



# Keeyask Generation Project

## Environmental Impact Statement

### Response to EIS Guidelines



June 2012

# **KEYYASK GENERATION PROJECT**

## **ENVIRONMENTAL IMPACT STATEMENT**

### **RESPONSE TO EIS GUIDELINES**

Prepared by

Keyyask Hydropower Limited Partnership  
Winnipeg, Manitoba

June 2012

Canadian Environmental Assessment  
Registry Reference Number: 11-03-64144

Manitoba Conservation and Water Stewardship  
Client File Number: 5550.00



# PREFACE

The Environmental Impact Statement (EIS) for the Keeyask Generation Project (the Project) is submitted to Canada and Manitoba by the Keeyask Hydropower Limited Partnership (the Partnership), which consists of Manitoba Hydro and four Cree Nations (referred to collectively as the Keeyask Cree Nations or KCNs): Tataskweyak Cree Nation (TCN) and War Lake First Nation (WLFN), acting collectively as the Cree Nation Partners (CNP), York Factory First Nation (YFFN), and Fox Lake Cree Nation (FLCN).

The Partners agreed early on that there would be a Keeyask Cree Nations evaluation process as well as the government regulatory environmental assessment process for the Project.

In the KCNs' process, each of the KCNs, assisted by Manitoba Hydro, evaluated the impact of the Project on their communities and Members in terms of their own worldview, values and experience with past hydroelectric development. This process supported conclusion of the Joint Keeyask Development Agreement by the Partners.

The Partnership's EIS response to the government regulatory environmental process was undertaken by Manitoba Hydro with the support of the KCNs. In summary, the EIS consists of:

- A video, *Keeyask: Our Story*, which presents the Keeyask Cree Nations' history and perspectives related to hydroelectric development. Presented through the lens of their holistic Cree worldview, it explains the journey taken by the KCNs as they evaluated their concerns about the Project, the nature of their participation as Partners, and the decisions they ultimately made to support the Project;
- This executive summary;
- A Response to EIS Guidelines issued by Canada March 30, 2012 in response to an application by the Partnership for environmental approvals under the government regulatory environmental assessment process. This response includes findings and conclusions<sup>1</sup>, with charts, diagrams, and maps to clarify information in the text, and a concordance table to cross reference requirements of the EIS Guidelines with information in the EIS; and
- The KCNs' Evaluation Reports providing each of the KCNs' own evaluation of the effects of the Project on their community and Members and including Aboriginal traditional knowledge (ATK) relevant to the Partnership's response to the EIS Guidelines.

---

<sup>1</sup> Technical supporting volumes are also provided, as developed by the Manitoba Hydro environmental team in consultation with the KCNs and their Members, to provide details on the Project Description and on the research and analysis of the following topics: Public Involvement Program, Physical Environment, Aquatic Environment, Terrestrial Environment, Socio-economic Environment, Resource Use, and Heritage Resources.

# LIST OF KEY PERSONNEL

The following is a list of key personnel from Manitoba Hydro, the Keeyask Cree Nations and the consulting firms who worked on the environmental assessment of the Project.

## **Manitoba Hydro**

Ed Wojczynski, M.Sc., P.Eng.

Shawna Pachal, B.Sc. C.R.S.P., M.B.A.

Ryan Kustra, B.A.

Halina Zbigniewicz, P.Eng.

Bob Bettner, B. Comm., LLB

Vicky Cole, M.N.R.M.

Nick Barnes, M.Sc.

Rachel Boone, M.Sc.

Mark Manzer, M.A.

Dick Stephens, B.A.

Monica Wiest, M.A.

Maria Zbigniewicz, M.Sc.

Marc St. Laurent, M.Sc., P.Eng.

William DeWit, M.Sc., P.Eng.

Jarrold Malenchuk, Ph.D. P.Eng.

Rob Tkach, M.Sc., P.Eng.

Kristina Koenig, M.Sc., P.Eng.

Glen Schick, P.Eng.

Brian Beyak, C.E.T. P.Eng.

Carolyn Northover, M.E.Des

Sarah Wakelin, M.Sc.

Rayel Manary, C.E.T.

Kurt Fey, C.E.T.

**Cree Nation Partners**

Tataskweyak Cree Nation Chiefs and Councils

War Lake First Nation Chiefs and Councils

Tataskweyak Cree Nation Elders and Members

War Lake First Nation Elders and Members

Victor Spence, Tataskweyak Cree Nation, Manager of Future Development

Tataskweyak Cree Nation, Overview of Water and Land Staff

Hobbs and Associates

Joseph I. Keeper

Robert F. Roddick Professional Corporation

Waters Edge Consulting

Campbell Marr LLP

Roger Tassé O.C. Q.C.

**York Factory First Nation**

York Factory Future Development

York Factory First Nation Chiefs and Councils

Elders and Members

Hilderman Thomas Frank Cram

**Fox Lake Cree Nation**

Fox Lake Community Members

Fox Lake Kitayatisuk & Harvester Core Group

Fox Lake Chiefs and Councils

Fox Lake Negotiations Office and staff

Dr. Terry A. Dick., B.Sc. Forestry, M.Sc., PhD, Aquatics Advisor

Dr. Vince Crichton., B.Sc., M.Sc., Ph.D., Terrestrial Advisor

Kevin Brownlee., BA (Adv) and MA, Heritage Advisor

Grant Wiseman, B.Sc., M.Sc., Geomatics Advisor

**InterGroup Consultants Ltd.**

Cam Osler, M.A., Study Lead

Janet Kinley, M.A., MCIP, Socio-Economic and EIS Document Lead

John Osler, MBA, Public Involvement Lead

Nancy LeBlond, M.A., Socio-Economic Lead

**North South Consultants**

Stuart Davies, B.Sc., R.P. Bio. (BC), CCEP, Study Lead

Friederike Schneider-Vieira, Ph.D., Aquatic Lead

Don MacDonell, M.N.R.M., CCEP, Resource Use Lead

Gaylen Eaton, M.N.R.M.; Author

Richard Remnant, M.N.R.M., Aquatics (Sturgeon)

**Stantec Consulting**

George Rempel, M.Sc., P.Eng., Study Lead, Project Description and Physical Environment

Dave Morgan, Ph.D., P.Eng., Lead, Physical Environment

Dale Stewart, M.Sc., Terrestrial Coordinator

Roger Rempel, B.Sc., P.Eng., F.E.C., Project Description and Physical Environment

Blair McMahon, M.Sc., P.Biol., Terrestrial Environment

Karen Mathers, B.Sc., M.Sc., P.Geo., Groundwater

George Kroupa, RFT, GIS, Data Management

**Northern Lights Heritage Services**

Virginia Petch, Ph.D., Study Lead, Heritage Resources and Culture and Spirituality

Lisa Bobbie, M.A. (Candidate), Heritage Resources Lead

Hani Khalidi, M.A., Culture and Spirituality Lead

**ECOSTEM Ltd.**

James Ehnes, M. Phil., Ph.D., Terrestrial Environment Lead – Habitat, Ecosystems and Plants, Shoreline Erosion

**Wildlife Resource Consulting Services MB Inc.**

Robert Berger, M.N.R.M., Terrestrial Environment – Mammals Lead

**Plus4 Consultants**

John Dyck, Forestry

**J.D. Mollard and Associates (2010) Limited**

Lynden Penner, M.Sc., P.Eng., P.Geo., Shoreline Erosion

**KGS/Acres**

Rajib Ahsan, M.A.Sc., M.Eng., P.Eng., Sedimentation

# CONCORDANCE TABLE

Concordance between  
Final Environmental Impact Statement Guidelines  
for the Keeyask Generation Project  
and  
Keeyask Generation Project  
Environmental Impact Statement: Response to EIS Guidelines



<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>2</b>	<b>PREPARATION AND PRESENTATION OF THE EIS</b>	
	Acronyms	Acronyms and Abbreviations and Units located before EIS Chapter 1
	Glossary of technical terms	Glossary located after References
	Complete reference list	Following EIS Chapter 10
	Table of concordance	Before EIS Chapter 1
	Title Page containing name and location of the Project, subtitle, name of the proponent, date in month and year and the Canadian Environmental Assessment Registry reference number	Title page
<b>3</b>	<b>EXECUTIVE SUMMARY</b>	
	Concise description of all key components of the Project	Separate Executive Summary document
	Succinct description of the consultation conducted with Aboriginal groups, the public, and government agencies, with a summary of the issues raised and solutions found and/or suggested during these consultations.	Separate Executive Summary document
	A description of the key environmental effects of the Project, as per section 2 of the Act, and proposed technically and economically feasible mitigation measures.	Separate Executive Summary document
	The proponent's conclusions on significance of potential residual environmental effects and significance of cumulative environmental effects.	Separate Executive Summary document
	Maps indicating the locations of the Project and its key components.	Separate Executive Summary document
	A summary of the environmental effects analyses in a table format to present the information clearly and accurately.	Separate Executive Summary document

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>4</b>	<b>INTRODUCTION AND PROJECT BACKGROUND</b>	
<b>4.1</b>	<b>The Proponent</b>	
	Identify itself and the name of the legal entity that would develop, manage and operate the Project.	EIS 1.1
	Provide its contact information for the proponent ( <i>e.g.</i> , name, address, phone, fax, email).	EIS 1.1.1
	Explain its corporate and management structures.	EIS 1.1
	Specify the mechanism that would be used to ensure that relevant corporate policies and EA commitments will be implemented and respected for the Project.	EIS 1.1
	Identify key personnel, contractors, and/or sub-contractors responsible for preparing the EIS including, if required, identifying qualifications of biologists involved in conducting surveys for migratory birds, species at risk and species of conservation concern, and wetland delineations.	List of Key Personnel in front of EIS Chapter 1, EIS Appendix 1A
<b>4.2</b>	<b>Project Overview</b>	
	Summary of the Project, by describing the project components, associated and ancillary works, activities, scheduling details, timing of each phase of the Project and other key features.	EIS 4.1
	Project location should be described in conjunction with surrounding land uses and infrastructure.	EIS 4.1
<b>4.3</b>	<b>Participants in the Environmental Assessment</b>	
	The main participants in the EA, including, Aboriginal groups, community groups, environmental organizations.	List of Key Personnel in front of Chapter 1 Acknowledgements: EIS Appendix 1A Public Involvement: EIS Chapter 3

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>4.4</b>	<b>Regulatory Framework and the Role of Government</b>	
	The environmental and other specific regulatory approvals and legislation that are applicable to the Project at the federal, provincial, regional and municipal levels.	EIS 1.3 EIS Appendix 1B
	Government policies, resource management, planning or study initiatives pertinent to the Project and/or EA, and discuss their implications.	EIS 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, Appendix 6B EIS 9.2.1, 9.2.2, 9.2.3, 9.2.4 Complete references following EIS Chapter 10
	Policies and guidelines of the Aboriginal groups being consulted that are pertinent to the Project and/or EA and discuss their implications.	EIS Chapter 2 EIS Chapter 3 EIS 9.2.1
	Any treaty or self-government agreements with Aboriginal groups that are pertinent to the Project and/or EA.	EIS Chapter 2 EIS Chapter 3 EIS 6.2.2
	Any relevant land use plans, land zoning, or community plans that are pertinent the Project and/or EA.	EIS 6.2, 6.2.3.5.3, 6.2.3.5.4
	In a summary form, the (national, provincial and / or regional) objectives, standards or guidelines that have been used by the proponent to assist in the evaluation of any predicted environmental effects.	EIS Appendix 6B EIS Chapter 9
<b>5</b>	<b>PROJECT DESCRIPTION</b>	
<b>5.1</b>	<b>Purpose of and Need for the Project</b>	
	The "purpose" of the Project can be described by answering the question: <i>What is to be achieved by carrying out the Project?</i>	EIS 4.2
	The "need for" the Project can be described by answering the question: What is the problem or opportunity the project is intended to solve or satisfy?	EIS 4.2

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The analysis to be documented in the EIS relating to the objectives and “need for” the Project should identify the requirements of the proposed purchaser of the electricity to be produced by the Project. The purchaser’s requirements should be concisely described.	EIS 4.2
<b>5.2</b>	<b>Project Alternatives</b>	
<b>5.2.1</b>	<b><i>Alternatives to the Project</i></b>	
	Describe functionally different ways to meet the project need and achieve the project purpose	EIS 4.1, 4.2
	Clearly describe its objectives in undertaking the Project.	EIS 4.2
	Identify, from the perspective of the proponent, alternatives to the Project that were considered, including “the No Go” scenario.	EIS 4.2
	Develop criteria to identify the major environmental, economic, social and technical costs and benefits of the alternatives.	EIS 4.2
	Identify the preferred alternatives based on the relative consideration of the environmental, economic, social and technical costs and benefits.	EIS 4.2
	Describe the process the proponent used to determine that the Project is viable (technical, social, cultural, economical and environmental).	EIS 4.2
<b>5.2.2</b>	<b><i>Alternative Means of Carrying out the Project</i></b>	
	The EIS must identify and describe any alternative means of carrying out the Project that were determined to be technically and economically feasible. The EIS will provide a parameter-based multiple accounts analysis of the alternative means described, including a comparison of the likely environmental effects of each alternative to those of the Project. The analysis must include consideration of each phase of the Project (construction, operation, modification, decommissioning). The analysis will:	EIS 4.5.1

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	<p>Identify the alternative means considered toward carrying out the Project.</p> <p>The analysis described above will list the criteria used to determine the technical and economic feasibility of the alternative means considered, show the analysis, and list and describe the alternatives that were considered technically and economically feasible. Each alternative means will be described in sufficient detail to facilitate an understanding of the alternative.</p>	EIS 4.5.1
	<p>Identify, along with other parameters, the likely extent of environmental effects of each alternative.</p> <p>Identification of environmental effects, at a conceptual level, of those elements of each alternative means considered will include sufficient detail to allow a comparison of the effects with the environmental effects of the Project.</p>	EIS 4.5.1
	<p>Identify the reasoning behind selection of the preferred means identifying the preferred means based on the relative consideration of all parameters will include the technical, environmental and the economic feasibility of each. The analysis will involve applying criteria that will identify each alternative means as acceptable or unacceptable on the basis of likely significant adverse environmental effects, including the potentially adverse environmental effects of the technically and economically feasible alternatives on current use lands and resources for traditional purposes by Aboriginal peoples in areas such as hunting, fishing, trapping and gathering.</p>	EIS 4.5.1
	Arrangement of the generation station including locations on the river.	EIS 4.5.1.1
	Dyking arrangements	EIS 4.5.1.7
	Reservoir options and generating station size (i.e. production capacity).	EIS 4.5.1.1
	Hydroelectric technologies considered (i.e. including number and types of turbines).	EIS 4.5.1.4

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Fish passage upstream and downstream	EIS 4.5.1.5
	Planning for ancillary features such as access roads, borrow sites, etc.	Roads: EIS 4.5.1.8 Borrow: EIS 4.3.2.9
	Operating patterns	EIS 4.5.1.3
	Reservoir preparation strategies	EIS 4.3.3.1, Appendix 4A
<b>5.3</b>	<b>Description</b>	
<b>5.3.1</b>	<b>Location</b>	
	A description of the Project's site location using maps of appropriate scale. The location map should include the boundaries of the proposed site including, the latitude and longitude coordinates, the major existing infrastructure, adjacent land uses and any important environmental features.	EIS 4.1, Map 4-1 EIS Map 1-1
	Site plans/sketches and photographs showing project location, site features and the intended location of project components should be included.	EIS 4.1, 4.3, Figures 4-1, 4-2, 4-3, 4-4, 4-6, 4-7, Map 4-1 EIS Map 1-1
<b>5.3.2</b>	<b>Components</b>	
	Major components of the Project should be described under the following headings: Ice Boom Construction, Cofferdams, Generating Station, Spillway, Reservoir/forebay, Quarried and Excavated Construction Materials, Worker Accommodation.	EIS 4.1, 4.3.1, 4.3.2
<b>5.3.3</b>	<b>Activities</b>	
	The EIS shall include expanded descriptions of activities associated with the construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and reclamation of sites and facilities associated with the proposed project.	EIS 4.6

