article 12 of the NLCA, the following principles must be followed in the preparation of the EIS:

- An ecosystem-based approach must be adopted for the review (NLCA Section 12.2.5) – In order to gain an adequate understanding of the effects of the Project, an ecosystem-based approach must be adopted to ensure that the review addresses both the direct impacts that the Project will have on the various ecosystem components, as well as the interactions that will occur between components.

- Socio-economic issues, such as the Project's potential to affect economic development within the Kivalliq Region, must be included in the review (NLCA Section 12.5.5) – Community members constitute a critical part of the environment, and their concerns relating to the Project need to be to be assessed by the NIRB. As such, adverse and beneficial effects of the Project on community members with respect to health, recreation, and other aspects of social well-being need to be addressed in the EIS, in order to ensure a culturally holistic understanding of the Project's effects.

- An understanding of past and potential future environmental, economic, and social trends in the Kivalliq Region of Nunavut, and how the Project will influence these trends is required review (NLCA Section 12.5.5) – The inclusion of a time perspective, from the early planning of the Project through to its operation and possible decommissioning and abandonment is important in order to provide the NIRB with a full understanding of the cumulative environmental effects of the Project in combination with other past, present and reasonably foreseeable projects.

- The well-being of residents of Canada outside the Nunavut Settlement Area must be taken into account (NLCA Section 12.2.5) – Significant transboundary biophysical and socio-economic effects directly related to this Project must be included in the EIS to aid with NIRB's assessment of the well-being of Canadians outside of the Nunavut Settlement Area.

The NIRB will consider the need for, alternatives to, and alternative means of, carrying out the Project in assessing the justifiability of any significant environmental and socio-economic effects identified, and in formulating its recommendations to the responsible Minister.

2.1.1 Expeditious Review Process

Pursuant to Section 12.5.4 of the NLCA, the Minister has directed the NIRB in this case to "*structure the review in a manner that will facilitate a thorough, yet expeditious review of the project*" (INAC 2008).

2.2 PUBLIC PARTICIPATION AND ENGAGEMENT

Public participation is a central objective of the NIRB review process. Meaningful public participation requires the Proponent to address concerns of the general public regarding the anticipated or potential environmental effects of the project. In preparing the EIS, the Proponent is required to engage residents and organizations in all potentially-affected communities, including in NIRB's judgement, the following:

- Baker Lake;
- former residents of the Garry Lakes area (Hanningajurmmiut) now living in other Kivalliq communities, including Baker Lake, Arviat, Whale Cove, Rankin Inlet, and Chesterfield Inlet (NIRB 2008a: Appendix E); and
- communities and groups outside of Nunavut which harvest the Beverly caribou herd, including Lutsel K'é and the Athabasca Denesuliné First Nation.

The Proponent is also required to engage other organizations and government agencies with a direct interest in the Beverly caribou herd concerning this issue. Highlights of this engagement must be provided within the EIS, including the methods used, the results, and the ways in which the Proponent intends to address the concerns identified.

Another objective of the NIRB review process is to involve potentially affected Nunavummiut to address concerns regarding any changes that the Project may cause in the environment and the resulting effects of any such changes on the current use of lands and resources for traditional purposes by Inuit. In preparing the EIS, the Proponent must ensure that Nunavummiut have the information that they require in respect of the Project and of how the Project may impact them. Highlights of this engagement must be provided within the EIS, including the methods used, the results, and the ways in which the Proponent intends to address the concerns identified.

Meaningful involvement in the environmental impact assessment process takes place when all parties involved have a clear understanding of the proposed project as early as possible. The NIRB Part 5 Review process requires the development of a public participation and awareness program to initiate engagement of the public during the initial stages of the review, to facilitate meaningful consultation with those communities potentially-affected by a proposed project. To this end, the NIRB hosted a Public Scoping and Guideline Development Workshop in Baker Lake, Nunavut from November 5-7, 2008 (NIRB 2008a). The objective of this workshop was to allow NIRB staff to effectively engage the public and interested parties on the proposed scope of NIRB's assessment, while soliciting their advice on Valued Ecosystem Components (VECs) and Valued Socio-Economic Components (VSECs) that should be addressed by the Proponent's EIS. Throughout the workshop concerns were voiced by residents of Baker Lake about the necessity for meaningful consultation about this proposed project. Therefore, the Proponent is required to:

- continue to provide up-to-date information describing the project to the public, particularly residents of communities likely to be most affected by the project (with a focus on elders and hunters);
- involve the public in determining how best to deliver that information, *i.e.* the types of information required, translation needs, different formats, the possible need for community meetings; and
- explain the results of the EIS in a clear direct manner to make the issues comprehensible to as wide an audience as possible.

2.3 TRADITIONAL KNOWLEDGE

A growing number of researchers are calling on government regulatory agencies to integrate local or traditional knowledge with "scientific" knowledge in a number of resource areas (Davis and Wagner 2003). As noted by Berkes *et al*. (2000), this is partly due to a recognition that such knowledge can contribute to the conservation of biodiversity (Gadgil et al. 1993), rare species (Colding 1998), protected areas (Johannes 1998), ecological processes (Alcorn 1989), and to sustainable resource use in general (Schmink *et al*. 1992; Berkes 1999). The incorporation of traditional knowledge into regulatory frameworks may also reflect a widespread concern respecting the social and economic sustainability of natural resource based livelihoods throughout the world. (Blaikie and Brookfield 1987; McGoodwin 1990; Meadows et al. 1992; WCED 1987).

Traditional Knowledge (used broadly in the current context, and meant to encompass local- and community-based knowledge, traditional ecological knowledge and Inuit Qaujimajatuqangit), which is rooted in the traditional life of Inuit and Aboriginal people, has an important contribution to make to an environmental assessment (Stevenson 1996). This knowledge represents experience acquired over thousands of years of direct human contact with the environment (Berkes 1993) and is rooted in personal observation, collective experience and oral transmission over many generations. Traditional Knowledge relating to factual information on such matters as ecosystem function, social and economic well-being, and explanations of these facts and casual relations among them, enhances the development of adequate baseline information, identification of key issues, prediction of the effects, and assessment of their significance, all of which are essential to the EIS and its review.

Traditional Knowledge can be obtained with the cooperation of other concerned parties. Peer-referenced, systematic identification of local Traditional Knowledge experts assures that those considered most knowledgeable within either the local community, social group, or livelihood fraternity will be revealed and potentially included in work dedicated to documenting the local ecological knowledge system (Davis and Wagner 2003). The Proponent must incorporate into the EIS the Traditional Knowledge to which it has access or that it may reasonably be expected to acquire through appropriate due diligence, in keeping with appropriate ethical standards and without breaching obligations of confidentiality.

2.4 PRECAUTIONARY PRINCIPLE

One of the purposes of environmental assessment is to ensure that projects are considered in a careful and precautionary manner before authorities take action in connection with them, in order to ensure that such projects do not cause significant adverse environmental effects. Principle 15 of the 1992 Rio Declaration on Environment and Development states that *"Where there are threats of serious or irreversible damage, lack of full scientific certainty must not be used as a reason for postponing cost-effective measures to prevent environmental degradation."* (United Nations 1972). This precautionary principle has since been incorporated into several pieces of Canadian legislation, including the *Canada National Marine Areas Conservation Act* (2002), the *Oceans Act* (1999), and the *Canadian Environmental Protection Act* (1999). In applying a precautionary approach to its planned undertakings, the Proponent must:

- demonstrate that the proposed actions are examined in a careful and precautionary manner in order to ensure that they do not cause serious or irreversible damage to the environment;
- outline the assumptions made about the effects of the proposed actions and the approaches to minimize these effects;
- identify any follow-up and monitoring activities planned, particularly in areas where scientific uncertainty exists in the prediction of effects; and
- present public views on the acceptability of these effects.

2.5 SUSTAINABLE DEVELOPMENT

The central task of environmental impact assessment is to contribute to sustainable development by safeguarding the sustainability of Valued Ecosystem Components (VECs) in the face of development that might compromise that sustainability (Duinker and Greig 2006). Promotion of the principle of sustainable development, or development that meets the needs of the present without compromising the ability of future generations to meet their own needs, is fundamental to the NIRB's primary objectives laid out in Section 12.2.5 of the NLCA:

"In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of residents of Canada outside the Nunavut Settlement Area." (GC and TFN 1993)

These EIS Guidelines are based upon three factors that the NIRB considers directly associated with sustainable development. These factors are:

1) The extent to which biological diversity is affected by the Project;
2) The capacity of renewable and non-renewable resources that are likely to be significantly affected by the Project to meet the needs of the present and those of future generations; and
3) The "precautionary principle", defined as follows: if there are threats of serious or irreversible damage, lack of full scientific certainty must not be used as a reason for postponing cost-effective measures to prevent environmental degradation (United Nations 1972).

The NIRB interprets progress towards sustainable development as meeting the following goals:

- The preservation of ecosystem integrity, including the capability of natural systems (local and regional) to maintain their structure and functions and to support biological diversity;
- Respect for intergenerational equity, *i.e.*, the right of future generations to the sustainable use of renewable and non-renewable resources depends on our commitment to those resources today; and
- The attainment of durable social and economic benefits, particularly in Nunavut.

The NIRB requires the Proponent to demonstrate how the Project meets these three goals as noted above.

2.6 STUDY STRATEGY AND METHODOLOGY

The Proponent is expected to observe the intent of the Guidelines and to identify all environmental effects that are likely to arise from the project (including situations not explicitly identified in these guidelines), the mitigation measures that would be applied, and the significance of any residual effects. It is possible that the EIS guidelines include matters that, in the judgement of the Proponent, are not relevant or significant to the project. If such matters are omitted from the EIS, they must be clearly indicated so that the public and other interested parties have an opportunity to comment on this judgement. Where the NIRB disagrees with the Proponent's decision, it may require the Proponent to provide additional information. The Proponent is advised to consult with the NIRB on any issues within these Guidelines on which it plans significant deviation.

The Proponent must explain and justify methods used to predict impacts of the project on each valued ecosystem component (VEC) and valued socio-economic component (VSEC), the interactions among these components and on the relations of these components within the environment. The information presented must be substantiated. In particular, the Proponent must describe how the VECs were selected and what methods were used to predict and assess the adverse environmental effects of the project on these components. The value of a component not only relates to its role in the ecosystem, but also to the value placed on it by humans. The culture and way of life of the people using, or with a cultural connection to, the area affected by the project may themselves be considered VSECs.

In describing methods, the Proponent must document how it used scientific, engineering, traditional and other knowledge to reach its conclusions. Assumptions must be clearly identified and justified. All data, models and studies must be documented such that the analyses are transparent and reproducible. All data collection methods must be specified. The uncertainty, reliability and sensitivity of models used to reach conclusions must be indicated. The sections in the EIS regarding existing environment and potential adverse environmental effects predictions and assessment must be prepared using best available information and methods, to the highest standards in the relevant subject area. All conclusions must be substantiated.

The Proponent must identify all significant gaps of knowledge and understanding where they are relevant to key conclusions presented in the EIS. The steps to be taken by the Proponent to address these gaps must also be identified. Where the conclusions drawn from scientific and technical knowledge are inconsistent with the conclusions drawn from Traditional Knowledge, the EIS must contain a balanced presentation of the issues and a statement of the Proponent's conclusions.

2.7 USE OF EXISTING INFORMATION

In preparing the EIS, the NIRB expects the Proponent will rely heavily on the use of existing information related to the project and the environment. When relying on existing information to meet the requirements of various sections of the EIS guidelines, the Proponent must either include the information directly in the EIS or clearly direct (*e.g.* through cross-referencing) the NIRB to where it may obtain the information. The Proponent must also comment on how representative the data are, clearly separate factual lines of evidence from inference, and state any limitations on the inferences or conclusions that can be drawn from them.

