Environment Canada | Environnement Canada

Environmental Protection Operations
Prairie and Northern Region
5019 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT, X1A 2P7

Our File No.: 4336 001 009
Your File No.: EIRB 02/10-05

September 10, 2012

Eli Nasogaluak
Environmental Assessment Coordinator
Environmental Impact Review Board
Joint Secretariat – Inuvialuit Renewable Resources Committee
107 Mackenzie Road, Suite 204
P.O. Box 2120, Inuvik, NT
X0E 0T0

Via Email at eirb@jointsec.nt.ca

RE: EIRB 02/10-05 – Hamlet of Tuktoyaktuk, Town of Inuvik, and the Government of the Northwest Territories – Draft Technical Submission – Construction of the Inuvik to Tuktoyaktuk Highway, Northwest Territories

Dear Mr. Nasogaluak,

Environment Canada (EC) is pleased to provide the following Draft Technical Submission (Submission) to the Environmental Impact Review Board (the Board) as part of the environmental assessment review process being conducted for the Hamlet of Tuktoyaktuk, Town of Inuvik, and the Government of the Northwest Territories' (the Proponent) Construction of the Inuvik to Tuktoyaktuk Highway (the Project) (EIRB 02/10-05). This Submission outlines EC's positions with respect to technical issues that fall under the Department's mandate and where EC has relevant specialist / expert information and knowledge to provide. EC will be presenting the issues that the Department is tracking, and will provide the current status of each issue at the Public Hearings in Inuvik and Tuktoyaktuk. EC looks forward to addressing any questions or concerns that the Board or any other interested party may have at that time. Following the Public Hearing, EC will provide a Final Technical Submission to the Board as per your requirements.

EC would like to note that the Department's review of the Project, summarized in this Submission, is limited to the information available on the Public Registry as of September 4, 2012 and contains the submission requirements as outlined in the Board's Directive titled: *Technical Submission and Presentations of the Parties for the Review of the proposed Inuvik to Tuktoyaktuk Highway Project* (August 10, 2012). Please note that EC will be providing further Specific Comments, Conclusions, Recommendations and Commitments Summary with respect to EC's issues in the Final Technical Submission. EC has yet to receive the Proponent's cumulative effects assessment for Species at Risk, and therefore any issues concerning cumulative effects to Species at Risk remain to be adequately assessed as per requirements under section 16(1)(a) of the *Canadian Environmental Assessment Act 1992* EC will continue to work with the Proponent to address outstanding issues as opportunities arise.

Should you have any questions or wish to discuss this Draft Technical Submission further please do not hesitate to contact Stacey LeBlanc at (780) 951-8953 or Stacey.LeBlanc@ec.gc.ca.

Yours sincerely,

Cheryl Baraniecki
Regional Director, EPO

cc: Dave Ingstrup (Regional Director, CWS)
Carey Ogilvie (Head, Environmental Assessment North, EPO)
Susanne Forbrich (Manager, Environmental Assessment and Marine Programs, EPO)
Vanessa Charlwood (Head, Western Arctic Unit, CWS)
James Hodson (Environmental Assessment Coordinator, CWS)
Stacey LeBlanc (Environmental Assessment Coordinator, EPO)
Mike Fournier (Sr Environmental Assessment Coordinator, EPO)

Environment Canada | Environnement Canada

ENVIRONMENT CANADA'S

DRAFT TECHNICAL SUBMISSION

RESPECTING THE

INUVIK TO TUKTOYAKTUK HIGHWAY, NWT

EIRB FILE NO. 02/10-05

Submitted to the
Environmental Impact Review Board
Inuvik, NT

September 10, 2012

Canada

TABLE OF CONTENTS

1.0 NON-TECHNICAL SUMMARY

The Hamlet of Tuktoyaktuk, Town of Inuvik and the Government of the Northwest Territories (the Proponent) is planning to construct a 140 km all-season highway to connect the Town of Inuvik to the Hamlet of Tuktoyaktuk (the Project). The highway would be comprised of a 2 lane gravel roadway with a footprint 20-28 m in width, and approximately 40 water crossings including 8 short-span single lane bridges and 32 culverts. Construction activities would include winter works to place fabric and fill over frozen land to protect permafrost, new quarry sites, temporary winter access roads along the route, temporary summer camps, and watercourse crossings.

During Environment Canada's (EC) technical review, a number of issues were identified that required focused discussion to resolve. One of the more significant issues was the lack of an adequate cumulative effects assessment for Species at Risk. This assessment is required for EC to ensure obligations set out under paragraph 16(1) (a) of the Canadian *Environmental Assessment Act, 1992* (CEAA 1992) are met.

Overall, EC was pleased with the Proponent's effort to work with the Department to address any outstanding concerns. EC would like to acknowledge the professional manner with which the Proponent and their consultants have conducted the review to date and the cooperative approach taken to work through outstanding issues.

This submission summarizes the outcomes of EC's analysis, consistent with the Departmental mandate, of the Project Description and supporting information provided by the Proponent throughout the review process. It identifies the issues tracked by EC, whether the issue has been satisfactory addressed in whole, in part or not at all, and provides a rationale for EC's conclusions with respect to these issues at present.