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	This would include detailed descriptions of the activities to be carried out during each phase, the location of each activity, expected outputs and an indication of the activity's magnitude and scale.	EIS 4.6
	Activities and project components associated with fish habitat compensation works must also be detailed.	EIS 4.5.1.5, 4.5.2.1
<b>5.3.4</b>	<b><i>Schedule</i></b>	
	A detailed schedule for the Project with the time of year, frequency, and duration for all project activities.	EIS 4.6.1, Figure 4-5
<b>6</b>	<b>SCOPE OF THE ASSESSMENT</b>	
<b>6.1</b>	<b>Factors to be Considered</b>	
	Environmental effects of the project, including effects of malfunctions or accidents.	EIS 4.7.8 EIS Chapter 5 EIS 6.3 through 6.8
	Environmental effects also include any cumulative environmental effects that are likely to result from the Project.	EIS Chapter 7
	The significance of the environmental effects referred to above.	EIS 6.3 through 6.8 EIS Chapter 7
	Comments from the public that are received during the EA.	EIS 3.6 PI SV Appendices 1C, 1D, 2, 3, 4, 5
	Comments from Aboriginal groups that are received during the EA.	EIS Chapter 2, 3.4.1, 3.6 PI SV Appendices 1C, 1D, 2, 3, 4, 5
	Measures that are technically and economically feasible and are intended to be undertaken to accommodate any adverse impact of the Project on current use of land and resources for traditional use by Aboriginal persons.	EIS 6.7.3
	Measures that are technically and economically feasible and proposed to mitigate any significant adverse environmental effects of the Project.	EIS 6.3 through 6.8 EIS Chapter 7

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The purpose of the Project	EIS 4.2
	Alternative means of carrying out the Project that are technically and economically feasible and the environmental effects of any such alternative means.	EIS 4.5
	The need for, and the requirements of, the follow-up program in respect of the Project.	EIS Chapter 8
	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.	EIS 6.10 EIS 9.2.3.1, 9.2.3.2
	How traditional Aboriginal knowledge has been integrated in the preparation of the EIS.	EIS 1.4 EIS Chapter 2, Appendix 2A EIS 5.2, 5.3.2, 5.3.3 EIS 6.2.2, 6.2.3, 6.3.2, 6.4.2, 6.5.2, 6.6.2, 6.7.2, 6.8.2 EIS 7.2 EIS 8.2.7, 8.3.1, 8.3.4 EIS 9.2.1 EIS Chapter 10
	The EIS shall include an assessment of the "need for" the project and "alternatives to" the project.	EIS 4.2
<b>6.2</b>	<b>Scope of the Factors</b>	
<b>6.2.1</b>	<b><i>Determination of Valued Ecosystem Components (VECs)</i></b>	
	The EIS will describe the process used for identification of Valued Ecosystem Components ("VECs"). VECs will be selected based on professional judgement interests and concerns raised by the public, Aboriginal groups and government.	EIS Chapter 5 EIS 6.2.3.3.1, 6.2.3.4.1, 6.2.3.5.1, 6.2.3.6.1, 6.2.3.7.1



<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Describe how candidate VECs were evaluated to identify whether there would be an interaction or a cause-and-effect pathway, linking the candidate VEC to the Project.	EIS Chapter 5 EIS 6.4.1, 6.5.1, 6.6.1, 6.7.1, 6.8.1
	Identify concerns specific to any VEC raised during any workshops or meetings held by the proponent or that the proponent considers likely to be affected by the Project.	EIS 3.6
	The proponent must describe any issues raised or comments noted regarding the nature and sensitivity of environmental components within and surrounding the Project and any planned or existing land and water use in the area.	EIS 3.6 EIS 6.4.2, 6.4.3, 6.5.2, 6.5.3, 6.6.2, 6.6.3, 6.7.2, 6.7.3, 6.8.2, 6.8.3
	How ATK has been integrated with western science in the identification and analysis of VECs.	EIS 1.4 EIS Chapter 2, Appendix 2A EIS 5.2, 5.3.2, 5.3.3 EIS 6.2.3.1, 6.2.3.3.1, 6.2.3.4.1, , 6.2.3.6.1, 6.2.3.7.1 EIS 7.2 EIS 8.2.5, 8.2.7, 8.3.1, 8.3.4 EIS Chapter 10
	The specific geographical areas or ecosystems that are of particular concern to interested parties, and the relationship of these areas to the broader regional environment and economy.	EIS 5.3.1 EIS 6.1, 6.2.3.2.1, 6.2.3.3.1, 6.2.3.4.1, 6.2.3.5.1, 6.2.3.6.1, 6.2.3.7.1, 6.3.1, 6.4.1, 6.5.1, 6.6.1, 6.7.1, 6.8.1

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>6.2.2</b>	<b><i>Spatial Boundaries</i></b>	
	Clearly indicate the spatial boundaries (local and regional study areas) that were selected to be examined in order to identify environmental effects. The EIS must contain a justification and rationale for all boundaries chosen including a reference to which models and data are being utilized.	EIS 5.3.1 EIS 6.1, 6.2.3.2.1, 6.2.3.3.1, 6.2.3.4.1, 6.2.3.5.1, 6.2.3.6.1, 6.2.3.7.1, 6.3.1, 6.4.1, 6.5.1, 6.6.1, 6.7.1, 6.8.1
<b>6.2.3</b>	<b><i>Temporal Boundaries</i></b>	
	The temporal boundaries of the studies should span all components of the Project: construction, operation, maintenance, decommissioning and reclamation of the sites affected by the project. Temporal boundaries shall also consider seasonal and annual variations related to the identified VECs for all phases of the Project, where appropriate.	EIS 5.3.1 EIS 6.3.1, 6.4.1, 6.5.1, 6.6.1, 6.7.1, 6.8.1
<b>7</b>	<b>CONSULTATION</b>	
<b>7.1</b>	<b><i>Public Participation</i></b>	
	The proponent shall describe in its EIS any project-related consultations undertaken with the general public. The proponent shall also describe planned or on-going public consultations relating to the Project.	EIS 3.4.2, 3.5 PI SV 1.1, 2.2.1.5, 2.2.2 Appendices 1A, 1B, 2, 3
	The methods used for the public consultations and relevance to the Project:	EIS 3.5 PI SV 2.1
	The locations;	EIS 3.5.1 PI SV Appendices 1A, 1B, 2, 3
	The persons and organizations consulted;	EIS 3.5.1 PI SV Appendices 1A, 1B, 2, 3
	Concerns raised during the consultations; and	EIS 3.6 PI SV Appendices 1C, 1D, 2, 3

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The extent to which public concerns were incorporated into the design of the Project or the EIS.	EIS 3.6 EIS 4.5.1
	The resultant changes:	EIS 3.6
	The EIS shall describe outstanding issues identified by the Public during consultation and describe any means, proposed or employed to address the outstanding issues.	EIS 3.6 PI SV Appendix 1D
<b>7.2</b>	<b><i>Aboriginal Consultation</i></b>	
	The proponent will actively solicit Aboriginal concerns from groups other than the KCNs during the course of the EA.	EIS 3.4.1 PI SV 2.2.1, Appendices 1A, 1B, 4, 5
	Contact information of those groups consulted;	PI SV Appendices 4, 5
	Descriptions of the consultation processes used to identify the factors to be considered in the EIS;	EIS 3.4.1, 3.5
	Lists of factors suggested for inclusion in the EIS, whether or not the factors were included, and the rationale for exclusions;	EIS 3.6
	Descriptions of the traditional territories and potential or established Aboriginal and Treaty rights that were asserted by the groups in relation to the assessment area; and	KCNs Environmental Evaluation Reports PI SV Appendix 4A
	Efforts made to solicit the above information from Aboriginal groups if the proponent is unable to obtain the information.	EIS 3.4.1, 3.5.1, 3.5.2 PI SV 2.2.1.1, 2.2.1.2, 2.2.1.3, Appendices 2A, 3A, 4, 5
<b>7.3</b>	<b><i>Government Agency Consultation</i></b>	
	The proponent shall provide a summary of any consultations undertaken with provincial, federal or other government agencies or officials during the project planning or environmental assessment.	EIS 3.5.4 PI SV 2.2.3
	Contact information of those consulted;	PI SV Appendix 3B

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Descriptions of the consultations;	EIS 3.5.4 PI SV 2.2.3
	Lists of all factors suggested for inclusion in the EIS, whether or not the factors were included, and the rationale for any exclusions; and	EIS 3.6
	Any issues relevant to the environmental assessment that were raised in the consultations.	EIS 3.6
<b>8</b>	<b>EXISTING ENVIRONMENT</b>	
	Information on the environmental setting will be organized into the following broad topics: Physical environment; Biophysical environment (i.e. aquatic and terrestrial); and Socio-economic environment (including resource use and heritage resources).	
<b>8.1</b>	<b><i>Physical Environment</i></b>	
	<b>ATMOSPHERE</b>	
	Precipitation, temperature, and wind speed/direction	EIS 6.2.3.2.2
	Trends in climate change	EIS 6.3.12.1
	A description of climate variability and extreme events.	EIS 6.3.12.1
	A description of how on-site data has been utilized in combination with data collected from regional stations to develop the site climatology. This should also include a discussion of uncertainty in the site climatology.	PE SV 2.2.1.1
	Existing air quality and sources of air contaminants, including greenhouse gas emissions.	EIS 6.2.3.2.3
	Information regarding the location of the project and the distance to all potential human receptors for different uses (residential, recreational, traditional etc.) within the area affected by the project specific to air quality effects.	EIS 6.2.3.2.3

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	An inventory of all potential sources of air contaminants and emissions from the proposed project: criteria air contaminants, air pollutants on the List of Toxic Substances in Schedule 1 of the <i>Canadian Environmental Protection Act</i> , 1999.	EIS 6.3.4.1, 6.3.4.2
	Existing ambient noise level	EIS 6.2.3.2.4
	The delineation of the distance of the project to all potential human receptors specific to noise effects.	EIS 6.2.3.2.4
	<b>LAND</b>	
	A description of local and regional physiography, geology and soil conditions. For areas to be flooded and eroded, the level of mercury and other potentially toxic metals in soils, in particular for soils with high organic content and indurated soils.	EIS 6.2.3.2.5, 6.2.3.4.2,
	Chemical characterization of soils, including organic matter content, and nutrients.	EIS 6.2.3.2.5
	Physical and chemical properties of rock and borrow material sources, including the Acid Base Accounting.	PE SV 5.3.2.3, 5.4.1.1.5, 5.4.1.1.6
	A description of permafrost conditions that includes a description of the distribution of permafrost, thermal conditions, ground ice, thaw sensitivity and active layer thickness.	EIS 6.2.3.2.5, 6.3.5
	Regional seismicity and seismic activity including an estimate of seismic hazards.	EIS 6.2.3.2.5
	Shoreline characteristic (geologic materials, organic materials, areas of shoreline erosion and recession, locations of instability) and areas of potential reservoir shoreline erosion conditions and the rate of shoreline erosion and recession.	EIS 6.2.3.2.7
	Peatland disintegration along shorelines and inland areas.	EIS 6.2.3.2.7
	Shoreline debris	EIS 6.2.3.2.11

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	<b>SURFACE WATER AND GROUNDWATER</b>	
	Hydrology and spatial extent of the local and regional watersheds in the Split Lake to Gull Rapids reach, Stephen's Lake (Reservoir).	EIS 6.2.3.2.6
	A description of existing water regime, range of flows and water levels shall also include a description of seasonal variability and extreme events.	EIS 6.2.3.2.6
	Existing range of flows and water levels in the context of the operation of the Churchill River Diversion (CRD) and Lake Winnipeg Regulation (LWR).	EIS 6.2.3.2.6
	Longitudinal profiles of water levels and bathymetry of the Nelson River from the outlet of Split Lake to the inlet to Stephens Lake (Reservoir).	EIS 6.2.3.2.6 AE SV 3.3.2.3
	Ice conditions, including changes during the winter and variability from year to year.	EIS 6.2.3.2.6
	Dissolved oxygen and temperature conditions.	EIS 6.2.3.2.10 AE SV 2.4.2.3.1, 2.4.2.4, 2.4.2.5.1, 2.4.2.6, 2.4.2.7
	Groundwater movement, levels and regime.	EIS 6.2.3.2.9
	Nature and extent of suspended sediment transport and deposition.	EIS 6.2.3.2.8
	Hydrologic and hydraulic models, including a detailed assessment of instream flow needs.	EIS 4.7.1, 4.7.2 EIS 6.2.3.2.6 PE SV 4.2.5, Appendix 4B

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	<p>The EIS will provide in detail the hydraulic models that will describe the existing (baseline) hydrological regime and that will be used to predict the potential changes in the hydrological regime as a result of the Project. The EIS will describe the following information for each model used:</p> <ul style="list-style-type: none"> <li>• Input parameters and assumptions;</li> <li>• Outputs provided by the model;</li> <li>• Basis of the model methodology; and</li> <li>• Purpose for the model.</li> </ul>	PE SV 4.2.5, Appendix 4B
	A table of hydraulic models used should be developed and presented in the EIS. This table will have the model name, how the model is used and a description of general purpose.	PE SV 4.2.5, Appendix 4B
<b>THERMAL AND ICE REGIME</b>		
	The EIS will include a description of the existing water temperature and ice regimes of the Nelson River. Technical study areas for reservoir and river locations will be described	Ice Regime / Technical Study Area: EIS 6.2.3.2.6 Water Temperature: EIS 6.2.3.2.10
	A description of the model, calibration and validation methods and predicted water temperature and ice characteristics in the area of assessment will be provided.	PE SV Appendix 4B PE SV Appendix 9A
<b>FLUVIAL GEOMORPHOLOGY AND SEDIMENT TRANSPORT</b>		
	The EIS will present information regarding the existing conditions and related changes to fluvial geomorphology and sediment transport in the Nelson River.	EIS 6.2.3.2.8
	Suspended sediment characteristics and transport rates in the Nelson River in the area of assessment.	EIS 6.2.3.2.8
	Bed material characteristics and bedload transport rates in the Nelson River in the area of assessment.	EIS 6.2.3.2.8

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Historical locations, patterns, and rates of channel erosion and deposition in the area of assessment.	Mineral Sediment Deposition: PE SV 7.3.1.1, 7.3.1.2 Organic Sediment Deposition: PE SV 7.3.1.3, 7.3.1.4 Shoreline Erosion: EIS 6.2.3.2.7
<b>8.2</b>	<b>Biophysical Environment</b>	
<b>8.2.1</b>	<b><i>Aquatic Environment</i></b>	
	<b>WATER QUALITY AND SEDIMENT QUALITY</b>	
	A description of the limnology, including physical and chemical characteristics of the groundwater and surface water quality, with discussion on seasonal variation.	Groundwater Quality: EIS 6.2.3.2.9 Water Quality: EIS 6.2.3.3.2
	Chemical characteristics should include concentrations of water and sediment quality parameters that affect the suitability of the environment for aquatic life.	Water Quality: EIS 6.2.3.3.2 Sediment Quality: AE SV 2.6.4
	A description of the mercury concentrations, mobility and fate within the riparian ecosystem.	EIS 6.2.3.2.5, 6.2.3.4.8
	Identify all sources (surface and groundwater) of drinking water, as well as water used for recreational purposes, within the area of influence of the project.	Groundwater: PE SV 8.0 Water-related infrastructure: SE SV 4.3.3.1. 4.3.3.2 Water and Ice- based Transportation: EIS 6.2.3.5.4 Resource Use: EIS 6.2.3.6



<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The identification of potential human receptors, considering those who may be exposed to contaminants via drinking water sources, and/or recreational waters.	Water and Wasterwater Treatment during Project Construction: EIS 4.6.14 Water and Wasterwater Treatment during Project Operation: EIS 4.7.9 Water-related infrastructure: SE SV 4.3.3.1. 4.3.3.2 Water and Ice- based Transportation: EIS 6.2.3.5.4 Resource Use: EIS 6.2.3.6
	An indication of baseline levels of naturally-occurring contaminants in drinking water sources (surface and groundwater) in order to access [assess] impact on drinking water.	Groundwater Quality: EIS 6.2.3.2.9 Surface Water Quality: EIS 6.2.3.3.2
	Susceptibility to erosion and sedimentation.	Shoreline Erosion: EIS 6.2.3.2.7 Sedimentation: EIS 6.2.3.2.8

