Pointe du Bois Transmission Project

Environmental Assessment Report

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Prepared for:
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Environmental Approvals Branch
EXECUTIVE SUMMARY

Based on an environmental assessment of the proposed Pointe du Bois Transmission Project, Manitoba Hydro concludes that the proposed project will not have adverse significant effects on the biophysical or socioeconomic environments.

This report provides details on:

- the proposed project;
- the existing environment;
- the site selection process;
- the effects assessment; and
- environmental protection planning.

It will also support how Manitoba Hydro came to the above conclusion.

Two double circuit 66 kV sub-transmission lines – P1/P2 and P3/P4 – that run from Pointe du Bois Station, in Whiteshell Provincial Park, to Rover Station, in the City of Winnipeg have reached the end of their serviceable life. In order to continue to deliver reliable power to customers, and protect public and employee safety, the P lines need to be decommissioned. Manitoba Hydro considered five options to replace the existing P lines, and concluded that the Pointe du Bois Transmission Project (the Project) is the preferred option.

The Project includes the following:

- Construction of 46.5 km of new 115 kV alternating current (AC) transmission line (PW75) in a 60 meter (m) right-of-way (ROW) terminating at the Pointe du Bois and Whiteshell Stations.
- Installation of equipment at the existing Pointe du Bois and Whiteshell Stations to terminate the new 115 kV line including two 115 kV breakers at each station; various 115 kV switches at each station; and other associated components.

The 845 km² Project Study Area in which the Project is located is in southeastern Manitoba and encompasses part of the Whiteshell Provincial Park. Most of the land in the Project Study Area is covered by natural vegetation (approximately 84%). Forest is the dominant natural vegetation, followed by tall shrub and marsh types. Human development is concentrated in the western third of the Project Study Area. Agriculture accounts for most of the human development. Settlements, cottage subdivisions and roads comprise the majority of the remaining developed
area. The largest settlements are Lac du Bonnet, Pinawa, Seven Sisters Falls and Pointe du Bois. There are no First Nation Reserve Lands in the Project Study Area.

The proposed Project is a Class II Development as defined in the Classes of Development Regulation 164/88 under The Environment Act (Manitoba). The Project will require an Environment Act Licence prior to the initiation of construction activities. This report supports the Environment Act Proposal Form (EAPF) and meets the Environment Act Proposal Report Guidelines. The Environmental Assessment Report for the Project describes the Project's environmental impact assessment and provides information required by government agencies pursuant to The Environment Act (Manitoba). Manitoba Hydro submits this report and the EAPF to Manitoba Conservation and Water Stewardship as application for the Environment Act Licence. This enables the public and government agencies to examine the details of the proposed project, its anticipated impact on the biophysical and socio-economic environments, and measures that Manitoba Hydro intends to mitigate potential impacts.

Receipt of an Environment Act Licence for the Project is targeted for December 2014. Upon receipt of the Environment Act Licence, property acquisition for the PW75 ROW will be completed. Project construction is scheduled to occur through a period of 1.5 years from fall 2015 to spring 2017 inclusive.

The transmission line ROW clearing and line construction activities will be undertaken during the winter months under frozen ground conditions. Clearing of the ROW for the line is scheduled to begin in December 2015, and is expected to be complete by the end of April 2016. This period will also include some construction activity. The construction of the line will resume in December 2016 and be complete by the end of April 2017. Transmission line construction as well as demobilization, is expected to be complete, by the end of April 2017. The transmission line is scheduled for commissioning and in-service in April 2017. Whiteshell Station construction is scheduled to begin in August 2016 and be completed in March 2017. Installation of equipment at the Pointe du Bois Station is scheduled to begin in October 2015. Activities are scheduled to resume in June 2016 and extend to November 2016, and are scheduled to begin in February 2017 and be completed in June 2017.

Manitoba Hydro initiated a Site Selection process in 2013 to identify a route for PW75 which considered a broad range of biophysical and socio-economic information, as well as two rounds of public engagement. The Site Selection process used Multi-Criteria Evaluation and Least Cost Path Analysis in a Geographic Information System to identify a Preliminary Preferred Route. Through review of the Preliminary Preferred Route and a second round of Public Engagement, the Preliminary Preferred Route was refined to identify the Final Preferred Route for PW75. Further environmental studies were conducted to assess the effects of the Final Preferred Route. The route for PW75 will utilize the existing P1/P2 and P3/P4 right-of-way for 21.5 km. The existing ROW will require widening. North of the Whiteshell Station, PW75 is also on existing right-of-way for approximately 1.2 km. Widening is also required.
The environmental assessment was focused on Valued Environmental Components (VECs) which are aspects of the biophysical and socio-economic environments that are particularly notable or valued because of their ecological, scientific, resource, socio-economic, cultural, health, aesthetic or spiritual importance, and which have the potential to be adversely affect by the project development or have an effect on the project. The VECs assessed in the effects analysis were defined by the multi-disciplinary project team undertaking the assessment based on identified regulatory requirements; consultation with regulatory authorities; information derived from published and unpublished data sources, and fieldwork conducted for the Project; and feedback through the PEP. Twenty-six VECs were selected to assess both negative and positive Project effects.

