

Environment Environnement
Canada Canada

ENVIRONMENTAL PROTECTION
PRAIRIE & NORTHERN REGION
Room 200, 4999-98 Ave. NW
Edmonton, Alberta
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Our file #: 4194-10-5/3185
Your file #: 4554/MP-2008-028

January 12, 2012

Jim Morrell
Project Manager
Prairie Region
Canadian Environmental Assessment Agency
Suite 101, 167 Lombard Avenue
Winnipeg MB R3B 0T6

Dear Mr. Morrell:

RE: KEYASK GENERATION PROJECT – KEYASK SCOPING DOCUMENT

Environment Canada (EC) has reviewed the Keeyask Generation Project Scoping Document prepared by Keeyask Hydropower Limited Partnership (December 2011) for the above proposed project.

It is acknowledged that this Scoping Document will aid in the development of the Draft Joint EIS Guidelines for the above proposed project. EC's comments for the Scoping Document are attached. I anticipate EC will be provided with the Draft Joint EIS Guidelines, at which time we will review and provide additional comments.

EC looks forward to continued dialogue and co-operation with respect to this Project. If you have any questions, please contact me at (780) 951-8731.

(original signed by)

Leslie Yasul, M.Sc.
A/Senior Environmental Assessment Coordinator
Environmental Assessment
Environmental Protection Operations Division
Environment Canada – Prairie and Northern Region
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Canada

Keeyask Scoping Document – Environment Canada Comments

Section 2.2 Project Description/Components

- To ensure a harmonized EA process the Keeyask Transmission Project should be included.

Section 3.3.1 Public Involvement – Aboriginal People

- Potential adverse effects to aboriginal people should be included (CEAA S.2).
- CEAA Section 2 Definition of environmental effect “*environmental effect*” means, in respect of a project,
 - (a) any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the Species at Risk Act,
 - (b) any effect of any change referred to in paragraph (a) on
 - (i) health and socio-economic conditions,
 - (ii) physical and cultural heritage,
 - (iii) the current use of lands and resources for traditional purposes by aboriginal persons, or
 - (iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or
 - (c) any change to the project that may be caused by the environment

Section 3.5 Spatial and Temporal Boundaries

- Study area needs to be described with local and regional study areas included.

Section 3.6 Climate Change

- Identify stages or elements of the project that are sensitive to changes or variability in climate parameters, including the frequency and severity of extreme weather events and/or climate change. Include an assessment of whether the project would be sensitive to changes in climatic conditions during its lifespan.

Section 4.0 Environmental Setting

Section 4.1.1.1 Atmosphere

- Include expected GHG emissions from the project (construction, loss of GHG sink due to reservoir flooding, displacement of GHGs) and monitoring.
- Explanations for any differences between GHG emission intensities computed for the project and those of other similar projects.
- How the project design and GHG management plans have taken into account the need for continuous improvement with respect to GHG emissions annual and total greenhouse gas emissions for all phases of the project separated by emission sources, including calculations.
- Provide information on the proponent’s commitment to monitoring GHG emission levels from the reservoir over time. MB Hydro committed to participate in and support many research programs with respect to aquatic and forest GHG implications and to participate in national and international efforts to establish GHG accounting frameworks for electricity projects.

Section 4.1.2.1 – Aquatic Ecosystems and Habitat

- Describe the baseline water quality data, its seasonal variation (including under-ice and drought conditions) and relationship to flow and other controlling factors. Consider appropriate water quality parameters.
- Hydrology impacts of “emergency mode of operation” flow during low flow periods.
- The pre and post-disturbance condition of all ephemeral and permanent streams and waterbodies, including wetlands, and including those created by the Project.
- Ecological Risk Assessment for Mercury.

Section 4.1.3.1 – Terrestrial Ecosystems and Habitat

- Describe and map peatlands and wetlands discussing their distribution and relative abundance. Include maps showing locations.
- Describe wetland function and ecosystem components that contribute to the integrity of the wetland as detailed in the Federal Policy on Wetland Conservation.
- Measures, techniques and alternatives that will be used to address the no net loss of wetland function and to minimize the impact of loss of peatlands or wetlands on land use, fragmentation and biodiversity.
- Wetland evaluation should include potential losses and compensation plans.
- Impacts to wildlife habitat fragmentation including species at risk and migratory birds.

Section 4.1.3.5 Birds

- Include migratory birds in the list and location of staging areas.

