⇒ an indication of the efforts to inform participants how the information that they supplied was or will be used;

- summarize the input received from the consultation and detail how the input from the consultation activities may have influenced the design of the Project;
- describe how issues were resolved;
- describe any grievance mechanism put in place to address and resolve issues;
- describe the communications program that will be implemented if the Project is approved, with particular reference to initiatives to communicate changes to information, plans, or strategies; and
- discuss how the public, particularly the residents of the Kitikmeot Region, could contribute to Project implementation, including the design of management and monitoring strategies.

9. Baseline Environment

9.1 Introduction

The description of the baseline environment is a summary of the Project setting and state of the physical, biological and human environments. The baseline description provides the necessary basis for predicting Project-related impacts, and identifying how the environment could cause changes to the Project.

The Proponent shall:

- identify and explain important interrelationships in the environment, its processes and systems;
- identify and justify the selection of valued ecosystem and socio-economic components (VECs and VSECs);
- identify and justify indicators, which, to the extent feasible shall be consistent or complementary to those used or being developed by the Nunavut Planning Commission;
- identify the selected local and regional study areas that defined the boundaries of its baseline study and provide the justification;
- provide the approach and methodology by which any baseline data was collected including the selection of spatial and temporal boundaries, as appropriate; and
- detail the methods and data sources used in the baseline descriptions.

9.2 Physical Environment

9.2.1 Air Quality and Climate

The Proponent shall provide a description of the existing climate and expected air quality in the Project area, including:

- prevailing climatic conditions, seasonal variations, predominant winds including direction and velocity, temperature and precipitation (snowfall, snow depth, rain, fog).
- airsheds within which the Project would be located; and
- current sources of emissions, seasonal variations, and climatic conditions that may affect air quality.

9.2.2 Noise

The Proponent shall provide a description of the expected ambient acoustical environment for sites at which there are proposed facilities.

9.2.3 Terrain, Geology and Soils

The Proponent shall describe the terrain, geology and soils in the Project area, including:

- general bedrock geology;
- permafrost (including areas of discontinuous permafrost, high ice-content soils, thaw-sensitive slopes, and talik zones);
- evidence of potential for ground and rock instability (e.g., slumping, landslides);
- landforms and soil associated with these landforms;
- special, sensitive, or unique geological or landform features (e.g., wetlands, eskers);
- coastal and marine geology, processes and stability; and
- potential granular sources and characterization.

9.2.4 Freshwater and Sediment Quality

The Proponent shall provide a description of:

- water quality of lakes and watercourses;
- sediment quality of lakes and watercourses including chemical and physical properties; and
- lake limnology.

9.2.5 Marine Water and Sediment Quality

The Proponent shall provide a description of:

- marine water quality; and
- physical and chemical properties of sediment.

9.2.6 Hydrology

The Proponent shall provide a description of the hydrology, including:

- watershed boundaries;
- surface water flow regimes including seasonal flow patterns;
- bathymetry (lake and marine environment, where necessary);
- identification of natural fluctuations, variability and sources of variability such as seasonal patterns and spatial variability; and
- freeze/thaw timing flood zones, and ice conditions, formation and melt patterns.

9.2.7 Hydrogeology

The Proponent shall provide a description of the existing groundwater conditions, including:

- groundwater flow patterns, aquifer characteristics (transmissivity, porosivity, permeability), depth of permafrost, pieziometric level and ground water quality;
- specific consideration to mine rock and tailings storage locations; and
- relationship between permafrost conditions and groundwater.