Where effects could not be avoided through the Site Selection process, mitigation measures were identified to avoid or minimize effects of the Project on people and the environment. As detailed designs are prepared for the Project, additional mitigation measures may be incorporated. For effects that could not be fully mitigated (i.e., residual effects), the significance of each effect was assessed. Assessment of the significance of environmental effects involved consideration and evaluation of specific factors. This included the direction or nature of the effect; and the magnitude; geographic extent; and duration of the effect. Where appropriate, the frequency; and reversibility of the effect was considered in the determination of the significance of the effect. Interactions between residual effects of the Project, and ongoing and future projects and activities in the Project Study Area were considered for the assessment of cumulative effects.

The assessment of potential effects and mitigative measures led to the determination that the residual effects of the Project are not significant.

No significant cumulative effects were identified for the Project in combination with the effects of other projects and human activities in the Project Study Area, although there is some overlap. No additional mitigation measures are required for any potential cumulative effects from the Project.

Mitigation measures, monitoring and other follow-up actions identified in the effects assessment will be implemented through and Environmental Protection Program. Manitoba Hydro’s Environmental Protection Program provides the framework for implementing, managing, monitoring and evaluating environmental protection measures consistent with regulatory requirements, corporate commitments, best practices and public expectations. A final Environmental Protection Plan (EnvPP) for the Project will be submitted to Manitoba Conservation and Water Stewardship prior to the initiation of construction. Application of the EnvPP will ensure that all personnel including contractors and Manitoba Hydro take diligent steps to protect people and the environment.
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<td>CCME</td>
<td>Canadian Council of Ministers of the Environment</td>
</tr>
<tr>
<td>CEA</td>
<td>Cumulative Effects Assessment</td>
</tr>
<tr>
<td>CNR</td>
<td>Canadian National Railway</td>
</tr>
<tr>
<td>COSEWIC</td>
<td>Committee on the Status of Endangered Wildlife in Canada</td>
</tr>
<tr>
<td>CS</td>
<td>Consistency Ratio</td>
</tr>
<tr>
<td>CSA</td>
<td>Canadian Standards Association</td>
</tr>
<tr>
<td>CEWG</td>
<td>Cumulative Effects Working Group</td>
</tr>
<tr>
<td>DSC</td>
<td>Distribution Supply Centre</td>
</tr>
<tr>
<td>DS</td>
<td>Designatable Unit</td>
</tr>
<tr>
<td>DOC</td>
<td>Dissolved Organic Carbon</td>
</tr>
<tr>
<td>DFO</td>
<td>Department of Fisheries and Oceans</td>
</tr>
<tr>
<td>ER</td>
<td>Ecological Reserve</td>
</tr>
<tr>
<td>EMF</td>
<td>Electric and Magnetic Fields</td>
</tr>
<tr>
<td>EAPF</td>
<td>Environment Act Proposal Form</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EIS</td>
<td>Environmental Impact Statement</td>
</tr>
<tr>
<td>EMS</td>
<td>Environmental Management System</td>
</tr>
<tr>
<td>EnvPP</td>
<td>Environmental Protection Plan</td>
</tr>
<tr>
<td>EPP</td>
<td>Environmental Protection Program</td>
</tr>
<tr>
<td>ESS</td>
<td>Environmentally Sensitive Site</td>
</tr>
<tr>
<td>FDAV</td>
<td>Forest Damage Appraisal and Valuation</td>
</tr>
<tr>
<td>FIHCS</td>
<td>Fish Inventory and Habitat Classification System</td>
</tr>
<tr>
<td>FMU</td>
<td>Forest Management Unit</td>
</tr>
</tbody>
</table>
FPR   Final Preferred Route
FRI   Forest Resource Inventory
GHA   Game Hunting Area
GIS   Geographical Information System
GS    Generating Station
ha    hectare
HADD  Harmful Alteration, Disruption or Destruction
HRB   Historic Resources Branch
HRIA  Heritage Resources Impact Assessment
HRPP  Heritage Resources Protection Plan
ISCM  Invasive Species Council of Manitoba
ISO   International Standards Association
Km    Kilometer
km2   Kilometer square
km/km2 Kilometer per kilometer square
kV    Kilovolt
L/s   Liter per second
L/s/m Liter per second per meter
LCPA  Least Cost Path Analysis
LGD   Local Government District
LUC   Land Use Category
LWD   Large woody debris
MAI   Mean Annual Increment
MB    Manitoba
MBCDC Manitoba Conservation Data Centre
MCE   Multi-Criteria Evaluation
MCWS  Manitoba Conservation and Water Stewardship
MESA  Manitoba Endangered Species Act
MIT   Manitoba Infrastructure and Transportation
MBESA Manitoba Species at Risk Act
m     Meter
mm    Millimeter
MMF   Manitoba Métis Federation
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>NERC</td>
<td>North American Electric Reliability Corporation</td>
</tr>
<tr>
<td>OPGW</td>
<td>Optical Ground Wire</td>
</tr>
<tr>
<td>PAI</td>
<td>Protected Areas Initiative</td>
</tr>
<tr>
<td>PW75</td>
<td>Pointe du Bois to Whiteshell Station 115 kV Transmission Line</td>
</tr>
<tr>
<td>PR</td>
<td>Provincial Road</td>
</tr>
<tr>
<td>PPR</td>
<td>Preliminary Preferred Route</td>
</tr>
<tr>
<td>PTH</td>
<td>Provincial Trunk Highway</td>
</tr>
<tr>
<td>PEP</td>
<td>Public Engagement Program</td>
</tr>
<tr>
<td>RTL</td>
<td>Registered Trapline</td>
</tr>
<tr>
<td>ROW</td>
<td>Right-of-Way</td>
</tr>
<tr>
<td>RM</td>
<td>Rural Municipality</td>
</tr>
<tr>
<td>SARA</td>
<td>Species at Risk Act</td>
</tr>
<tr>
<td>SDA</td>
<td>Sustainable Development Act</td>
</tr>
<tr>
<td>SPD</td>
<td>System Planning Department</td>
</tr>
<tr>
<td>SSEA</td>
<td>Site Selection and Environmental Assessment</td>
</tr>
<tr>
<td>TSS</td>
<td>Total Suspended Solids</td>
</tr>
<tr>
<td>TK</td>
<td>Traditional Knowledge</td>
</tr>
<tr>
<td>TLE</td>
<td>Treaty Land Entitlement</td>
</tr>
<tr>
<td>TLECMII</td>
<td>Treaty Land Entitlement Committee of Manitoba Inc.</td>
</tr>
<tr>
<td>TLEFA</td>
<td>Treaty Land Entitlement Framework Agreement</td>
</tr>
<tr>
<td>VEC</td>
<td>Valued Environmental Component</td>
</tr>
<tr>
<td>WLC</td>
<td>Weighted Linear Combination</td>
</tr>
<tr>
<td>WMA</td>
<td>Wildlife Management Area</td>
</tr>
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</table>
1.0 INTRODUCTION