Outstanding information requests identified by EC and others include the submission of an Explosives Management Plan, a Long Term Erosion and Sediment Control Plan, a Spill Contingency Plan, a Waste Management Plan, a Wildlife Management Plan and an updated Cumulative Effects Assessment for Species at Risk. Once these documents are submitted, EC will be able to identify whether or not the concerns are addressed. Outstanding concerns related to Storage Tank Systems and Environmental Emergencies Reporting could be alleviated with a commitment from the Proponent to adhere to all relevant legislation.

EC is pleased with the Proponent's effort to conduct summer field surveys to assess the presence of species at risk along the highway corridor and to update habitat suitability models for these species; to provide an expected zone of influence within which noise from operation of the highway will exceed baseline ambient noise levels; to provide data on bird mortality from other northern mines and roads and estimates of potential bird mortality due to operation of the proposed Project; and, to provide a map showing whether the highway corridor overlaps with boreal caribou range and if so how much new disturbance, including a 500 m buffer, that might added to the range. The information provided satisfied EC's outstanding concerns related to these issues.

In general, EC agrees with the conclusions presented, however some deficiencies noted by EC remain outstanding. EC will continue to work with the Proponent to minimize environmental impacts throughout the project.

2.0 ACRONYMS AND DEFINITIONS

ANFO.....Ammonium Nitrate – Fuel Oil
CCME.....Canadian Council of Ministers of the Environment
CEAA 1992.....Canadian Environmental Assessment Act
CEPA 1999.....Canadian Environmental Protection Act, 1999
CWS.....Canada-wide Standards
DFO.....Department of Fisheries and Oceans
DOE Act.....Department of the Environment Act
E2 Regulations.....Environmental Emergencies Regulations
EC.....Environment Canada
EIRB.....Environmental Impact Review Board
GNWT.....Government of the Northwest Territories
HWMP.....Hazardous Waste Management Plan
IFA.....Inuvialuit Final Agreement
MBCA.....Migratory Birds Convention Act
MBR.....Migratory Bird Regulations
PCDD..... Polychlorinated dibenzo-p-dioxins
PCDF.....Polychlorinated dibenzofurans
SARA.....Species at Risk Act
WMP.....Wildlife Management Plan
ZOI.....Zone of Influence

3.0 PARTY IDENTIFICATION

The following are the EC technical leads for this submission including names, technical qualifications, and full contact information:

James Hodson
H.B.Sc. Forestry
H.B.Sc. Biology
M.Sc. Forest Conservation
Ph.D. Terrestrial Wildlife Ecology

Environmental Assessment Coordinator
Canadian Wildlife Service
Environmental Stewardship Branch
Prairie & Northern Region
Environment Canada
P.O. Box 2310, 5019 – 52nd Street, 4th Floor
Yellowknife, NT X1A 2P7

James.Hodson@ec.gc.ca
Telephone 867-669-4706
Fax 867-873-6776
Government of Canada Website www.ec.gc.ca

Stacey L. LeBlanc
B.Sc. Environmental and Conservational Sciences
B.A. Native Studies

Environmental Assessment Coordinator
Environmental Protection Operations
Environmental Assessment North (NT &NU)
Prairie and Northern Region
Environment Canada
Room 200, 4999 - 98 Avenue
Edmonton, AB, T6B 2X3

Stacey.LeBlanc@ec.gc.ca
Telephone: (780) 951 - 8953
Facsimile: (780) 495 - 4099
Government of Canada Website www.ec.gc.ca

Mike Fournier
H.B.Sc Zoology

Sr. Environmental Assessment Coordinator
Environmental Assessment North (NT & NU)
Environmental Protection Operations
Environment Canada
5019 - 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT, X1A 2P7

Mike.Fournier@ec.gc.ca
Telephone: 867-669-4743
Facsimile: 867-873-8185
Government of Canada Website www.ec.gc.ca

4.0 INTRODUCTION

Environment Canada (EC) is pleased to provide the following Draft Technical Submission to the Environmental Impact Review Board (EIRB) for consideration respecting the Tuktoyaktuk to Inuvik Highway (the Project) proposed by the Hamlet of Tuktoyaktuk, Town of Inuvik and the Government of the Northwest Territories (the Proponent).

The Project as outlined in the Project Description includes a 140 km all-season highway to connect the Town of Inuvik to the Hamlet of Tuktoyaktuk. The highway would be comprised of a 2 lane gravel roadway with a footprint 20-28 m in width and approximately 40 water crossings including 8 short-span single lane bridges and 32 culverts. Construction activities would include winter works to place fabric and fill over frozen land to protect permafrost, new quarry sites, temporary winter access roads along the route, temporary summer camps, and watercourse crossings.

This submission summarizes the outcomes of EC's analysis, consistent with the Departmental mandate, of the Project Description and supporting information provided by the Proponent throughout the review process. It identifies the issues tracked by EC, whether

the issue has been satisfactory addressed in whole, in part or not at all, and provides a rationale for EC's conclusions with respect to these issues at present.

EC based its analysis on the principle that the Project, if approved, should be planned, built, operated and maintained in a manner that ensures the highest level of environmental protection so that the well-being of Canadians is enhanced and the natural environment is conserved.