9.3 Biological Environment

9.3.1 Aquatic Organisms and Habitat (Freshwater and Marine)

The Proponent shall provide a description of the existing aquatic organisms and habitat, where known, including:

- fish species present including forage fish and non-native species;
- identifying any species at risk as listed by the *Species at Risk Act* or the *Nunavut Wildlife Act*, and habitats of these species;
- the relative seasonal abundance and distribution;
- species that perform particularly significant ecological functions;
- the health of these species/populations;

- stream and lake bottom substrates and littoral zones, including aquatic and riparian vegetation that support fish species and their locations;
- habitat areas for these species, including spawning, nursery, feeding, and over-wintering areas, and any sensitive periods for each of the habitat areas;
- the migratory patterns and routes of these species, identifying preferred corridors, and the corresponding sensitive periods; and
- identify species of particular importance to subsistence harvesters, and the guiding and outfitting industries.

9.3.2 Marine Mammals

The Proponent shall provide a description of marine mammals, including:

- species present;
- identifying any species at risk as listed by the *Species at Risk Act* or the *Nunavut Wildlife Act*, and habitats of these species;
- identifying species that perform particularly significant ecological functions;
- the relative seasonal abundance and distribution;
- the health of these species/populations;
- the migratory patterns and routes of these species, identifying preferred corridors, and the corresponding sensitive periods; and
- identifying species of particular importance to subsistence harvesters, and the guiding and outfitting industries.

9.3.3 Terrestrial Mammals and Terrestrial Habitat

The Proponent shall provide a description of terrestrial mammals and terrestrial habitat, including:

- species present;
- identifying any species at risk as listed by the *Species at Risk Act* or the *Nunavut Wildlife Act*, and habitats of these species;
- significant habitats such as eskers, calving and rearing areas, denning sites, and staging areas, and such special locations as salt licks, water crossings, and insect relief habitats;
- the relative seasonal abundance and distribution;
- identifying species that perform particularly significant ecological functions;
- the health of these species/populations;
- the migratory patterns and routes of these species, identifying preferred corridors, and the corresponding sensitive periods;
- the seasonal range or habitat use, movements, and population status of these species; and
- identifying species of particular importance to subsistence harvesters, and the guiding and outfitting industries.

9.3.4 Birds and Bird Habitat

The Proponent shall provide a description of birds and bird habitat, including:

- species present;
- identifying any species at risk as listed by the *Species at Risk Act* or the *Nunavut Wildlife Act*, and habitats of these species;
- significant habitats such as breeding and nesting sites and staging areas;
- the relative seasonal abundance and distribution;
- the seasonal range or habitat use, movements, and population status of these species;
- identifying species that perform particularly significant ecological functions;
- the health of these species/populations; and
- the migratory patterns and routes of these species, identifying preferred corridors, and the corresponding sensitive periods.

9.3.5 Vegetation and Ecological Land Classification

The Proponent shall provide a description of the existing vegetation in the Project area, including:

- ecozones and ecoregions, or other appropriate ecological areas;
- local and regional abundance of vegetation species and vegetation associations, identifying those which may contribute to important ecological functions;
- species at risk as listed by the *Species at Risk Act* or the *Nunavut Wildlife Act,* or the Draft *General Status Rankings for Vascular Plants of Nunavut* (October 2005);
- identification of historic and current human use of vegetation, including subsistence and commercial harvesting; and
- preparation of ecological land classification (ELC) mapping using information collected on vegetation, soils and landforms.

10. Human Environment

Human environment is made up of the location where people live, the characteristics of the place, any human-environment interactions (both past and present), movement of people and goods through the environment, and governing structures.

10.1 Community Descriptions

The Proponent shall provide for the communities of Cambridge Bay, Kugluktuk, Gjoa Haven, Taloyoak, Kugaaruk, Bathurst Inlet, and Umingmaktok the following

10.1.1 Demographics

The Proponent shall provide a description of the community demographics, including, but not limited to, the population and population trends by community and by region.

10.1.2 Economics

The Proponent shall provide a description of the income and wages in the community and their sources.

10.1.3 Employment and Labour Supply

The Proponent shall provide a description of employment and labour supply including the traditional economy.

10.1.4 Land and Resource Use Harvesting Patterns

The Proponent shall provide a description of land and resource use harvesting patterns, including:

- any identified seasonal patterns of land use including movement of families;
- recent and current encroachments and restrictions of harvesting activities in the Project area; and
- types and quantities of wildlife harvested.