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The EIS will contain details of methodology, modelling, and analysis used to establish existing sediment load in waterbodies in the area of assessment... Total Suspended Solids (TSS) will be used to describe water quality with respect to sediment.	PE SV 7.2.5.1, 7A.1.1.1, 7B.1.1.3
	The EIS will describe methods/models for describing current levels of sediment deposition within the waterbodies of the study area. A baseline of sediment deposition rates over the area of assessment will be established. Results for sediment loading and sedimentation will be compared to Canadian Sediment Quality Guidelines for the Protection of Aquatic Life (2011) and Manitoba Water Quality Standards, Objectives and Guidelines.	PE SV 7.3.1.1, 7.3.1.2, 7.3.1.3, 7.3.1.4
	The EIS will describe existing water quality conditions in the Nelson and its tributaries in the area of assessment. Water quality parameters recorded during baseline studies (e.g., nutrient and metals concentrations, suspended sediment levels, dissolved gas pressure levels, pH, alkalinity, temperature) will be summarized and compared with provincial and federal guidelines, including: <ul style="list-style-type: none"> <li>• Manitoba Water Quality Standards, Objectives and Guidelines; and</li> <li>• Canadian Water Quality Guidelines (CCME 2011).</li> </ul>	EIS 6.2.3.3.2
<b>AQUATIC HABITAT</b>		
	Data, models, assessment methods and analysis used to describe baseline conditions for fish will be described in the EIS. Sample design, sampling error and sample bias will be described and considered in the reporting of results. Where samples do not meet a statistically valid sample size the results will be reported as descriptive; aquatic habitat based on water depth, velocity, substratum, and presence of cover.	EIS 6.2.3.3.2 AE SV Appendices 3A, 3B, 3C, 3D
	Aquatic habitat classified into categories relevant to use by aquatic biota.	EIS 6.2.3.3.2

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Quantification of existing habitat, including description of changes due to seasonal and year-to-year variation in water flows.	EIS 6.2.3.3.2
	Description of the biological composition of freshwater aquatic environments, including trophic state and the interactions and relative significance of each trophic level identified in the food chain.	Algae and Aquatic Plants: EIS 6.2.3.3.3 Aquatic Invertebrates: EIS 6.2.3.3.4 Fish: EIS 6.2.3.3.5
	Characterization of the range of natural variability of populations, including abundance and community composition.	Algae and Aquatic Plants: EIS 6.2.3.3.3 Aquatic Invertebrates: EIS 6.2.3.3.4 Fish: EIS 6.2.3.3.5
<b>INTACTNESS</b>		
	Fragmentation resulting from human linear features and other human footprints, including dykes and dams throughout the watershed.	Aquatic Habitat: EIS 6.2.3.3.2
	Distribution of linear features by feature type.	Aquatic Habitat: EIS 6.2.3.3.2
	Distribution and abundance of core areas.	Aquatic Habitat: EIS 6.2.3.3.2
<b>ALGAE AND AQUATIC PLANTS</b>		
	Species composition and biomass of phytoplankton, including seasonal changes and relation to characteristics of the waterbody.	AE SV 4.2.3
	Distribution of attached algae in relation to habitat.	AE SV 4.3.3

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Species composition and distribution of aquatic macrophytes, in relation to habitat.	AE SV 4.3.3
	Distribution, abundance and habitat associations of invasive aquatic plant species.	EIS 6.2.3.3.3
	<b>AQUATIC INVERTEBRATES</b>	
	Species composition or major taxa and abundance of zooplankton, including seasonal changes and relation to characteristics of the waterbody.	AE SV 4.4.3
	Species composition and abundance of benthic invertebrates, in relation to habitat.	AE SV 4.5.3
	Distribution, abundance and habitat associations of invasive aquatic invertebrate species.	EIS 6.2.3.3.4
	<b>FISH</b>	
	Species composition and relative abundance.	EIS 6.2.3.3.5
	Species of cultural, spiritual, or traditional use importance to Aboriginal peoples and Aboriginal groups.	EIS 6.2.3.3.1, 6.2.3.3.5
	Life history parameters, including spawning and feeding biology.	AE SV Appendices 5A, 6A
	Habitat use	EIS 6.2.3.3.5
	Baseline information on the a) availability of fish habitat, b) use or suitability of fish habitat and c) description of the physical environment associated with observed habitat (at a minimum depth, velocity and substrate).	EIS 6.2.3.3.5
	Where all aquatic habitats cannot be directly assessed the method of extrapolation (modelling) will be described. Extrapolations will be tested for fidelity. Where habitat and their use (suitability) cannot be directly sampled the method of habitat description will be described in detail and extrapolations tested for fidelity. A sensitivity analysis will be conducted on these models to assess strength of the results.	Fish Community: AE SV Appendix 5B

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Habitat Suitability Indices (HSI) may be used for the description of baseline fish habitat in the Nelson River and its tributaries. The development of Habitat Suitability Indices (HSI) specific to the Nelson River in the area of assessment will be conducted using peer reviewed practices and chosen methods will be described. Modelling of the physical environment and habitat suitability will be described and tested for fidelity.	Lake Sturgeon: AE SV 6.3.2, Appendix 6D
	Aquatic HSI's developed from literature review or professional opinion will be done in consultation with Manitoba Conservation and Water Stewardship and Fisheries and Oceans Canada.	Lake Sturgeon: AE SV 6.3.2, Appendix 6D
	Short-term and long-term patterns of fish movements between and within waterbodies, including spawning migrations and movements over habitat potentially affected by the Project.	EIS 6.2.3.3.5
	Distribution, abundance and habitat associations of invasive aquatic fish species.	EIS 6.2.3.3.5
<b>MERCURY CONCENTRATIONS AND OTHER CHARACTERISTICS OF FISH QUALITY</b>		
	Mercury levels in key domestic and commercial fish species (e.g., lake sturgeon, walleye, northern pike, and lake whitefish).	EIS 6.2.3.3.6
	Other characteristics of fish quality that affect the commercial sale of fish.	EIS 6.2.3.3.6
<b>AQUATIC SPECIES OF CONSERVATION CONCERN</b>		

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The EIS will identify all aquatic species named under the <i>Species at Risk Act</i> (SARA) and/or <i>The Endangered Species Act</i> (Manitoba), listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and identified as S1 and S2 species by the Manitoba Conservation Data Centre. The EIS will include information on composition, distribution, relative abundance, seasonal movements, movement corridors, habitat requirements, key habitat areas, and general life history for the identified species. Identify all species listed on Schedule 1 of SARA and those recognized as “at risk” by COSEWIC that may occur in the project area, and at any project component, using recognized survey protocols to provide current field data.	EIS 6.2.3.3.3, 6.2.3.3.4, 6.2.3.3.5
<b>8.2.2</b>	<b><i>Terrestrial Environment</i></b>	
	<b>SOIL QUANTITY AND QUALITY</b>	
	Distribution and abundance of soil types classified into soil quality categories.	TE SV 2.9.3.2
	Parameters that affect the suitability of soils to perform ecosystem functions (e.g., primary productivity).	TE SV 2.9.3.2
	Present mercury and methylmercury data and analyses in soil.	EIS 6.2.3.2.5, 6.2.3.4.8
	<b>TERRESTRIAL HABITAT</b>	
	Terrestrial habitat based on vegetation, site conditions, groundwater depth, surface water depth, permafrost, topography and disturbance or instability regime.	EIS 6.2.3.4.2
	Terrestrial habitat classified into upland and wetland categories relevant to use by terrestrial biota.	EIS 6.2.3.4.2
	Quantification of existing habitat, including description of changes due to temporal variations in water levels and flows, historical human impacts, vegetation succession and large fires.	EIS 6.2.3.4.2
	<b>FIRE REGIME</b>	
	Fire history	TE SV 2.5.2, 2.5.3

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Fire regime parameters relevant for vegetation, wildlife and ecosystem functions.	TE SV 2.3.2, 2.5.1, 2.5.3
	<b>ECOSYSTEM DIVERSITY</b>	
	Distribution and abundance of stand and landscape level ecosystem types.	EIS 6.2.3.4.2
	Distribution, abundance and environmental associations of ecosystem types requiring special consideration such as rare or highly diverse types.	EIS 6.2.3.4.2
	<b>WETLANDS</b>	
	Mapped wetlands in the project area including riparian wetlands and those that may be affected by ancillary features of the project, indicate direction of inflow/outflow, and describe the location, size of wetlands, wetland type, condition, ecological community types, flora and fauna.	EIS 6.2.3.4.2
	Describe the contribution of the wetland to the quantity and quality of surface water and groundwater.	TE SV Appendix 2F (2.19)
	Describe the terrestrial and aquatic habitat functions	EIS 6.2.3.4.2
	Describe the ecological function of the wetland in the surrounding ecosystem and adjacent land use.	EIS 6.2.3.4.2
	Distribution, abundance and environmental associations of peatlands and wetland types making disproportionately high contributions to wetland function such as highly productive types or types that provide high quality habitat for waterfowl or aquatic furbearers.	EIS 6.2.3.4.2
	Parameters that affect wetland functions.	TE SV 2.3.2, 2.8.1.1
	<b>CARBON STORAGE</b>	
	Carbon stored in terrestrial vegetation and soils.	TE SV Appendix 2F (2.19)
	Parameters that affect the ability of vegetation and soils to store carbon.	TE SV 2.3.2
	<b>INTACTNESS</b>	
	Fragmentation resulting from human linear features and other human footprints.	EIS 6.2.3.4.2

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Distribution of linear features by feature type.	EIS 6.2.3.4.2
	Distribution and abundance of core areas.	EIS 6.2.3.4.2
	<b>TERRESTRIAL PLANTS</b>	
	Species composition, including species of cultural, spiritual, or traditional use importance to Aboriginal peoples and Aboriginal groups, distribution and relative abundance of vascular plants, in relation to habitat.	EIS 6.2.3.4.3
	Species composition distribution and relative abundance of the common ground mosses and lichens, in relation to habitat.	EIS 6.2.3.4.3
	Distribution, abundance and habitat associations of invasive plant species.	EIS 6.2.3.4.3
	<b>TERRESTRIAL INVERTEBRATES</b>	
	The EIS will describe species composition and habitat associations of terrestrial invertebrates (e.g., worms, snails, spiders, insects) in the applicable study area(s).	EIS 6.2.3.4.4
	<b>AMPHIBIANS AND REPTILES</b>	
	<ul style="list-style-type: none"> <li>• Species composition and distribution of amphibians.</li> <li>• Habitat associations and seasonal use by amphibians.</li> <li>• Species and presence of reptiles (if applicable).</li> </ul>	EIS 6.2.3.4.5
	<b>BIRDS</b>	
	Species composition, including species of cultural, spiritual, or traditional use importance to Aboriginal peoples and Aboriginal groups, distribution and relative abundance of songbirds, raptors, upland gamebirds and waterbirds, including migratory birds, in relation to habitat including seasonal changes.	EIS 6.2.3.4.6



<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	<b>MAMMALS</b>	
	Species composition, including species of cultural, spiritual, or traditional use importance to Aboriginal peoples and Aboriginal groups, distribution and relative abundance of small mammals, furbearers, large carnivores and ungulates, in relation to habitat including seasonal changes.	EIS 6.2.3.4.7
	A determination of caribou use of the project and surrounding area, movements through or near the project area, and the seasonality of these movements.	EIS 6.2.3.4.7
	<b>MERCURY IN WILDLIFE</b>	
	Mercury levels for key bird species (e.g., Canada goose, mallard); and for key mammal species (e.g., beaver, muskrat, otter and mink).	EIS 6.2.3.4.8 Key bird species: TE SV 8.3.3 Key mammal species: TE SV 8.4.3
	<b>SPECIES OF CONSERVATION CONCERN</b>	
	The EIS will identify all plants and animals named under the SARA and/or <i>The Endangered Species Act</i> (Manitoba), listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and identified as S1 and S2 species by the Manitoba Conservation Data Centre. The EIS will include information on composition, distribution, relative abundance, seasonal movements, movement corridors, habitat requirements, key habitat areas, and general life history for the identified species. Identify all species listed on Schedule 1 of SARA and those recognized as "at risk" by COSEWIC that may occur in the project area, and at any other project component, using recognized survey protocols to provide current field data.	Terrestrial Plants: EIS 6.2.3.4.3 Terrestrial Invertebrates: EIS 6.2.3.4.4 Amphibians and Reptiles: EIS 6.2.3.4.5 Bird Species at Risk: EIS 6.2.3.4.6 Mammals - Rare or regionally rare species: EIS 6.2.3.4.7

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>8.3</b>	<b><i>Socio-Economic Environment</i></b>	
<b>8.3.1</b>	<b><i>Economy</i></b>	
	The regional economy, in particular local Aboriginal and non-Aboriginal communities and the regional centre, with an emphasis on the labour force, employment, unemployment, income, and education and training, and with a profile of local business capacity (e.g., goods and services).	Local study area: EIS 6.2.3.5.2 Regional study area: SE SV 3.3.5, 3.3.6
	A profile of key resource use sectors potentially affected by the Project (see Land and Resource Use), with an emphasis on the commercial sectors.	EIS 6.2.3.6
	Cost of living	EIS 6.2.3.5.2
<b>8.3.2</b>	<b><i>Population, Infrastructure and Services</i></b>	
	Existing population distribution and demographics; including for each of the Aboriginal groups.	EIS 6.2.3.5.3
	Existing infrastructure and services of Aboriginal and other communities, in-vicinity including:	EIS 6.2.3.5.3
	• Housing/accommodation supply;	EIS 6.2.3.5.3
	• Water and sewer infrastructure;	SE SV 4.3.3
	• Education;	EIS 6.2.3.5.3
	• Emergency services;	SE SV 4.3.3
	• Social services; and	EIS 6.2.3.5.3
	• Public health infrastructure and health and social services that may be relied upon during Project construction and operation.	EIS 6.2.3.5.3
<b>8.3.3</b>	<b><i>Personal, Family and Community Life</i></b>	
	• Public safety	EIS 6.2.3.5.4
	• Travel, access and safety	
	• Aesthetics	
	• Health status and health issues	
	• Culture and spirituality; including for each of the Aboriginal groups	
	• Governance, goals and plans	

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>8.3.4</b>	<b><i>Land and Resource Use</i></b>	
	Land use context (recreation, navigable waters, etc.)	EIS 6.2.3.5.3, 6.2.3.5.4, 6.2.3.6
	Description of lands including:	
	Land acquisition focusing on Crown land requirements and private land acquisition requirements for the Project.	EIS 4.4 EIS 6.2.3.5.3
	Description of Reserve lands and Treaty Land Entitlement.	EIS 6.2.3.5.3 SE SV 4.3.4
	Lands with special designation (proposed and existing), focusing on the following: <ul style="list-style-type: none"> <li>• Federal and provincial park lands;</li> <li>• Wildlife Management Areas;</li> <li>• Areas of special interest (Manitoba Protected Areas Initiative);</li> <li>• Ecological reserve lands; and</li> <li>• scientific sites.</li> </ul>	EIS 6.2.3.6.4
	Based on information provided by Aboriginal groups or, if Aboriginal groups do not provided this information, on available information from other sources, a description of the following:	
	Current and proposed uses of land and resources by each Aboriginal group for traditional purposes, i.e., hunting, fishing, trapping, cultural and other traditional uses of the land (e.g., collection of medicinal plants and uses of sacred sites).	EIS 6.2.3.5.4, 6.2.3.6.2
	Land and water access into the area by Aboriginal people.	EIS 6.2.3.6.2, 6.2.3.5.3, 6.2.3.5.4
	Water and ice routes, modes of transportation, and timing of water/ice route usage.	EIS 6.2.3.6.4, 6.2.3.5.4
	Navigation and navigation safety	EIS 6.2.3.6.2, 6.2.3.5.4

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Description of commercial resource use and lands including: Commercial use of resources by each Aboriginal group and non-Aboriginal groups, focusing on the following:	
	• Commercial fishing;	EIS 6.2.3.6.3
	• Commercial trapping;	EIS 6.2.3.6.3
	• Resource tourism including lodge and outfitting operations and eco-tourism;	EIS 6.2.3.6.3
	• Navigation and navigation safety;	EIS 6.2.3.5.4
	• Commercial mining activities, leases, licenses and lands; and	EIS 6.2.3.6.3
	• Forestry and forested lands.	EIS 6.2.3.6.3
	Description of recreational resource use including:	
	• Use of lands and waters by non-Aboriginal peoples for the purposes of sports fishing, hunting, recreational cabin uses and associated travel routes and travel safety concerns;	EIS 6.2.3.6.4
	• Navigation and navigation safety; and	EIS 6.2.3.5.4
	• Description of use of potable water for drinking water purposes.	EIS 4.3.2.2 EIS 6.6.5.2
<b>8.3.5</b>	<b><i>Heritage Resources</i></b>	
	Historical land use and occupancy	EIS 6.2.3.7, 6.2.3.7.1
	Archaeological sites and culturally important sites, focusing on shoreline sites that could potentially be affected by erosion.	EIS 6.2.3.7
	Location of known and potential burial sites (if any).	EIS 6.2.3.7
	Structures, sites or things of historical, archaeological, paleontological or architectural significance that will be affected by the Project.	EIS 6.2.3.7