The EIS must clearly document any information or knowledge gaps encountered in the existing literature or other information sources, and discuss how these gaps might affect the ability to draw conclusions and the reliability of those conclusions drawn in the assessment.

3.0 SCOPE OF THE NIRB ASSESSMENT

Based on the description contained within the Project Proposal and the NIRB's requirements for the Proponent's development of an EIS, the following subsections comprise the focus and scope of the NIRB's assessment. In preparing the EIS, the Proponent should follow these guidelines closely as well as paying specific attention to the requirements of the NLCA, the NIRB's Minimum EIS Requirements, and General EIS Principles as listed below. Additionally, the Proponent should note that directions regarding EIS Format are a further submission requirement of the NIRB. A discussion of EIS Format requirements may be found in Subsection 5.4.

Pursuant to Section 12.5.1 of the NLCA, the Minister has stated his support for focusing the scope of the review on the Project's impacts and cumulative impacts on wildlife habitat and Inuit wildlife harvesting (INAC 2008). Specifically, the issues that warrant further review include:

- Impacts of the project activities to caribou, with particular emphasis on calving activities;
- Potential impacts to wildlife habitat, particularly the caribou calving grounds of the Beverly herd;
- Potential cumulative impacts of this project, in relation to other similar projects in the region, to caribou, caribou calving grounds, and across caribou ranges; and
- Other impacts to wildlife including raptor nesting areas, potential human-carnivore conflicts and aircraft disturbances.

3.1 NLCA – SECTIONS 12.5.2 AND 12.5.5

In conducting a review under Part 5 of Article 12 of the NLCA, the NIRB issues guidelines to the Proponent for the preparation of an EIS. Where appropriate, an EIS shall contain information with respect to the following:

a) Project description, including the purpose and need for the project;
b) Anticipated ecosystemic and socio-economic impacts of the project;
c) Anticipated effects of the environment on the project;
d) Steps which the Proponent proposes to take including any contingency plans, to avoid and mitigate adverse impacts;
e) Steps which the Proponent proposes to take to optimize benefits of the Project, with specific consideration being given to expressed community and regional preferences as to benefits;
f) Steps which the Proponent proposes to compensate interests adversely affected by the Project;
g) The monitoring program that the Proponent proposes to establish with respect to ecosystemic and socio-economic impacts;
h) The interests in land and waters which the Proponent has secured, or seeks to secure;
i) Options for implementing the proposal; and
j) Any other matters that NIRB considers relevant.

Furthermore, when reviewing any project proposal, the NLCA directs NIRB to take into account all matters that are relevant to its mandate, including the following:

a) whether the project would enhance and protect the existing and future well-being of the residents and communities of the Nunavut Settlement Area, taking into account the interests of other Canadians;
b) whether the project would unduly prejudice the ecosystemic integrity of the Nunavut Settlement Area;
c) whether the proposal reflects the priorities and values of the residents of the Nunavut Settlement Area;
d) steps which the proponent proposes to take to avoid and mitigate adverse impacts;
e) steps the proponent proposes to take, or that should be taken, to compensate interests adversely affected by the project;
f) posting of performance bonds;
g) the monitoring program that the proponent proposes to establish, or that should be established, for ecosystemic and socio-economic impacts; and
h) steps which the proponent proposes to take, or that should be taken, to restore ecosystemic integrity following project abandonment.

3.2 GENERAL EIS PRINCIPLES

In order to fulfill the requirements set forth in section 12.5.2 of the NLCA, the Proponent must consider the following when preparing an EIS:

a) The EIS shall flow logically and be written in plain language;
b) Impacts shall be discussed in proportion to their significance;
c) The EIS Main Document shall be concise, no longer than 150 pages, numbered, and double-spaced. The EIS Main Document shall reference supporting documentation (in separate volumes) where additional information and baseline data can be found;
d) The EIS shall contain a concordance table directing reviewers to the location (document, section, and page number) where specific information addressing both the EIS guidelines and the NIRB's minimum EIS requirements can be found;
e) The EIS shall state how alternatives which were considered in it and decisions based upon it, will or will not achieve the requirements of Article 12 and other environmental laws and policies;
f) The range of alternatives discussed in the EIS shall fall within the NIRB's mandate and encompass options considered by the ultimate decision-making agency;
g) Neither Proponents nor Governments shall commit resources prejudging selection of alternatives before making a final decision; and
h) The EIS shall serve as the means of assessing the environmental impact of project proposals, rather than justifying decisions already made.

3.3 GARRY LAKE PROJECT COMPONENTS

The following is a description of the physical works and activities or undertakings that constitute the Garry Lake project proposal. These components and/or activities have the potential to cause significant adverse effects on the ecosystem, wildlife, or Inuit harvesting activities, and are therefore included within the scope of the project.

a) **Exploration for uranium mineralization,** including; airborne geophysical surveys; geological prospecting; ground geochemical sampling; mapping; diamond drilling; and excluding trenching or bulk-sampling.

b) **Site preparation, construction and operation of camp sites**, including: permanent exploration camp and mobile temporary camp; and transport of temporary camp;

c) **Ground transportation**, including: Sno-Cat type vehicle (mobile camp and equipment transport for winter drilling); and snow machines and all terrain vehicles (use around camp, maintenance of landing area); frequency and duration of use; trails or routes;

d) **Airborne transportation**, including: fixed-wing aircraft and helicopters; airstrips and touchdown areas; frequency, duration and altitude of flights; flight corridors or paths;

e) **Transport and storage of fuel and hazardous materials**, including: diesel; gasoline; aviation fuel; propane and hazardous materials;

f) **Water management**, including: drill activities; and camp usage;

g) **Waste management**, including: sewage; greywater; combustible wastes; non-combustible wastes; hazardous materials; and hydrocarbon-contaminated soils.

3.4 SCOPING LIST

The scope of the environmental assessment is intended to address the potential ecosystemic and socio-economic impacts of the Project components listed in Section 2 above, (items a-g), considering both a spatial and temporal scale. As such, the scoping list and resulting analysis shall focus on the effects of the Project components on each of the factors listed below, as the Project is planned to proceed from site preparation through to construction, operation and maintenance (including any potential modifications or refurbishment that may be required during operation), decommissioning, reclamation and abandonment.

a) **Caribou**, with particular emphasis on caribou calving activities;

b) **Caribou habitat**, particularly the caribou calving grounds of the Beverly herd;

c) **Cumulative effects of the project** in relation to other similar projects in the region, to caribou, caribou calving grounds, and across caribou ranges;

d) **Inuit and Aboriginal harvesting**;

e) **Human/Carnivore interactions**;

f) **Raptor and migratory birds**, with particular emphasis on nesting activities;

g) **General biophysical environment**, including water quality; atmosphere (including climate change, air quality, and noise factors); landforms and soils; and vegetation;

h) **Traditional Knowledge**; and

i) **Socio-economic and cultural environment**, including burial sites; human health; food security; and tourism.

4.0 PROJECT DESCRIPTION

The proposed project involves the site preparation, construction, and operation of a mineral exploration program in the Kivalliq Region of Nunavut. The project description must address all phases of the project, within the scope outlined in the previous section, in sufficient detail to allow the NIRB to (a) assess the potential adverse and beneficial biophysical and socio-economic effects related to the Project, and (b) to address public concerns about the Project. The EIS must describe the project as it is planned to proceed from site preparation through to construction, operation and maintenance (including any potential modifications or refurbishment that may be required during operation), decommissioning, reclamation and abandonment. The Proponent should describe all potential phases of its planned exploration activities up to, but not including, a bulk sampling or mining program, including a timeline for each phase. Where specific codes of practice, guidelines and policies apply to items to be addressed, those documents must be cited and may be included as appendices to the EIS.

General Information including:

a) location of the project;
b) history of any exploration activities in the project area, including those not-associated with the current Project;
c) general description of all associated buildings and infrastructure;
d) process and timetable for site preparation, construction and anticipated operational life;
e) description of the physical requirements of the proposal;
f) specific locations of proposed project buildings and infrastructure;
g) characterization (including sources and types) and quantities of waste, including hazardous waste, predicted to be generated;
h) sources and characteristics of any noise, odour, dust and other likely nuisance effects from the project;
i) predictions of future emissions and effluents from the project under normal operating conditions;
j) sources, characteristics and magnitudes of any potential risks (including radiological risks) to workers, the public or the environment from the project;
k) standard design features and key operational procedures relevant to protection of workers, the public and the environment relating to the project;
l) description of the relevant organizational and management structure, and staff qualification requirements with emphasis on safety and environmental management programs;

m) description of the site preparation and construction works required, including timing and duration of work program;
n) description of any work that will be undertaken outside of normal working hours, including a description of the nature of work and of the machinery that will be required;
o) number of project personnel and positions required;
p) extent of earthmoving, building relocation, vegetation clearance and other site preparatory works, including arrangements to minimise unnecessary clearance and disturbance;
q) construction standards, techniques and site management arrangements, including for on-site storage and handling of construction and other materials (*e.g.* fuel, oil);

5.0 EIS OVERVIEW

5.1 PRESENTATION OF THE EIS

The Proponent shall provide an EIS that is complete and organized in a way that will facilitate efficient review, with cross-referencing between sections where necessary. All scientific and sectoral studies must be rendered current and be numbered and dated prior to their submission for examination. Charts, diagrams, pictures and maps, other than those used for orientation and context, shall be contained in a separate volume. The EIS shall, wherever necessary for a full understanding, be supplemented by a series of complementary documents providing technical and scientific support and containing appropriate bibliographic references. The Proponent shall prepare and incorporate into the EIS an annotated bibliography of all studies and reports, including community consultations carried out in relation to the Project, and shall make such studies and reports available to reviewers.

Sufficient copies of the EIS shall be made available to the NIRB both electronically on searchable CD-ROM or DVD-ROM, and in hard copy. The Proponent is advised it is responsible for the delivery of the EIS to regulators and relevant authorities; Appendix B contains a listing of parties who have informed NIRB of their desire for copies of the Proponent's EIS submission, and is supplied here for information purposes only.

5.2 EIS CONFORMITY

The Proponent is expected to observe the intent of the Guidelines, which will then lead to the preparation of an EIS. Specific issues or directions described in the Guidelines must be easily identifiable and incorporated into the EIS. In accordance with the NIRB's *Guide 7: Guide to the Preparation of Environmental Impact Statements* (NIRB 2006), the EIS shall contain a concordance table directing reviewers to the location (document, section, and page number) where specific information addressing the Guidelines and the NIRB's Minimum EIS Requirements can be found. The Proponent is cautioned that any significant deviation from these Guidelines could result in a negative conformity decision and subsequent requirements for revision. Where any differences in direction are encountered between the NIRB's *Guide 7* and these EIS Guidelines issued under NLCA Section 12.5.2, these Guidelines shall prevail.

5.3 LENGTH

In accordance with the NIRB's *Guide 7: Guide to the Preparation of Environmental Impact Statements* (NIRB 2006), the Proponent's EIS Main Document (*i.e.* Volume I) shall be concise and not exceed 150 pages without permission from the NIRB. To ensure the main document within the EIS report remains manageable for reviewers, communities, and the general public, any data of a detailed nature shall be contained in appendices and technical reports submitted in support of the main document in separate volumes.