The Proponent shall provide a description of commercial uses, including:

- location of commercial guide-outfitting camps; and
- location of commercial meat harvesting/processing facilities and the harvesting areas for these.

10.1.5 Education and Training

The Proponent shall provide a description of:

- school and training facilities and relevant programs offered;
- graduation rates including elementary, secondary and post-secondary;
- current education profile and trends;
- technical training/experience of residents related to construction, exploration and mining activities, transportation, wildlife/environmental monitoring, and camp supply/services; and
- training needs of residents related to applicable skills (if data are available).

10.1.6 Health, Health Care and Community Wellness

The Proponent shall provide a description of health, health care, and community wellness, including capacities and services offered. The Proponent shall also provide statistics on health and wellness, including:

- statistics for alcohol, drug and other substance abuse;
- number of suicides; and
- statistics for crime by available category.

10.1.7 Infrastructure, Services and Community Facilities

The Proponent shall provide a description of infrastructure, services, and community facilities, including:

- emergency response and law enforcement services;
- garbage, water and sewer-waste disposal and management;
- transportation systems;
- telephone/communication service;
- fire protection;
- power and fuel services;
- child care services; and
- recreational facilities.

10.1.8 Housing

The Proponent shall provide a description of housing, including availability of housing in the communities on a temporary and permanent basis and vacancy rate of rental housing (e.g., number of dwellings, average number of persons per dwelling, average number of persons per bedroom, percentage of units with full plumbing and heating systems).

10.2 Regional Profile

The Proponent shall provide a description of the Kitikmeot, including social and cultural development, economic development; power and energy; transportation, parks and protected areas; and institutional capacities.

10.3 Heritage and Cultural Resources

The Proponent shall provide a description of cultural and heritage resources, including:

- language spoken;
- traditional activities; and
- archaeological, palaeontological, historic/ cultural sites and resources.

11. Impact Assessment Methodology

The Proponent shall provide a description of the approach and methodology used to undertake the assessment. In providing the methodology:

- explain how scientific, engineering, traditional and other knowledge was used to describe the baseline environment, evaluate potential impacts and reach conclusions;
- identify and justify any assumptions made and document all models and studies so that, to the extent possible, the analyses are transparent and reproducible;
- identify which studies included the assistance of communities and who was involved;
- specify data collection methods and report the uncertainty, reliability and sensitivity of the models used to reach conclusions; and
- support analyses, interpretation of results and conclusions with reference to appropriate literature and providing all relevant references.

12. Impact Analysis

12.1 Introduction

The use of VECs and VSECs is recommended as a means of focussing or scoping the EIS on those elements of the physical, biological and human environments that could be affected by the Project or could have an important effect on the Project, and are recognized as important for physical, ecological, cultural, social or economic reasons. For each VEC and VSEC, the information must be sufficient for the review and understanding of the nature of the potential impacts.

12.1.1 Assessment Boundaries

Spatial and temporal assessment boundaries shall be identified for the assessment of impacts on VECs and VSECs in the EIS and the rationale for their selection. The spatial boundaries may vary with Project component or activity and with each VEC and VSEC.

The Proponent shall assess the potential impacts on the environment for all phases of the proposed Project. Temporal boundaries should recognize the proposed lifespan of the Project activities and facilities, and duration of the potential impacts. Where potential residual impacts could persist after closure and reclamation, the anticipated duration shall be identified.

12.1.2 Assessing Impacts

Include for each impact analysis a discussion of:

- potential impacts;
- proposed mitigation;
- residual impacts; and
- significance.

With respect to significance determination, provide how significance was determined including threshold determination (where possible), assumptions, professional opinion or experience; and indicate the degree of certainty in the impact predictions. Where any residual adverse impacts are predicted to be significant, provide a discussion on the likelihood of occurrence and certainty of the prediction.