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>8.3.6</b>	<b><i>Traditional and Local Knowledge</i></b>	
	The proponent must incorporate into the EIS the traditional and local knowledge to which it has access or that it may reasonably be expected to acquire through applying the appropriate due diligence, in keeping with appropriate ethical standards and without breaching obligations of confidentiality, as set out in section 2 of this document.	EIS 1.4 EIS Chapter 2, Appendix 2A EIS 5.2, 5.3 EIS 6.2.2, 6.2.3, 6.3.2, 6.4.2, 6.5.2, 6.6.2, 6.7.2, 6.8.2 EIS 7.2 EIS 8.2.7, 8.3.1, 8.3.4 EIS 9.2.1 EIS Chapter 10 KCNs Environmental Evaluation Reports
<b>9</b>	<b>ENVIRONMENTAL EFFECTS ASSESSMENT</b>	
	This section will describe the potential environmental effects of the Project components. The proponent shall identify the Project's likely adverse environmental effects during construction, operation, maintenance, decommissioning and reclamation of sites and facilities associated with the Project, and describe these effects using appropriate criteria.	
<b>9.1</b>	<b>Assessment Methodology</b>	
<b>9.1.1</b>	<b><i>Precautionary Approach</i></b>	
	Describe how implementation of the Project components and activities have been planned in a careful and precautionary manner in order to ensure that significantly adverse or unwarranted environmental effects will not occur, especially with respect to environmental functions and integrity, considering system tolerance and resilience, and/or the human health of current or future generations.	EIS 4.3.3, 4.5.1 EIS Chapter 8 EIS 10.3

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Outline and justify the assumptions made about the effects of all project components and activities and the approaches to minimize these effects.	EIS 4.3.3 EIS 6.3 through 6.8
	Demonstrate that in designing and operating the Project, priority has been and would be given to strategies that avoid the creation of adverse environmental effects.	EIS 4.5.1 EIS 6.3 through 6.8
	Develop contingency plans that explicitly address accidents and malfunctions of the Project.	EIS 4.7.8, 4.7.8.2
	Identify the proposed follow-up and monitoring activities, particularly in areas where scientific uncertainty exists in the prediction of effects.	EIS Chapter 8
	Present public views on the acceptability of all of the above.	EIS Chapter 2 EIS 3.5, 3.6
<b>9.1.2</b>	<b><i>Impact Matrix</i></b>	
	<p>An impact matrix methodology in combination with identification of VECs should be used to evaluate the adverse environmental effects of the Project. The assessment should include the following general steps listing the activities and components of the Project; identifying VECs;</p> <p>Identifying the potential interactions between the project activities and components and the environment during all phases of the project.</p> <p>Predicting and evaluating the likely effects on identified valued ecosystem components;</p> <p>Identifying technically and economically feasible mitigation measures for significant adverse environmental effects;</p> <p>Identifying residual environmental effects;</p> <p>Ranking of each residual adverse environmental effect based on established criteria; and</p> <p>Determining the potential significance of residual environmental effect following the implementation of mitigation.</p>	<p>Approach:</p> <p>EIS Chapter 5</p> <p>Impact Matrix:</p> <p>EIS Appendix 6C</p> <p>Assessment results:</p> <p>EIS 6.3 through 6.8</p>

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The results of the assessment process should be clearly documented in the text as well as in summary matrices and tables. The analysis must be documented in a manner that readily enables conclusions on the significance of the environmental effects to be drawn.	EIS 6.3, 6.4, 6.5, 6.6, 6.7, 6.8
<b>9.1.3</b>	<b><i>Potential Effects on Aboriginal Groups</i></b>	
	Potential social and/or economic effects to Aboriginal groups that may arise as a result of the Project.	EIS 6.6, 6.7.3, 6.7.4
	Effects of the Project may have on current use of lands and resource for traditional purposes by Aboriginal peoples, including but not limited to hunting, fishing, navigation, trapping, gathering, cultural and other traditional uses of the land (e.g. collection of medicinal plants, use of sacred sites), as well as related effects on lifestyle, culture and quality of life of Aboriginal groups and measures to avoid, mitigate, compensate or accommodate effects on traditional uses.	EIS 6.6.5.5, 6.6.5.6, 6.6.5.7, 6.7.3
	Effects of alterations to access into the area on Aboriginal groups, including deactivation or reclamation of access roads.	EIS 6.6.4.5, 6.6.5.5, 6.7.3
	Effects of the project on heritage and archaeological resources in the project area that are of importance or concern to Aboriginal groups.	EIS 6.8
	A discussion of any factors that may inhibit or foster the flow of economic and other benefits to Aboriginal communities.	EIS 6.6.3
<b>9.2</b>	<b>Mitigation Measures</b>	
	The EIS must consider measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project.	EIS 4.3.3.2 EIS 6.3 through 6.8
	The proponent shall describe its environmental protection plan and its environmental management system, through which it will deliver the plan.	EIS 4.3.3.3 EIS Chapter 8

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	This section of the EIS describe how potentially adverse environmental effects would be minimized and managed over time.	EIS 6.3 through 6.8 EIS Chapter 8
	As well, the proponent shall describe its commitments, policies and arrangements directed at promoting beneficial or mitigating adverse socioeconomic effects.	EIS 4.3.3.2, 4.6.17, EIS 6.6
	The proponent shall discuss the mechanisms it would use to require its contractors and sub-contractors to comply with these commitments and policies and with auditing and enforcement programs.	EIS 4.7.4 EIS Chapter 8
	This should include monitoring activities that will be undertaken to evaluate the effectiveness of mitigation and the need for management response (adaptive management).	EIS Chapter 8
	The EIS shall provide an analysis of the likely efficacy of the proposed technically and economically feasible mitigation measures, drawing where relevant on experience gained from employing the measures on other similar projects.	EIS 6.3 through 6.8
	The reasons for determining whether the mitigation measure reduces the significance of an adverse environmental effect shall be made explicit.	EIS 6.3 through 6.8



<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>9.3</b>	<b>Residual Effects</b>	
	The EIS shall include a summary of the Project's residual effects, including the temporal and spatial extent of those effects, so that the reader clearly understands the real consequences of the Project, the degree to which adverse environmental effects can be mitigated and which adverse environmental effects cannot be mitigated or compensated.	Text: 6.4.3.1.3, 6.4.3.2.3, 6.4.4.1.3, 6.4.4.2.3, 6.4.5.1.3, 6.4.5.2.3, 6.4.6.1.3, 6.4.6.2.3, 6.4.7.1.3, 6.4.7.2.3, 6.4.7.3.3, 6.5.3.1.5, 6.5.3.2.5, 6.5.3.3.5, 6.5.3.4.5, 6.5.4.2.5, 6.5.5.5, 6.5.6.5, 6.5.7.1.5, 6.5.7.2.5, 6.5.7.3.5, 6.5.7.4.5, 6.5.7.5.5, 6.5.7.6.5, 6.5.8.1.5, 6.5.8.2.5, 6.5.8.3.5, 6.5.8.4.5, 6.5.8.5.5, 6.5.8.6.5, 6.5.8.8.5, 6.5.9.1.5, 6.6.3.1.3, 6.6.3.2.5, 6.6.3.3.5, 6.6.3.4.4, 6.6.3.5.5, 6.6.4.2.5, 6.6.4.3.5, 6.6.4.4.5, 6.6.4.5.5, 6.6.5.1.5, 6.6.5.2.5, 6.6.5.3.5, 6.6.5.4.5, 6.6.5.5.5, 6.6.5.6.5, 6.6.5.7.5, 6.7.3.2.5, 6.7.4.1.5, 6.7.4.2.5, 6.7.4.3.5, 6.7.5.1.5, 6.8.3.3 Summary tables in the following sections: EIS 6.4.8, 6.5.10, 6.6.6.1, 6.6.6.2, 6.6.6.3, 6.7.6, 6.8.4

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>9.4</b>	<b>Determination of the Significance of Residual Effects</b>	
	The following criteria should be used in determining the significance of residual effects: <ul style="list-style-type: none"> <li>• Magnitude;</li> <li>• Geographic extent;</li> <li>• Timing, duration and frequency;</li> <li>• Reversibility;</li> <li>• Ecological and social context;</li> <li>• Level of confidence and probability; and</li> <li>• Existence of environmental standards, guidelines or objectives for assessing the impact.</li> </ul>	EIS 5.5
	The EIS should contain a section which explains the assumptions, definitions and limits to the criteria mentioned above in order to maintain consistency between the environmental effects.	EIS 5.5
	The proponent will provide a summary of regional, provincial, Aboriginal or national objectives, standards or guidelines that have been used to assist in the evaluation of the significance of the identified adverse environmental effects.	EIS 5.5 EIS Appendix 6B
	For identified significant adverse effects, the proponent shall determine the probability (likelihood) that they will occur. The proponent shall also address the degree of scientific uncertainty related to the data and methods used within the framework of its environmental analysis.	EIS 5.5 EIS 6.4 through 6.8 (Each VEC has concluding paragraph)
	The EIS must clearly explain the method and definitions used to describe the level of the adverse environmental effect (e.g. low, moderate, high) for each of the above categories and how these levels were combined to produce an overall conclusion on the significance of adverse environmental effects.	EIS 5.5
	The EIS will contain a summary of the significance of the residual environmental effects in tabular form.	EIS 6.4.8, 6.5.10, 6.6.6.1, 6.6.6.2, 6.6.6.3, 6.7.6, 6.8.4

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>9.5</b>	<b>Effects of the Environment on the Project</b>	
	The EIS must predict how local conditions and natural hazards, such as severe and/or extreme weather conditions and external events (e.g., flooding, ice jams, rock slides, landslides, fire, outflow conditions and seismic events) could adversely affect the Project and how this in turn could result in impacts to the environment (e.g., extreme environmental conditions result in malfunctions and accidental events).	EIS 6.9
	The sensitivity of the Project to long-term climate variability and effects must be identified and discussed.	EIS 6.3.12, 6.4.9, 6.5.11, 6.6.7, 6.7.7, 6.8.5, 6.9.1.4
	The EIS must provide details of a number of planning, design and construction strategies intended to minimize the potential adverse environmental effects of the environment on the Project. Potential impacts should be mitigated, as appropriate and/or feasible.	EIS 6.3.13
<b>9.6</b>	<b>Effects of Potential Accidents and Malfunctions</b>	
	The proponent must identify a list of, and the probability of potential accidents and malfunctions related to the Project, including an explanation of how those events were identified, potential consequences including the environmental effects, the worst case scenarios and the effects of these scenarios. Examples of events that should be considered include events such as failure of dams and dykes.	EIS 4.7.8
	The geographical and temporal boundaries for the assessment of malfunctions and accidents may be different than those in the scope of factors for each VEC. This analysis must include, at a conceptual level, an identification of the magnitude of an accident and/or malfunction, including the quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the accident and malfunction events.	EIS 4.7.8

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The EIS must also describe the safeguards that have been established to protect against such occurrences and the contingency and emergency response procedures in place if an accident or malfunction does occur. The EIS must include a list of emergency response plans to be developed and implemented during the life of the project.	EIS 4.6.13, 4.7.8
<b>9.7</b>	<b>Capacity of Renewable Resources</b>	
	The EIS must describe the effects of the Project on the capacity of renewable resources to meet the needs of the present and those of the future. The EIS must identify those resources likely to be significantly affected by the Project, and describe how the Project could affect their sustainable use. The EIS must also identify and describe criteria used in considering sustainable use. Sustainable use may be based on ecological considerations such as integrity, productivity, and carrying capacity.	EIS 6.10
<b>9.8</b>	<b>Cumulative Environmental Effects</b>	
	Valued environmental components (VECs) specific to the residual adverse environmental effects of the Project shall be identified and described at the outset of the cumulative environmental effects assessment.	EIS Chapter 7
	The proponent shall discuss the data and methodology to be used in the scoping phase of the cumulative environmental effects assessment, including a list of other projects to be considered, a list of the residual adverse environmental effects of the Project to be considered in the assessment, the temporal and spatial boundaries specific to those effects, to ensure that the assessment will meet the needs of the analysis.	EIS Chapter 7
	The proponent shall provide a map showing all past, present and future projects it has considered to be included in the cumulative environmental effects assessment.	EIS Chapter 7, Appendix 7A

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The EIS must describe the analysis of cumulative effects on identified VECs over the life of the Project, including the incremental contribution of all identified past, current and proposed projects and activities, in addition to that of the Project.	EIS Chapter 7
	The EIS must include different forms of the cumulative environmental effects (e.g. synergistic, additive, induced) and identify impact pathways and trends.	EIS Chapter 7
	Explain the approach and methods used to identify and assess the cumulative adverse environmental effects and provide a record of all assumptions and analysis that support the conclusions, including the level of confidence in the data used in the analysis.	EIS Chapter 7
<b>9.9</b>	<b>Summary</b>	
	For all key VECs that were assessed, the EIS should contain a table summarizing the following key information: <ul style="list-style-type: none"> <li>• concise summary of potential adverse environmental effects; summary of proposed mitigation and compensation measures;</li> <li>• a brief description of potential residual adverse environmental effects;</li> <li>• a brief description of potential cumulative adverse environmental effects;</li> <li>• applicable standards or guidelines;</li> <li>• comments from the public and responses;</li> <li>• comments from Aboriginal groups and individuals and responses;</li> <li>• relationship of the VEC to a identified Aboriginal group's access to lands and resources for traditional purposes; and</li> <li>• a list of proposed commitments, summarizing the timing and responsibility of each of the actions for which a commitment (including special management practices or design features) has been made by the proponent.</li> </ul>	EIS 6.4.8, 6.5.10, 6.6.6.1, 6.6.6.2, 6.6.6.3, 6.7.6, 6.8.4, Appendix 6C EIS 3.6 Separate Executive Summary document
<b>10</b>	<b>ECONOMIC AND SOCIAL BENEFITS OF THE PROJECT</b>	

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	Information on the predicted economic and social benefits of the Project should be presented including a discussion of any factors that may inhibit or foster the flow of economic and other benefits to Aboriginal communities.	EIS Chapter 2 EIS 6.6 EIS Chapter 9 EIS Chapter 10
<b>11</b>	<b>BENEFITS TO CANADIANS</b>	
	For the purpose of the comprehensive study, the proponent will describe how Canadians benefit from the information gathering process undertaken by the proponent as part of the environmental assessment. Factors to be considered may include: <ul style="list-style-type: none"> <li>• Maximized environmental benefits;</li> <li>• Contribution of the EA to support sustainable development;</li> <li>• Public participation;</li> <li>• Technological innovations;</li> <li>• Increases in scientific knowledge; and</li> </ul> Community and social benefits.	EIS Chapters 2, 3, 6, 9, 10
<b>12</b>	<b>ENVIRONMENTAL MANAGEMENT</b>	
<b>12.1</b>	<b>Planning</b>	
	The EIS shall describe the proposed EMPs for all stages of the Project and include a commitment by the proponent to implement the EMPs should the Project proceed. In accordance with the proposed EMP, monitoring and mitigation plans should be developed, specific to various aspects of the Project and the environment to be incorporated into all project components and activities. These plans would outline how results from monitoring will be used to refine or modify the design and implementation of mitigation measures and management plans.	EIS Chapter 8

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
<b>12.1.1</b>	<b><i>Decommissioning and Reclamation Plan</i></b>	
	The EIS shall provide a preliminary outline of a decommissioning and reclamation plan for any components associated with the Project. This shall include ownership, transfer and control of the different project components as well as the responsibility for monitoring and maintaining the integrity of some of the structures.	EIS 4.6.16, 4.8
<b>12.2</b>	<b>Follow-Up Program</b>	
	The EIS shall describe the proposed follow-up program plan in sufficient detail to allow independent judgment as to the likelihood that it will deliver the type, quantity and quality of information required to reliably verify predicted effects (or absence of them), and to confirm both the EA assumptions and the effectiveness of mitigation.	EIS Chapter 8
	The proponent must describe the compliance reporting methods to be used, including reporting frequency, methods and format.	EIS Chapter 8
	Environmental assessment effects predictions, assumptions and mitigation actions that are to be tested in the follow-up monitoring program must be converted into field-testable monitoring objectives.	EIS Chapter 8
	The conceptual-level monitoring design must include a statistical evaluation of the adequacy of existing baseline data to provide a benchmark against which to test for project effects, and the need for any additional pre-construction or pre-operational monitoring to establish a firmer project baseline.	EIS Chapter 8
	The follow-up program shall include, at a conceptual level, a schedule indicating the frequency and duration of effects monitoring. This schedule is to be developed after an evaluation of the length of time needed to detect effects given estimated baseline variability, likely magnitude of environmental effect and desired level of statistical confidence in the results (Type 1 and Type 2 errors).	EIS Chapter 8