Section 4.1.4 Species of Conservation Concern

- Where Species at Risk (SAR) have been identified in the study area, provide results on site specific field surveys for SAR to establish the actual occurrence of SAR.
- Include as Valued Ecosystem Components (VECs) those taxa listed as named under the Species at Risk Act (SARA) and listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) that potentially migrate through, breed or reside within the area affected by the project. Identify composition, distribution, relative abundance, seasonal movements, movement corridors, habitat requirements, key habitat areas, and general life history.

Section 5.0 Assessment of Environmental Effects

Section 5.1 Project Effects

Modeling for the Environmental Assessment

- Justification of hydrologic and hydraulic models used for the assessment, including any model shortcomings or constraints on findings and how any limitations were addressed; discuss model calibration and validation.
- Discussion on the process for updating model predictions if future monitoring indicates significant differences from original predictions.

Section 5.2 Cumulative Effects

- Local and regional Cumulative Effects (CE) assessment area should be defined (i.e. should include upstream effects as well as a discussion of downstream effects of the project to Hudson Bay).
- The combined effect of the operations of all facilities on the system on the estuary and its biota is likely what needs to be considered.
- Specific CE assessments of effects on all legally listed wildlife species and candidate species recommended for listing by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) occurring in the project area.
- CEs assessment should also include impacts of mercury on fish and high natural levels of Al and Fe, assessment on water regimes and other VECs.
- CEs Assessment should also include migratory birds especially along the transmission project area and other transmission lines within the relevant study area(s).
- Discuss any changes in water quality resulting from the Project to ranges outside of normal baseline conditions for waterbodies in the study area.

Section 7.0 Environmental monitoring, management and follow-up

- Describe monitoring, management and follow-up plans for mercury accumulation in wildlife, wetlands.

- Describe Emergency Plans and Preparedness (Sewage and wastewater, hazardous material storage and transport, Emergency Response Plans)
- Describe monitoring programs that may be proposed to assess wildlife impacts from the Project and the effectiveness of mitigation strategies and habitat enhancement measures (special attention to sensitive species, migratory birds (especially waterfowl) and local populations of all listed species).
- Describe a monitoring program to monitor the success of the mitigation measures and mitigation alternatives to ensure the no net loss of wetland function.
- Describe monitoring and follow-up for lake and riverine erosion, sedimentation and woody debris.
- Utilize information gathered from previous MB Hydro projects (e.g. Wuskwatim) to understand evolving baseline conditions and use as reference information for Keeyask.
- Evaluate the effectiveness of mitigation measures used in previous MB Hydro projects (e.g. Wuskwatim) for the assessment of Keeyask. Including:
 - Specific mitigation, monitoring and reporting that focused on:
 - Boreal woodland caribou population, distribution and behaviour during construction and operation;
 - greenhouse-gas emissions and their effects during construction and operation; and
 - riverbank and shoreline erosion; sediment transport; total suspended solids.

Fisheries and Oceans
Canada

Pêches et Océans
Canada

Central and Arctic Region

Région du Centre et de l'Arctique

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Your file / Votre référence
4554/MP-2008-028

Our file / Notre référence
11-HCAA-CA1-01695

January 18, 2012

Jim Morrell
Project Manager
Prairie Region
Canadian Environmental Assessment Agency
Suite 101, 167 Lombard Avenue
Winnipeg MB R3B 0T6

Dear Mr. Morrell:

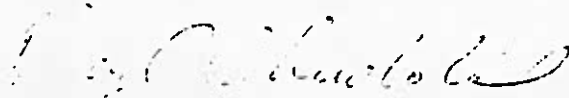
RE: KEEYASK GENERATION PROJECT - KEEYASK SCOPING DOCUMENT

Fisheries and Oceans Canada (DFO) has reviewed the Keeyask Generation Project Scoping Document prepared by Keeyask Hydropower Limited Partnership (December 2011) for the above proposed project.

It is acknowledged that this Scoping Document will aid in the development of the Draft Joint EIS Guidelines for the above proposed project. DFO's comments for the Scoping Document are attached. Once the Draft Joint EIS Guidelines are provided to DFO, we will review and provide additional comments.

DFO looks forward to further discussions with the Canadian Environmental Assessment Agency and Keeyask Hydropower Limited Partnership respecting proposed Keeyask Hydroelectric. Should you have any questions or comments, please do not hesitate to contact me by phone 204-983-5221, or by email Darryl.Chudobiak@dfo-mpo.gc.ca at your convenience to discuss.