The Proponent when assessing the impacts of the Project shall consider its impacts to the region's ecosystem integrity. Ecosystem integrity reflects the capability of a system to support services of value to humans.[1]

12.2 Physical Environment

12.2.1 Air Quality

Describe and evaluate the potential impacts of the Project on air quality, including a consideration of:

- the Project activities and components which would be sources of air emissions;
- the atmospheric dispersion of emissions;
- changes in air quality, including dust conditions; and
- how changes in air quality could impact humans, wildlife and vegetation.

[1] Ecosystem Integrity. *Definitions*. http://www.ozestuaries.org/indicators/Def_ecosystem_integrity.html Referenced October 24, 2005.

Greenhouse Gases

- describe and evaluate the potential impacts of the Project with respect to the contribution to greenhouse gases.

12.2.2 Terrain, Geology, and Soils

Describe and evaluate the potential impacts of the Project on terrain, geology and soils, including a consideration of:

- terrain stability, permafrost and ground ice;
- granular resource extraction areas;
- landforms, including special, unique or sensitive landform features (e.g., eskers, beaches, wetlands); and
- soil quality or quantity;

12.2.3 Freshwater and Sediment Quality

Describe and evaluate the potential impacts of the Project on water and sediment quality, including a consideration of:

- water withdrawal including drinking water and process water supplies;
- discharge or seepage of wastewater effluent, contaminants, chemical additives etc.;
- in-stream activities;
- drainage from in-filling and blasting;
- mine water (open pit and underground);
- acid rock drainage, metal leaching, and geochemistry;
- changes in permafrost regime and stability;
- sedimentation (plumes and dispersion) and turbidity;
- spills from transport and handling; and
- sewage/ wastewater treatment.

The Proponent shall identify water quality objectives from the perspectives of socio-economic/human health and ecological health.

12.2.4 Marine Water and Sediment Quality

Describe and evaluate the potential impacts of the Project on marine water and sediment quality, including a consideration of:

- dock site facilities and infrastructure;
- blasting at the dock site during construction;
- dredging and related ocean disposal;
- in-filling at the dock site during construction;

- desalination, if required, for drinking water supplies;
- contaminant loading and dispersion (including surface runoff and airborne contaminants);
- sewage/wastewater discharges;
- bilge washing, fuel leaks and dusting; and
- spills from fuel transport and handling.

The Proponent shall identify water quality objectives from the perspectives of socio-economic/human health and ecological health.

12.2.5 Hydrology

Describe and evaluate the potential impacts of the Project on hydrology (water quantity) including a consideration of:

- changes to surface drainage patterns and surface water hydrology;
- predicted changes in timing, volume and deviation of peak and minimum water flows;
- mine de-watering; and
- water withdrawal.

12.2.6 Hydrogeology

Describe and evaluate the potential impacts of the Project on hydrogeology including a consideration of groundwater flow patterns, aquifer characteristics (transmissivity, porosivity, permeability), depth to permafrost, pieziometric level and ground water quality.

12.3 Biological Environment

12.3.1 Freshwater Aquatic Organisms and Habitat

Describe and evaluate the potential impacts of the Project on freshwater aquatic organisms and habitat, including a consideration of:

- spawning, rearing and over winter habitat of fish, as well as seasonal migration patterns of fish within the Project area;
- productive capacity of aquatic ecosystems, with particular reference to species of fish that are important for recreational or subsistence purposes;
- rare and/or sensitive aquatic organisms and habitats;
- Project-related changes in harvest pressures;
- fish health and condition;
- effects of changes in water quality and quantity and noise levels (e.g., blasting) on fish and fish habitat; and

- watercourse crossing methods.

The Proponent shall evaluate potential impacts against the *No Net Loss Policy* of Fisheries and Oceans Canada, as well as the potential applicability of the Metal Mining Regulations (June 2002).