EC will provide a final Submission outlining the Departmental positions and conclusions following the Public Hearings, as per the EIRB's requirements.

4.1 Mandate, Role and Responsibilities of Environment Canada

The mandate of EC is determined by its departmental statute, the *Department of the Environment Act* (DOE Act), and the legislation assigned to it by Parliament through the Minister. In delivering this mandate, the Department is responsible for the development and implementation of policies, guidelines, codes of practice, federal, territorial, and international agreements, and related programs. The overall objective is to foster harmony between society and the environment for the economic, social and cultural benefit of present and future generations of Canadians. The Department shares this goal with other federal agencies, provinces, territories and Aboriginal peoples.

The DOE Act provides EC with general responsibility for environmental management and protection. Its obligations extend to and include all matters over which Parliament has jurisdiction, which have not by law been assigned to any other department, board, or agency of the Government of Canada. The DOE Act delegates responsibility to the Minister for:

- preservation and enhancement of the quality of the natural environment (e.g. water, air, soil);
- renewable resources including migratory birds and other non-domestic flora and fauna;
- water;
- meteorology; and
- coordination of federal policies and programs respecting preservation and enhancement of the quality of the natural environment.

The DOE Act states that EC has a responsibility to advise other federal departments, boards and agencies on matters pertaining to the preservation and enhancement of the quality of the natural environment. As such, this mandate is extremely broad.

4.2 Scope of the Technical Submission

The Scope of this Technical Submission is limited to EC's review of the Project and subsequent provision of relevant specialist / expert information and knowledge in the following areas of the Departmental mandate:

- Species at Risk, including species listed on Schedule 1 of the *Species at Risk Act* as well as those species under consideration for listing on Schedule 1;
- Migratory Birds, as defined in the *Migratory Birds Convention Act*;
- Waste Management, including incineration at work camps and Waste Management Planning;
- Cumulative Impacts, consistent with Section 16(1)(a) of the *Canadian Environmental Assessment Act*, 1992 (CEAA 1992); and
- Pollution Prevention including Emergencies and Spill Contingency Planning.

4.3 Environment Canada's Capacity in the Technical Submission

This submission is provided in EC's capacity as an expert advisor to the EIRB. EC will not be required to provide a licence, permit or any other authorization with respect to the Project as currently described. Thus, EC has limited its intervention to the provision of specialist / expert information and knowledge in areas of the Departmental mandate, relevant to the current Project, and in accordance with Sections 11 – Environmental Impact Screening and Review Process (specifically Section 11(32)) and 13 – Wildlife Impact Assessment (specifically Section 13(12)) of the Inuvialuit Final Agreement (IFA). EC recognizes and respects that this review is being conducted under a substituted process. However, the Department must continue to strive to meet obligations set out under paragraph 16(1) (a) of the CEAA 1992 and has done so with regard to this submission.

Of particular applicability to the current project proposal and binding on the Proponent, if the project proceeds are the following legislation administered in whole or in part by Environment Canada:

- *Canadian Environmental Protection Act, 1999* (CEPA 1999) and its Regulations
- *Fisheries Act* (i.e. Pollution Prevention Provisions)
- *Migratory Birds Convention Act* (MBCA) and its Regulations
- *Species at Risk Act* (SARA)

Please see Appendix A for a brief description of the above instruments.

5.0 ISSUES TRACKING

This section itemizes all the issues that EC is tracking. Furthermore this section indicates whether the issue has been satisfactorily addressed, or whether it is (or parts of it are) still unaddressed, and provides a rationale for the conclusions about the issue that EC is tracking.

Water Quality

Issue – Blasting

- **Reference –** *Environment Canada's Information Request Responses, March 30, 2012, Table F: Summary of Developer Commitments with Environment Canada IR Responses* and *Table F: Summary of Developer Commitments, August 31, 2012.*
- **EC Issue** – The Proponent may require blasting for winter borrow source development. To ensure that blast water does not enter any water bodies, an explosives management plan should be developed should blasting be required.
- **Issue Status & Rationale – Addressed (partially).** The Proponent has committed to including an Explosives Management Plan in their Environmental Management Plan, but has not provided it for review. EC recommends that this plan describe the provisions to ensure that blast residue does not enter any water bodies. Treatment or alternative disposal of water containing blast residue from the water collected from the blasting areas, seepage through the temporarily stored blast rock and any washing of aggregates that have been exposed to blasting should be included in this plan. Only emulsion-type or stick-type explosives (non-ANFO) should be used for this project in or near water.

Issue – Sediment and Erosion Control

- **Reference** – *Environment Canada's Information Request Responses, March 30, 2012, Table F: Summary of Developer Commitments with Environment Canada IR Responses*
- **EC Issue** – The Proponent will develop and implement an erosion and sedimentation control plan as part of the Environmental Management Plan. The proposed plan will comply with appropriate erosion and sediment control guidelines, GNWT best management practices, and measures outlined in the DFO (1993) Land Development Guidelines for the Protection of Aquatic Habitat. The Proponent has committed to developing a Sediment and Erosion Control Plan but has not provided it for review. This Plan should describe the provisions to ensure that soil, silt or sediment-laden water does not enter surface waters including river, creek, ditch or waterbody, which can adversely impact aquatic ecosystems. Section 36(3) of the *Fisheries Act* prohibits the deposit of a deleterious substance.
- **Issue Status & Rationale – Addressed (partially).** A long term Erosion and Sediment Control Plan should be developed. This plan should include the criteria used to assess the areas within the project site that are sensitive to erosion and/or sedimentation, and outline how issues identified will be proactively addressed in a timely manner. Under the Northern Land Use Guidelines: Access for Pits & Quarries published by Aboriginal Affairs and Northern Development Canada (January 2010), it states the following: *the proponent should not excavate the pit or quarry below the water table and seasonal and storm-related fluctuations in ground water levels.* The Proponent shall ensure that quarry activities do not result in the contamination of groundwater.