5.4 FORMAT

The EIS shall be double-spaced**,** and its sections numbered. Subject to any other instructions given by the NIRB, the following format shall be adopted, based on the NIRB's *Guide 7: Guide to the Preparation of Environmental Impact Statements* (2006) and adapted as much as necessary to the specific circumstances of the Garry Lake Project:

- Title page;
- Executive summary;
- Popular summary (in English and Inuktitut);
- Table of contents, including: list of tables, list of figures, list of maps, list of acronyms**;**
- Concordance table which lists each of the Guideline requirements and their location within the EIS;
- The Proponent;
- Guiding principles (including sustainable development and precautionary principle);
- Regulatory regime;
- Regional context;
- Spatial boundaries;
- Temporal boundaries;
- Land tenure;
- Alternatives, including the "no-go" option;
- Possible impediments to the Project;
- Project justification;
- Public consultation;
- Traditional Knowledge;
- Data acquisition methodology and documentation**,** covering biophysical and socio-economic aspects;
- Data analysis and reporting;
- Detailed project proposal definition;
- Baseline data collection;
- Description of biophysical environment;
- Description of socio-economic environment;
- Impact assessment methodology**,** including determination of impact significance, selection of indicators and criteria, covering biophysical, socio-economic and cumulative aspects;
- Impact assessment**,** distinguishing biophysical, socio-economic and cumulative aspects;
- Environmental management and mitigation;
- Residual impacts;
- Monitoring, evaluation, and management;
- Reclamation and abandonment;

- Conclusion and recommendations;
- List of consultants and organizations;
- Glossary (in English and Inuktitut);
- Literature cited; and
- Appendices.

5.5 DATA PRESENTATION

The Proponent shall provide charts, diagrams, aerial and other photographs and maps wherever useful to clarify the text; and specifically, shall include maps or diagrams showing all project related infrastructure and/or activities (*e.g.* camp sites, drill targets, and transportation routes including ground and air transport). Where feasible, maps shall be of a common scale and projection to facilitate comparisons. Where included in a separate volume, all charts, diagrams, photographs and maps must be clearly referenced in the text of the EIS.

5.6 SUMMARIES

5.6.1 Executive Summary

The Proponent shall prepare an executive summary that describes the key Project elements and key findings of the EIS, with particular reference to the overall conclusions of the assessment and a clear rationale relating those conclusions to the predicted impacts and the measures proposed to address them. Specifically, the executive summary shall provide a summary of the proposed activities related to site preparation and operations upon implementation of the Project. In addition, the executive summary shall focus on items of known or expected public concern and shall focus on the significant potential impacts of the Project and the methods proposed to address them. It shall also address outstanding issues and the strategies proposed to address them. The executive summary shall form part of the EIS, but it shall also be made available as a separate document.

5.6.2 **Popular Summary** (in English and Inuktitut)

It is essential to the environmental assessment process that residents of those communities likely to be affected by the Project have an adequate understanding of the proposed Project and any potential impacts to the environment which may result. The Proponent shall therefore prepare a popular summary which has the same general structure and objectives as the executive summary, but is written in non-technical language and includes such things as a glossary and additional explanatory text to assist non-specialists in appreciating the content of the EIS as a whole. The Proponent shall include within the popular summary, a map of the Project (in English and Inuktitut) in relation to the Garry Lakes (Hanningajuq) area, the community of Baker Lake and the Thelon Game Sanctuary, using traditional place names. The popular summary shall form part of the EIS, but it shall also be made available as a separate document.

5.7 TRANSLATION

The popular summary and glossary shall be presented in both English and Inuktitut. Maps should indicate common and accepted place-names usually referred to by the local populations in their own language, in addition to their official toponyms.

6.0 EIS CONTENT GUIDELINES

6.1 PROPONENT INFORMATION

The Proponent shall identify itself and shall explain current and proposed ownership of rights and interests in the Project, operational arrangements, and corporate and management structures. It shall specify the mechanisms used to ensure that corporate policies are respected. It shall present its environmental policy and that of any parent company and shall specify whether and how it applies to all businesses for which it has an operating responsibility, to employees, to contractors, and to suppliers. It shall also describe its reporting systems.

The Proponent shall describe its past experience in mineral exploration, with particular reference to:

- Its record of compliance with governmental policies and regulations pertaining to environmental and socio-economic issues;
- Environmental safety, major accidents, and spills and emergencies, including responses;
- Relations with Inuit and Aboriginal peoples, including prior experience with Impact and Benefit Agreements if appropriate;
- Operations in arctic and sub-arctic regions;
- Its record in incorporating environmental and socio-economic considerations into site preparation, operations, temporary closure, final closure, and post-closure;
- Corrective actions undertaken in the past, distinguishing between those taken voluntarily and those taken at the insistence of a third party; and
- The provision of security to ensure payment of compensation in the event of accidents**.**

The Proponent shall identify and describe any obligations or requirements that it must meet to post a bond or other form of financial security to ensure payment of compensation in the event of accidents that directly or indirectly result in major damage by the Project to the environment. If the Proponent does not have prior experience in exploration, particularly for the Kivalliq Region, it shall explain the safeguards that it intends to put in place to compensate for that lack.

6.2 REGULATORY CONTEXT

The Proponent shall present its understanding of the regulatory regime in which it would be operating by identifying all relevant federal, territorial, and local environmental and socio-economic standards, laws, regulations, policies, and fiscal regimes relating to Project approval, site preparation, operations, reclamation and abandonment. It shall further explain how such requirements would be met and what specific governmental permits and approvals would be required. A list of currently held permits and licences, including dates of issue and expiry, must be appended.

6.3 REGIONAL CONTEXT

The Proponent shall describe in general terms the regional biophysical and socio-economic

environments of the Kivalliq Region and, where relevant Nunavut as a whole, including: ecological land classifications; ecological processes and relationships; the location of all known base and precious metal finds, mines and exploration camps, and other existing and potential developments; and current and future land-use plans.

The Proponent shall discuss how it would adhere to the planning objectives set out in *Appendix G* of the *Keewatin Regional Land Use Plan – Code of Good Conduct for Land Users* (NPC 2000) as reproduced below. The Proponent will also discuss its compliance with this code of conduct during its previous exploration efforts in the project area.

APPENDIX G – CODE OF GOOD CONDUCT FOR LAND USERS

1. *The landscape of each camp and other land use sites will be restored to its original condition to the greatest degree possible. Water quality will be preserved, and no substances that will impair water quality will be dumped in water bodies. When possible and feasible, old sites will be returned to the natural state.*
2. *All land users shall assist communities and government(s) in identifying and protecting archaeological sites and carving-stone sites, as required by law.*
3. *Generally, low-level flights by aircraft at less than 300 metres should not occur where they will disturb wildlife or people. If such flights are necessary, they should only take place after consultation with the appropriate communities. All land users are responsible for reporting to the land managers any illegal or questionable low-level flight.*
4. *All activities on the land will be conducted in such a fashion that the renewable resources of the area in question are conserved.*
5. *Whenever practicable, and consistent with sound procurement management, land users will follow the practice of local purchase of supplies and services.*
6. *Land users will establish working relationships with local communities and respect traditional users of the land.*
7. *During the caribou calving, post-calving and migrating seasons, land use activities should be restricted to avoid disturbing caribou, in general, and activities will be governed more specifically by caribou protection measures such as those contained within Appendix H.*
8. *Artifacts must be left where they are found. All land users are responsible for reporting the location of, or any removal or disturbance of, artifacts to CLEY.*
9. *The mining industry is encouraged to assist in identifying local carving-stone deposits and report any discoveries to KIA. Industry is also encouraged to identify and report old waste sites that need to be cleaned up.*
10. *All land users shall obey the laws of general application applying to land use.*

6.4 SPATIAL BOUNDARIES

The spatial boundaries of the Project must be determined on the basis of its potential impacts on the particular biophysical or social phenomenon being addressed. The Proponent must consider, but not be limited to, the following criteria:

a) the physical extent of project activities;
b) the extent of ecosystems potentially affected by the project;
c) the calving grounds and complete annual range of the Beverly caribou herd;

d) the extent to which traditional land use and Inuit and Aboriginal harvesting could potentially be affected by the Project; and
e) the size, nature and location of past, present and reasonably foreseeable projects and activities which could interact with the items listed above.

The EIS shall define the spatial boundaries of the maximum area potentially affected by the Project, based on the boundaries for each individual type of impact, and taking into account the migratory nature of species such as caribou. These boundaries must also indicate the range of appropriate scales at which particular baseline descriptions and the assessment of environmental effects are presented. The Proponent is not required to provide a comprehensive baseline description of the environment at each of the above scales, but must provide sufficient detail to address the relevant environmental effects, and cumulative effects, of the project. For example, the spatial boundaries for archaeological studies related to burial grounds in the Project area might reasonably be expected to differ from those for studies on migration of the Beverly caribou herd.

The boundaries for the assessment socio-economic impacts shall be based on an analysis of the socio-economic effects directly and indirectly associated with the Project. In all cases, priority focus shall be directed on potential impacts within Nunavut, but the NLCA requires that potential impacts outside Nunavut shall also be considered wherever there is reason to anticipate that they might occur. The EIS must contain a justification and rationale for all boundaries and scales chosen.

The following general spatial boundaries shall be included:

- *Local Study Area (LSA)*: the Local Study Area shall be defined as that area where there is a reasonable potential for immediate impacts due to project activities, ongoing normal activities, or to possible abnormal operating conditions. While the Local Study Area is expected to vary for each VEC/VSEC, at a minimum it shall include the Project facilities, buildings and infrastructure, the Proponent's mineral leases, and all areas proposed for project activities.

- *Regional Study Area (RSA)*: the Regional Study Area shall be defined as the area within which there is the potential for indirect or cumulative biophysical and socio-economic effects. This area includes lands, communities and portions of Nunavut and other regions of Canada that may be relevant to the assessment of any wider-spread effects of the project. The Proponent is advised to duly consider the transboundary implications of impacts to identified VECs/VSECs, including but not limited to: the Beverly caribou herd and its habitat; Inuit and Aboriginal harvesting; local food security; local country food consumption; and local economy and community livelihoods.

The LSAs and RSAs may vary between disciplines and between VECs/VSECs, as they represent the likely distribution of Project effects on individual VECs/VSECs.

6.5 TEMPORAL BOUNDARIES

The establishment of temporal boundaries has two aspects: the time-horizon that will be used in predicting change; and the temporal variability and periodicity that characterize the predicted impacts (Whitney and MacLaren 1985). The time-horizon used for predicting change must be a

function of the anticipated duration of the Project, including all potential phases of exploration activities, the predicted impacts and the predictive capability of the various disciplines being used. The EIS shall determine the temporal boundaries separately for all potential phases of exploration activities up to, but not including, a bulk sampling type of program or mining.

The description of the existing baseline and the environmental trends shall include a consideration of past projects and activities carried out by the Proponent and/or others within the RSA. As is the case for the determination of spatial boundaries, the temporal boundaries must indicate the range of appropriate scales at which particular baseline descriptions and the assessment of environmental effects are presented. The EIS shall give a rationale and justification for the temporal boundaries chosen, including a description of any consultation with members of the public or technical experts.

6.6 LAND TENURE

The Proponent shall delineate on a map of suitable scale the legal boundaries of any areas to which it will acquire rights through lease or other tenure arrangements, to include Crown land, Inuit Owned Land, and Commissioner's land. It shall further describe those areas by providing such information as file numbers, start and end dates, fees, name of right holder, renewals, etc.

6.7 ANALYSIS OF NEED AND PURPOSE

The following points must be addressed in discussing the need for and purpose of the Project:

a) the net benefit of the Project to the Kivalliq region, particularly the community of Baker Lake, as well as to Nunavut and Canada as a whole. This should be supported by an analysis of the potential positive and negative impacts to identified VECs and VSECs, and the social and economic effects on existing industries, markets and communities, over the life of the Project;
b) analysis of community support for, and opposition to, the Project, with a description of how the Proponent has sought input from a broad range of socio-economic groups; and
c) The future purpose of the Project, including a discussion on the possibility of the future development of a bulk-sampling or mining program as a result of the Project.

6.8 PROJECT ALTERNATIVES

Alternatives to the Project must be addressed within the EIS, including the no-go option. The Proponent shall also consider alternative ways of carrying out the Project, including a discussion of alternatives to Project components or activities, and alternative locations or timings for such activities or components that might result in different biophysical or socio-economic effects, or cumulative effects. Specifically, the EIS shall consider alternative timings for potentially disruptive activities such as drilling and low-level flights, relative to use of the Project area by the Beverly caribou herd.