12.3.2 Marine Aquatic Organisms and Habitat

Describe and evaluate the potential impacts of the Project on marine aquatic organisms and habitat, including a consideration of:

- disturbance of benthic habitat and marine fish from dredging, blasting, and other activities at the dock site;
- rare and/or sensitive aquatic organisms and habitats;
- Project-related changes in harvest pressures;
- fish health and condition; and
- changes in fish and fish habitat due to changes in water quality and noise levels (e.g., blasting).

12.3.3 Marine Mammals

Describe and evaluate the potential impacts of the Project on marine mammals, including a consideration of:

- migratory patterns;
- disruption or alteration of activities or habitat resulting from Project-related activities (e.g., dredging) near the dock site;
- distribution and abundance;
- marine mammal health and condition;.
- Project-related changes in harvest pressures; and
- effects of changes in water quality and changes to underwater noise levels (e.g., blasting).

12.3.4 Terrestrial Mammals and Terrestrial Habitat

Describe and evaluate the potential impacts of the Project on terrestrial mammals and terrestrial habitat, including a consideration of:

- direct or indirect alteration of habitat (e.g., fragmentation, connectivity);
- mortality;
- displacement and/or crowding;
- wildlife movement patterns, home ranges, distribution and abundance;
- altered inter-specific relationships, including those with humans;
- noise or other forms of disturbance on the ground or by aircraft;
- wildlife health and condition;

- effects of increased human access to the region; and
- change or loss of habitat or habitat quality due to changes in vegetation, water quality, and air quality (e.g., increased dust emissions).

Special consideration shall be given to species listed as vulnerable, endangered, or a species of special concern by the Committee on the Status of Endangered Wildlife in Canada ("COSEWIC"), to those that residents of the Kitikmeot record as being vulnerable or endangered locally or regionally, and to species of particular social, cultural, and economic importance, including those for human consumption purposes.

12.3.5 Birds and Bird Habitat

Describe and evaluate the potential impacts of the Project on birds and bird habitat, including a consideration of:

- loss, alteration, or alienation of habitat, such as staging or nesting habitats (e.g., wetlands and nesting cliffs);
- disruption of migration routes;
- shifts in staging concentration;
- changes in behaviour (e.g., avoidance) due to disturbances, such as blasting and air and road traffic;
- impacts to critical terrestrial and marine migratory bird sites; and
- effects due to change in water quality, vegetation, and air quality.

12.3.6 Vegetation

Describe and evaluate the potential impacts of the Project on vegetation, including a consideration of:

- alteration or loss of plants species and plant communities, especially those that are rare, valued, protected or designated sensitive or important areas of habitat;
- vegetation health;
- introduction of non-native species; and
- effects on vegetation due to changes in air quality (e.g., dust), water quality and quantity, permafrost and soils.

12.3.7 Biodiversity

Describe and evaluate the potential impacts of the Project on biodiversity, including a consideration of:

- ecosystem and habitat loss;
- habitat fragmentation / barriers to movement;
- ability of habitat or species recover;

- species distribution;
- invasive/non native species;
- species of concern;
- Project-related changes in harvest levels; and
- changes to important habitat areas.

12.4 Human Environment

The Proponent shall evaluate the impacts of the Project on the human environment, including adverse and beneficial effects. The Proponent shall also evaluate the indirect impacts on the human environment as a result of a change to the biophysical environment.

12.4.1 Socio-economics

The Proponent shall consider the following in describing and evaluating the impacts of the Project on the socio-economic environment:

- Employment and Training;
  ⇒ worker availability
- Population (Demographics);
  ⇒ youth
  ⇒ in-migration
- Renewable Resource Use;
  ⇒ subsistence hunting
  ⇒ changes in the quality of harvested species including contamination
  ⇒ community access
- Community Services;
  ⇒ counseling services
  ⇒ health services
- Social Issues;
  ⇒ drugs, alcohol, crime
- Community sustainability;
  ⇒ influence of the wage economy
- Labour force;
  ⇒ source of labour
  ⇒ skill development; availability
- Business Opportunities;
  ⇒ contracts and supplies
  ⇒ spin-off income