Fuel / Spill Contingency

Issue – Storage Tank Systems

- **Reference** – *Environment Canada's Information Request Responses, March 30, 2012, Table F: Summary of Developer Commitments with Environment Canada IR Responses,* and *Table F: Summary of Developer Commitments August 31, 2012*
- **EC Issue** – The Proponent intends to store fuel for borrow source and highway construction activities. The Proponent will develop and implement a hazardous waste management plan (HWMP). The HWMP will encompass all pre-construction and construction phases of the Project and will apply to the Proponent and all Project contractors involved in receiving, transferring, and transporting hazardous waste for the Proponent's activities on land, water, and air. EC recommended that the Proponent commit to adhering to the CEPA 1999 Storage Tank System for Petroleum Products and Allied Petroleum Product Regulations (June 12, 2008).
- **Issue Status & Rationale – Addressed (partially).** The Proponent has committed to storing fuel in double-walled fuel storage tanks in accordance with the Storage Tank regulations; however the Proponent has not committed to complying with other aspects of the regulations. EC would be happy to

discuss the regulations with the Proponent to ensure that their tank systems comply with the regulation's design requirements. The CEPA 1999 Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations came into force on June 12, 2008. These regulations apply to both outside, aboveground and underground storage tank systems (including the piping and other tank associated equipment) under federal jurisdiction containing petroleum and allied petroleum products that have a capacity greater than 230 litres. This includes tanks located on federal or Aboriginal lands. Exceptions are pressurized tanks, mobile tanks, tanks regulated by the National Energy Board, and outdoor, aboveground storage tank systems that have a total combined capacity of 2500 litres or less and are connected to a heating appliance or emergency generator. All storage tank system owners must identify their tank systems to EC and installation of new systems must comply with the regulation's design requirements. Further information on these regulations can be found at www.ec.gc.ca/st-rs.

Issue – Spill Reporting

- **Reference –** *Environment Canada's Information Request Responses, March 30, 2012, Table F: Summary of Developer Commitments with Environment Canada IR Responses*, and *Table F: Summary of Developer Commitments August 31, 2012*
- **EC Issue** – The Proponent's contractors will report all spills greater than 5 litres to the Government of the Northwest Territories Spill Line and other appropriate agencies. However, all spills of oil, fuel, or other deleterious materials, regardless of size, are to be reported to the NU / NWT 24-hour Spill Line (867) 920-8130. All releases of harmful substances, regardless of quantity, are immediately reportable where the release: is near or into a water body; is near or into a designated sensitive environment or sensitive wildlife habitat; poses an imminent threat to human health or safety; or poses an imminent threat to a listed species at risk or its critical habitat.
- **Issue Status & Rationale – Addressed.** The proponent has committed to reporting all reportable spills regardless of quantity to the NU/NWT Spill line. In the event of an environmental emergency, EC's focal point for coordination and provision of science and technical advice (including spill modelling) during a response will originate from the National Environmental Emergencies Centre in Montreal via notification through the Spill Line.

Issue – Spill Contingency Plan

- **Reference –** *Environment Canada's Information Request Responses, March 30, 2012, Table F: Summary of Developer Commitments with Environment Canada IR Responses,* and *Table F: Summary of Developer Commitments August 31, 2012*
- **EC Issue** – Project contractors will prepare spill contingency plans, outlining spill reporting, containment, and clean-up, in accordance with Aboriginal Affairs and Northern Development Canada's Guidelines for Spill Contingency Planning. The proponent may have a reporting requirement pursuant to CEPA 1999. To determine if hazardous substances fall within the Environmental Emergencies Regulations (E2 Regulations) detailed information on the exact locations of all storage facilities, or any proposed locations, during construction and operational phases are required. The

Proponent has not identified whether or not they have a reporting requirement.

Under Part 8, E2 Regulations of CEPA 1999, an emergency plan is required of any person who owns or has charge, management or control of any of the regulated substances at or above the specified threshold quantities and that have a single largest container with a capacity equal to or exceeding the listed amount. E2 regulated substances are found in Schedule 1 of the E2 Regulations.

The Proponent has not provided a full Spill Contingency Plan for review. A spill contingency plan must be developed which includes prevention, preparedness and response. Copies of the spill plan must be made readily available on site, and all staff should be familiar with operational procedures in the event of a spill.

- **Issue Status & Rationale – Addressed (partially).** The Proponent has committed to developing but has not yet provided a full Spill Contingency Plan or an Environmental Emergency Response Plan (should the Project trigger the E2 Regulations of CEPA 1999). EC recommends that a full site specific Spill Contingency Plan be submitted for review as well as identify whether or not the Proponent has an E2 reporting requirement.