In each case, the Proponent shall give the reasons for selecting the preferred alternative and for rejecting the others, including economic and technical analyses of each. Potential adverse and beneficial biophysical and socio-economic effects should be identified for each feasible alternative, and given to a level of detail which is sufficient to allow the NIRB and the public to compare the

preferred with any other alternatives. The Proponent shall also ensure the assessment of alternatives considers the potential for cumulative effects associated with each.

6.9 METHODOLOGY

In describing methodology, the Proponent shall explain how it used scientific, engineering, traditional, community, and other knowledge to reach its conclusions. Any assumptions must be clearly identified and justified. All data, models, and studies must be documented so that the analyses are transparent and reproducible, with sources clearly referenced. The EIS must specify all data collection methods, and the uncertainty, reliability and sensitivity of methods and models used to reach conclusions. All conclusions must be substantiated.

The EIS shall identify all significant gaps of knowledge and understanding where they are relevant to the key conclusions being presented. As discussed in Section 2.7 of these guidelines, the Proponent is expected to rely heavily on existing information when creating its EIS; as such, where the necessary information is not available, the EIS must discuss the resulting effect of the information gap on the conclusions being drawn. Where the conclusions drawn from scientific and technical knowledge are inconsistent with the conclusions drawn from community and/or Traditional Knowledge, the EIS should contain a balanced presentation of the issues and a statement of the Proponent's conclusions.

6.10 PUBLIC CONSULTATION

At a minimum, consultation with the public is required when:

- identifying current and historical patterns of land and resource use;
- identifying VECs and VSECs;
- determining criteria for evaluating the significance of potential impacts;
- deciding upon appropriate mitigating measures; and
- identifying and implementing monitoring measures, including post-project audits.

The EIS shall contain a summary of all dialogue between the Proponent and the public, with explanations of where, how, why, and with whom it conducted public consultation, documenting its efforts to inform the public of the ways the information they supplied was or will be used. The EIS must describe how communication was facilitated with the public through accommodating regional languages/dialects, with direction mention of the provision of translated materials and interpretative services.

The EIS shall demonstrate an understanding of the rights, interests, values, aspirations, and concerns of the potentially affected communities, with particular reference to those expressed within the NLCA. The Proponent must also discuss how those rights, interests, values, aspirations, and concerns might be addressed through planning and executing the Project. Moreover, the Proponent shall explain the results of the consultation process, how the consultation process has influenced its decisions, and how it intends to address the unresolved concerns expressed.

The Proponent is required to demonstrate how it has consulted with residents and organizations in all potentially-affected communities, including the following:

- Baker Lake;
- Former residents of the Garry Lakes area (Hanningajurmmiut) now living in other Kivalliq communities including Whale Cove, Rankin Inlet, and Chesterfield Inlet (NIRB 2008a: Appendix E); and
- Communities and groups outside of Nunavut which harvest the Beverly caribou herd, including Lutsel K'é and the Athabasca Denesuliné First Nation.

6.11 TRADITIONAL KNOWLEDGE

The Proponent shall present and justify its definition of Traditional Knowledge and shall explain the methodology used to collect it, including the format and location of meetings, the types of background information provided at meetings, the level of community participation, the design of studies on Traditional Knowledge, the selection process for participants in such studies, and a summary of types of Traditional Knowledge collected. The Proponent shall clearly indicate any special efforts made to collect Traditional Knowledge from Inuit elders and harvesters familiar with the Project area.

The Proponent shall discuss how it weighted and incorporated Traditional Knowledge in baseline data collection, impact prediction, significance assessment, and the development of mitigation and monitoring programmes. It shall explain how it integrated Traditional Knowledge and modern science, including the manner in which it reconciled any apparent discrepancies between the two. Any assumptions shall be identified and justified. Further, the Proponent shall describe any other past or current Traditional Knowledge studies in which it has participated or played a supporting role.

The Proponent shall outline its program to pursue the collection of Traditional Knowledge and to integrate it into ongoing baseline data collection, mitigation, and monitoring programs, and shall describe the roles and responsibilities of all concerned individuals and organizations in collecting, analyzing, interpreting, and synthesizing data, including Traditional Knowledge. The Proponent shall also discuss procedures for community-based monitoring of social, cultural, and ecological conditions in order to determine if, when, and how mineral exploration can contribute to community sustainability.

6.12 DATA ACQUISITION, METHODOLOGY AND DOCUMENTATION

The Proponent shall specify and justify all sampling methods and statistical processes employed in both the biophysical and social context. The reliability and scope of the results, as well as the possibility of reproducing the analyses shall be analyzed critically. All data based on environmental sampling necessarily involve some variability, which must be determined to assess the reliability and scope of the resulting predictions. The Proponent shall, for any data obtained from environmental sampling, provide a dispersion or variability coefficient (variance, standard deviation, confidence interval, etc.) and indicate the size of the sample used. Similarly, if using mathematical models, the Proponent shall indicate the assumptions employed, the prototype used, the accuracy, and the inherent limits of interpretation.

6.13 DATA ANALYSIS AND REPORTING

Wherever the EIS makes use of qualitative criteria to compare various design and development options, to describe the environment, or to assess impacts, each of these criteria shall be defined, their relative importance stated, and the differences between the categories (*e.g.*, desirable, acceptable, unacceptable) indicated. The Proponent shall justify the classification of each criterion.

The Proponent shall support all analyses, interpretations of results, and conclusions with a review of the relevant literature, providing all references required and indicating the public availability of all works consulted. Any contribution based on Traditional Knowledge shall also be specified and sources identified, subject to any concerns relating to ownership or confidentiality. The EIS shall provide clear statements regarding the availability, relevance, and quality of the data.

7.0 PROJECT COMPONENTS AND ACTIVITIES

The EIS shall describe each Project component and activity, distinguishing where appropriate between the varying stages (degrees or intensities) of exploration planned as part of the Project. A rationale for the selection of Project components and activities must also be included, with specific consideration given to industry best practices. Within its discussions on project components and activities, the EIS shall specifically address the following:

7.1 GENERAL INFORMATION

a) Need for and purpose of the proposed project, with a focus on currently proposed exploration activities and possible future development;
b) Coordinates which reflect the entire project area as defined by:
    - Area/sites of investigation;
    - Boundaries of foreseen land use permit/right-of-way area(s) to be applied for;
    - Location of any proposed infrastructure or activity; and
    - Boundaries of the mineral claim block(s) where proposed activities will be undertaken.
c) Map of the project area within a regional context, indicating the distance to closest communities;
d) Map of any proposed camp site including locations of camp facilities;
e) Map of the project area indicating existing and/or proposed infrastructure, proximity to water bodies and proximity to wildlife and wildlife habitat;
f) Indicate if the Project area contains any known:
    - Waste dumps;
    - Fuel and chemical storage areas;
    - Sump areas; and/or
    - Waste water discharge locations.
g) Attach maps drawn to scale showing locations of existing and proposed items identified above, as well as all proposed:
    - Sumps;
    - Water sources;
    - Fuel and chemical storage facilities;
    - Drilling mud storage areas; and

- Transportation routes.

h) Schedule for all project activities;
i) List of acts, regulations and guidelines that apply to project activities;
j) List approvals, permits and licenses required to conduct the project; and
k) List of equipment required for project with a discussion of intended uses and digital photos if possible.

7.2 EXPLORATION FOR URANIUM MINERALIZATION

a) The type of mineral resource under exploration;
b) History of any previous exploration efforts in the Project area, including:
   - airborne geophysical surveys;
   - geological prospecting;
   - ground geochemical sampling;
   - mapping; and
   - diamond drilling.
c) Exploration activities and related procedures associated with the Project, including all of the following that apply:
   - satellite and/or aircraft remote sensing;
   - soil and/or sediment sampling;
   - drilling on land (indicate drill type);
   - drilling on ice (indicate drill type);
   - water based drilling (indicate drill type);
   - work within navigable waters;
   - on site and off site sample processing; and
   - ore storage.
d) Geological prospecting and ground geochemical sampling procedures;
e) Type of geophysical surveys and general procedures;
f) Map with locations/boundaries subject to air and/or ground geophysical work, with number of square kilometres intended for exploration activities clearly labelled, and Crown lands and Inuit Owned Lands delineated;
g) Required flight altitudes and locations;
h) Estimates of number of drill holes and maximum depths;
i) Drill additives to be used;
j) Method for dealing with drill cuttings and drill return water;
k) Composition of drill wastes and return water;
l) Mobilization of drill equipment;
m) Procedure for abandonment of drill holes;
n) Potential for radiation exposure and radiation protection measures. Please refer to the *Canadian Guidelines for the Management of Naturally Occurring Radioactive Materials* (Health Canada 2000) and Radiation Protection Guidelines for Uranium Exploration (Saskatchewan Labour, OHS n.d.) for relevant guidance;
o) Opportunities for training and employment of local Inuit beneficiaries;
p) Workforce mobilization and schedule, including the duration of work, rotation length, and transportation of workers to site;
q) Specific hiring policies for Inuit beneficiaries;

r) Indicate which communities, groups, or organizations would be affected by the Project;
s) Describe any consultation with interested parties which has occurred regarding the development of the Project;
t) Provide a summary of public involvement measures, a summary of concerns expressed, and strategies employed to address any concerns;
u) Describe how Traditional Knowledge was obtained, and how it has been integrated into the project; and
v) Discuss future consultation plans.

7.3 SITE PREPARATION, CONSTRUCTION AND OPERATION OF CAMP SITES

a) All existing and proposed camp structures and infrastructure;
b) Type of camps (*i.e.* mobile or stationary) including whether they are permanent or temporary, and expected times of use for each;
c) Method of transport for mobile camps;
d) The maximum number of personnel expected on site, including the timing for those personnel; and
e) Access to the project area and how supplies will be brought to the site.

7.4 GROUND TRANSPORTATION

a) How the project site will be accessed and how supplies will be brought to the site;
b) Map showing access routes;
c) Description and specifications for of all types of vehicles to be used, including Sno-Cat, snow machines and all terrain vehicles;
d) Discuss the intended frequency and duration of use for each type of vehicle; and
e) Discuss any proposed plans to mitigate impacts to the soil and permafrost from ground transportation

7.5 AIRBORNE TRANSPORTATION

a) Provide a description of the type (ice-strip/all-weather) of any existing airstrips or touchdown areas;
b) If all-weather airstrip is to be constructed, provide the following information:
    - Design considerations for permafrost;
    - Construction techniques;
    - Construction materials, types and sources, and the acid rock drainage (ARD) and metal leaching (ML) characteristics of any rock required; and
    - Dust management procedures.
c) Map showing location of airstrip and touchdown areas;
d) The duration, frequency, and extent of use of airstrips and helicopter touchdown areas;
e) Estimates of the volume of goods and number of passengers to be frequenting the project area, on a daily and seasonal basis;

f) Expected flight altitudes, frequency and timing of flights, and anticipated flight routes; and
g) Accident/incident response reporting.

7.6 TRANSPORT AND STORAGE OF FUEL AND HAZARDOUS MATERIALS

a) The types and quantities of fuels and hazardous materials required, including;
   - the number, type and capacity of containers;
   - method of handling, storage and containment; and
   - methods of transfer, refuelling and transportation from source(s) to, and around site;.

b) secondary containment measures to be employed, including the type of material or system used;
c) map with locations of all fuel storage infrastructure and systems;
d) Security measures to be implemented, if applicable;
e) Accident/incident response reporting;
f) Spill response training; and
g) The location of spill kits on site.