- Government Services; and
  ⇒ capacity
- Regional Development
  ⇒ effect on other projects
  ⇒ distribution of costs and benefits

12.4.2 Economics

The Proponent shall assess the potential impact of the Project on:

- **revenues** and net **incremental costs** imposed on the federal, Nunavut and local governments by the Project. Provide an estimate of direct taxes for business and persons including royalties, corporate income taxes, and personal income taxes, employer and employee contributions to EI and CPP and other indirect taxes for business (e.g. payroll taxes) and persons including property taxes. Estimate the contribution of the proposed Project to the gross domestic product (GDP) provided separately for direct, indirect and induced economic activities for the regional (to the extent possible), territorial and national economies;
- employment and income for every year of construction and operation, with particular reference to wage and salary employment by length of employment, form of employment (full time, part-time, seasonal), skills category, gender and age;
- the opportunities for local businesses to supply goods and services both directly to the Project and to meet the demand created by the expenditure of new income by employees and suppliers; and
- the opportunities to diversify the economic base of Nunavut to produce and to supply new goods and services.

12.4.3 Heritage and Cultural Resources

The Proponent shall discuss potential impacts of the Project on archaeological, historical, cultural, sacred and scenic sites.

13. Changes to the Project Caused by the Environment

13.1 General

The Proponent shall:

- describe and evaluate changes to the Project that may be caused by the environment, including a specific consideration of climate change;

- identify those elements of the biophysical and human environment that may cause a change to the Project during its lifespan and how they could change the Project; and
- discuss how those elements were considered in the Project design, selection of mitigation, scheduling, and monitoring.

13.2 Climate Change

The Proponent shall:

- describe how any changes to the climate in the Project area could affect the Project in the long-term, which could involve the provision of possible future climate condition scenarios.
- identify associated hazards or limitations presented to the Project;
- identify the climate parameters that may change and to which the Project, or Project components, would be sensitive, such as hydrology and permafrost conditions; and
- identify any planned monitoring of climate parameters or of the Project with respect to climate change.

14. Cumulative Effects Assessment

Cumulative effects may occur when the effects of one project or activity combine with the effects of other past, present, or reasonably foreseeable future developments.

The Proponent shall:

- assess the potential cumulative effects of the Project;
- provide a brief overview of the theory and practice of cumulative effects assessment, and shall justify the methodology adopted to conduct its cumulative effects assessment;
- shall consider the biophysical, socio-economic and cultural environments, in its cumulative effects assessment;
- describe and justify all assumptions, models, and information limitations and associated levels of uncertainty; and
- explain its approach to handling the uncertainty associated with cumulative effects assessment.

15. Trans-Boundary Impact Analysis

Where relevant, the EIS must include an assessment of all significant adverse biophysical or socio-economic trans-boundary issues. Trans-boundary impacts refer to those impacts that occur across municipal, provincial or international boundaries.

16. Capacity of Renewable Resources

The Proponent shall consider and assess the capacity of renewable resources that are likely to be significantly affected by the Project, to meet the needs of the present and those of the future..

17. Accidents and Malfunctions

The Proponent shall:

- identify and discuss, for each Project phase, the potential accidents or malfunctions that may occur as a result of the Project;
- describe and evaluate the potential impacts of Project-related accidents and malfunctions on the environment;
- where potentially significant impacts could occur as a result of an accident or malfunction, assess the probability of such an occurrence; and
- identify the contingency and/or response measures that would be in place should an accident occur.

18. Mitigation Measures

Mitigation is defined as the elimination, reduction or control of adverse environmental effects of the Project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.

The Proponent shall:

- describe proposed measures to mitigate adverse impacts of the Project;
- identify proposed methods to mitigate changes to the Project caused by the environment; and
- identify and describe any policies, guidelines, applicable codes or practice and/or best management practices that are proposed to be followed with respect to Project activities.

