# POINTE DU BOIS
# MODERNIZATION PROJECT

## CONSTRUCTION OF NEW FACILITIES AT PRESENT SITE AND DECOMMISSIONING OF EXISTING FACILITIES

## ENVIRONMENTAL ASSESSMENT
## DRAFT SCOPING DOCUMENT

**Submitted By**

**Manitoba Hydro**

**September 2008**

Manitoba Hydro

# Table of Contents

**Page No.**

# 1.0 Introduction

## 1.1 Purpose of Scoping Document

The purpose of this Draft Scoping Document is to provide information related to the scoping of the environmental assessment for the Pointe du Bois Modernization Project (the Project). The Project will consist of constructing new facilities at the present site and decommissioning of the existing facilities.

The Draft Scoping Document for the Project has been developed with consideration of recent approval, licencing, and guidance matters related to the following:

- Wuskwatim Generating Station;
- CEAA guidance given for two recent hydroelectric projects (i.e. Elizabeth Falls Hydroelectric Project and Lower Mattagami Hydroelectric Complex Redevelopment);
- The importance and need to include the use of Aboriginal[1] and local knowledge and public and stakeholder views in the assessment process; and
- Issues identified during initial pre-commitment public consultations in early 2007 and environmental assessment consultations in the fall of 2007.

## 1.2 Background

The Pointe du Bois Generating Station, having first produced power in 1911, is the oldest hydroelectric plant operating in Manitoba. In 2002, Manitoba Hydro acquired the generating station as part of its purchase of Winnipeg Hydro. Despite extensive repairs and upgrades that have been conducted over the years, the facilities at Pointe du Bois now require major repair or replacement in order to maintain public and dam safety, provide a modern and safer working environment for staff, and ensure reliable power production. Equipment is approaching the end of its functional life, parts are increasingly difficult to replace, and technology is outdated and inefficient. The powerhouse has also experienced concrete deterioration that impacts its structural stability and generation reliability.

In the decision process for the Project, Manitoba Hydro reviewed three principal alternatives for the Project. These alternatives were the following:

- Rebuild

  Rebuild involves the construction of a new generating station, spillway and dam with modern operating, safety and environmental standards in an area adjacent to the location of the existing facilities. The existing facilities would be decommissioned. Generating capacity would be increased from 78 MW to approximately 120 MW.

[1] Aboriginal refers to First Nation and Métis

- Renovate

  Renovate involves the installation of new generators and replacement of systems within the existing powerhouse, rehabilitation of the powerhouse structure, and construction of a new spillway. The existing generating station would be brought up to modern operating and safety standards. Generating capacity would be increased from 78 MW to approximately 120 MW.

- Repair

  Repair involves continued operation of the plant with replacement or repair of all structures and systems as necessary to bring the plant to minimum modern safety and operating standards. A new spillway would be constructed. Generating capacity would be increased to approximately 85 MW.

Two other alternatives were also considered, but were found to be unfeasible. These alternatives were as follows:

- Decommission

  Decommission involves removing all structures and returning the site to the state of nature. This alternative was found to be unfeasible as the established water regime would be drastically altered and the loss of 78 MW of generating capacity would negatively impact energy security and reliability in southern Manitoba.

- Maintain Water Control Structure

  Maintain Water Control Structure involves continued operation and maintenance of the water control structures. The established water regime would be generally maintained, but power would not be generated. This alternative was found to be unfeasible as the loss of 78 MW of generating capacity would negatively impact energy security and reliability in southern Manitoba.

As part of the Project decision process, Manitoba Hydro conducted initial public consultations on the three principal alternatives for the Project. Public open houses were held in Pointe du Bois, Lac du Bonnet and Winnipeg during February 2007. In addition, meetings were held with Sagkeeng First Nation and Manitoba Métis Federation representatives. Input and feedback were useful in helping Manitoba Hydro scope out the issues associated with the three principal alternatives under consideration. The consultations and meetings were also helpful in enhancing design and construction planning with respect to addressing potential effects of the Project.