7.7 WATER MANAGEMENT

a) The location of water source(s), the water intake methods, and all methods employed to prevent fish entrapment;
b) The expected maximum drawdown and recharge capability of the water bodies from which water will be drawn;
c) A map showing water intake locations;
d) The expected rate of water consumption;
e) Management of waste water, with details regarding location of sumps, including capacity of sumps and monitoring;
f) If a sump is to be used, include the following information:
   - Scale drawings and design of sumps;
   - Capacity in cubic metres;
   - Berm erosion protection;
   - Soil permeability and type;
   - Recycling/reclaiming waters;
   - Surface drainage controls; and
   - Abandonment procedures.

g) A water management plan for the Project, exploration activities, buildings and infrastructure. The plan should include, at a minimum, the water supply source(s), on-site use, storage, final discharge to the environment, alteration of drainage patterns, water treatment, diversions, and water conservation and recycling measures.

7.8 WASTE MANAGEMENT

a) The quantities, treatment, storage, transportation and disposal methods for the following:
   - Sewage;
   - Camp grey water;
   - Combustible solid waste;
   - Non-combustible solid waste;
   - Bulky items/scrap metal;
   - Waste oil/hazardous waste (including disposal of containers used to transport or store hazardous materials);
   - Contaminated soils/snow;
   - Empty barrels/fuel drums; and
   - Any other waste produced.

b) Plans for sewage treatment and disposal, must include a discussion of the technology to be employed, the location of the facilities and any point(s) of discharge, and the volumes and chemical composition of the effluent;
c) Accident/incident response reporting;
d) Spill response training; and
e) The location of spill kits on site.

8.0 PROJECT DESIGN

General Project design issues discussed in the EIS shall include:

a) An explanation of how the environment has influenced the design of the Project. This should include, but is not limited to, geographical, geological, meteorological, and cultural conditions;
b) A description and assessment, on the basis of current scientific and Traditional Knowledge, of how the potential for climate change (global warming) could influence changes on the Project design and activities;
c) An explanation of how public consultation has influenced the design of the Project;
d) A discussion of how design, engineering, and management plans are consistent with the maintenance of eco-systemic integrity, with a focus on caribou habitat, caribou calving and migration, and Inuit and Aboriginal harvesting activities;
e) A demonstration of how the Proponent has applied the Precautionary Principle in its Project design and management; and
f) How socio-economic conditions have influenced the Project design. For example, how have project activities and components been designed to meet local preferences and concerns for VSECs.

All assumptions underlying design features should be explicitly stated.

9.0 PROJECT SCHEDULE

The Proponent shall provide current information on the proposed schedule and timeline for the Project, including commencement of site preparation and construction, stages of varying intensity of

the exploration program, temporary and seasonal shut downs, permanent closure, and abandonment and reclamation plans.

9.1 FUTURE DEVELOPMENT

The Proponent shall evaluate, indicating the associated level of uncertainty, the potential for increased levels of exploration as part of the Project and relative to those currently proposed. This evaluation must include a discussion of any reasonably foreseeable requirements for expansions of the Project buildings and infrastructure, increased intensity of project activities (*e.g.* additional drills), and the potential for impacts associated with each. Such an evaluation should follow logically from the stated purpose of the Project, the Proponent's business plan, and the development scenarios realized by projects of a similar nature.

The Proponent shall also consider whether proceeding with the Project might stimulate other development projects, specifically exploration/mining in the region.

10.0 BASELINE INFORMATION

This section of the EIS shall provide a baseline description of the existing physical, biological, and socio-economic environments including processes, their interrelations and interactions, and the variability in these components, processes, and interactions over time scales appropriate to each. The Proponent's description of the existing environments should be in sufficient detail to permit the identification, assessment and determination of the significance of potentially adverse and beneficial impacts that may be caused by the Project. It should also be at a level and scale of detail that enables readers to understand the material presented.

The EIS shall present a sufficient temporal scale to baseline data, in order to permit the identification of natural fluctuations**,** trends and cyclical and other recurrent phenomena. For example, some species populations may fluctuate in abundance every 3 to 4 years, while for other populations, this may take much longer. The Proponent shall evaluate the degree to which the baseline data characterize ecosystems that are relatively free of impacts and shall specify, where relevant, the sources of prior impacts where those can be identified with reasonable confidence**,** so as to assist in evaluating the thresholds of ecosystem components and the potential for cumulative impacts.

In preparing baseline data, the NIRB expects the Proponent will rely heavily on the use of existing information related to the project and the environment. When relying on existing information to meet the requirements of various sections of the EIS guidelines, the Proponent must either include the information directly in the EIS or clearly direct (*i.e.* through cross-referencing) the NIRB to where it may obtain the information. The Proponent must also comment on how representative the data are, clearly separate factual lines of evidence from inference, and state any limitations on the inferences or conclusions that can be drawn from them.

10.1 VALUED ECOSYSTEM COMPONENTS AND VALUED SOCIO-ECONOMIC COMPONENTS

Baseline information should include, but not necessarily be limited to, those VECs and VSECs, processes, and interactions that are likely to be impacted by the Project either directly, indirectly or cumulatively. If relevant, the location of these VECs/VSECs should be indicated on maps or charts. The Proponent should provide justification for its choice of VECs/VSECs, clearly stating from where their value is derived and the reasons why, including social, economic, recreational, and aesthetic considerations. The Proponent should also indicate the specific geographical areas or ecosystems that may be implicated as part of the particular concerns, and their relation to the broader regional environment and economy.

The Proponent shall explain and justify the methods used to predict potential adverse and beneficial impacts of the Project on the VECs and VSECs, on the interactions among these components, and on the relations of these components with the environment. In particular, the Proponent must validate the selected VECs and VSECs, particularly those VECs and VSECs that will be used to assess the significance of Project component interactions, through consultation with a representative sample of the affected communities. Any uncertainties in this validation must be documented. To this end, the NIRB recommends that the Proponent seeks community and, in particular, Traditional input regarding the identification of the VECs and VSECs to be discussed in the EIS.

The EIS must expressly identify those components of the Project that may be expected to interact in adverse or beneficial ways with the VECs and VSECs.

Components may be grouped into the following categories:

a) Components related to construction and operation of the Project;
b) Components related to the eco-systemic effects of the Project; and
c) Components related to developments induced by the Project, and which will occur in the reasonably foreseeable future.

The scope of NIRB's review of the Project shall include any matter within its mandate, with a focus of the Project's impacts and cumulative impacts on wildlife habitat and wildlife harvesting, as supported by the Minister (INAC 2008). The following list VECs and VSECs related to the Project were identified through public scoping conducted by the NIRB and shall be factored in this assessment. This list is not meant to be exhaustive, but rather to give the Proponent an appropriate beginning point for the identification of relevant VECs and VSECs.

10.1.1 Valued Ecosystem Components

- Caribou, particularly the Beverly caribou herd, including:
  - Habitat, particularly calving grounds, migration corridors, paths, water crossings, and insect-relief habitats;
  - Migration and distribution;
  - Health and condition, at individual and herd levels; and
  - Behaviour, at individual and herd levels.
- Wildlife habitat, including areas with special protection;
- Species at risk or of particular concern, including:
  - Grizzly bear;
  - Wolverine;
  - Peregrine falcon; and

    - Short-eared owl.
- Wolf;
- Fox;
- Muskoxen;
- Predator-prey relationships;
- Raptors and migratory birds, including nesting areas;
- Freshwater fish. Climate and weather;
- Air quality;
- Water quality;
- Landforms and soil;
- Eskers; and
- Vegetation, particularly lichen.

10.1.2 Valued Socio-Economic Components

- Inuit and Aboriginal harvesting;
- Traditional Knowledge, with particular emphasis on elders and harvesters;
- Burial sites;
- Archaeological sites and other heritage resources;
- Areas of cultural and spiritual importance;
- Land access;
- Traditional land use and occupancy;
- Traditional place names;
- Traditional lifestyles;
- Community consultation;
- Local organizations (*e.g.* Hamlets and HTOs);
- Human health;
- Local food security;
- Local country food consumption;
- Quality of country foods;
- Local economy and community livelihoods;
- Education and training;
- Employment opportunities; and
- Tourism.

10.2 INFORMATION TO BE INCLUDED

The Proponent's baseline description shall include information pertaining to the environmental components and processes within the LSA and RSA as outlined in the sections below. The Proponent shall take an ecosystem approach which takes into account both scientific and Traditional Knowledge and perspectives regarding ecosystem health and integrity. The Proponent should identify and justify the indicators used to measure ecosystem integrity. These indicators should be related to Project monitoring and follow-up activities.

The Proponent shall provide information on the functioning and stability of the biophysical, socio-economic and cultural environments in the LSA and RSA. The Proponent shall describe the components of the biophysical, socio-economic and cultural environments and the processes affecting them as they exist without the Project. This will serve as a baseline against which the

potential impacts of the Project can be measured and also to justify the Proponent's selection of VSECs. Baseline data shall be presented regarding such components as:

10.2.1 Caribou, with emphasis on calving activities

a) Historic and current distributions of caribou herds in the LSA and RSA, with seasonal designations given to density and occurrence;
b) Historic and current population estimates of the Beverly herd;
c) Life history of Beverly caribou, particularly timing of critical life stages;
d) Calving activities;
e) Diet of Beverly caribou herd;
f) Current health of the Beverly caribou herd; and
g) Any other issues relating to caribou identified through public consultation.

10.2.2 Caribou habitat, particularly the calving grounds of the Beverly herd

a) Timing and extent of the Beverly caribou herd in the LSA and RSA, with reference to any instances of overlapping habitats with the Ahiak, Lorillard or Qamanirjuaq caribou herds;
b) Seasonal and annual trends in range or habitat use, movements, and population of the Beverly caribou herd;
c) Methods of habitat selection;
d) Migratory patterns, corridors and routes of the Beverly caribou herd and the corresponding sensitive periods when the routes cross habitats affected by the Project;
e) Significant habitats for the Beverly caribou herd, including calving and post-calving areas, salt licks, water crossings, and insect relief habitats;
f) Calving grounds of the Beverly caribou herd;
g) Description of the existence, implementation and enforcement legislation, regulations, management plans, land use polices, etc., related to the management and protection of habitat used by the Beverly caribou herd, including but not limited to the Thelon Game Sanctuary Management Plan and the Caribou Protection Measures; and
h) Any other issues relating to caribou habitat identified through public consultation.

10.2.3 Cumulative Effects of the project in relation to other similar projects in the region, to caribou, caribou calving grounds, and across caribou ranges

a) Historic, current and reasonably foreseeable exploration and development projects on the traditional calving grounds of the Beverly caribou herd, and including at a minimum:
    i. location, timing, extent of operational activities; and
    ii. operational activities for current exploration projects, including the number of drills being used and the number of daily transits with fixed wing aircraft and helicopters.
b) Current and reasonably foreseeable exploration and development projects across the range of the Beverly caribou herd, with a focus on the location, timing and extent of permitted and planned operational activities; and
c) Any other issues relating to cumulative effects identified through public consultation.

10.2.4 Inuit and Aboriginal harvesting

a) Plant and animal species in the LSA which are valuable for purposes of Inuit harvesting or cultural reasons known to the Inuit;
b) Plant and animal species harvested for purposes of human consumption, including where relevant, the parts of the organisms being consumed (*e.g.*, organs as well as meat) and consumption frequency;
c) Communities in jurisdictions outside of Nunavut which harvest the Beverly caribou herd;
d) Historic and current harvesting activities of the Beverly caribou herd in the LSA and RSA, including harvesting methods and management techniques;
e) Historic and current harvesting of animals other than caribou in the LSA and RSA, including harvesting methods and management techniques;
f) Seasonal and geographic distribution of harvesting activities in the LSA; and
g) Any other issues relating to harvesting identified through public consultation.