Sincerely yours,



Darryl Chudobiak
Habitat Management Team Leader
Manitoba District
Fisheries and Oceans Canada
Winnipeg, Manitoba

Canada

cc: **Bev Ross (DFO, Winnipeg)**
Brad Parker (DFO, Calgary)
Jeff Long (Manitoba Water Stewardship, Winnipeg)

Keeyask Scoping Document – Fisheries and Oceans Canada Comments

Section 1.1: Background

- There are no provisions for or commitment to describing alternatives to.
- In particular, alternative means to the current project design must be considered. e.g. location of the Keeyask GS and associated infrastructure both within the Nelson River system in particular on Gull Rapids.

Section 1.4 – Regulatory Requirement

- This section should identify the known likely federal law list triggers and expected actions to be taken by the proponent to address these regulatory requirements.

Section 2.0 – Scope of the Project.

- In section 2, the author states that the provincial Minister responsible for Manitoba Hydro “will have an independent body undertake a review for the need for and alternatives to (NFAT) major new hydroelectric projects”. DFO recommends that the results of the NFAT be presented in the EIS.

Section 2.3 – Activities to Construct, Operate and Decommission the Project

- Details on expected impacts to fish and fish habitat should be included for the construction, operation and decommissioning of the Project, as well as methods for mitigation of these impacts. Residual effects after mitigation should be described and the necessary offsetting described. Areas of concern are: impacts that result in a Harmful Alteration, Disruption or Destruction (HADD) of fish habitat, killing fish by means other than fishing and the maintenance of fish passage. This description should include details on all HADD's, a description of fish habitat offsetting proposed, options and commensurate design details of proposed fish passage alternatives and options and design of the provision of safe downstream passage (e.g. turbine screening).
- The details on construction should include a section on mitigation and management of sediment as it pertains to Section 35 (deposition resulting in HADD) and Section 36 (deleterious) of the *Fisheries Act*.
- The details of operation should include a detailed assessment of instream flow needs (IFN) and hydraulic modeling including predicted effects of IFN changes and potential areas of dewatering/watering due to station cycling/peaking.

Section 2.4 – Accidents and Malfunctions

- This section should also consider release of a deleterious substance as an occurrence as occurrence is defined in the section.

Section 2.5 – Alternative Means of Carrying out the Projects

- Fish passage is not a parameter in an alternative means of carrying out the Project – rather it is a regulatory requirement. As such, any alternative means of carrying out the project will require fish passage.
- The alternative means should consider alternatives that not only diminish environmental effects, but also avoid significant environmental impacts.
- The alternative means as proposed consider a large number of cost and maintenance criteria for the construction and operation for the generation facility, while listing few considerations for reducing or eliminating impacts to the environment. Specifically, the EIS should include consideration for the ability of proposed alternatives to reduce or eliminate impacts to fish and fish habitat and to reduce or eliminate fish mortality.
- In particular, alternative means to the current project design should be considered. e.g. location of the Keeyask GS and associated infrastructure both within the Nelson River system in general and on Guil Rapids in particular.

Section 3.2 – ATK, Local Knowledge and Technical Sources

- Where raw data is requested, it will be provided to requesting agencies and departments.

Section 3.4 – Valued Ecosystem Components (VEC's)

- Need clarification on “umbrella” indicators.
- VEC's should not be limited by the ability to scientifically assess the VEC.
- Overall, both a fish and fish habitats are VEC's. Consideration of fish or fish habitat that is critical or sensitive should be a VEC (e.g. fish species listed or under consideration as a *Species at Risk* and species listed under provincial management plans and their commensurate habitats).

3.5 Spatial and Temporal Effects

- Spatial and temporal boundaries will need to be identified for both construction and operation of the proposed project.
- Spatial and temporal boundaries should include all natural waterbodies potentially affected by the Project (i.e. not restricted to Split Lake, the Nelson River main stem and Stevens Lake).

3.7 Precautionary Approach

- In the EIS every effort will be made to identify a priori effects and monitoring required to confirm these effects. The use of adaptive management to address environmental effects due to a lack of detailed monitoring and or a lack of a detailed effects description is to be avoided.
- The concept of uncertainty needs to be discussed and acknowledged as this pertains to the precautionary principle and regulatory decisions.

4.1.1.3 – Surface Water and Groundwater

- Hydrology and spatial extent should, at a minimum, extend to the downstream limit of adverse IFN effects (area of influence) as a result of operation of the Project.