Manitoba Hydro is proposing to construct a 115 kilovolt (kV) alternating current (AC) transmission line from the Pointe du Bois Station to Whiteshell Station. The proposed Pointe du Bois Transmission Project (the Project) is a Class II Development as defined in the Classes of Development Regulation under The Environment Act (Manitoba). This report supports the Environment Act Proposal Form (EAPF) and meets the Environment Act Proposal Report Guidelines.

1.1 SCOPE OF PROJECT

The scope of the proposed Pointe du Bois Station to Whiteshell Stations 115 kV Transmission Project includes pre-construction, construction, operations and maintenance, and decommissioning. New facilities for the Project include the following:

- Construction of 46.5 km of new 115 kV AC transmission line in a 60 meter (m) right-of-way (ROW) terminating at the Pointe du Bois and Whiteshell Stations

- Installation of equipment at the existing Pointe du Bois and Whiteshell Stations to terminate the new 115 kV line including:
  - Two 115 kV breakers at each station;
  - Various 115 kV switches at each station; and
  - Other associated components.

Detailed project description information is provided in Chapter 2.

1.2 PROJECT NEED AND JUSTIFICATION

Two double circuit 66 kV sub-transmission lines – P1/P2 and P3/P4 (P Lines) – that run from Pointe du Bois Station, in Whiteshell Provincial Park, to Rover Station, in the City of Winnipeg have reached the end of their serviceable life (Map 1-1). In order to continue to deliver reliable power to customers, and protect public and employee safety, the P lines need to be decommissioned.

Manitoba Hydro considered five options to replace the existing P lines. The lines were evaluated based on cost and system performance. The five options were:

1. Salvage of the 66 kV P lines from Pointe du Bois Station to Rover Station, and construction of a 115 kV overhead line from Pointe du Bois to Rover Stations.
2. Salvage of the 66 kV P lines from Pointe du Bois Station to Rover Station, and construction of a 115 kV overhead line from Pointe du Bois to Transcona Stations.