10.2.5 Human and Carnivore Interactions

a) Presence of species populations of carnivores within the LSA and RSA, including: grizzly bear, wolverine, wolf and arctic fox;
b) Seasonal and annual trends in range or habitat use, movements, and populations of these species;
c) Significant habitats for these species, such as eskers and denning sites;
d) Established or proposed protected areas for these species;
e) Species that perform particularly significant ecological functions; and
f) Any other issues relating to these species identified through public consultation.

10.2.6 Raptors and migratory birds

a) Local and regional occurrence of species populations;
b) Relative seasonal/annual abundance and distribution of these species populations;
c) Seasonal and annual trends in range or habitat use, movements, and population status of these species;
d) Migratory patterns and routes of these species and the corresponding sensitive periods when the routes cross habitats affected by the Project;
e) Significant habitats for these species, such as breeding and nesting sites and staging areas;
f) Established or proposed sanctuaries, refuges, or similar areas for these species;
g) Species that perform particularly significant ecological functions; and
h) Any other issues relating to these species identified through public consultation.

10.2.7 General Biophysical Environment

a) Existing or proposed protected wildlife areas, conservation areas, and special management areas in the LSA and RSA, (including those proposed by the Thelon Game Sanctuary Management Plan);

b) General discussion on the following elements of the LSA: hydrology and hydrogeology; groundwater quality; surface water quality; atmosphere (including climate change, air quality, and noise factors); landforms and soils; and vegetation;
c) Presence and identified critical areas within the RSA for rare or regionally unique species or species assemblages, including species with federal, territorial, regional, or locally designated status (*e.g.*, vulnerable, threatened, endangered, extirpated, of special concern – as designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or other agencies) or cultural status;
d) Predicted climate change patterns and related changes in mean and extreme environmental parameters such as air temperature, precipitation, storms, etc.;
e) Ecological zones, including ecozones, and ecoregions, or other appropriate ecological areas;
f) Species that perform particularly significant ecological functions; and
g) Any other issues identified through public consultation.

10.2.8 Traditional Knowledge

a) Traditional place names for important areas in the LSA;
b) Historic and current land use of Inuit in the LSA;
c) Information on the LSA area regarding culture and relationship to the land; and
d) Any other issues identified through public consultation.

10.2.9 Socio-economic and cultural environment

a) Human and local food security;
b) Current economic value of the Beverly caribou herd to Inuit and Aboriginal harvesters and tourism operators;
c) Burial sites, and other archaeological or heritage sites within the Project area, as well as sites identified by elders and former residents of the Garry Lakes area (Hanningajurmmiut) as having cultural and/or spiritual importance. Each site shall be described and delineated on a map;
d) Roles, employment levels and participation rates in the traditional- and wage-based economies, and the nature of the mixed economy of the Kivalliq Region;
e) Interactions between the socio-economic and biophysical environments; and
f) Any other issues identified through public consultation.

The Proponent shall provide a rationale for the selection of communities and relevant studies for which baseline data are provided.

Whenever relevant, data shall be separated by age, gender, and ethnic affiliation. The foregoing is not to suggest that the Proponent is responsible for the current socio-economic situation of the Kivalliq region, or that it is expected to resolve any problems that are identified. Nevertheless, a proper understanding of the structure and functioning of the potentially affected societies is needed in order to identify the potential of the Project to affect them, whether positively or negatively, and to ensure that any socio-economic mitigation measures put in place by the Proponent have a reasonable likelihood of attaining their objectives.

The indicators selected must be adequate to address all types of foreseeable impacts, including cumulative and residual impacts.

11.0 ASSESSMENT AND MITIGATION OF IMPACTS

The assessment of the biophysical and socio-economic impacts must describe: the impact being considered, its significance, the measures proposed to mitigate significant impacts, the potential for residual effects, and the potential for the impact to contribute to a cumulative effect on the VEC/VSEC in question. A justification for the determination of significance for all impacts must be provided. Where the potential for impacts is identified, the EIS shall discuss steps which the Proponent proposes to take to compensate interests adversely affected by the Project. The EIS should, to the extent possible, avoid repetition by identifying the potential adverse environmental effects, the Project components or activities with potential to cause the effect, the proposed mitigation measures, and the potential for residual effects in the same discussion.

The EIS shall provide a comprehensive analysis of the effects of the Project on the biophysical and socio-economic environments with respect to the elements and functions which may be lost or enhanced, where, how much, for how long, and with what overall effect. The EIS should also provide an analysis of the short and long-term effects, indicating the sensitivity of the function, integrity, and health of the environments to these predicted effects.

The EIS should pay particular attention to the geographical scale of anticipated impacts, by characterising them as appropriate in or at the:

1) Local Study Area, Regional Study Area, and/or territorial levels;
2) Traditional and/or local land use areas; and
3) Ecosystem level (*e.g.* watershed, and wetlands).

The Proponent shall employ a matrix or a comparable tool that highlights interactions between the components of the Project and those of the relevant ecosystems, especially VECs and VSECs. The consequences of each predicted impact for the functioning and integrity of its ecosystem must be considered in addition to the consequences for the VEC or VSEC in question.

11.1 IMPACT ASSESSMENT METHODOLOGY

The Proponent shall explain and justify the methods used for impact prediction, which can include mathematical or mechanical modeling, previous experience, statistical modeling (*e.g.*, variance and correlation analyses), the analysis of sequential series, expert opinion, the prediction of tendencies, and Traditional Knowledge. All studies used in the prediction of impacts must be specified, the original authors identified, and the studies made public. All statements based on public consultation shall be justified and the sources and methodology specified. The choice of methodologies and interpretation of results shall be justified in light of current theories, knowledge, and standards.

The Proponent shall assess the direct, indirect, short-term and long-term impacts of the Project on the biophysical and socio-economic environments, and the interactions between them, focusing on the anticipated response of the VECs and VSECs. It shall also assess the degree of uncertainty

associated with each predicted effect. Where the potential for cumulative effects has been identified, a discussion must be provided within Section 13.1.3 of these Guidelines.

The Proponent shall identify potential impacts separately for each Project phase, including site preparation and construction, stages of varying intensity of the exploration program, temporary and seasonal shut downs, permanent closure, and abandonment and reclamation. It shall also assess the potential impacts arising from accidental events and malfunctions.

11.2 CUMULATIVE IMPACTS

A cumulative impact (or effect) can be defined as the impact on the environment that results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions (Tilleman 2005). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The Proponent shall provide a brief overview of the theory and practice of Cumulative Effects Assessment (CEA) especially as it applies to the ecosystem model of evaluating environmental impacts, and shall justify the methodology adopted in relation to the design of the Project, its management, and the proposed approach to impact assessment. The EIS must also demonstrate how project-specific CEA fits into regional planning initiatives. Transboundary effects related to cumulative effects associated with this project should be clearly defined.

CEA done well demands the explicit creation of alternative development scenarios and analysis of potential cumulative effects associated with each one (Greig *et. al* 2002). Therefore, the Proponent shall ensure its CEA clearly addresses the alternatives presented under Section 6.8 of these Guidelines.

The Proponent shall determine which events or activities have affected or are likely to affect the same VECs/VSECs or ecosystems as the Project. The Proponent shall then predict the impacts of the Project in combination with those of the other past, present, and reasonably foreseeable future developments, using the most appropriate methodology on a case-by-case basis that is capable of incorporating all of the relevant impacts. Nevertheless, where less precise information about a possible development exists, the Proponent shall refer to it and shall offer its opinion on whether it might need to be taken into account at a later date. While the EIS is expected to focus the assessment of cumulative effects on caribou, caribou calving grounds, and across caribou ranges, the Proponent shall ensure that the potential for cumulative effects is adequately considered for all other VECs/VSECs. Where the potential for cumulative impacts is recognized through the course of the Proponent's impact assessment or through its public consultation, the EIS shall contain a full discussion of this potential.

11.3 TRANSBOUNDARY IMPACTS

The potential for significant transboundary biophysical and socio-economic effects directly related to this Project must be clearly identified in the EIS to aid with NIRB's assessment of the well-being of Canadians outside of the Nunavut Settlement Area. The EIS shall duly consider possible transboundary implications of impacts to identified VECs/VSECs, including the Beverly caribou herd and its habitat, Inuit and Aboriginal harvesting, local food security, local country food

consumption, and local economy and community livelihoods. Transboundary effects related to cumulative effects associated with this Project should be clearly defined.

11.4 SIGNIFICANCE OF IMPACTS

Impact significance is based on comparing the predicted state of the environment with and without the Project and expressing a judgment as to the importance of the changes identified. Assessing the significance of potential impacts is, arguably, the single most important aspect of environmental assessment to be documented in an EIS. The determination of significance shall take into account the following attributes of each impact:

- magnitude;
- geographic extent;
- timing**;**
- duration;
- frequency;
- reversibility;
- probability of occurrence;
- effect on ecosystem function and integrity;
- the capacity of resources to meet present and future needs**;** and
- the value attached to the impacted VEC or VSEC by those who identified them.

Hence, the concerned communities, as well as other individuals and organizations, shall be fully consulted in defining impact significance. The Proponent shall describe how it will ascertain the significance that different parties assign to each impact and how it will proceed if different parties ascribe varying significance to VECs, VSECs, or the associated impacts. If it is impossible to attain a consensus on the significance of certain impacts, the Proponent shall present the range of viewpoints expressed and shall present and justify its preference, if any.

The dynamic change of ecosystems and their components must also be considered in determining impact significance. Changes in ecosystems can be cyclical, gradual, or the result of disasters. They can be local, regional, universal, anticipated, or unexpected. The significance of an effect on an ecosystem component can, therefore, change through time and can vary according to the "state of health" of the ecosystem or the component at the time of the impact. EISs tend to "freeze" ecosystems and societies at a specific moment in time, often when collecting baseline data, and therefore evaluate the significance of the potential impacts upon them at that specific time. The Proponent shall evaluate the significance of potential impacts in the light of data on the dynamism and the current “state of health” of ecosystems and their components and societies and their predictable evolution in light of global climate change. Consistent with the ecosystem approach required above, the Proponent shall strive to highlight the interactions within and between ecosystem components in an effort to increase understanding of the dynamism of the ecosystems in question and the nature and severity of the predicted impacts.

Any terms used to describe the significance of impacts, such as "low", "medium", or "high", must be clearly defined, and, wherever possible, in quantitative terms.

11.5 INDICATORS AND CRITERIA

The Proponent shall identify the indicators and/or criteria selected for assessing the potential impacts of the Project, including any cumulative impacts, and shall justify their selection. In doing so, the Proponent shall describe the role played by consultation with members of the public and technical experts. In every case where a potential impact or an area of uncertainty is identified, the Proponent must give a clear commitment in the appropriate section of the EIS as to how it will address it. The EIS must clearly distinguish the impacts at each stage of the Project, including temporary closure, final closure and post-closure.

12.0 IMPACTS OF THE ENVIRONMENT ON THE PROJECT

The Proponent shall discuss the potential impacts of the environment on the Project, considering such things as seismicity, severe weather events, and global climate change. Longer-term effects of climate change must also be discussed up to the projected abandonment phase of the project. The sensitivity of the project to long-term climate variability and effects must be identified and discussed. The Canadian Environmental Assessment Agency Procedural Guide, "*Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners*" (CEAA 2003) provides guidance for incorporating climate change considerations in an environmental assessment.

13.0 IMPACTS OF PROJECT COMPONENTS AND ACTIVITIES

The Proponent shall discuss the potential impacts of the Project on the biophysical and socio-economic environment, with a focus on the identified VECs/VSECs. The project-specific impact assessment for caribou, caribou calving grounds, and across caribou ranges must be considered within the context of a cumulative effects assessment for these VECs.