19. Obligations under the Nunavut Land Claim Agreement

19.1 Wildlife Compensation

Discuss compensation terms and conditions relating to mitigation measures that would be necessary to minimize any negative impact on wildlife harvesting, as referred to in the Nunavut Land Claim Agreement.

19.2 Water Compensation

Discuss compensation terms and conditions relating to mitigation measures that would be necessary to minimize any negative impact on water, as referred to in the Nunavut Land Claim Agreement.

19.3 Inuit Impact and Benefit Agreement

The EIS must respect all of the provisions of the Nunavut Land Claim Agreement relating to impact and benefit agreements, including Article 6, Part 4 of Article 9, Part 3 of Article 20, Article 26, and Article 27.

The Proponent shall discuss the negotiation of IIBAs in the EIS, including whom such agreements might be negotiated, bearing in mind Nunavut Land Claim Agreement 26.3.2, "*An IIBA shall be consistent with the terms and conditions of project approval, including those terms and conditions established pursuant to any ecosystemic and socio-economic impact review.*"

20. Socio-economic Policies and Commitments

The Proponent shall:

- describe any commitments, policies, and arrangements directed at promoting beneficial, or mitigating adverse impacts to social or economic conditions where they have been presented as a form of mitigation; and
- discuss any requirements for contractors and sub-contractors to comply with these policies.

Where there are no commitments, plans or strategies to monitor the impacts on the human environment or other *identified* impacts/issues, the Proponent must give an explanation for their absence.

20.1 Emergency Preparedness

The Proponent shall:

- provide a general description of the Proponent's emergency response procedures, including the Proponent's level of preparedness, safety, response capability and procedures in the case of an emergency;
- include the types of emergency response procedures that would be developed, the purpose of the programs and what the programs are intended to achieve;
- provide adequate detail to understand how the emergency response programs would work, including the identification of emergency conditions, response procedures and the steps that would be taken to notify or inform all persons who may be affected;
- describe the process by which the programs would be developed, timing, and the communities, agencies, boards and regulators that would be consulted during their preparation; and
- identify any applicable regulatory requirements to have emergency procedures in place, including relevant standards and the expected components of these programs.

20.2 Environmental Management Programs

The Proponent shall:

- describe any plans, programs and policies relevant to the design and implementation of standard mitigation practices or monitoring programs that would be followed during the lifespan of the Project.

The description should allow understanding of the purpose of the programs, the scope of the programs, how the programs would function, who would be responsible for their implementation and how reporting would take place. Specifically, the Proponent shall:

- describe how the results of the programs would be used to refine or modify the design and implementation of management plans, mitigation measures and Project operations; and
- include the process by which the programs would be developed, and the method(s) by which adequacy and effectiveness of the programs would be evaluated and tracked.

21. Monitoring and Follow-up

The Proponent should identify and describe the environmental and socio-economic monitoring programs to be incorporated into 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 description of the monitoring program shall include:

- the objectives and a schedule for collection of the monitoring data required to meet these objectives;
- the frequency, duration and geographic extent of monitoring;
- the relationship of the various components of the monitoring program, and specific regulatory requirements;
- the selection of the subjects and indicators to be monitored, and the criteria used in their selection;
- approaches and methods used to analyze monitoring data;
- reporting and response mechanisms, including criteria for initiating a response, and the procedures to be followed;
- the approaches and methods for monitoring the potential cumulative biophysical and socio-economic effects of the Project in combination with other activities;
- integration of monitoring results with other aspects of the Project including adjustments to operating procedures and refinement of mitigation measures;
- procedures to assess the effectiveness of monitoring programs, mitigation measures, and recovery programs for areas disturbed by the Project methodology; and
- the relationship between monitoring and environmental management plans.

The Proponent should provide a summary showing all environmental components of the Project indicating where monitoring is proposed.