<b>Final Guideline Section</b>	<b>Final EIS Guideline Requirements Heading</b>	<b>Where Addressed in EIS</b>
	The description of the follow-up program must include, at a conceptual level, contingency procedures/plans or other adaptive management provisions as a means of addressing unforeseen effects or for correcting exceedances as required to comply or to conform to benchmarks, regulatory standards or guidelines.	EIS Chapter 8
	<p>The EIS must provide the following:</p> <ul style="list-style-type: none"> <li>• A discussion of the proposed follow-up program and its objectives;</li> <li>• A description of the main components of the program and each monitoring activity under that component;</li> <li>• A discussion of the objectives the monitoring activity is fulfilling (i.e. confirmation of mitigation, confirmation of assumptions; verification of predicted effects);</li> <li>• The structure of the program;</li> <li>• A schedule for the finalization and implementation of the follow-up program;</li> <li>• A description of the roles and responsibilities for the program and its review process, by both peers, Aboriginal groups, and the public;</li> <li>• Possible involvement of independent researchers;</li> <li>• the sources of funding for the program; and</li> <li>• Information management and reporting .</li> </ul>	EIS Chapter 8
<b>13</b>	<b>SUMMARY AND CONCLUSIONS</b>	
	The EIS must summarize the overall findings of the EA with emphasis on the main environmental issues identified. It should provide a summary on the significance of adverse environmental effects and cumulative environmental effects likely to occur as a result of the implementation of the Project.	EIS Chapter 10 Separate Executive Summary document



# MASTER TABLE OF CONTENTS

# MASTER TABLE OF CONTENTS

## 1.0 INTRODUCTION

- 1.1 OVERVIEW: THE PROJECT AND THE PARTNERSHIP
  - 1.1.1 Proponent Contact Information
- 1.2 SCOPE OF THE PROJECT
- 1.3 REGULATORY FRAMEWORK
- 1.4 ABORIGINAL TRADITIONAL KNOWLEDGE, LOCAL KNOWLEDGE AND TECHNICAL SOURCES
- 1.5 STRUCTURE OF THE RESPONSE TO THE EIS GUIDELINES DOCUMENT

## APPENDIX 1A: ACKNOWLEDGEMENTS

## APPENDIX 1B: KEEYASK GENERATION PROJECT REGULATORY LICENCES

## 2.0 PARTNERS' CONTEXT, WORLDVIEWS AND EVALUATION PROCESS

- 2.1 INTRODUCTION
- 2.2 KEEYASK CREE NATIONS WORLDVIEW, VALUES AND ABORIGINAL TRADITIONAL KNOWLEDGE
  - 2.2.1 Keeyask Cree Nations Worldview and Values
  - 2.2.2 Aboriginal Traditional Knowledge
- 2.3 HISTORY OF AGREEMENTS BETWEEN KEEYASK CREE NATIONS AND MANITOBA HYDRO
- 2.4 CREE NATION PARTNERS' INVOLVEMENT IN THE PROJECT
  - 2.4.1 Evaluation Based on the Cree Nation Partners' Worldview
  - 2.4.2 CNP Coordination and Consultation Processes at Key Stages in the Environmental and Planning Phase
  - 2.4.3 CNP Concerns Prior to Project Improvements and Mitigation
  - 2.4.4 Changes to Important Aspects of the Project
  - 2.4.5 CNP Adverse Effects Agreements
  - 2.4.6 Project Training, Employment and Business Opportunities
  - 2.4.7 CNP Referendums
  - 2.4.8 CNP Conclusions
- 2.5 YORK FACTORY FIRST NATION INVOLVEMENT IN THE PROJECT
  - 2.5.1 York Factory First Nation History
  - 2.5.2 YFFN Worldview, Values, and Traditional Knowledge

- 2.5.3 YFFN Involvement in the Keeyask Process
- 2.5.4 JKDA and AEA Ratification
- 2.5.5 YFFN's Decision to Become a Partner in the Keeyask Generation Project
- 2.5.6 YFFN Involvement in the Keeyask Environmental Impact Assessment
- 2.5.7 YFFN Conclusions
- 2.6 FOX LAKE CREE NATION INVOLVEMENT IN THE PROJECT
  - 2.6.1 FLCN Historical Context
  - 2.6.2 Laying the Foundation for Diplomatic Relationships: Forgotten Nation in the Shadows of the Dams
  - 2.6.3 Community History Document: Ninan and Community History Video
  - 2.6.4 FLCN Traditional Knowledge Program
    - 2.6.4.3 Cree Foods Initiatives
    - 2.6.4.4 Cache Lake
    - 2.6.4.5 Importance of Ground Truthing
    - 2.6.4.6 Gravesite Protocol
    - 2.6.4.8 Resource Use
    - 2.6.4.9 Lake Sturgeon Mitigation
    - 2.6.4.10 Erosion
    - 2.6.4.11 Water Regime Changes
  - 2.6.5 FLCN Involvement in the Environmental Assessment and Regulatory Processes
  - 2.6.6 Involvement in the Keeyask Generation Project: JKDA and Fox Lake Adverse Effects Agreement
  - 2.6.7 FLCN Conclusions
- 2.7 MANITOBA HYDRO
  - 2.7.1 Mission and Sustainability Goals

## **APPENDIX 2A: ABORIGINAL TRADITIONAL KNOWLEDGE PRINCIPLES WITHIN THE KEYEYASK ENVIRONMENTAL IMPACT STATEMENT**

## **APPENDIX 2B: CREE WORLDVIEW SYLLABICS**

### **3.0 PUBLIC INVOLVEMENT**

- 3.1 INTRODUCTION
- 3.2 KEYEYASK CREE NATIONS

3.3	PURPOSE AND OBJECTIVES
3.4	TARGETED AUDIENCES
3.4.1	Potentially Affected Aboriginal Communities and Groups Beyond the Keeyask Cree Nations
3.4.2	Other Potentially Affected People and Groups
3.5	APPROACH AND METHODS
3.5.1	Round One of the Public Involvement Program
3.5.2	Round Two of the Public Involvement Program
3.5.3	Round Three of the Public Involvement Program
3.5.4	Government Agencies
3.6	KEY ISSUES AND PERSPECTIVES
4.0	PROJECT DESCRIPTION
4.1	PROJECT OVERVIEW
4.2	NEED FOR AND ALTERNATIVES TO
4.3	PROJECT COMPONENTS
4.3.1	Principal Structures
4.3.2	Supporting Infrastructure
4.3.3	Environmental Mitigation / Compensation
4.4	LAND REQUIREMENTS
4.4.1	Aboriginal and Reserve Lands
4.4.2	Project Footprint
4.5	PROJECT PLANNING, ALTERNATIVE MEANS AND MITIGATION MEASURES
4.5.1	Project Planning
4.5.2	Alternative Mitigation Measures
4.6	PROJECT CONSTRUCTION
4.6.1	Construction Schedule
4.6.2	Installation of Ice Boom
4.6.3	Reservoir Clearing
4.6.4	Site Preparation and Supporting Infrastructure
4.6.5	Excavations
4.6.6	Access Roads During Construction
4.6.7	Construction of Cofferdams
4.6.8	Production of Concrete and Aggregate

- 4.6.9 Construction of Powerhouse
- 4.6.10 Construction of Spillway
- 4.6.11 Construction of North and South Dykes
- 4.6.12 Construction of North, Central and South Dams
- 4.6.13 Public Access and Site Security
- 4.6.14 Water and Wastewater Treatment
- 4.6.15 Reservoir Impoundment
- 4.6.16 Decommissioning of Temporary Infrastructure
- 4.6.17 Construction Workforce and Contracts
- 4.7 PROJECT OPERATION
  - 4.7.1 Modes of Operation
  - 4.7.2 Hydraulic Zone of Influence
  - 4.7.3 Vegetation and Debris Management
  - 4.7.4 Operating and Maintenance Procedures and Regulatory Compliance
  - 4.7.5 Maintenance of Roads and Stream Crossings
  - 4.7.6 Environmental Monitoring
  - 4.7.7 Operation Workforce
  - 4.7.8 Safety, Security and Emergency Response
  - 4.7.9 Water and Wastewater Treatment
- 4.8 DECOMMISSIONING

**APPENDIX 4A: JOINT KEEYASK DEVELOPMENT AGREEMENT -  
SCHEDULE 11-1: RESERVOIR CLEARING PLAN**

**APPENDIX 4B: JOINT KEEYASK DEVELOPMENT AGREEMENT -  
SCHEDULE 11-2: WATERWAYS MANAGEMENT PROGRAM**

**5.0 REGULATORY ENVIRONMENTAL ASSESSMENT APPROACH**

- 5.1 INTRODUCTION
- 5.2 OVERVIEW OF APPROACH
- 5.3 ASSESSMENT FRAMEWORK
  - 5.3.1 Assessment Framework Steps
  - 5.3.2 Sources of Information
  - 5.3.3 Technical and Local Information
- 5.4 APPROACH TO CUMULATIVE EFFECTS ASSESSMENT

5.5	APPROACH TO DETERMINATION OF REGULATORY SIGNIFICANCE
6.0	ENVIRONMENT EFFECTS ASSESSMENT
6.1	INTRODUCTION
6.2	EXISTING ENVIRONMENT
6.2.1	Regional Setting
6.2.2	The Past
6.2.3	Existing Environment and Future Trends
6.3	EFFECTS AND MITIGATION PHYSICAL ENVIRONMENT
6.3.1	Introduction
6.3.2	Aboriginal Traditional Knowledge
6.3.3	Climate
6.3.4	Local Air Quality and Noise
6.3.5	Physiography
6.3.6	Surface Water and Ice Regime
6.3.7	Shoreline Erosion Processes
6.3.8	Sedimentation
6.3.9	Groundwater
6.3.10	Surface Water Temperature and Dissolved Oxygen
6.3.11	Debris
6.3.12	Sensitivity of Project Effects to Climate Change
6.4	EFFECTS AND MITIGATION AQUATIC ENVIRONMENT
6.4.1	Introduction and Approach
6.4.2	Aboriginal Traditional Knowledge
6.4.3	Aquatic Ecosystems and Habitat
6.4.4	Algae and Aquatic Plants
6.4.5	Aquatic Invertebrates
6.4.6	Fish
6.4.7	Mercury, Palatability and Cysts in Fish
6.4.8	Summary of Residual Effects and Significance
6.4.9	Sensitivity of Residual Effects to Climate Change
6.5	EFFECTS AND MITIGATION TERRESTRIAL ENVIRONMENT
6.5.1	Introduction and Approach
6.5.2	Aboriginal Traditional Knowledge

6.5.3	Terrestrial Ecosystems and Habitat
6.5.4	Terrestrial Plants
6.5.5	Terrestrial Invertebrates
6.5.6	Amphibians and Reptiles
6.5.7	Birds
6.5.8	Mammals
6.5.9	Mercury in Wildlife
6.5.10	Summary of Residual Effects and Significance
6.5.11	Sensitivity of Effects to Climate Change
6.6	<b>EFFECTS AND MITIGATION SOCIO-ECONOMIC ENVIRONMENT</b>
6.6.1	Introduction and Approach
6.6.2	Aboriginal Traditional Knowledge
6.6.3	Economy
6.6.4	Population, Infrastructure and Services
6.6.5	Personal, Family and Community Life
6.6.6	Summary of Residual Effects and Significance
6.6.7	Sensitivity of Effects to Climate Change
6.7	<b>EFFECTS AND MITIGATION RESOURCE USE</b>
6.7.1	Introduction and Approach
6.7.2	Aboriginal Traditional Knowledge
6.7.3	Domestic Resource Use
6.7.4	Commercial Resource Use
6.7.5	Other Resource Use
6.7.6	Summary of Residual Effects and Significance
6.7.7	Sensitivity of Effects to Climate Change
6.7.8	Cumulative Effects Assessment
6.8	<b>EFFECTS AND MITIGATION HERITAGE RESOURCES</b>
6.8.1	Introduction and Approach
6.8.2	Aboriginal Traditional Knowledge
6.8.3	Heritage Resources
6.8.4	Summary of Residual Effects and Significance
6.8.5	Sensitivity of Effects to Climate Change
6.9	<b>EFFECTS OF THE ENVIRONMENT ON THE PROJECT</b>
6.10	<b>CAPACITY OF RENEWABLE RESOURCES</b>

## **APPENDIX 6A: ENVIRONMENTAL STUDY REPORT LIST**

## **APPENDIX 6B: POLICIES, STANDARDS AND GUIDELINES**

## **APPENDIX 6C: IMPACT MATRIX ILLUSTRATING THE POTENTIAL EFFECTS OF THE KEEYASK GENERATION PROJECT ACTIVITIES BY PHASE ON THE COMPONENTS OF THE ENVIRONMENT AND VALUED ENVIRONMENTAL COMPONENTS**

### **7.0 CUMULATIVE EFFECTS ASSESSMENT**

- 7.1 INTRODUCTION**
- 7.2 APPROACH**
- 7.3 PAST, CURRENT AND FUTURE PROJECTS AND ACTIVITIES**
  - 7.3.1 Past and Current Projects and Activities Considered in the Cumulative Effects Assessment**
  - 7.3.2 Summary of Project Physical Effects with Past and Current Projects/Activities**
  - 7.3.3 Future Projects and Activities Considered in the Cumulative Effects Assessment of the Project**
  - 7.3.4 Summary of Project Physical Effects with Future Projects/Activities**
- 7.4 ASSESSMENT OF CUMULATIVE EFFECTS**
- 7.5 BIOPHYSICAL ENVIRONMENT**
  - 7.5.1 Aquatic Environment**
  - 7.5.2 Terrestrial Environment**
- 7.6 SOCIO-ECONOMIC ENVIRONMENT**
  - 7.6.1 Effects of Past and Current Projects and Activities**
  - 7.6.2 Summary of Cumulative Effects of the Project with Past and Current Projects and Activities**
  - 7.6.3 Cumulative Effects of the Project including Future Projects and Activities**

## **APPENDIX 7A: RELEVANT OTHER PROJECTS AND ACTIVITIES**

### **8.0 MONITORING AND FOLLOW-UP**

- 8.1 INTRODUCTION AND APPROACH**
  - 8.1.1 Overview of the Program**
  - 8.1.2 Approach of Environmental Protection Program**
  - 8.1.3 Adaptive Management**
- 8.2 OVERVIEW OF MONITORING ACTIVITIES**



- 8.2.1 Physical Environment Monitoring
- 8.2.2 Aquatic Environment Monitoring
- 8.2.3 Terrestrial Environment Monitoring
- 8.2.4 Socio-Economic Environment Monitoring
- 8.2.5 Resource Use Monitoring
- 8.2.6 Heritage Resources Monitoring
- 8.2.7 Aboriginal Traditional Knowledge Monitoring Programs
- 8.3 ENVIRONMENTAL PROTECTION PROGRAM IMPLEMENTATION
  - 8.3.1 Partnership and Regulatory Communication
  - 8.3.2 Environmental Protection Plan Implementation
  - 8.3.3 Implementation of Management Plans
  - 8.3.4 Monitoring Implementation
- 9.0 SUSTAINABLE DEVELOPMENT
  - 9.1 INTRODUCTION AND PURPOSE
  - 9.2 CONTEXT FOR SUSTAINABLE DEVELOPMENT
    - 9.2.1 Keeyask Cree Nations Principles and Involvement
    - 9.2.2 The Keeyask Project and the Federal Sustainable Development Strategy – Goals
    - 9.2.3 Keeyask and Manitoba Sustainable Development Principles and Guidelines
    - 9.2.4 The Keeyask Generation Project and Manitoba Hydro's Sustainable Development Principles
  - 9.3 CONCLUSIONS RE: THE KEYASK GENERATION PROJECT AND SUSTAINABILITY

## **APPENDIX 9A: EFFECT ON MANITOBA GOVERNMENT SUSTAINABILITY INDICATOR TRENDS**

### **10.0 CONCLUSIONS**

- 10.1 INTRODUCTION
- 10.2 FEDERAL CRITERIA
- 10.3 PROVINCIAL CRITERIA
- 10.4 THE PRECAUTIONARY APPROACH
- 10.5 KEYASK CREE NATIONS' EVALUATIONS OF THE PROJECT
- 10.6 CONCLUDING STATEMENT