13.1 BIOPHYSICAL IMPACTS

13.1.1 Caribou, with particular emphasis on calving activities

The EIS must focus on the assessment of the potential impacts of project activities on caribou and caribou calving activities. Particular emphasis must be placed on disruptive activities such as drilling and the potential impacts from ground and airborne traffic, taking into account the type, frequency, altitude and timing of traffic, particularly low-flying fixed- and rotary-wing aircraft, and noise levels. The analysis of the potential impacts shall include:

a) Disruption of movements and migration corridors;
b) Disturbance when feeding or resting;
c) Effects of diverting caribou around the project area on the energy balance of caribou, including but not limited to effects to quality of the meat and reproductive success;
d) Discussion of documented individual behavioural responses to the following exploration activities:
    i. drilling noise;

ii. low level flights (*i.e.* altitudes less than 600 metres) with fixed wing aircraft and helicopters;
iii. restricted access to key water crossings or feeding areas;
iv. exposure to contaminants; and
v. loss of habitat.

e) Discussion of the potential for habituation to disturbance, with a focus on exploration activities such as low-level flights and noise from drilling operations;
f) Effects of climate change on the present and future health of the Beverly caribou herd; and
g) Analysis of the implementation and effectiveness of Caribou Protection Measures (NPC 2000) in the RSA.

13.1.2 Caribou habitat, particularly the caribou calving grounds of the Beverly herd

It is critical that the Proponent assess the potential impacts of project activities on caribou habitat, particularly the caribou calving grounds of the Beverly caribou herd. Particular emphasis must be placed on the potential impacts from ground and airborne traffic, taking into account the type, frequency, altitude and timing of traffic, particularly low-flying fixed- and rotary-wing aircraft, and noise levels. The analysis of the potential impacts shall include:

a) Discussion of habitats with varying levels of protection for Beverly caribou, including a comparison of habitats with no protection, to timing of the period of use by caribou
b) Habitat loss or alteration (*e.g.*, fragmentation, connectivity);
c) Loss or alteration of habitat or calving grounds; and
d) Analysis of interspecific competition with muskoxen.

13.1.3 Cumulative effects of the project in relation to other similar projects in the region, to caribou, caribou calving grounds, and across caribou ranges

It is critical that the Proponent assess the potential of the Project to contribute to cumulative effects to caribou of the Beverly herd, including their traditional calving grounds, and across their yearly range. This assessment shall focus on the impacts caused by mineral exploration and development projects, but shall also account for other possible contributing factors throughout the range of the Beverly caribou herd.

a) Discussion of factors affecting caribou health across the range of the Beverly caribou herd. The EIS shall include a review of existing literature and data and discuss the potential of identified factors to act cumulatively on the relative health of the Beverly caribou herd. This analysis must address the following:
i. historic and current population estimates of the Beverly herd;
ii. distribution shifts across all seasonal ranges;
iii. forage quantity, quality and availability and its variations with weather/growing season;
iv. predators;
v. disease and parasites;
vi. insect harassment;
vii. interspecific competition, particularly with muskoxen;
viii. extreme and significant weather events such as extended periods of freezing rain;
ix. climate change and global warming;

x. forest fires;
xi. exploration and mining activities;
xii. research activities with emphasis on aerial surveys and collaring of caribou;
xiii. Inuit and Aboriginal harvesting;
xiv. sport and outfitter hunting;
xv. tourism activities, including recreational paddling;
xvi. low-flying aircraft; and
xvii. winter and all-season roads.

b) Assessment of potential cumulative impacts from the Project and other exploration camps and mineral leases located within the traditional calving grounds of the Beverly caribou herd. This analysis must consider all relevant factors identified in Section 13.1.6(a) above, with a focus on the following:
   i. quality of habitat;
   ii. timing and duration of exploration activities;
   iii. timing and duration of caribou calving and post-calving activities;
   iv. potential for disruption to caribou calving and post-calving activities from exploration in the area; and
   v. current health of the Beverly caribou herd.
c) Analysis of relevant predator-prey relationships that have potential to impact population levels of the Beverly caribou herd;
d) Consideration of available monitoring data from other exploration and mining projects in the RSA; and
e) Discussion of how impacts accumulate in caribou through annual movements across range, in a single year and over many years.

13.1.4 Inuit and Aboriginal harvesting

The EIS must also focus on assessing the potential impacts of project activities on Inuit and Aboriginal harvesting in the LSA and RSA. This analysis shall include:

a) The traditional and contemporary Inuit and Aboriginal practices of wildlife management and harvesting;
b) Sustainability of current harvesting levels of Beverly caribou by Inuit and Aboriginal communities; and
c) Effects of the Project on caribou behaviour and distribution which could impact harvesting.

13.1.5 Human and Carnivore Interactions

The Proponent shall assess the potential impacts of project activities on carnivores, and human-carnivore interactions. Special consideration shall be given to any species listed as vulnerable, endangered, or a species of special concern by COSEWIC, and to species of particular social, cultural, and economic importance, including those important for Inuit and Aboriginal harvesting. The analysis of the potential impacts shall include:

a) Habitat loss or alteration (*e.g.*, fragmentation, connectivity);
b) Mortality;
c) Displacement;
d) Disruption of movement (*e.g.*, migration, home ranges);

e) Altered inter-specific relationships, including those with humans;
f) Noise from ground and airborne traffic, taking into account the type, frequency, altitude and timing of traffic, particularly low-flying fixed- and rotary-wing aircraft, and noise levels; and
g) Waste (including hazardous waste) from project activities acting as an attractant.

13.1.6 Raptors and Migratory Birds

The Proponent shall assess the potential impacts of project activities on raptors and migratory birds, including:

a) Loss, alteration or alienation of habitat such as staging or nesting habitats (*e.g.*, wetlands);
b) Disruption of migration routes; and
c) Disturbance from airborne and ground transportation.

13.1.7 General Biophysical Environment

The Proponent shall assess the potential impacts on such factors as: water quality; atmosphere (including climate change, air quality, and noise factors); aquatic organisms and habitat; landforms and soils; wildlife; and vegetation. The analysis of potential impacts shall include:

a) Impacts to surface and groundwater quality as a result of drilling activities and camp domestic use;
b) Permanent changes in the local use of the landscape by wildlife;
c) Permanent aesthetic and physical changes to the landscape;
d) Impacts to eskers and the resultant effects on wildlife;
e) Wildlife which are dependent, whether seasonally or otherwise, on specific habitats or species of vegetation; and
f) Impacts to landforms and soils, and vegetation from ground and airborne transportation, including rutting and scarring of the tundra.

13.2 SOCIO-ECONOMIC AND CULTURAL IMPACTS

The Proponent shall assess the potential impacts of the Project on the socio-economic and cultural environment, primarily to those VSECs identified in Section 10.1. While this assessment is expected to focus on the Kivalliq Region, the Proponent shall also take into account interests of other potentially-affected Canadians and the potential for transboundary impacts. The analysis of potential impacts must include:

a) Impacts to the traditional way of life for residents of potentially affected communities, with a focus on the use of the land for economic, cultural, and other purposes;
b) The Project's contribution, if any, to increased levels of contaminants in country foods or reduction in quality of country foods;
c) The cultural well-being of the potentially affected communities, based on indicators defined in collaboration with the concerned communities;
d) Burial sites and other archaeological, cultural, heritage, and sacred sites in the Project area. Special emphasis must be placed on the identification and protection of burial sites;

e) Impacts related to a reduction in availability of caribou as a food source for communities which are known to harvest the Beverly caribou herd; and
f) Changes in the following:
    i. hunting, trapping, or guiding areas;
    ii. fishing areas for commercial, Nunavummiut, and sport fishing;
    iii. conservation areas, territorial and federal parks, and other ecological reserves or preserves;
    iv. recreation and tourism areas and recognized scenic areas; and
    v. the "wilderness experience" (including the potential for compromising the development of protected areas in the region). The Proponent shall pay particular attention to local perceptions of the preceding effects.

14.0 ENVIRONMENTAL MANAGEMENT AND MITIGATION

14.1 OVERVIEW

The EIS shall describe general and specific measures intended to mitigate the potentially significant adverse environmental effects of the Project. Mitigation includes: (1) avoiding the impact altogether by not taking a certain action or parts of an action, (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation, (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment, (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and (5) compensating for the impact by replacing or providing substitute resources or environments (Tilleman 2005). The description of mitigation measures shall include procedures to avoid environmentally sensitive areas or seasons, contingency plans to respond to accidents and emergencies, restorative procedures to be implemented on disturbed sites, and compensation programs for damage caused by the Proponent's activities to the environment, property, or the land- and resource-use of others.

The Proponent must discuss and evaluate the effectiveness of the proposed measures, and assess the likelihood of mitigation ineffectiveness or failure and the potential severity of the consequences. Information should be provided on mitigation methods used with similar exploration projects and the degree of success achieved. All uncertainties related to mitigation measures shall be clearly described and, if possible, quantified. The discussion of these effects and their proposed mitigation must give full consideration to Traditional Knowledge of the environment and of appropriate and effective mitigation measures. Moreover, the Proponent shall discuss the negotiation of an agreement or agreements with the concerned communities that would permit them to participate fully in the planning, execution, and evaluation of mitigation measures.

The EIS shall identify who is responsible for the implementation of these measures, the system of accountability and the phase and/or component of the Project to which the measure would be applied. The Proponent shall also evaluate the costs, and the economic and technical feasibility of the mitigation measures considered and provide a timetable for implementing them.

14.2 MANAGEMENT PLANS

The Proponent shall present an Environmental Management Plan (EMP) to prevent or mitigate all potential impacts of the Project on VECs and VSECs identified in Section 10.1 of these Guidelines, and clearly identify any residual effects. The EMP shall address the following components, as well as others deemed necessary by the Proponent:

a) Management of wastes, including camp sewage, combustible and non-combustible waste, and hazardous wastes;
b) Management of water, including domestic camp uses and water used for exploration activities;
c) Spill contingency procedures for the safe transport, handling and storage of fuels and other hazardous materials;
d) Emergency response procedures, including plans for fires, aircraft/vehicle crashes, medical emergencies, malfunctions of key Project components, extreme weather, natural disasters, and discoveries of burial sites and historic resources);
e) Protection and avoidance of burial sites and other archaeological, cultural, heritage, and sacred sites in the Project area;
f) A description of how the procedures and protocols contained within the EMP will be communicated to on-site personnel and any contractors associated with the Project; and
g) Procedures for evaluating and monitoring the effectiveness of mitigation measures;

The Proponent shall present a Wildlife Mitigation and Monitoring Plan (WMMP) to prevent or mitigate all potential impacts of the Project on wildlife VECs identified in Section 10.1 of these Guidelines, and clearly identify any residual effects. The WMMP shall address the following components, as well as others deemed necessary by the Proponent:

a) Proposed adaptive mitigation and management strategies, including thresholds that will be used to determine the necessity for implementation of these strategies. A protocol for initiating shut down of all exploration and camp activities during periods of caribou migration or presence through/in the Project area must be included as part of an adaptive management strategy;
b) Proposed monitoring procedures, including: locations where monitoring will occur; frequency and duration of monitoring efforts; recording and reporting protocols to be used; protocols for implementation of adaptive management strategies and; incorporation of traditional knowledge into monitoring procedures;
c) Procedures to reduce the potential for human-carnivore conflict, including but not limited to proper food handling, storage, garbage disposal and training for staff in human – bear/wolf/fox/wolverine encounter and avoidance plans;
d) Ground and air traffic management plans, including a discussion of procedures to be implemented during periods of caribou migration or presence through/in the Project area;
e) A description of how the procedures and protocols contained within the WMMP will be communicated to on-site personnel and any contractors/pilots associated with the project; and
f) Procedures for evaluating and monitoring the effectiveness of mitigation measures.