Following internal analysis and feedback from the initial public consultation and Aboriginal meetings, Manitoba Hydro decided to proceed with the Rebuild alternative.

Accordingly, in support of the preparation of an Environmental Impact Statement for the Project, Manitoba Hydro is proceeding with an environmental assessment including physical, biological, and socio-economic studies and additional stakeholder[2] consultations.

## 2.0 Regulatory Framework

It is Manitoba Hydro's view that the Project constitutes a Class 3 development as an electrical generating facility with a generating capacity greater than 100 MW as defined by the Classes of Development Regulation under the Manitoba *Environment Act* (MEA). With respect to the *Canadian Environmental Assessment Act* (CEAA), it is Manitoba Hydro's view that a screening review (less than the 200 MW Comprehensive Study Review threshold) will be required and that at least two federal triggers may exist - under the *Fisheries Act* (FA) and the *Navigable Waters Protection Act* (NWPA). Further, it is Manitoba Hydro's understanding that the filing of an Environment Act Proposal Form (EAPF) under the MEA initiates the formal regulatory review process.

Manitoba Hydro anticipates that the Project may be reviewed under the provisions of the *March 2007 Canada/Manitoba Agreement on Environmental Assessment Cooperation*, and Manitoba Hydro would welcome such a cooperative process. Pursuant to that Agreement, it is expected that a Project Administration Team (PAT) and a Technical Advisory Committee (TAC) will be established to administer and to provide advice on the environmental assessment process and on the scope and content of the Environmental Impact Statement (EIS).

The EIS will outline other regulatory and legislative approvals required for Project implementation, notably the renewal of *The Water Power Act* Licence that expires on December 31, 2011.

## 3.0 Environmental Assessment Consultation

Consultation is an essential part of the planning and assessment process for the Project. The environmental assessment consultation program (consultation program[3]) for the Project will involve Aboriginal communities and organizations, local residents, other stakeholders, government departments and agencies, municipalities and the general public.

[2] When used on its own, the term `stakeholder' means all interested parties.
[3] The consultation program in this scoping document does not include consultation pursuant to section 35 of *The Constitution Act*.

The overall objective of the consultation program is to provide information on the Project and to create meaningful opportunities to receive information and views on the Project. The consultation program aims to achieve the following:

- Provide opportunities for the early involvement of Aboriginal people, local residents, the public, and other stakeholders in the process in order to ensure their involvement throughout the process;
- Effectively use a variety of mechanisms to provide information, receive feedback, and engage in a meaningful dialogue with stakeholders;
- Demonstrate an adaptive approach so that the consultation process can be adjusted in response to stakeholder issues and concerns;
- Effectively use the information received through the consultation process to avoid or minimize any negative Project effects and maximize Project benefits; and
- Communicate to stakeholders how the information they provided was used.

The consultation program will build on the initial Manitoba Hydro consultation and will consist of two rounds of consultation, as follows:

- The first round will describe the Project and solicit input on issues/concerns relating to potential Project effects; and
- The second round will present Project effects and mitigation measures for feedback prior to submission of the EIS to regulatory authorities. The second round of the consultation program will also be used to discuss how the information raised during the first round of the consultation program was utilized or addressed by Manitoba Hydro.

# 4.0 Aboriginal and Local Knowledge

Aboriginal and local knowledge are valuable sources of information for the environmental assessment. All reasonable efforts will be made to ensure that knowledge from these sources is collected and incorporated into the environmental assessment of the Project. A protocol for utilizing Aboriginal and local knowledge will be established with the providers of the information prior to incorporation into the EIS or any other public document.