# **ACRONYMS, ABBREVIATIONS AND UNITS**

# ACRONYMS AND ABBREVIATIONS

<b>Acronym / Abbreviation</b>	<b>Term</b>
AAC	Annual Allowable Cut
AADT	Average Annual Daily Traffic
AC	Alternating Current
AE SV	Aquatic Environment Supporting Volume
AEA	Adverse effects agreement
AGE	Advisory Group on Employment
AIP	Agreement in Principle
AMEC	An engineering, project management and consulting firm
AMP	Access management plan
AMS	Accelerator Mass Spectrometer
ANFO	Ammonium Nitrate/Fuel Oil
ANOVA	Analysis of variance
AOL	AskíOtutoskeo Ltd.
ASI	Area of special interest
asl	Above sea level
ATE	Adventure travel and eco-tourism
ATK	Aboriginal traditional knowledge
ATV	all terrain vehicles
BC	British Columbia
BCES	Business Contracting and Economic Strategy Reference Group
BCHCR	Burntwood Community Health Resource Centre
BCMELP	British Columbia Ministry of Environment, Land, and Parks
BCMOE	British Columbia Ministry of the Environment
BFI	Brighter Futures Initiative
BHC	Building Healthy Communities
BNA	Burntwood Nelson Agreement
BOD	Biochemical oxygen demand
BP	Before Present
BRHA	Burntwood Regional Health Authority
CAC	Construction Advisory Committee

<b>Acronym / Abbreviation</b>	<b>Term</b>
CaCO <sub>3</sub>	Calcium carbonate
CALA	Canadian Association for Laboratory Accreditations, Inc.
CARCNET	Canadian Amphibian and Reptile Conservation Network
CBN	Churchill-Burntwood-Nelson
CCFM	Canadian Council of Forest Ministers
CCME	Canadian Council of Ministers of the Environment
CCREM	Canadian Council of Resource and Environment Ministers
CDA	Canadian Dam Association
CEA	Cumulative effects assessment
CEAA	Canadian Environmental Assessment Agency
CEO	Chief Executive Officer
CETP	Community Employment and Training Program
CFIA	Canadian Food Inspection Agency
CFU	Colony forming units
CHA	Canadian Hydropower Association
CIA	Comprehensive Implementation Agreement
CINE	Centre for Indigenous Peoples' Nutrition and Environment
CISC	Cisco
CI	Confidence limit
CLFN	Cross Lake First Nation
CMHC	Canadian Mortgage and Housing Corporation
CNG	Core Negotiating Group
CNP	Cree Nation Partners
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPUE	Catch per unit effort
CRCM	Canadian Regional Climate Model
CRD	Churchill River Diversion
CRDAP	Churchill River Diversion Archaeological Project
CWS	Canadian Wildlife Services
d.w.	Dry weight

<b>Acronym / Abbreviation</b>	<b>Term</b>
dBa	Decibels adjusted (noise power)
DBH	Diameter at breast height
DBs	Depth below surface (note: Heritage Resources)
DC	Direct current
DELT	Deformities, erosion, lesions, and tumours in fish
DFO	Department of Fisheries and Oceans
DIN	Dissolved inorganic nitrogen
DL	Detection limit
DMA-80	Direct mercury analysis (version 80)
DN	Draft note
DNC	Direct negotiated contract
DO	Dissolved oxygen
DOC	Dissolved organic carbon
DP	Dissolved phosphorus
<i>e.g.</i>	example
EA	Environmental assessment
EAPF	Environment Act Proposal Form
EC	Environment Canada
EIA	Environmental impact assessment
EIS	Environmental impact statement
ELARP	Experimental Lakes Area Reservoir Project
EMAN	Ecological Monitoring and Assessment Network
EMP	Ecological monitoring program
EMPA	Excavated Material Placement Areas
EMS	Environmental Management System
ENGO	Environmental non-governmental organizations
EnvPP	Environmental protection plan
EPA	Environmental Protection Agency
EPP	Environmental protection program
ER	Ecological Reserve
ESWG	Environmental Studies Working Group
et al.	and others

<b>Acronym / Abbreviation</b>	<b>Term</b>
ETL	Enviro-Test Laboratories
EUP	Exclusive use permit
FDA&V	Forest Damage Appraisal and Valuation
FEMP	Federal Ecological Monitoring Program
FFMC	Freshwater Fish Marketing Corporation
FL	Fork length
FLCN	Fox Lake Cree Nation
FLRMA	Fox Lake Resource Management Area
FLUDEX	Flooded upland forest experiments
FMU	Forest Management Unit
FNIHB	First Nations and Inuit Health Branch
FP	Fire protection
FRA	Fire regime area
FRC	Forest renewal charge
FRI	Forest resource inventory
FS	Forest Section
FSDA	Federal Sustainable Development Act
FSDS	Federal Sustainable Development Strategy
FSL	Full supply level
GHA	Game Hunting Area
GHG	Greenhouse gases
GIS	Geographic information system
GOT	Generation Outlet Transmission
GPS	Global positioning system
GS	Generating Station
GW	Gigawatt
HBC	Hudson's Bay Company
HFFP	Healthy food fish program
HGD	Harmonized Gillam Development
HHRA	Human health risk assessment
HNTEI	Hydro North Training and Employment Initiative
HRB	Historic Resources Branch

<b>Acronym / Abbreviation</b>	<b>Term</b>
HRIA	Heritage resources impact assessment
HRPP	Heritage resources protection plan
HSI	Habitat suitability index
HTFC	Hilderman Thomas Frank Cram
HVDC	High Voltage Direct Current
HZI	Hydraulic Zone of Influence
<i>i.e.</i>	That is
IBA	Important Bird Area
IC	Inorganic carbon
IEZ	Intermittently exposed zone
IHA	International Hydropower Association
IMAC	Interim maximum acceptable concentration
INAC	Indian and Northern Affairs Canada
IPCC	Intergovernmental Panel on Climate Change
ISD	In-service date
ISO	International Organization for Standardization
JKDA	Joint Keeyask Development Agreement
KCNs	Keeyask Cree Nations communities including Tataskweyak Cree Nation (TCN), War Lake First Nation (WLFN), York Factory First Nation (YFFN) and Fox Lake Cree Nation (FLCN),.
KERC	Keeyask External Relations Committee Reference Group
KETA	Keeyask Employment and Training Agency Reference Group
KHLP	Keeyask Hydropower Limited Partnership
KIP	Keeyask Infrastructure Project
KIP EA	Keeyask Infrastructure Project Environmental Assessment
KIRC	Keeyask Internal Relations Committee Reference Group
KPI	Key person interview
KTC	Keewatin Tribal Council
LC50	Concentration at which 50% mortality of a test organism occurs
LCA	Life-Cycle Assessment
LECO	not an acronym – provider of environmental analytic equipment
LEL	Lowest effect level
LFH	Litter, fibric, humic

<b>Acronym / Abbreviation</b>	<b>Term</b>
LGD	Local Government District
LK	Local knowledge
LNR	Lower Nelson River
LUC	Land use categories
LWCNRSB	Lake Winnipeg, Churchill and Nelson Rivers Study Board
LWR	Lake Winnipeg Regulation
MAC	Maximum acceptable concentration
MAI	Mean annual increment
MB	Manitoba
MBCDC	Manitoba Conservation Data Centre
MBESA	Manitoba Endangered Species Act
MCWS	Manitoba Conservation and Water Stewardship
MDMNR	Manitoba Department of Mines and Natural Resources
MEMP	Manitoba Ecological Monitoring Program
MESA	Manitoba Endangered Species Act
MH	Manitoba Hydro
MIT	Manitoba Infrastructure and Transportation
MKO	Manitoba Keewatinowi Okimakanak
MMF	Manitoba Metis Federation
MMMR	Canada-Manitoba Agreement on the Study and Monitoring of Mercury in the Churchill River Diversion
MNS	Manitoba Naturalists Society
MOL	Minimum operating level
MOU	Memorandum of Understanding
MPMO	Major Projects Management Office
MTS	Manitoba Telecom Services
MVA	Megavolt amperes
MW	Megawatt
MWG	Mammals Working Group
MWQSOG	Manitoba Water Quality Standards, Objectives, and Guidelines
MWS	Manitoba Conservation and Water Stewardship
n.d.	No date
N/A	Not available/applicable



<b>Acronym / Abbreviation</b>	<b>Term</b>
NCC	Nature Conservatory of Canada
NCFN	Nisichawayasihk Cree First Nation
NCIS	National Contaminants Information System
NCN	Nisichawayasihk Cree Nation
NCS	Northern Collector System
NFA	Northern Flood Agreement
NFFA	Northern Fishermen's Freight Assistance
NHC	Northwest Hydraulic Consultants Inc.
NLHS	Northern Lights Heritage Foundation
NNADAP	National Native Alcohol and Drug Abuse Program
NPRI	National Pollutant Release Inventory
NRSB	Nelson River Sturgeon Co-Management Board
NRSSA	Nelson River Sturgeon Stewardship Agreement
NSC	North/South Consultants Inc.
NTU	Nephelometric turbidity units
NWPA	Navigable Waters Protection Act
NWT	Northwest Territories
OC	Organic carbon
ON	Organic nitrogen
OWL	Overview of Water and Land
PAL	Protection of Aquatic Life
PD	Project Description
PD SV	Project Description Supporting Volume
PE SV	Physical Environment Supporting Volume
PEL	Probable effect level
PEMP	Physical Environment Monitoring Program
PF	Percent flooded
PIP	Public Involvement Program
PI SV	Public Involvement Supporting Volume
PM	Particulate matter
PPER	Post-Project Environmental Review
ppm	Parts per million

<b>Acronym / Abbreviation</b>	<b>Term</b>
PPT	Pre-Project Training
PR	Provincial Road
PRLC	Partners Regulatory and Licensing Committee
PRSD	Percent relative standard deviation
PTH	Provincial Truck Highway
PWZ	Predominantly wetted zone
PY	Person years
PYLL	Potential years of life lost
RCM	Regional Climate Model
RCMP	Royal Canadian Mounted Police
RI	Rate of infestation
RMA	Resource Management Area
RNFB	Revised Northern Food Basket
ROW	Right-of-way
RRCS	Renewable Resources Consulting Services Ltd.
RTL	Registered Trapline
SARA	Species at Risk Act
SD	Standard deviation
SE	Standard error
SE SV	Socio-Economic Environment, Resource Use and Heritage Resources Supporting Volume
SEIA	Socio-Economic Impact Assessment
SEL	Severe effect level
SEMP	Socio-Economic Monitoring Program
SIL	Southern Indian Lake
SLCPPER	Split Lake Cree Post Project Environmental Review
SLRMA	Split Lake Resource Management Area
SLRMB	Split Lake Resource Management Board
SOD	Sediment oxygen demand
sp(p).	Species
SQG	Sediment quality guideline
SRES	Special Report Emissions Scenarios
SS	Switching Station

<b>Acronym / Abbreviation</b>	<b>Term</b>
SSVT	Stand stock volume table
SV	Supporting volume
TBD	To be determined
TC	Tendered contract
TCN	Tataskweyak Cree Nation
TCU	True colour units
TDN	Total dissolved nitrogen
TDS	Total dissolved solids
TE SV	Terrestrial Environment Supporting Volume
TEMA	Tataskweyak Environmental Monitoring Agency
TGH	Thompson General Hospital
TIC	Total inorganic carbon
TK	Traditional knowledge
TKN	Total Kjeldahl nitrogen
TLE	Treaty Lands Entitlement
TN	Total nitrogen
TOC	Total organic carbon
TP	Total phosphorus
TRG	Tissue residue guideline
TSS	Total suspended solids
UCN	University College of the North
UMA	Underwood McLellan and Associates Ltd.
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	United States dollar
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UV	Ultraviolet
UVA/UVB	Ultraviolet light (type A and B)
VEC	Valued Environmental Component
WHO	World Health Organization
WKTC	Wuskwatim Keeyask Training Consortium

<b>Acronym / Abbreviation</b>	<b>Term</b>
WLFN	War Lake First Nation
WMA	Wildlife Management Area
WMP	Waterways Management Plan
WQG	Water quality guidelines
WRCS	Wildlife Resource Consulting Services
WUA	Weighted usable area
ya	Years ago
YFFN	York Factory First Nation
YFRMA	York Factory Resource Management Area
YOY	Young-of-the-year

# UNITS

Abbreviation	Unit
Btu	British thermal unit
cm	centimetre
CFU/mL	coliform forming units per millilitre
cm <sup>3</sup>	cubic centimetre
km <sup>3</sup>	cubic kilometre
m <sup>3</sup>	cubic metre
m <sup>3</sup> /s	cubic metre per second
d	day
d/wk	days per week
d/y	days per year
°C	degrees Celsius
fish/h	fish per hour
fish/m/h	fish per metre per hour
fish/s	fish per second
fc	footcandle
GHz	gigahertz
GJ	gigajoule
GW	gigawatt
GWh	gigawatt-hours
g	gram
g/L	grams per litre
g/m <sup>2</sup>	grams per square metre
g/t	grams per tonne
> (use only in tables)	greater than
≥	greater than or equal to
ha	hectare (10,000 m <sup>2</sup> )
Hz	hertz
h (not hr)	hour
h/d	hours per day
h/wk	hours per week
h/y	hours per year
"	inch
individuals/m <sup>3</sup>	individuals per cubic metre
individuals/L	individuals per litre

<b>Abbreviation</b>	<b>Unit</b>
individuals/m <sup>2</sup>	individuals per square metre
J	joule
kg	kilogram
kg/m <sup>3</sup>	kilograms per cubic metre
kg/h	kilograms per hour
kg/m <sup>2</sup>	kilograms per square metre
kJ	kilojoule
km	kilometre
km/h	kilometres per hour
kPa	kilopascal
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
< (use only in tables)	less than
≤	less than or equal to
L	litre
L/m	litres per minute
MW	megawatt
MWh	megawatt-hour
m	metre
m/min	metres per minute
m/s	metres per second
t	metric ton (tonne)
µg/g	micrograms per gram
µg/L	micrograms per litre
µm	micrometre
µS/cm	microSiemens per centimetre
mg	milligram
mg/m <sup>3</sup>	milligrams per cubic metre
mg/L	milligrams per litre
mL	millilitre
mm	millimetre
M	million
mo	month
ng/L	nanograms per litre
oocyte/L	oocyte per litre
ppb	parts per billion

Abbreviation	Unit
ppm	parts per million
%	percent
plants/m <sup>2</sup>	plants per square metre
s	second (time)
cm <sup>2</sup>	square centimetre
km <sup>2</sup>	square kilometre
m <sup>2</sup>	square metre
TWh	terawatt hours
wk	week
yr	year

# **CHAPTER 1**

## **INTRODUCTION**



# CHAPTER 1

## TABLE OF CONTENTS

	Page
<b>1.0 INTRODUCTION.....</b>	<b>1-1</b>
<b>1.1 OVERVIEW: THE PROJECT AND THE PARTNERSHIP .....</b>	<b>1-1</b>
<b>1.1.1 Proponent Contact Information .....</b>	<b>1-6</b>
<b>1.2 SCOPE OF THE PROJECT.....</b>	<b>1-7</b>
<b>1.3 REGULATORY FRAMEWORK .....</b>	<b>1-8</b>
<b>1.4 ABORIGINAL TRADITIONAL KNOWLEDGE, LOCAL KNOWLEDGE AND         TECHNICAL SOURCES .....</b>	<b>1-9</b>
<b>1.5 STRUCTURE OF THE RESPONSE TO THE EIS GUIDELINES DOCUMENT .....</b>	<b>1-10</b>

# APPENDICES

- APPENDIX 1A: Acknowledgments  
APPENDIX 1B: Keeyask Generation Project Regulatory Licences

# LIST OF FIGURES

	<b>Page</b>
Figure 1-1: Organization Structure of the Keeyask Hydropower Limited Partnership .....	1-5
Figure 1-2: Principal Structures .....	1-7

# LIST OF MAPS

	<b>Page</b>
Map 1-1: General Project Location .....	1-3

# 1.0 INTRODUCTION

## 1.1 OVERVIEW: THE PROJECT AND THE PARTNERSHIP

The Keeyask Generation Project (the Project) involves development of a 695 megawatt (MW) **hydroelectric** generating station and associated facilities at Gull (Keeyask) Rapids on the lower Nelson River, immediately upstream of Stephens Lake in northern Manitoba and between dams developed on the Nelson River from the late 1950s to the early 1970s (see Map 1-1).

By road, the nearest **community** west of the Project is Split Lake, home of the Tataskweyak Cree Nation, and the nearest community to the east is Gillam, home of a Fox Lake Cree Nation reserve and centre of Manitoba Hydro's northern operations. The Nelson River and the surrounding **environment** have been greatly altered over the past 50 years by the development of the **Lake Winnipeg Regulation** Project, the **Churchill River Diversion** Project and five generating stations. These alterations have replaced large **rapids** with dams, changed stretches of the river into **reservoirs**, augmented flows into the river by 30% and reversed the seasonal flow pattern such that higher flows now occur in winter and lower flows in spring and summer.