The EIS shall discuss the flexibility of the management plans to respond to changes in the Project development plan, the regulatory regime, the natural or socio-economic environment, technology,

research results, or the understanding of Traditional Knowledge. It shall discuss how the results from Project monitoring would be used in applying adaptive environmental management[2], and identify criteria or indicators to trigger adaptive management. The EIS must clearly describe what follow-up measures will be taken with respect to mitigation, including commitments to adaptive management. The EIS shall give a rationale for the components of its management plans and assess their likely effectiveness. It shall also give a rationale for the rejection of mitigation measures and justify trade-offs between cost savings and effectiveness. Conclusions made by the Proponent with respect to mitigation measures will clearly state whether the Proponent will certainly apply the measures and if not, in what circumstances they will be applied. The EIS shall also contain a brief risk assessment of those economic or other conditions that might impair the effectiveness of proposed mitigation measures.

14.3 POLLUTION PREVENTION

The Proponent shall highlight any pollution prevention measures to be implemented. Pollution prevention is defined by the Federal Government in the document *Pollution Prevention: A Strategy for Action* (Environment Canada 2000), which links the concept of pollution prevention with sustainable development – a vision that includes a clean healthy environment and a strong, healthy economy**,** and that focuses on avoiding the creation of pollution rather than trying to manage it after it has occurred.

14.4 RESIDUAL IMPACTS

Residual impacts are those for which feasible mitigation measures could not be conceived and for which compensation has not yet been determined. They also include the effects that persist after mitigation measures have been successfully applied. Both short-term and long-term residual impacts must be considered. The Proponent shall describe the residual effects of the Project in a way that permits comparisons with the Project's potential effects in the absence of mitigation, and shall express their significance in the same manner as for the said potential effects, using the same criteria. It shall also assess the reliability of the planned mitigation measures and the environmental consequences of their failure.

14.5 RECLAMATION AND ABANDONMENT

It is presumed that the primary goal of the Proponent would be further development of the Garry Lake property, should it be feasible to proceed to phases such as bulk sampling or mining. However, the Proponent shall present an initial Reclamation and Abandonment Plan that respects all applicable regulations and standards and addresses the buildings and site infrastructure, fuel and hazardous materials storage areas, wastes, and all other areas of disturbance related to the currently proposed activities. It shall state its goals for reclamation, and discuss reclamation methods, schedule and time frame (*e.g.* progressive reclamation). The EIS shall specify under what conditions a temporary closure should be considered permanent.

[2] Principles of adaptive environmental management are outlined by Holling (1978) and refer to intra-ecological connections, spatial behaviour of events, erratic alterations in natural systems, and dynamic variability.

15.0 MONITORING, EVALUATION, AND MANAGEMENT

15.1 OVERVIEW

Consistent with Part 7 of Article 12 of the NLCA, the EIS will detail the environmental and socio-economic monitoring programs to be incorporated into all phases of the Project. A follow-up monitoring program is necessary to verify the accuracy of the environmental assessment of the Project and determine the effectiveness of mitigation measures.

The EIS shall contain a Project monitoring plan that includes compliance, biophysical and socio-economic monitoring programs, and a follow-up program to integrate the monitoring results into a coherent action plan and to evaluate the effectiveness of mitigation measures during operation and after the final closure of the Project. Compliance monitoring refers to verifying the Proponent's conformity with regulatory standards. Biophysical monitoring involves the monitoring of such biophysical components as air, water, and land. Socio-economic monitoring involves the monitoring of socio-economic parameters, for example employment of Nunavummiut and the purchase of goods and services in the region. In every case the Proponent shall explain what is to be monitored, why it needs to be monitored, and how it will be monitored.

The Proponent shall discuss how its monitoring program would distinguish between natural environmental changes and those caused by the Project, how it would assess the validity of impact predictions, how monitoring results would be used to modify management programs and Project policies, and how it would respond to unexpected adverse effects. The EIS must also provide justification for the selection of criteria or thresholds to assess impacts.

At every phase of the Project, the Proponent shall collect data in a manner that is consistent with existing databases and research programs, including those of the Nunavut Planning Commission (NPC), the Government of Nunavut Departments of Environment (GN-DoE) and Economic Development and Transportation (GN-EDT), as well as the Nunavut Bureau of Statistics and any other relevant departments or agencies, provided that doing so will not significantly compromise its ability to monitor effectively, given Project-specific conditions.

The description of the approach to monitoring shall address:

a) Monitoring methodologies, standards, objectives and a corresponding data collection schedule. The schedule shall describe the frequency of data collection and analysis, and shall distinguish between on- and off-site activities, describing the logistics for carrying out both types of activities;
b) The subjects and parameters to be monitored, and the criteria used in their selection;
c) The geographic extent of monitoring;
d) Internal and external reporting and response mechanisms and structures, including procedures to be followed in the event that monitored results deviate significantly from predicted results;
e) Approaches and methods for monitoring the cumulative effects of the Project;

f) Integration of monitoring results with other aspects of the Project, including adjustments to operating procedures and refinements to mitigation measures;
g) Experience gained from prior and current monitoring programs;
h) The roles of independent experts, government agencies, communities, holders of Traditional Knowledge, and renewable resource users, and any joint monitoring programs;
i) Procedures to assess the effectiveness of monitoring programs, mitigation measures, and recovery programs; and
j) The role of communications plans in monitoring, and procedures to communicate the results of monitoring to interested parties.

In the case of post-closure monitoring, the Proponent shall describe how long monitoring will continue and shall identify who will assume the costs and responsibility, especially in the event of changes of corporate ownership. The Proponent shall consult with all concerned regulatory authorities and stakeholders to maximize the chances that it proposes a clear, comprehensive, and proactive monitoring plan.

16.0 CONCLUSION AND RECOMMENDATIONS

The EIS shall end with a conclusion presenting an overall analysis of the projected biophysical and socio-economic impacts, anticipated cumulative effects, proposed mitigation measures, and any residual impacts. This section must be adequately supported and clearly follow from the findings presented throughout the EIS. While highlighting the impacts in Nunavut, this conclusion should clearly present the importance of the EIS findings to the entire Regional Study Area.

17.0 LIST OF CONSULTANTS AND ORGANIZATIONS

The EIS shall contain a list of all consultants who contributed to its preparation, including their role in the creation of various sections, and their contact information. Additionally, the EIS shall contain a list of the organizations consulted, including: the time, place, and purpose of the consultation; a list of participants; a summary of dialogue; and contact information for the organization. An appendix shall contain copies of the materials presented at such meetings and other relevant materials.

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APPENDIX A: NUNAVUT IMPACT REVIEW BOARD'S 10 MINIMUM EIS REQUIREMENTS

Proponents must comply with the following 10 minimum requirements for an Environmental Impact Statement:

1. Statement of Consultation Principles and Practices

The Proponent must conduct pre-Project consultations with locally affected persons. Where at all possible, information about the Project must be distributed, and comments collected with a view to resolving any differences. Discussions should include, but not be limited to, land uses, policies, resource uses, Archaeological areas, infrastructure, and terrain sensitivities. Inuit cultural concerns must be highlighted throughout. The Proponent shall explain where, how, why, and with whom it conducted public consultation, and shall demonstrate an understanding of the rights, interests, values, aspirations, and concerns of the potentially affected communities All comments from the public must be summarized, documented, and presented in the EIS.

2. Definition of Project

A definition of the Project must include a discussion of any connected or subsequently related projects in order to reveal the primary purpose and better understand complex or multi-staged related proposals.

3. Statement of Project's Purpose

Based on the concepts of the Precautionary Principle and Sustainable Development , an EIS must contain a statement explaining the need for, and the purpose of the Project. Where further economic development is needed for a given area, the Board expects the deficiencies in the economic status quo to be stated.

4. Anticipated Impacts Analysis

A comprehensive impact assessment must be carried out which includes, but is not limited to, environmental effects that are likely to result from the Project in combination with other projects or activities that have been, or will be, carried out. Anticipated impacts include short and long-term, direct and indirect, positive and negative, cumulative, socio-economic, Archaeological and cultural impacts. This element of the EIS must include a Mitigation analysis that explains how the impacts could be avoided, minimized, cured, eliminated, or compensated.

5. Cumulative Effects Analysis (CEA)

Cumulative Effects must be analyzed for all Part 5 Reviews. A project proposal causes a Cumulative Effect if, when added to other projects in the region, or projects Reasonably Foreseeable in the region, will cause an additive effect. A comprehensive examination of all Cumulative Effects must be included in an EIS.

6. Significant Effects Analysis

The Board must be advised of the significant impacts of the Project. This should be based upon:

- the Project setting, taking into account the location's unique Ecosystemic characteristics, and
- the severity of the impacts, taking into account, but not limited to public health, land use plans, protected areas, habitat, or species, public concern, etc.

Ultimately, the Board will decide which effects are significant and report to the Minister accordingly.

7. Project Alternatives

This requirement includes, but goes well beyond, Alternative Means of carrying out the Project that might be economically and technically feasible and the environmental effects of those Alternative Means. This assessment must include the "no-go" or "no-build" alternative, as well as the "preferred" alternative. The "no-go" alternative is not only a potentially stand-alone option; it also serves as a Baseline for comparison with other development alternatives that might reasonably be proposed in the circumstances.

8. Sustainability Analysis

The EIS must contain an analysis of the ability of renewable resources affected by the Project to sustain current and future generations in Nunavut and Canada.

9. Monitoring or Post-Project Analysis (PPA)

The purposes of a PPA are to:

- measure the relevant effects of projects on the Ecosystemic and socio-economic environments of the Nunavut Settlement Area;
- determine whether and to what extent the land or resource use in question is carried out within the predetermined terms and conditions;
- provide the information base necessary for agencies to enforce terms and conditions of land or resource use approvals; and
- assess the accuracy of the predictions contained in the project impact statements.

10. Trans-Boundary Effects Analysis

Where relevant, an EIS must include an assessment of all significant adverse Ecosystemic or socio-economic trans-boundary effects.

**It is important to note that Section 12.5.2(j) of the NLCA gives the NIRB the authority to add other requirements as deemed necessary. The NIRB will always review each project proposal on a case-by-case basis, including instructions from the Minister, and may add other requirements as per s. 12.5.2 and 12.5.5 of the NLCA.

APPENDIX B: REQUESTS FOR COPIES OF A FUTURE EIS SUBMISSION

COPIES	ORGANIZATION	ADDRESSEE	MAILING ADDRESS
2	Government of Nunavut – Department of Environment	Michael Mifflin – Manager, Land Use and Environmental Assessment	P.O. Box 1000, Station 1360 Iqaluit, NU X0A 0H0
3	Government of Nunavut – Department of Economic Development & Transportation	Ed McKenna – Director, Policy, Planning and Communication	P.O. Box 1000, Station 1560 Iqaluit, NU X0A 0H0
1	Government of Nunavut – Department of Executive and Intergovernmental Affairs	Josh Gladstone – Avatiliriniq Coordinator	P.O. Box 1000, Station 200 Iqaluit, NU X0A 0H0
7	Indian and Northern Affairs Canada	Sara Holzman – Environmental Assessment Coordinator	P.O. Box 100, Building 918 Iqaluit, NU X0A 0H0
1	Indian and Northern Affairs Canada	Eric Hopkins – Environmental Analyst	15/25 Eddy, 10th Floor Gatineau, QC K1A 0H4
2	Health Canada – Environmental Assessment Division	Kelly Senkiw – Environmental Assessment Coordinator	269 Laurier Ave W., A/L 4904B Ottawa ON K1A 0K9
1	Government of Northwest Territories – Environment and Natural Resources	Gavin More – Manager, Environmental Assessment and Monitoring	P.O. Box 1320, 6th Floor Scotia Centre, 5102-50th Ave. Yellowknife, NT X1A 2L9
1	n/a	Bruce Wilson	41 Rumsey Rd. Toronto, ON M4G 1N9
2	Beverly Qamanirjuaq Caribou Management Board	Leslie Wakelyn – BQCMB Biologist	11 Taylor Road Yellowknife NT X1A 2K8
5	Canadian Arctic Resources Committee	David Gladders – Executive Director	Box 371 Station A, Ottawa, Ontario, Canada, K1N 8V4