- Physical environment (velocity, substrate and depth) should be determined in expected areas of fish habitat impact.

4.1.2.1 – Aquatic Ecosystems and Habitat

- Instream Flow Needs (IFN) and fish habitat impacts of emergency mode of operation during low flow periods will need to be considered and described.
- Instream Flow Needs (IFN) and fish habitat impacts of cycling and hydro peaking at the Project will need to be considered and described.
- Where aquatic all habitats cannot be directly assessed the method of extrapolation (modelling) will be described. Extrapolations will be tested for fidelity and the sensitivity analysis described. Where habitats cannot be sampled the method of habitat description will be described in detail.
- The aforementioned will be applied to fish habitat use as well and considered in the development of Habitat Suitability Indices.
- The methodology for aquatic habitat classification will be described along with descriptive value of classification tested.

Sections 4.1.2.3, 4.1.2.4, 4.1.2.5

- Samples sizes for descriptive statistics will have a required sample size and predictive power of analysis presented.

5.1 - Project Effects:

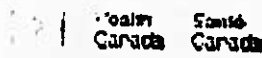
- With respect to Environment Canada's comments on "Modeling for Environmental Assessment", DFO agrees and adds that the model used to describe the existing environment should not be biased by targeted sampling and insufficient sample size. Essentially, the sampling program and data used to describe the existing environment should be collected in such a way as to ensure that it does not bias the description of the future environment (e.g. influence of sampling effort and non-random sampling).
- Where habitat suitability indices and habitat use models are used the model assumptions, parameters and weightings must be the same for the existing environment and post project environment. Where local habitat use data is used to develop site specific habitat suitability indices, the descriptive power and fidelity of these local data should be determined before use as a site specific index.
- Again, where the existing environment and environment (habitat) use cannot be directly sampled completely, the method of extrapolation (modeling) will be described and extrapolations will be tested for fidelity and the sensitivity analysis described.
- Adaptive management should not be used in lieu of describing/modeling the existing environment and predicting/modeling future impacts. To be clear *"it is insufficient to assert that implementation of an unidentified future measure, developed as a result of adaptive management, constitutes mitigation of a predicted adverse environmental effect"* (CEAA Operational Policy Statement "Adaptive Management Measures under the Canadian Environmental Assessment Act", 2009).
- All mitigation measures to minimize environmental effects should be presented – the procedures to select what mitigation measures are technically and financially feasible should be explained and substantiated.

5.1.1 – Criteria for Determining Significance

- An additional criterion is required to address risk of unacceptable impact, particularly to very sensitive VEC's. A single combination of nature, magnitude, spatial and temporal description of environmental effects may have acceptable impacts to a common VEC, but significant adverse environmental effects on a sensitive VEC.
- With respect to VEC's as renewable resources – while managing a VEC as a renewable resource (for example a fish species) may satisfy the needs of resource management, it may not satisfy the needs of the species and populations within that species (e.g. genetic diversity). As such, needs of the species will need to be considered in addition to needs as a resource.

7.0 – Environmental Monitoring, Management and Follow-up

- While knowledge of regulatory requirements will not be finalized, regulatory requirements should be understood well enough to anticipate and plan for monitoring requirements (such as detailed Aquatic Effects Management Plan). Finalization of monitoring plans and follow-up requirements will be required before the issuance of regulatory decisions such as authorization under the *Fisheries Act*.


Environmental Health Program
Regions and Programs Branch
510 Lagimodiere Blvd
Winnipeg, MB R2J 3Y1

January 11, 2012

Your file 4554MP2008-028
Our file MB/SK-2010/11-053

Jim Morrell
Canadian Environmental Assessment Agency
Suite 101 - 167 Lombard Avenue
Winnipeg, MB R3B 0T6

Subject: Health Canada's Comments on the Scoping Document for the Keeyask Generation Project.

Dear Mr Morrell,

Thank you for your e-mail of Dec 16, 2011 requesting Health Canada's (HC) review of the Scoping Document for the Keeyask Generation Project dated December 2011. HC is participating as a Federal Authority in this environmental review in accordance with Subsection 12(3) of the *Canadian Environmental Assessment Act*.

HC has reviewed the document provided by your office and we offer following comment:

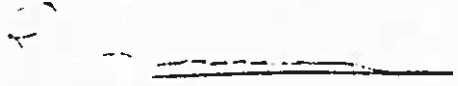
Drinking and Recreational Water Quality.