The energy produced by the Project will be sold to Manitoba Hydro and integrated into its electric system for use in Manitoba and for export. The Project's average annual production of electricity will be approximately 4,400 gigawatt-hours (GWh), enough to **power** approximately 400,000 homes.

Subject to regulatory approval, construction will begin in 2014. First power will be produced in 2019 and construction completed in 2022. From start to finish, construction will take approximately eight and a half years.

The Keeyask Hydropower Limited Partnership (the Partnership) will own and operate the Project. The Partnership was incorporated under the laws of the Province of Manitoba in 2009. The *Joint Keeyask Development Agreement* (JKDA) signed by the four KCNs and Manitoba Hydro in May of 2009 is the legal framework defining the Partnership, its responsibilities and obligations. The structure of the Partnership arrangement is illustrated in Figure 1-1.

The Partnership is comprised of four limited partners and one general partner.

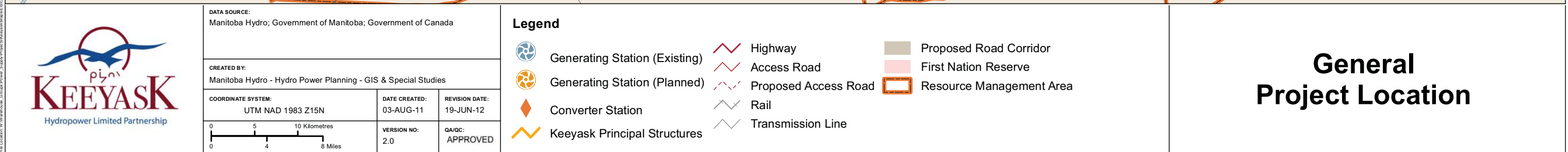
The four limited partners are Manitoba Hydro and three **Keeyask Cree Nations (KCNs)** investment entities: Cree Nation Partners Limited Partnership, York Factory First Nation Limited Partnership, and FLCN Keeyask Investments Inc. The Cree Nation Partners Limited Partnership is controlled by Tataskweyak Cree Nation (TCN) and War Lake First Nation (WLFN).

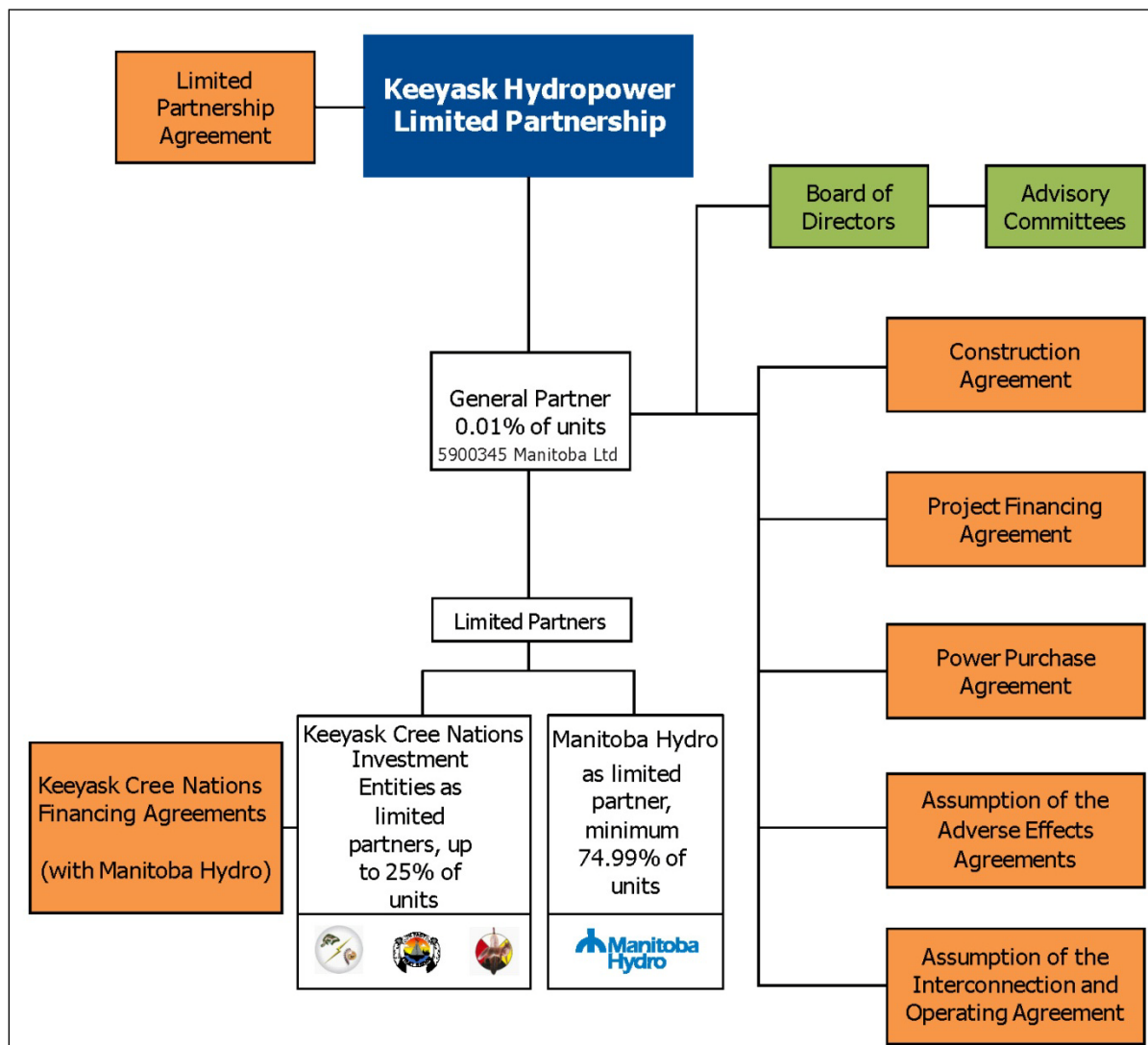
The York Factory First Nation Limited Partnership is controlled by York Factory First Nation (YFFN). FLCN Keeyask Investments Inc. is controlled by Fox Lake Cree Nation (FLCN).

The general partner is 5900345 Manitoba LTD., a corporation wholly owned by Manitoba Hydro. The general partner is responsible for the management and operation of the business of the Partnership, and is also liable for all of the debts of the Partnership. The general partner will contract all the planning, construction and operation to Manitoba Hydro, and will contract with Manitoba Hydro to provide all the debt financing required to construct the Project. Manitoba Hydro will subcontract virtually all of the services and supplies required to build the Project to other contractors. A number of contracts for construction work, services, labour, and materials will first be offered to the KCNs or businesses controlled by them. Once the Project is built, the general partner will contract with Manitoba Hydro to provide the necessary services to manage and operate the Project.

Manitoba Hydro, the general partner and each of the KCNs investment entities will invest in the Partnership. Manitoba Hydro and the general partner will own at least 75% of the Partnership and the KCNs, through their respective KCNs investment entities, collectively have the right to own up to 25% of the Partnership. The Partnership will own the Project.

The affairs of the general partner are subject to the direction of its board of directors. The board will include three persons nominated by CNP (two from TCN and one from WLFN) and one person nominated by each of YFFN and FLCN. Board members nominated by Manitoba Hydro will constitute a majority of the board. These appointments will be made prior to the start of construction of the Project.





Manitoba Hydro has also agreed with TCN to construct the Project in accordance with certain fundamental construction features and, similarly, it has agreed with TCN and YFFN to operate the Project in accordance with certain fundamental operating features (see Section 4.1).

The JKDA also includes an Environmental and Regulatory Protocol, setting out roles and responsibilities for the Partnership's **environmental assessment**. This protocol built upon a similar structure that had been developed and modified since the early years when Keeyask environmental studies began. While Manitoba Hydro is given primary responsibility for many activities, the KCNs have active roles in the assessment. Manitoba Hydro and CNP

have the authority to review and approve elements of the assessment and EIS, and YFFN and FLCN to review and comment (see Section 2.3).

A team that includes KCNs **Members** and their advisors, Manitoba Hydro personnel and various consulting firms has conducted the environmental assessment and participated in drafting and review of the EIS —the list of Key Personnel is provided at the start of this document. Appendix 1A provides a broader list of people that are acknowledged as contributing to the assessment and the EIS.

### 1.1.1 PROPONENT CONTACT INFORMATION

Contact information for the Keeyask Hydropower Limited Partnership is as follows:

Ken R. F. Adams  
President  
5900345 Manitoba Ltd.  
360 Portage Avenue (18th floor)  
P.O. Box 815  
Winnipeg, MG R3C 0G8  
Telephone: 204-360-3923  
E-mail: kradams@hydro.mb.ca

Contact information for the environmental assessment is as follows:

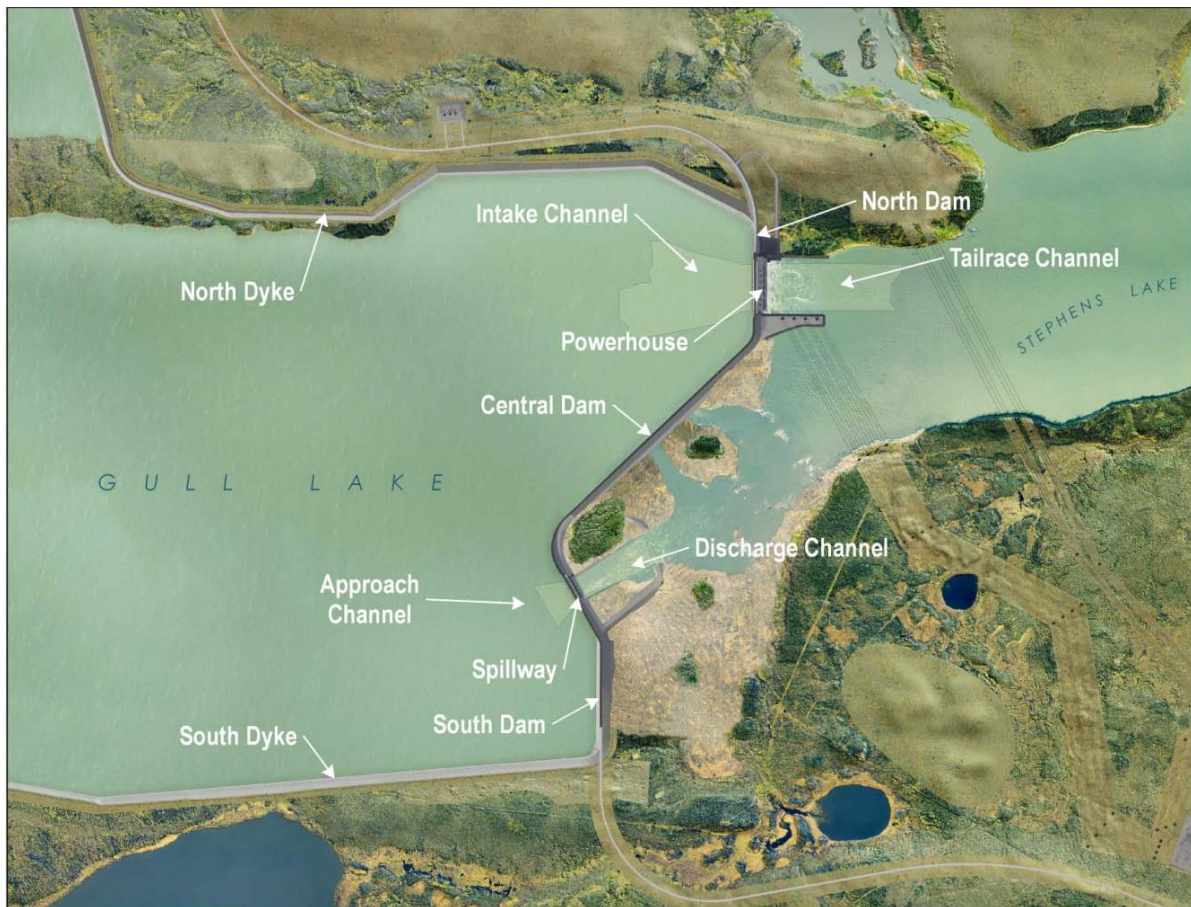
Ryan Kustra  
Major Projects Assessment and Licensing Department  
Manitoba Hydro  
360 Portage Avenue (15th floor)  
P.O. Box 815  
Winnipeg, MB R3C 0G8  
Telephone: 204-360-4334  
E-mail: rkustra@hydro.mb.ca



## 1.2 SCOPE OF THE PROJECT

The Project will consist of principal structures and supporting infrastructure. Figure 1-2 illustrates the principal structures.

The principal structures consist of a **powerhouse** complex, **spillway**, dams and **dykes**, as well as a reservoir. The powerhouse, including a control building and service bay, will house the equipment required to produce electricity. The spillway will manage surplus water flows, and the dams and dykes will contain the reservoir created upstream of the principal structures.



**Figure 1-2: Principal Structures**

Supporting infrastructure will consist of permanent facilities that will be used to construct and/or operate the Project and temporary facilities required only to construct the principal structures. Permanent infrastructure includes a north and south access road to connect to the provincial highway system; some of the cofferdams; a tower spur; **rock groins**; communication tower; boat launches and a portage; and some of the borrow areas, including the roads to these areas. Temporary infrastructure includes the main camp and work areas.

(including landfill, water and sewage treatment facilities); explosives magazine; some of the cofferdams; **ice boom**; some of the borrow areas, including roads to these areas; and placement areas for excess excavated materials. Some borrow areas will be required for construction and operation; others will be decommissioned and rehabilitated after the Project is constructed. The Project also includes the operation and **decommissioning** of certain facilities (*e.g.*, camp facilities and a security gatehouse) constructed as part of the Keeyask Infrastructure Project (KIP).

The Project will use approximately 18 m of the 27 m of hydraulic **head** available between Split Lake and Stephens Lake. About 12 m of this drop in elevation occurs through Gull Rapids. The Project will be operated with a maximum reservoir level (*i.e.*, **full supply level**) in the immediate **forebay** of 159 m (521.7 ft) above sea level and a minimum operating level (MOL) of 158 m (518.4 ft) above sea level.

The Project includes activities for the construction and operation of the permanent facilities (the term “operation” also includes maintenance); construction, operation and decommissioning of the temporary facilities (*i.e.*, those required only to construct the Project); operation and decommissioning of the camp and work areas previously licensed and constructed as part of KIP; and operation of the north access road, also licensed and constructed as part of KIP. Chapter 4 provides information on the Project Description.

## 1.3 REGULATORY FRAMEWORK

This Environmental Impact Statement (EIS) is submitted by the Partnership, and was prepared in accordance with the EIS Guidelines issued in response to an application for environmental approvals.

The Project is subject to an environmental assessment under the *Canadian Environmental Assessment Act* and *The Environment Act* (Manitoba). Before the Project can be built, both federal and provincial regulatory requirements must be met.

The Project is a “project” as defined in the *Canadian Environmental Assessment Act*. The environmental assessment is required due to two triggers under the Law List Regulations; namely, the *Fisheries Act* (Section 32 and 35[2]) and the *Navigable Waters Protection Act* (Section 5). As a hydroelectric generating station with a production capacity of 200 MW or more, it is identified in the Comprehensive Study List Regulations of the *Canadian Environmental Assessment Act*. As this Project will be assessed as a comprehensive study, the Canadian Environmental Assessment Agency will exercise the powers and perform the duties and functions of the responsible authorities during the assessment process until the comprehensive study report is submitted to the Minister of Environment. At the time of writing, following the Minister of Environment’s decision, Fisheries and Oceans Canada and Transport Canada will assume their roles as responsible authorities in relation to the Project.

The Project is a “development” as defined in *The Environment Act* (Manitoba). As an electrical generating facility with a generating capacity greater than 100 MW, the Project is designated as a Class 3 development in the Classes of Development Regulations pursuant to that act. The Minister of Conservation and Water Stewardship will require the Partnership to prepare an assessment report and will have the Clean Environment Commission conduct public hearings. The Minister will decide whether to issue a licence for the Project.

As expressed in the Canada-Manitoba Agreement on Environmental Assessment Cooperation (2007), Canada and Manitoba have agreed to carry out a cooperative environmental assessment that will generate the type and quality of information and conclusions on environmental **effects** required by both orders of government.