3. Salvage of the 66 kV P lines from Pointe Du Bois Station to Rover Stations, and construction of a 115kV overhead line from Pointe du Bois to Whiteshell Stations.

4. Upgrade of the 66 kV P lines from Pointe du Bois to Rover Stations.

5. Salvage of the 66 kV P lines from Pointe du Bois to Rover Stations. This option also requires the construction of a 66 kV overhead sub-transmission line along Wenzel Road and construction of a 66 kV overhead sub-transmission line from the corner of Roch and Martin to Rover Station.

Based on the comparison of options, Option 3 was selected because:

- Options 1 and 2 are more expensive than Option 3.
- Option 4 is not technically practical.
- Option 5 incurs the loss of power capacity into the power system in the Winnipeg central area and isolates the power generation of the Pointe du Bois Generating Station.

Manitoba Hydro has chosen the recommended option to construct a new 115 kV transmission line from the Pointe du Bois to Whiteshell Stations and Salvage the 66 kV P lines from Pointe du Bois to Rover Station.

1.2.1 Provincial Environmental Assessment and Permitting

The proposed Project meets the requirements of a Class II Development as defined by the Classes of Development Regulation 164/88 under The Environment Act (Manitoba). The Project will require an Environment Act Licence prior to the initiation of construction. Class II developments are required to submit an EAPF and an Environmental Assessment (EA) Report to Manitoba Conservation and Water Stewardship (MCWS) to enable public and government agencies to examine the details of the proposed project, anticipated effects on the biophysical and socio-economic aspects of the environment, and adequacy of measures that Manitoba Hydro intends to use to mitigate residual effects from the Project. An Environment Act Licence is issued upon the Minister’s acceptance of the EAPF and the EA Report.

This document constitutes the EA Report for the proposed Project. It is submitted to MCWS as Manitoba Hydro’s application for environmental licensing of the Project under The Environment Act (Manitoba).
1.2.2 Federal Environmental Assessment and Permitting

The Project is not considered a physical activity under the Regulations Designating Physical Activities, SOR/2012-147, Canadian Environmental Assessment Act 2012 (CEAA 2012) and the project does not fall on federal land therefore CEAA 2012 does not apply. Manitoba Hydro will comply with federal requirements, including the Department of Fisheries and Oceans (DFO) Operational Guidelines to assure that the Project incorporates appropriate procedures to avoid negative effects on fish and fish habitat. The design of transmission line crossings of major rivers will meet the Canadian Standards Association (CSA) guidelines for river crossings and, therefore, will satisfy the requirements of the federal Navigable Waters Protection Act and not interfere with navigation.

1.3 REPORT OUTLINE

This report includes an examination and consideration of the potential effects that may result from the Project to the:

- Physical Environment – Atmosphere (air, climate and climate change), land (terrain, geology, soils), and water (surface, groundwater, water quality).
- Biological Environment – Aquatic biota and habitat, terrestrial ecosystems and vegetation, terrestrial species and habitat (mammals, birds, amphibians, reptiles, invertebrates).
- Land and Resource Use – Commercial resource use (e.g., forestry, mining, fishing), protected areas, Aboriginal land and resource use, recreation and tourism (including aesthetics), property ownership, zoning, infrastructure services and facilities.
- Socio-economic and Cultural Conditions – Population and demographics, economic base, personal, family & community life (including human health and well-being, employment and income), local community, and heritage resources.

This EA Report is organized as follows:

- Chapter 2 Project Description provides a detailed description of the Project, including the new 115 kV transmission line, and modifications to the Pointe du Bois and Whiteshell Stations.
- Chapter 3 Assessment Approach describes the approach to the environmental assessment for the project.
- Chapter 4 Site Selection describes the process that was undertaken to identify a preliminary preferred route (PPR) and final preferred route (FPR) for the new 115 kV transmission line.
Chapter 5 Existing Environment describes the existing biophysical and socio-economic environment in the study area. It provides a description of baseline environmental conditions in the study area.

Chapter 6 Public Engagement Program (PEP) provides a description of the purpose and objectives of the PEP, the process used for public engagement including the types and formats of venues. This chapter also discusses the public engagement results.

Chapter 7 Effects and Mitigation identifies and evaluates the environmental effects of the Project, provides methods to mitigate potential residual effects, as well as cumulative effects and adhering to the principles of sustainable development.

Chapter 8 Environmental Protection, Follow-up and Monitoring describes the environmental protection, monitoring and follow-up activities.