Large hydroelectric generation projects have the potential to impact water quality upstream, at, and downstream of the project through various activities (e.g. blasting, flooding, mobilization of soil/sediment borne contaminants, spills/wastewater releases). The consumption of, or contact with affected waters can result in acute or chronic impacts to human health.

HC advises that the scoping of project effects for the Keeyask Project specifically include an assessment of drinking and recreational water quality for any current or future users of this resource. Please refer to HC's publication entitled "Useful Information for Environmental Assessments" accessible at <http://www.hc-sc.gc.ca/ewm-enr/pubs/eval/index-eng.php> for additional information on the assessment of drinking and recreational water quality.

Please contact the undersigned at the coordinates provided should you have any questions regarding this response.

Sincerely,


Rick Grabowecky, MSc.
Regional Environmental Assessment Coordinator
Manitoba and Saskatchewan Regions
Ph # 204-984-8318
E-mail: Rick.Grabowecky@hc-sc.gc.ca

cc: Stan Hnatiuk (Health Canada)
Gregory Kaminski (Health Canada)

27 January 2012

To:

Mr. Jim Morrell
Project Manager
Canadian Environmental Assessment Agency
167 Lombard Avenue, Suite 101
Winnipeg, MB R3B 0T6
KeeyaskGeneration@cena-acee.gc.ca

From:

Dr. James (Jim) Graham, PhD, DSc, FEIC, PEng
Secretary, Bipole III Coalition
202-280 Fairhaven Road
Winnipeg NB R3P 0Z7
jgraham@cc.umanitoba.ca

Re:

Scoping Document for the Environmental Assessment of the Keeyask Generation Project

In this submission, "the Project" refers to the Keeyask Generation Project.

NFAT Review

The Bipole III Coalition (the Coalition) notes the decision of the Keeyask Hydropower Limited Partnership (the Partnership) to exclude *an assessment of Manitoba Hydro's markets, the economic feasibility of the Project, or alternatives to the Project*¹ from the Environmental Impact Statement (EIS) for the Project.

The Coalition submits that consideration of the need for and alternatives to the Project should occur before physical work on the Project begins. The Coalition concurs with the recommendations of the Manitoba Public Utilities Board (PUB)² on that point. An indication by the Minister responsible for Manitoba Hydro that *the Province of Manitoba will have an independent body undertake a review of the need for and alternatives to (NFAT) major new*

¹ Chapter 2.0, Keeyask Generation Project Scoping Document, December 2011

² Orders 99/11 and 5/12, Manitoba Public Utilities Board, July 2011 and January 2012, respectively

be shown to be economically feasible in the light of a realistic projection of domestic requirements.

Future Need

The prospect for revenue from export markets and from domestic use may not be a short-term problem. In its recent order (5/12), the PUB wrote: *Given the low MISO market prices, a potential problem looming for MH's industrial customers is that they may be paying significantly more for energy in the next 10 to 20 years than utility customers in the adjoining MISO states. If that ends up being the case, cheap electricity may no longer be an economic advantage of doing business in Manitoba*⁴.

Rejection of the Rationale for Exclusion from an NFAT Review

The Coalition is not convinced by the rationale advanced in the Scoping Document that, as the proponent for this Project, the Partnership can be excused from the requirement for an NFAT review because Hydro can be construed to be the "sole customer" in this relationship and not the proponent. Hydro is a partner in the Partnership. The Coalition contends that it is not possible to circumvent the public interest by relying on arguments based on the corporate structure of the proponent's organization. As the agency that will generate the power, the Partnership has a responsibility to join Hydro as the entity that will transmit, distribute and/or re-sell the power to participate in a timely and independent NFAT review.

Canadian Environmental Assessment Act

The Canadian Environmental Assessment Act requires, in Section 16, subsection (2), that:

... every comprehensive study of a project and every mediation or assessment by a review panel shall include a consideration of the following factors

- (a) the purpose of the project;*
- (b) alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means;*
- (c) the need for, and the requirements of, any follow-up program in respect of the project; and*
- (d) 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*⁵.

The Act makes it clear that the Project cannot be excused from the requirement for consideration of alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means.

⁴ Order 5/12, Manitoba Public Utilities Board, January 2012

⁵ Section 16(2), Canadian Environmental Assessment Act (S.C. 1992, c.37, last amended 12 July 2010)