Appendix 1B includes a list of licences required for the Project.

## 1.4 ABORIGINAL TRADITIONAL KNOWLEDGE, LOCAL KNOWLEDGE AND TECHNICAL SOURCES

The Partners agreed early on that there should be two different processes leading to the approval of the Project: the Keeyask Cree Nations process and the government process.

The KCNs process has been underway for more than a decade with the support of Manitoba Hydro. The process assisted the KCNs to understand the Project and its impacts on their communities and Members and to determine the conditions under which they would support the Project. The Project was evaluated in terms of their own worldview, values and experience with past hydroelectric development. Each of the communities led their own consultations with their respective Members resulting in decisions to sign the **Joint Keeyask Development Agreement (JKDA)** and their respective Adverse Effects Agreements (AEAs). Each of the KCNs defined and presented their own evaluations of the Project based on their worldview of the environmental effects on their communities; and each of the KCNs has made an independent decision to support the Project. The Cree Nation Partners (CNP) has provided its Keeyask Environmental Evaluation Report to describe Members’ understanding of the expected impacts of the Project on themselves and to explain their independent decisions to be Project proponents. YFFN has provided their evaluation report, *Kipekiskwaywinan: Our Voices*. FLCN’s Environment Evaluation Report is currently in draft form and will be submitted by the Partnership when finalized. These reports contribute substantially to Chapter 2.

A video, *Keeyask: Our Story*, presents the KCNs history and perspectives related to hydroelectric development. Presented through the prism of their holistic Cree worldview, it explains the journey the KCNs travelled in evaluating their concerns about the Project, the nature of their participation as Partners, and the decisions they ultimately made.

The government processes are different from the KCNs process in terms of scope, methods, values and concepts. Consistent with provisions of the *Canadian Environmental Assessment Act* and *The Environment Act* (Manitoba), the KCNs and Manitoba Hydro have agreed that the planning and environmental assessment of the Project under the government legislation will provide that, in addition to local knowledge and knowledge derived from technical science, **Aboriginal traditional knowledge (ATK)** will be considered to contribute to a better understanding of the specific impacts of the Project. Accordingly, this document uses the following sources of information: ATK, community or local knowledge (including information from the Public Involvement Program – Chapter 3), and knowledge derived from technical sources (*e.g.*, engineering and scientific studies and analysis undertaken by the Partnership, articles and peer-reviewed journals, and government databases).

While the KCNs have led their own evaluation of the effects of the Project on their communities and Members, they have also collaborated in the preparation of this EIS. In particular, ATK gathered by the KCNs in the development of their evaluation on their own communities and Members, as explained in their respective Environmental Evaluation Reports, is also considered in this document.

Indeed, ATK and technical science are used throughout this EIS, from identifying issues to assessing effects and **mitigation**. Both were, and will continue to be, used by the Partnership to improve the Project (*e.g.*, reservoir clearing, safe trails program, choice of low head design). As a result of the ongoing participation of the KCNs in the Project planning, assessment and regulatory review, ATK, local knowledge and technical science underpin the planning and development of the Project.

Appendix 6A of the EIS provides a list of studies undertaken by the Partners and relied upon for the information provided in the environmental assessment. The references section provides citations for other relevant studies used in the assessment.

## 1.5 STRUCTURE OF THE RESPONSE TO THE EIS GUIDELINES DOCUMENT

This Response to EIS Guidelines document presents the information required to meet the requirements of the EIS Guidelines. The Response to EIS Guidelines includes the following chapters:

- Chapter 1: Introduction;
- Chapter 2: Partners' Context, Worldviews and Evaluation Process;
- Chapter 3: Public Involvement;

- Chapter 4: Project Description;
- Chapter 5: Regulatory Environmental Assessment Approach;
- Chapter 6: Environmental Effects Assessment;
- Chapter 7: Cumulative Effects Assessment;
- Chapter 8: Monitoring and Follow-Up;
- Chapter 9: Sustainable Development;
- Chapter 10: Conclusions;
- References;
- Glossary; and
- Map and Figure Folio.

# **APPENDIX 1A**

## **ACKNOWLEDGEMENTS**



# ACKNOWLEDGEMENTS

The Keeyask Hydropower Limited Partnership wish to acknowledge, with gratitude, the co-operation and assistance received from many sources in the course of conducting the environmental assessment and preparing the environmental impact statement (EIS).

The Keeyask Cree Nations Members involved in the preparation and review of the EIS, along with the technical staff from Manitoba Hydro and the Environmental Assessment Study Team involved in the preparation of the EIS are listed below:

## **MANITOBA HYDRO - HYDRO POWER PLANNING**

Tariq Aziz, Brent Bencharski, Ariel Brawerman, Glen Cook, Wil DeWit, Greg Johnston, Agnieszka Kotula, Jennifer Lidgett, Ruth Misener, Ryan Penner, Ben Schmidt, Marc St.Laurent, Trevor Swain, Marc Totte, Halina Zbigniewicz, Zsolt Zrinyi

## **MANITOBA HYDRO - MAJOR PROJECTS ASSESSMENT AND LICENSING**

Nicholas Barnes, Emily Bellin, Rachel Boone, Vicky Cole, Clara Friesen, Angela Heese, Mark Manzer, Samantha McFarlane, Russell Schmidt, Monica Wiest, Maria Zbigniewicz

## **MANITOBA HYDRO - WATER RESOURCE ENGINEERING**

Habib Ahmari, Paul Chanel, John Crawford, Mark Gervais, Martin Hunt, Danielle Kerr, Kristina Koenig, Michael Kressock, Jarrod Malenchak, Rob Tkach, Mike Vierra, Steven Wang

## **MANITOBA HYDRO - FUTURE GENERATION PARTNERSHIPS**

Sharon Cavers, Stephen Dueck, Carla Kalynuik, Jane Kidd-Hantscher, Sandra Lefort, Rayel Manary, Tammy Oze, Arlie Pelletier, Bruce Reimer, Scott Sage, Lynn Warkentin

## **MANITOBA HYDRO - GEOSPATIAL DATA SERVICES**

Justin Avery, Arch Csupak, Rob Gerry, David Hislop, Ted Lukasiewicz, Jose Pinzon, Sarah Wach

## **MANITOBA HYDRO - ENGINEERING SURVEY SERVICES**

Jeff Chalmers, Michiels Frances, Tim Kirkham, Kevin Klym, Nathan Lambkin, Ted Lukusiewicz, Adam Sawchuk

## **MANITOBA HYDRO - ENVIRONMENTAL LICENSING AND PROTECTION**

Stephanie Backhouse, Bob Gill, Marilyn Kullman, Carolyne Northover, Sarah Wakelin

## **MANITOBA HYDRO - PLANT PROGRAMS AND ENVIRONMENTAL SUPPORT**

Rachelle Budge, Michelle Rudnicki, Karen Schultz, Marcus Smith

## **MANITOBA HYDRO - KEEYASK ENGINEERING AND CONSTRUCTION**

Jim Barnby, Brian Beyak, Glen Schick, Thomas Tonner

**MANITOBA HYDRO - OTHER**

Patrick Allan, Doug Bedford, Allan Benoit, Kelly Bryll, Rachelle Budge, Judy Clendenan, Susan Collins, Randy Enns, Kurt Fey, John Fogg, Bill Hamlin, Duane Hatley, Karin Johansson, Ryan Kustra, Vern Laing, Jodine MacDuff, Finlay MacInnes, Dave Magnusson, John Markowsky, Tyler Markowsky, Laura McKay, Greg McNeill, Andrew Miles, Bob Monkman, Scott Powell, Michelle Rudnicki, Karen Schultz, Mike Stocki, Deirdre Zebrowski

**THOMPSON DORFMAN SWEATMAN LLP**

Bob Adkins, Sheryl Rosenberg

**LEWIS COMMUNICATIONS**

Jim Lewis, Chris Hunter

**AD ASSOCIATE DESIGN**

Larry Model

**KGS ACRES**

Ariel Lupu, Ruxandra Ditica, Rajib Ahsan, David Fuchs, Ross Dewar, Jim Smith, Philip Pantel, Linda Hallow, Susan Altomare, Shiromi Amarakoon, Shaun Kenny, Nikou Jalayeri, Colin Rennie, Ed Sikora, Susan Altomare, Linda Hallow, Sharen Picca, Andrew Baryl

**BEVERLY ANNE SABOURIN ASSOCIATES**

Peter Globensky

**ENVIRONNEMENT ILLIMITÉ INC.**

Stephane Lorrain, Dominique Fournier, Véronique Proulx, Roger Misson, Pierre-David Beaudry, Daniel Cloutier, Simon Roy, Sébastien Fortin, Lise Blais, Julie Korell

**CREE NATION PARTNERS**

Tataskweyak Cree Nation Chiefs and Councils  
War Lake First Nation Chiefs and Councils  
Tataskweyak Cree Nation Elders and Members  
War Lake First Nation Elders and Members  
Victor Spence, Tataskweyak Cree Nation, Manager of Future Development  
Tataskweyak Cree Nation, Overview of Water and Land Staff  
Hobbs and Associates  
Joseph I. Keeper  
Robert F. Roddick Professional Corporation  
Waters Edge Consulting  
Campbell Marr LLP  
Roger Tassé O.C. Q.C.



### **YORK FACTORY FIRST NATION**

YFFN Members, Elders, Youth, Resource Harvesters and Users, Chief and Council (past and present), York Factory Future Development, Hilderman Thomas Frank Cram and Brad Regehr (D'Arcy and Deacon)

### **FOX LAKE CREE NATION**

Fox Lake community members, Fox Lake Kitayatisuk & Harvester Core Group, Fox Lake Chief and Council, Fox Lake Negotiations office and staff, advisors: Terry Dick (University of Manitoba & Arctic Fish Inc.); Brian Kotak (Miette Enterprises), Grant Wiseman (Wiseman Geomatics), Vince Crichton (V. Crichton Enterprises Ltd.), Kevin Brownlee

### **INTERGROUP CONSULTANTS LTD.**

Cam Osler, John Osler, Janet Kinley, Denis De Pape, Nancy LeBlond, Andrew McLaren, Anneke Gillis, Kristin Kent, Darcy McGregor, Gene Senior, Susan Robinson, H. Najmidinov, Erin Jonasson, Jennifer Olson, Matt Abra, Harv Sawatzky, Melissa Davies, Christina Blouw, Jolene Mollard, Celeste Linton, Cynthia Carr, Ross Wilson, Dr. Laurie Chan. In addition, InterGroup Consultants would like to thank the YFFN and FLCN community researchers and coordinators that assisted us with community-based research.

### **NORTH SOUTH CONSULTANTS**

Stuart Davies, Friederike Schneider-Vieira, Megan Cooley, Paul Cooley, Jarod Larter, Leanne Zrum, Jodi Holm, Richard Remnant, Cam Barth, Jaymie MacDonald, Pat Nelson, Wolfgang Jansen, Don MacDonell, Gaylen Eaton, Kathleen Dawson, and Ron Bretecher, James Aiken, Ken Ambrose, Cam Barth, Jesse Bell, Mark Blanchard, Ron Bretecher, Lisa Capar, Regan Caskey, Chandra Chambers, Megan Cooley, Paul Cooley, Stuart Davies, Kathleen Dawson, Leanne Dolce Blanchard, Sandie Donato, Kasia Dyszy, Gaylen Eaton, Elena Fishkin, Shari Fournier, Ginger Gill, Mark Gillespie, Rochelle Gnanapragasam, Laura Henderson, Sue Hertam, Stacy Hnatiuk-Stewart, Jodi Holm, Claire Hrenchuk, Duane Hudd, Wolfgang Jansen, Michael Johnson, Kristine Juliano, Cheryl Klassen, Erin Koga, Mary Lang, Jarod Larter, Christian Lavergne, Michael Lawrence, Jaymie MacDonald, Don MacDonell, Kim Mandzy, Kurt Mazur, Craig McDougall, Yhana Michaluk, Joe Mota, Patrick Nelson, Laurel Neufeld, Candace Parker, Darcy Pisiak, Richard Remnant, Tobie Savard, Dirk Schmid, Friederike Schneider-Vieira, Tom Sutton, David Szczepanski, Lindsay Walker, Leanne Zrum.

In addition, we would like to thank all of the First Nation Members from TCN, WLFN, FLCN, and YFFN who participated in the aquatic field studies and willingly shared their knowledge with us.

We would also like to recognize the late Doug Gibson who was involved in many of the Keeyask aquatic field studies. Doug was a co-worker and friend to all of us at NSC and will not be forgotten.

**STANTEC CONSULTING**

George Rempel, Dave Morgan, Roger Rempel, Blair McMahon, Karen Mathers, Leane Wyenberg, George Kroupa, Mike Sweet, Jocelyn Hiebert, Shirley Bartz.

**NORTHERN LIGHTS HERITAGE SERVICES**

Virginia Petch, Lisa Bobbie, Hani Khalidi, Amber Flett, Emily Linneman. In addition, Northern Lights Heritage Services would also like to humbly thank all the Elders, resource users and support staff that contributed from York Factory First Nation (YFFN), Tataskweyak Cree Nation (TCN), Fox Lake Cree Nation and War Lake First Nation (WLFN).

**ECOSTEM LTD.**

James Ehnes, Brock Epp, Alanna Sutton, Alex Snitowski, Pierre Tremblay, Qiang Huang

**CALYX CONSULTING**

Jackie Krindle

**WILDLIFE RESOURCE CONSULTING SERVICES MB INC.**

Rob Berger, Andrea Ambrose, Adam Walley, Brian Kiss, Chris Higgs, Christina Blouw, Dion Kakegamic, Ed Osborne, Jason Kelly, Joesph Guay, Jonathon Hopkins, Justin Paille, Mark Groener, Michelle Dubois, Morgan Scharf, Nick LaPorte, Paul Rogers, Pete Hettinga, Scott Johnstone, Scott Patrick, Stephan Goodman and Tim Kroeker. WRCS would like to express our sincerest thank-you to all of the TCN, WLFN, FLCN and YFFN members and coordinators that assisted us with the mammals studies.

**J.D. MOLLARD AND ASSOCIATES (2010) LIMITED**

Lynden Penner, Jason Cosford, and Troy Zimmer

# **APPENDIX 1B**

## **KEEYASK GENERATION PROJECT REGULATORY LICENCES**

## Keyyask Generation Project Regulatory Licences

Applicable Legislation, Approval Required, Regulation	Activities
<b>FEDERAL</b>	
DFO Operational Statements	Ice bridges, high pressure directional drilling, beaver dam removal, etc.
<i>Canadian Environmental Assessment Act</i>	Town Centre Complex Project
<i>Navigable Waters Protection Act</i>	All in water structures affecting navigation, including GS, cofferdams, dykes causeways, culverts, boat/barge launches, groins, fish habitat compensation works, ice booms, etc.
<i>Fisheries Act</i> (Authorizations)	All in-water structures, including GS, cofferdams, dykes, causeways, culverts, boat/barge launches, groins, etc. Also blasting.
Notification of use of explosives (Federal: Nav Canada - NOTAM)	Blasting
<b>PROVINCIAL</b>	
<i>Environment Act</i> (Environment Act Licence)	Project including all water and wastewater treatment plants
<i>Environment Act</i> (Collection and Disposal of Waste Regulation)	Solid waste disposal
<i>Crown Lands Act</i> (Work permit)	Generation Station site and borrow areas
<i>Dangerous Goods Handling and Transportation Act</i> (Storage and Handling of Gasoline and Associated Products Regulation)	Petroleum storage
<i>Fire Prevention and Emergency Response Act</i> (Occupancy permit for Road Camp)	South access road camp
<i>Forest Act</i> (Permit to cut timber on Crown Lands)	Reservoir clearing, clearing access trails, etc.
<i>The Heritage Resources Act</i> (Heritage resources permit if heritage resources found)	Project

### Keeyask Generation Project Regulatory Licences

<b>Applicable Legislation, Approval Required, Regulation</b>	<b>Activities</b>
<i>Highways Protection Act</i> (Permit to connect to highway)	South Access Road construction
<i>Mines and Minerals Act</i>	Quarry use
<i>Public Health Act</i> (Food handling Permit)	All food handling establishments in camps
<i>Environment Act</i> (Onsite Wastewater Management Systems Regulation) (Water and Wastewater Facility Operators Regulation)	Wastewater storage in work areas not connected to the camp, Water and wastewater treatment plants
<i>The Water Rights Act</i> (Water Rights Licence)	Concrete production and other water withdrawal
<i>Water Power Act</i>	Project
<i>Wildfires Act</i> (Work Permit and Burn permit)	Clearing, burning