# 5.0 Scope of Project and Assessment

## 5.1 Scope of Project

The scope of the project comprises the physical works and activities associated with the construction, operation and maintenance, and decommissioning of the following components and associated infrastructure:

- The construction, operation and maintenance of a new powerhouse adjacent to the existing powerhouse at the Pointe du Bois site;
- The construction, operation and maintenance of a new spillway adjoined to the new powerhouse and downstream of the existing spillway;

- The construction, operation and maintenance of new earthfill dams and rock excavations to complete the diversion of the river through the powerhouse and spillway;
- The construction and decommissioning of a new temporary vehicle access bridge across the intake channel;
- The construction, operation and maintenance of a channel cut-off dam across the existing intake channel;
- The construction, operation and maintenance of a new switching station;
- The decommissioning of the existing powerhouse;
- The decommissioning of the existing spillway;
- The decommissioning of the existing intake channel; and
- Compensation to offset the loss of fish habitat from the construction of a new powerhouse and spillway and dams, and loss of the existing intake channel.

Associated infrastructure with the Project includes:

- Construction workforce accommodations/facilities;
- A concrete batch plant;
- Storage areas and offices;
- Water and wastewater treatment and disposal;
- Borrow areas;
- A cottage access road from PR 313 to bypass the existing townsite; and
- Access roads, off the Slave Falls Road, to the borrow sites for the project.

The EIS will describe the Project using appropriate figures, maps and/or orthophotos, and will include the following:

- Location of the existing generating station, spillway and associated facilities;
- Location of the new generating station, spillway and associated facilities;
- Location of staging areas for construction;
- Location of borrow areas;
- Outline of roadways and access routes to be used during pre-construction, construction and operation stages of the Project;
- Traffic types and volumes;
- Location of construction workforce accommodations and other supporting infrastructure;
- Schedule of all construction activities including:
    - Contractor mobilization and demobilization activities;
    - Construction of new buildings and supporting infrastructure;
    - Location, composition, duration and removal of cofferdams;
    - Description of the dewatering process and control facilities (including area to be dewatered, duration, time of year, technique for moving water around isolated site(s), fish salvage);
    - Construction of intake and discharge;
    - Civil, mechanical, and electrical activities associated with the new powerhouse and spillway; and

    - Decommissioning of existing structures.
- Description and assessment of the effects of the Project on Navigation;
- General cost estimates and funding;
- New generating station and spillway operation pattern, including any hydrological changes (including water surface elevations and discharges) that can be expected and maintenance programs;
- Size and composition of the workforce during construction activities and new station operation;
- Health and safety programs and measures;
- Plans for decommissioning the existing generating station and associated facilities;
- Plans for decommissioning of any temporary infrastructure or facilities;
- Plans to address accidents and malfunctions;
- Wastes generated by the Project and how waste will be managed and disposed of; and
- Concept for the eventual decommissioning of the Project.

## 5.2 Scope of Assessment

The scope of the assessment will address the requirements of a Class 3 Development pursuant to the Manitoba Environment Act and the requirements of a screening pursuant to the Canadian Environmental Assessment Act. For the purpose of the assessment the definitions of "environment" and "environmental effect" from the Canadian Environmental Assessment Act will be used (the definition of environment is broader in the federal act and the provincial act does not include a definition of environmental effect).

## 5.3 Factors to be Considered in the Assessment

The following factors will be considered in the environmental assessment:

- The environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;
- The significance of the environmental effects;
- Comments from stakeholders that are received through the environmental assessment consultation process;
- Mitigation measures for any significant adverse environmental effects of the project that are technically and economically feasible;
- The purpose of the project;
- Alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means; and
- The need for, and the requirements of, any monitoring plan in respect of the project.

# 6.0 Modernization Alternatives

The EIS will include the following:

- A summary and assessment of the three principal alternatives considered for modernization (i.e., Rebuild, Renovate, Repair);
- An explanation of the rationale for selection of the Rebuild alternative, including the rationale for not rebuilding new facility directly on the existing site footprint; and
- A description of the process undertaken to determine the final alignment and general arrangement of the Project components.