Waste Management

Issue – Incineration

- **Reference –** *Environment Canada's Information Request Responses, March 30, 2012, Table F: Summary of Developer Commitments with Environment Canada IR Responses*
- **EC Issue –** The Proponent will develop a Waste Management Plan for all wastes associated with pre-construction and construction activities. The waste management plan will apply to the Proponent and all associated Project contractors involved in the generation, treatment, transferring, receiving, and disposal of waste materials for the Project. The Proponent also commits to the following steps prior to disposal of waste: Obtaining approval from the Town of Inuvik and Hamlet of Tuktoyaktuk to use their sewage lagoon and solid waste disposal facilities; Providing an estimate of the amount and type of domestic waste generated by the Project compared to the facility's available capacity; Following all applicable License, Permits, and/or municipal bylaws regarding the use of the facility in Inuvik and Tuktoyaktuk; and Recording the amount of domestic waste shipped to the landfills. The Proponent has not provided a full Waste Management Plan for review to ensure that all waste materials are disposed of properly. The Proponent has also not identified whether or not incineration will be a method of waste management.
- **Issue Status & Rationale – Unaddressed.** EC recommends that the Proponent submit for review a Waste Management Plan. This Plan should include an Incineration Management Plan should the Proponent choose to use incineration as a method for waste management; EC has developed a *Technical Document for Batch Waste Incineration* to provide guidance for owners and operators of batch waste incinerators regarding proper system selection, operation, maintenance and record keeping, with the goal of

assisting them in achieving the intent of the Canada-wide Standards for dioxins/furans and mercury, and reducing releases of other toxic substances. The document can be found using the following web link: http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=5F6E5596-1

Wildlife

Issue – Wildlife Management Plan

- **Reference** – *Environment Canada's Information Request Responses Respecting the Inuvik to Tuktoyaktuk Highway, NWT March 30, 2012 IR #123; Hamlet of Tuktoyaktuk, Town of Inuvik, Government of the Northwest Territories, Response to the January 16, 2012 Information Requests, February 2012 IR #55, Table F Summary of Developer Commitments;* and *Table F: Summary of Developer Commitments, August 31, 2012*
- **EC Issue** –EC recommended the Proponent provide Wildlife Management Plans (WMP) prior to construction. The intent of this recommendation was so that EC and other interested parties would have the opportunity to review the plans and provide input prior to construction.
- **Issue Status & Rationale – Partially Addressed.** The Proponent has not yet provided a project-specific draft WMP. EC recommends that the EIRB direct the Proponent to provide a Wildlife Management Plan for review by EC, other regulators and interested parties at least 60 days prior to construction, if the project proceeds. The Wildlife Management Plan should contain all of the items indicated in the Wildlife and Wildlife Habitat section of the Proponent's updated Commitments Table.

A WMP used for the existing access road to borrow source 177 was provided as an example. The WMP for the access road to borrow source 177 provides a good starting point for a draft WMP for the Project. Several of EC's comments pertaining to commitments made in the February 2012 version of Table F *Summary of Developer Commitments* have been addressed in the Proponent's updated Commitments Table dated August 31. 2012. EC recommendations that were addressed by new commitments include the following aspects.

- A tracking system is needed to ensure that contractors are providing education and training to wildlife monitors employed during the construction phase.
- Critical periods for different wildlife species should be specified in the Wildlife Management Plan.
- Provide recommended setbacks for different species or species groups. [*Note - EC will provide recommended setback distances for migratory birds to be incorporated into the WMP in our final written submission*].
- Ensure that specifics of infrastructure design to limit wildlife attraction are outlined in the Wildlife Management Plan as well as detection and deterrent strategies to be used for problem wildlife.
- Add EC to the list of agencies to be consulted in the development of the WMP.

Earlier EC recommendations that were not addressed in the Proponent's updated Commitments Table include the following:

- Provide details on how equipment will be monitored for cleanliness (relates to introduction of invasive species).
- Provide details on how effectiveness of dust control will be monitored and how impacts to habitat and forage quality will be monitored in the WMP.
- Provide details of how waste management practices will be audited to ensure adherence to the Waste Management Plan.

The intent of these recommendations was for the Wildlife Management Plan to outline a means to track and document implementation of the Proponent's commitments to use clean equipment, particularly when deployed in or near water, to implement dust control measures, and to adhere to the waste management plan.

The final Wildlife Management Plan should include details on how equipment would be monitored for cleanliness, how effectiveness of dust control will be monitored, and how waste management practices will be audited to ensure adherence to the Waste Management Plan.