# 7.0 Existing Environmental Setting

Physical, biological and socio-economic studies and activities will be undertaken to describe the physical, biological, and socio-economic components of the existing environment within the Study Area[4]. The description of the existing environmental setting will include the following:

## 7.1 Physical Environment

### 7.1.1 Climate/General Environment

The EIS will provide information on the following:

- Climate change (including both the effects of the project on climate change and effects of climate change on the project);
- Averages and extremes in monthly temperatures and dates of freeze and thaw;
- Monthly precipitation and snow cover;
- Monthly wind velocity;
- Local air quality; and
- Ambient noise and vibration.

### 7.1.2 Water Regime

The EIS will provide information on the following:

- Winnipeg River system operations throughout the year for various hydraulic conditions;
- Hydrological regime at the Pointe du Bois site;
- Erosion and sedimentation;
- Ice conditions;
- Woody debris accumulation and deposit;
- Climate change effects on the water regime; and

[4] Base Study Areas will be defined for the physical, biological, and socio-economic components. The Study Areas will vary depending on the specific study activity being reviewed. (e.g. the Study Area for the terrestrial study activity will include borrow areas that may be remote from the base Study Area).

- Navigation safety and warning measures.

### 7.1.3 Physiography and Landscape

The EIS will provide information on the following:

- Physiography;
- Geology;
- Soils;
- Hydrographic information on the area to be affected by the project;
- Groundwater conditions; and
- Geologic deposits that may be used for the Project.

## 7.2 Aquatic Environment

### 7.2.1 Water and Sediment Quality

The EIS will provide information on the following:

- Water quality (both in the vicinity of the project site and over the broader Study Area); and
- Sediment quality (both in the immediate vicinity of the project site and over the broader Study Area) with emphasis on metals, metalloids and organics.

### 7.2.2 Lower Trophic Levels

The EIS will provide information on the following:

- Algae, rooted plants, zooplankton, and benthic invertebrates; and
- The inter-relationship of lower and higher trophic levels.

### 7.2.3 Fish Communities and Fish Habitat

The EIS will provide information on the following:

- Abundance and diversity of fish populations;
- Fish habitat use by individual species that frequent the Study Area, with emphasis on habitats in shallow water and foreshore areas;
- Fish movement;
- Mercury levels in fish; and
- Threatened and endangered species.

## 7.3 Terrestrial Environment

### 7.3.1 Vegetation and Terrestrial Habitat

The EIS will provide information on the following:

- Abundance, diversity and habitats of terrestrial and semi-aquatic vegetation; and
- Threatened and endangered species.

### 7.3.2 Invertebrates

The EIS will provide information on the following:

- Habitat use;
- Invertebrates species composition and distribution; and
- Threatened and endangered species.

### 7.3.3 Amphibians and Reptiles

The EIS will provide information on the following:

- Abundance, diversity and habitats of amphibians and reptiles; and
- Threatened and endangered species.

### 7.3.4 Birds

The EIS will provide information on the following:

- Migratory and breeding birds abundance, diversity and habitats;
- Nesting sites of colonial nesters and raptors; and
- Threatened and endangered species.

### 7.3.5 Mammals

The EIS will provide information on the following:

- Abundance, diversity and habitats of mammal populations; and
- Threatened and endangered species.

## 7.4 Socio-Economic Environment

### 7.4.1 Economy

The EIS will provide information on the following:

- Labour force characteristics including education, business/economic sectors, employment and unemployment, participation rates, and income levels;
- Profile of economic sectors within the Study Area including commercial resource use; and
- Manitoba Hydro contract tendering procedures, employment and hiring practices, compensation and benefit policies.

### 7.4.2 Property Ownership

The EIS will provide information on the following:

- Property ownership and land tenure, land/resource and water use, and land use and development controls.

### 7.4.3 Infrastructure and Services

The EIS will provide information on the following:

- Roads and highways, community facilities and other services.

### 7.4.4 Personal, Family and Community Life

The EIS will provide information on the following:

- Population characteristics, with an emphasis on demographics and health status of potentially affected communities and the region in general; and
- Way of life, community cohesion, culture and spirituality.

### 7.4.5 Aboriginal Resource Use

The EIS will provide information on the following:

- Existing Aboriginal harvesting, including hunting, fishing, trapping, and gathering.

### 7.4.6 Commercial Resource Use

The EIS will provide information on the following commercial resource uses:

- Hunting;
- Trapping;
- Fishing;
- Guiding and outfitting;
- Harvesting of wild rice;
- Mining;
- Forestry; and
- Hydro-electric generation.

### 7.4.7 Recreational Resource Use and Tourism

The EIS will provide information on the following recreation and tourism uses:

- Hunting;
- Trapping;
- Fishing;
- Gathering;
- Lodges and associated facilities;
- Cottage developments;
- Outfitters;
- Campgrounds;
- Recreational operations;
- Outdoor recreation activities;
- Tourism and eco-tourism opportunities; and
- Navigation safety and warning measures.

### 7.4.8 Heritage Resources

The EIS will provide information on the following:

- Historical-cultural characterization;
- Archaeological and culturally important sites;
- Known burial sites; and
- Past and present traditional land use and occupancy.

# 8.0 Proposed Assessment Approach

## 8.1 Effects Assessment Principles and Objectives

The overall effects assessment approach will consider scientific study and analysis, Aboriginal knowledge, local knowledge, and other stakeholder perspectives, issues and concerns.

The effects assessment approach will embrace the following principles:

- That an understanding is required of the existing physical, biological, and socio-economic environments in the Study Area;
- That an understanding is required of the Project and the potential interactions between the Project and the environment;
- That Aboriginal knowledge, local knowledge, and scientific analysis all contribute to gaining an understanding of the existing environment and how the existing environment may be affected by the Project;
- That an understanding is required of how other past and potential future human activities have and continue to affect the environment and how these activities may interact with the Project;
- That Project effects will need to be viewed from the perspective of different stakeholders;
- That stakeholder perspectives will be sought through consultation;
- That adverse effects will be avoided or mitigated and positive effects will be maximized to the extent practicable; and
- That follow-up monitoring is required.

The effects assessment approach is designed to describe and address potential Project effects on the physical, biological, and socio-economic environments for use in the preparation of the EIS for the Project.

The main objectives of the effects assessment for the Project are as follows:

- Assist in the planning and design of the Project by identifying and assessing potential environmental effects and mitigation options to avoid or minimize adverse effects and maximize positive effects to the degree practicable;
- Address concerns and issues identified by Aboriginal peoples, local residents, and other stakeholders with respect to the Project;
- Provide sufficient information to prepare an EIS for consideration by regulators to exercise their legislated mandate; and

- Provide sufficient information about the existing environment, so that follow-up monitoring studies can be planned.

The effects assessment will consider the existing environment without the Project, as the baseline condition against which changes caused by the Project will be assessed and measured.

Potential effects of the Project will also be considered in terms of sustainability as outlined in section 8.4 of this Draft Scoping Document.

## 8.2 Effects Assessment Process

The effects assessment will include the following steps:

- The Project and the existing environment will be described;
- Interactions between the Project and environment will be identified and assessed;
- A selected list of appropriate Valued Environmental Components (VECs) will be determined for the Study Area. These VECs will be used to provide a focus to the assessment and to the evaluation of the significance of the potential environmental effects of the Project;
- Technically and economically feasible measures to mitigate adverse effects will be identified, as will measures to enhance positive effects; and
- The significance of residual effects will be determined.

Using this process, the EIS will describe and assess the potential effects of the Project on the physical, biological, and socio-economic environments for each phase of the Project – construction, operation and decommissioning.

### 8.2.1 Mitigation and Residual Effects

The EIS will describe any mitigation or effect management measures proposed to be implemented during the phases of the Project, including any need for fish habitat compensation, fish passage, and navigation rights and safety. Feasible measures to enhance the potential benefits associated with the construction and operation of the Project will also be detailed.

The EIS will identify any residual Project effects expected to remain after mitigation measures have been implemented.