Issue – Wildlife Monitoring Report

- **Reference** – *Environment Canada's Information Request Responses Respecting the Inuvik to Tuktoyaktuk Highway, NWT March 30, 2012 IR #123; Hamlet of Tuktoyaktuk, Town of Inuvik, Government of the Northwest Territories, Response to the January 16, 2012 Information Requests, February 2012 IR #55, Table F Summary of Developer Commitments;* and *Table F: Summary of Developer Commitments, August 31, 2012*
- **EC Issue** - There was no mention in the Environmental Impact Statement of when and how often the results of monitoring would be reported to regulators and other interested parties.
- **Issue Status & Rationale – Addressed.** EC recommended the following items be included in annual wildlife monitoring reports during our review of the Proponent's initial Commitments Table (Table F – IR#55):
  - Results of pre-disturbance wildlife surveys should be included in annual monitoring reports; EC should be included as a recipient of such reports.
  - Wildlife and habitat features such as dens or nests that are detected by wildlife monitors during pre-construction surveys or during construction activities should be documented and reported, including any mitigative measures used to reduce impacts and their effectiveness.
  - Records should be kept of any Wildlife notifications and included in monitoring reports. Observations of species at risk that occur outside of predetermined setbacks should also be noted and recorded by wildlife monitors and included in monitoring reports.
  - Encounters and mortalities should be included in an annual monitoring report to be shared with regulators and other interested parties (including EC).

These recommendations have been included in the Proponent's updated Commitments Table dated August 31. 2012.

Issue – Mitigation Measures for Birds

- **Reference** – *Environment Canada's Information Request Responses Respecting the Inuvik to Tuktoyaktuk Highway, NWT March 30, 2012 IR #123; Hamlet of Tuktoyaktuk, Town of Inuvik, Government of the Northwest Territories, Response to the January 16, 2012 Information Requests, February 2012 IR #55, Table F Summary of Developer Commitments;* and *Table F: Summary of Developer Commitments, August 31, 2012*
- **EC Issue** – Most construction activities will take place in winter which will reduce the risk of nest disturbance/destruction. Summer activities may include placement of culverts and construction of bridges, and grading/compaction of sections of the embankment laid down in winter. The Proponent originally committed to conducting pre-disturbance bird nest surveys in June-July. EC commented that the dates for conducting pre-disturbance nest surveys should be extended because, in the southern Arctic region of the Northwest Territories and Nunavut, migratory birds may be found incubating eggs from May 14 until July 30, and young birds can be present in the nest until September 12.
- **Issue Status & Rationale - Addressed.** The Proponent has addressed EC's concern in their updated Commitments Table with a revised commitment to conduct pre-disturbance nest surveys from May to September.

Issues – Cumulative Effects Assessment for Species at Risk

- **Reference** – *Hamlet of Tuktoyaktuk, Town of Inuvik, Government of the Northwest Territories, Response to the March 8, 2012 Information Requests (Round 2), March 30, 2012, IR #114; Kavik-Stantec, Inuvik-Tuktoyaktuk Highway Baseline Data Acquisition Program: Wildlife Habitat Potential Mapping – Final Report + Wildlife Metrics + Appendices (17 August 2012);* and *Supplemental wildlife maps and metrics (28 August 2012)*
- **EC Issue** – The Proponent's cumulative effects assessment is currently inadequate to satisfy the requirements of CEAA 1992 subsections 16(1) (a), particularly with respect to species at risk.
- **Issue Status & Rationale – Unaddressed.** The Proponent has provided a report of the results of the summer 2012 field surveys and has revised the habitat suitability models for species at risk and waterfowl based on these surveys. On August 28, 2012, the Proponent provided an updated breakdown of the footprint of the highway and associated borrows sources by habitat suitability category for each species at risk and by vegetation type.

  In our letter to the EIRB dated June 15, 2012, Environment Canada recommended the Proponent provide an updated cumulative effects assessment for the proposed highway and other existing and reasonably foreseeable developments based on the results of the summer 2012 field surveys and revised habitat suitability models for species at risk. EC also recommended the Proponent provide combined footprint calculations, broken down by habitat type, for the highway and existing and foreseeable developments, accounting for spatial overlap.

  The borrow sources selected for the Project have changed from those used the initial cumulative effects assessment provided by the Proponent in response to IR #114. An updated cumulative effects assessment has not

been submitted that reflects refinements to the habitat suitability models for species at risk or that accounts for changes in the project footprint due changes in the borrow sources selected.

Environment Canada will therefore have to base its assessment on the information available on the EIRB Public Registry as of September 04, 2012. A detailed review of this information will be provided in our final written Technical Submission.

Issue – Noise Impact Assessment

- **Reference** – *Hamlet of Tuktoyaktuk, Town of Inuvik, Government of the Northwest Territories, Environmental Impact Statement for the Construction of the Inuvik to Tuktoyaktuk Highway, NWT, May 2011, Sections 3.14 & 4.2.3.5* and *Hamlet of Tuktoyaktuk, Town of Inuvik, Government of the Northwest Territories, Response to the March 8, 2012 Information Requests (Round 2), March 30, 2012, IR #115*
- **EC Issue** – EC requested the Proponent calculate the expected zone of influence (ZOI) within which noise from operation of the highway will exceed baseline ambient noise levels (i.e. provide the distance from the highway at which vehicle noise will attenuate to ambient levels).
- **Issue Status & Rationale – Addressed.** The Proponent based their ZOI for noise on assessment data for the Gahcho Kue and Meadowbank mines (400 – 1500 m). EC agrees that these are reasonable estimates for the zone of influence within which noise may exceed ambient levels in habitat adjacent to the proposed highway.

Bird Mortality due to Vehicle Collisions

- **Reference** – *Hamlet of Tuktoyaktuk, Town of Inuvik, Government of the Northwest Territories, Environmental Impact Statement for the Construction of the Inuvik to Tuktoyaktuk Highway, NWT, May 2011, Section 4.2.7.6* and *Hamlet of Tuktoyaktuk, Town of Inuvik, Government of the Northwest Territories, Response to the March 8, 2012 Information Requests (Round 2), March 30, 2012, IR #116*
- **EC Issue** – EC requested the Proponent provide data on bird mortality from other northern mines and roads and estimate potential bird mortality due to operation of the proposed Project.
- **Issue Status & Rationale – Addressed.** The Proponent provided bird mortality data from monitoring at Ekati, Diavik, Snap Lake, and Tibbitt to Contwoyto Winter Road.

The Proponent estimated that bird mortalities would be similar to those recorded at the Meadowbank mine public access road (6.67 bird mortalities per year, or 0.06 bird mortalities per kilometer per year).

The Proponent pointed out that earlier snow melt along the highway corridor due to dust deposition will increase albedo and may accelerate green-up by 10-14 days in the spring, thus potentially creating areas that are more attractive to migratory birds in the spring within a 100 m zone on either side of the highway.

This could provide foraging opportunities or advanced nesting opportunities for migratory birds but at the same time could increase the risk of mortality from collisions with vehicles due to increased concentrations of birds near the road.

EC agrees that this level of mortality would be unlikely to have population-level consequences for bird species present within the regional study area.

Habitat Disturbance within Boreal Caribou Range

- **Reference** – *Environment Canada's Information Requests March 6, 2012 Subject Potential habitat disturbance within the boreal woodland caribou range*
- **EC Issue** – EC requested the Proponent provide a map showing whether the Project corridor overlaps with boreal caribou range and if so how much new disturbance, including a 500 m buffer, this might add to the range.
- **Issue Status & Rationale – Addressed.** The Proponent has indicated that approximately 25 km of the Highway lies within the most recent boundary for the boreal caribou range identified by the NWT Species at Risk Committee in March 2012. This section of the highway corridor plus a 500m buffer would cover an area of 3, 590 ha within the boreal caribou range.

  EC will not be able to comment on how much this project would contribute to cumulative disturbance in the NWT boreal caribou range until the Final Recovery Strategy is posted on the SARA public registry (expected Sept. 30, 2012).

  EC could potentially provide an update on this topic in our final written submission.

6.0 APPENDIX A: RELEVANT LEGISLATION, POLICIES AND GUIDELINES

The following summaries have been prepared for ease of reference and convenience only. For purposes of reliability and accuracy, and for interpreting and applying the Act, regulation or policy, it is recommended that the reader review the original document itself, including any subsequent amendments.

Canadian Environmental Protection Act, 1999

Proclaimed on March 31, 2000, the *Canadian Environmental Protection Act, 1999* (CEPA) is an Act respecting pollution prevention and the protection of the environment and human health in order to contribute to sustainable development. CEPA shifts the focus away from managing pollution after it has been created to preventing pollution. The Act provides the federal government with tools to protect the environment and human health, establishes strict deadlines for controlling certain toxic substances, and requires the virtual elimination of toxic substances which are bioaccumulative, persistent and result primarily from human activity.

For substances that are declared "toxic" under CEPA and are added to the List of Toxic substance in Schedule 1 of the Act, instruments will be proposed to establish preventive or control actions for managing the substance and thereby reduce or eliminate its release into the environment. These tools may be used to control any aspect of the substance's life cycle, from the design and development stage to its manufacture, use, storage, transport and ultimate disposal.

Examples of preventive and control instruments include:

- Regulations;
- Pollution prevention plans;
- Environmental emergency plans;
- Environmental codes of practice;
- Environmental release guidelines; and
- Pre-notification and assessment of new substances (chemicals, biochemicals, polymers, biopolymers, and animate products of biotechnology).

➢ ***Environmental Emergency Regulations under CEPA***

Authority to require emergency plans for toxic or other hazardous substances is provided in Part 8 of CEPA. The *Environmental Emergency Regulations* require those who own or manage toxic and hazardous substances specified in a list of substances under CEPA, at or above the specified thresholds, to provide required information on the substance(s), their quantities and to prepare and implement environmental emergency plans. Environmental emergency plans for such a substance(s) must cover prevention, preparedness, response and recovery.

➢ ***Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations under CEPA***

These regulations came into force on June 12, 2008. The main objective of the new regulations is to prevent soil and groundwater contamination from storage tank systems

located on federal and Aboriginal lands. The regulations cover tanks storing petroleum products and allied petroleum products, and compliance with these regulations is mandatory. For additional details and 'tank tips' please refer to: www.ec.gc.ca/st-rs.

Pollution Prevention Provisions of the *Fisheries Act*

The Minister of Fisheries and Oceans is legally responsible to Parliament for administration and enforcement of all sections of the *Fisheries Act*. However, under a Prime Ministerial Instruction (1978) and a Memorandum of Understanding (1985), EC administers and enforces those aspects of the *Fisheries Act* dealing with the prevention and control of pollutants affecting fish. In this context, EC works to:

- Advance pollution prevention technologies;
- Promote the development of preventative solutions; and
- Work with the provinces, territories, industry, other government departments and the public on issues relating to the pollution provisions of the *Fisheries Act*.