### 8.2.2 Determination of Significance

The EIS will outline the framework to be used in the evaluation of the significance of residual adverse effects by using the following criteria:

- Nature of the effect;
- Magnitude of the effect;
- Duration of the effect;
- Frequency of the effect;
- Reversibility of the effect; and

- Geographic extent of the effect.

Characterization of the significance of the residual adverse effects will consider scientific study and analysis, Aboriginal knowledge, and local knowledge, and will relate to all phases of the Project – construction, operation, and decommissioning.

## 8.3 Cumulative Effects Assessment

In addition to describing the direct effects of the Project, the EIS will also include an assessment of cumulative effects. The Cumulative Effects Assessment (CEA) will include a consideration of the potential for Project effects to act in combination with the effects of other past, present and/or reasonably forseeable future projects in the Study Area (to be defined for the CEA). The EIS will outline the approach and methods for the CEA, and will include a description of the ispatial and temporal boundaries used in the assessment. Guidance documents such as the *Operational Policy Statement OPS-EPO/3-1999 Addressing Cumulative Environmental Effects Under the Canadian Environment Assessment Act* and the *Cumulative Effects Practitioners Guide* will be used to formulate the CEA process.

*Note: It is also anticipated that discussion with the PAT and TAC will be undertaken early in the regulatory process on the process for CEA and the framework for determining significance as outlined in section 8.2.2 of this Draft Scoping Document.*

## 8.4 Sustainability Assessment

Manitoba Hydro has Corporate Environmental and Sustainable Development Policies in order to help link its responsibilities both for the supply of energy to the Manitoba economy and for the protection of the environment and human health. Manitoba Hydro intends to incorporate its principles of sustainable development in all of its activities associated with the planning, development, operation and maintenance of the Project.

The EIS for the Project will address and incorporate the *Principles and Guidelines of Sustainable Development* as contained in *The Manitoba Sustainable Development Act.*

# 9.0 Monitoring and Follow-up

The EIS will provide details of, and commit Manitoba Hydro to, a Monitoring and Follow-up program extending through the construction, operation and decommissioning phases of the Project. The Monitoring and Follow-up program will incorporate the following:

- Identification of proposed methods to avoid and mitigate adverse environmental effects, including summaries of potential environmental sensitivities and mitigation actions;

- Emergency response plans developed in consultation with local authorities;
- Monitoring plans and reporting protocols;
- Closure plans for borrow areas, including mitigation of potential hazards to public safety;
- Information on waste management practices to be utilized during all phases of the Project;
- Documentation of EIS commitments;
- An implementation plan for the EIS commitments; and
- A commitment to mitigate environmental effects throughout the full life-cycle of the Project. Field construction and operating personnel will be provided clear instructions on the mitigation measures to be implemented and on the lines of communication to be followed.

Where appropriate, monitoring of the physical, biological, and socio-economic effects on local, Aboriginal, or other affected communities will be conducted during the construction, operation and decommissioning phases of the Project. The monitoring program is intended to confirm impact predictions related to anticipated effects and to determine whether unexpected effects are occurring.

A compliance monitoring program for the construction, operation and decommissioning phases of the Project will be provided. The monitoring program will describe parameters to be monitored, methodologies and time frames. Further research respecting issues relevant to the operation of the facility may also be recommended.

As part of the process of follow-up and monitoring, the principles of adaptive management will apply. The EIS will describe a process that will be implemented in the event that it is determined that the Project is having unexpected adverse effects, or if mitigation measures are proving to be ineffective.

## 10.0 Report Format

The EIS for the Project will be written with a minimum of technical terminology and will include a glossary of terms used throughout the document. An Executive Summary for the EIS will be provided.

The EIS will utilize maps, charts, diagrams and photographs as appropriate for presentation. To the extent possible, maps and diagrams will be presented at a common scale so that these may be overlaid for ease of reference.

Supporting scientific, local and Aboriginal information will be contained in reference appendices to the EIS.