The main pollution prevention provision is found in section 36(3) of the Act, and is commonly referred to as the "general prohibition". This section prohibits the deposit, into fish-frequented waters, of substances that are deleterious to fish. The legal definition of "deleterious substance" provided in section 34(1) of the *Fisheries Act*, in conjunction with court rulings, provides a very broad interpretation of deleterious and includes any substance with a potentially harmful chemical, physical or biological effect on fish or fish habitat.

Migratory Birds Convention Act

The Migratory Birds Convention, between Canada and the United States, provides for the cooperative management of shared migratory birds populations on a continental basis. The Parties agree to manage migratory bird populations in accord with the following conservation principles:

- Manage migratory birds internationally;
- Ensure a variety of sustainable uses;
- Sustain healthy migratory bird populations for harvesting needs;
- Provide for and protect habitat necessary for the conservation of migratory birds; and
- Restore depleted populations of migratory birds.

Within Canada, the Migratory Birds Convention is implemented through the *Migratory Birds Convention Act* (MBCA) and it's Regulations. The MBCA provides for the protection of migratory birds and nests and for the creation of protected areas for migratory birds and the control and management of those areas. The *Migratory Birds Regulations* (MBR) address the harvest and possession of migratory birds. Section 6(a) of the MBR prohibits the disturbance, destruction, taking of a nest, egg, or nest shelter of a migratory bird or to be in possession of the above, except under the authority of a permit. Section 5.1 of the MBCA prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

Species at Risk Act

The *Species at Risk Act* (SARA) is intended to prevent species from becoming extirpated or extinct; to provide for the recovery of extirpated, endangered or threatened species; and to

manage species of special concern. The Act applies to all of Canada; all wildlife species listed as being at risk; their residences and their critical habitat.

With respect to species at risk, SARA provides for:

- Status assessment and legal listing (Schedule 1);
- Preparation of recovery strategies and action plans;
- Protection of critical habitat; and
- Management plans to prevent further endangerment.

SARA includes general prohibitions against the:

- killing, harming, harassing of listed extirpated, threatened or endangered species or their residences;
- damage or destruction of the residences of individuals of an endangered or threatened species, or of an extirpated species where its reintroduction into the wild has been recommended; and
- destruction of critical habitat of an extirpated, threatened or endangered species, as defined in a recovery strategy or action plan.

How and when these prohibitions apply will depend on the type of species (e.g. aquatic species, migratory bird), its status designation (e.g., threatened, endangered) and where it is located (e.g., lands under the authority of the Minister of the Environment or the Parks Canada Agency, other federal lands).

SARA also requires that federal environmental assessments incorporate assessments of species at risk into reviews and that attention be paid to mitigation and monitoring of affected species.

Canadian Council of Ministers of the Environment Canada-wide Standards

The Canada-wide Environmental Standards Sub-agreement is a framework for federal, provincial, and territorial Environment Ministers to work together to address key environmental protection and health risk reduction issues that require common environmental standards across the country. Set under the framework of the Canada-wide Accord on Environmental Harmonization, the standards sub-agreement sets out principles for governments to jointly agree on priorities, to develop standards, and to prepare complementary work plans to achieve those standards, based on the unique responsibilities and legislation of each government. The sub-agreement does not change the jurisdiction of governments nor does it delegate authority.

A defining characteristic of the Canada-wide standard process is the accountability of each jurisdiction to ensure the implementation of approved Canada-wide standards. Section 6 of the Canada-wide Standards Sub-agreement, sets out requirements and suggestions regarding implementation, with the objective of ensuring co-operative, effective, accountable and consistent implementation of each standard.

- ***Canada-wide Standards for Mercury Emissions***

Mercury is a naturally occurring substance, which is transformed through biological processes to methyl mercury, a persistent substance which bioaccumulates in the food chain and is particularly toxic to humans and wildlife. Mercury levels originate from a

combination of naturally-occurring mercury and anthropogenically emitted mercury. Levels in any one region reflect variable combinations of local, regional and even global sources. Approximately sixty percent of the mercury entering the ecosystem is from anthropogenic sources.

Recognizing the hazard posed by anthropogenically emitted mercury entering the food chain, the CCME ministers agreed in June 2000 to the Canada-wide Standards for Mercury Emissions. The CWS set limits for mercury emissions from several sectors, including incinerators. For more information: http://www.ccme.ca/assets/pdf/mercury_emis_std_e1.pdf

- ***Canada-wide Standards for Dioxins and Furans***

Polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs), commonly known as dioxins and furans, are toxic, persistent, bioaccumulative, and result predominantly from human activity. Due to their extraordinary environmental persistence and capacity to accumulate in biological tissues, dioxins and furans are slated for virtual elimination under CEPA, the federal *Toxic Substances Management Policy* and the CCME *Policy for the Management of Toxic Substances*.

Recognizing the hazard posed by dioxins and furans entering the environment, the CCME ministers agreed, in May 2001, to the Canada-wide Standards for Dioxins and Furans. These standards set limits for dioxin and furan emissions from several sectors including incinerators. For more information: http://www.ccme.ca/assets/pdf/d_and_f_standard_e.pdf