Pointe du Bois Transmission Project

Environmental Assessment Report

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Prepared for:

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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 km^2 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 Mulit-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.

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1

1.1 SCOPE OF PROJECT 1-1

1.2 PROJECT NEED AND JUSTIFICATION 1-1

1.2.1 Provincial Environmental Assessment and Permitting 1-2

1.2.2 Federal Environmental Assessment and Permitting 1-3

1.3 REPORT OUTLINE 1-3

2.0 PROJECT DESCRIPTION 2-1

2.1 PROJECT OVERVIEW 2-1

2.2 PROJECT COMPONENTS 2-1

2.2.1 Pointe du Bois to Whiteshell Stations 115 kV Transmission Line (PW75) 2-1

2.2.2 Station Components 2-10

2.2.3 Project Construction 2-14

2.2.4 Project Operations and Maintenance 2-20

2.2.5 Project Decommissioning 2-22

2.2.6 Project Schedule 2-23

3.0 ASSESSMENT APPROACH 3-1

3.1 INTRODUCTION 3-1

3.2 SCOPE OF THE ASSESSMENT 3-1

3.2.1 Project Study Area 3-1

3.2.2 Valued Environmental Component (VEC) Selection 3-2

3.3 PROJECT-ENVIRONMENT INTERACTIONS 3-10

3.4 EFFECTS ASSESSMENT AND MITIGATION MEASURES 3-13

3.4.1 Identification of Mitigation Measures 3-14
3.4.2 Residual Effects and Significance Evaluation 3-14
4.0 SITE SELECTION 4-1
4.1 MULTI-CRITERIA EVALUATION 4-2
4.1.1 Identification of Routing Criteria 4-2
5.0 EXISTING ENVIRONMENT 5-1
5.1 INTRODUCTION 5-1
5.2 PHYSICAL ENVIRONMENT 5-1
5.2.1 Climate 5-1
5.2.2 Physiography 5-2
5.2.3 Hydrogeology 5-4
5.3 AQUATIC ENVIRONMENT 5-5
5.3.1 Watersheds and Watercourses 5-5
5.3.2 Hydrology 5-6
5.3.3 Surface Water Quality 5-6
5.3.4 Lower Trophic Levels 5-9
5.3.5 Fish Species and Distribution 5-10
5.3.6 Aquatic Species at Risk 5-11
5.3.7 Fish Habitat 5-13
5.3.8 Aquatic Invasive Species 5-14
5.4 TERRESTRIAL ENVIRONMENT 5-15
5.4.1 Overview 5-15
5.4.2 Ecosystem Diversity 5-16
5.4.3 Intactness 5-18

5.4.4 Plants 5-20
5.4.5 Wildlife and Habitat 5-22
5.5 SOCIO-ECONOMIC ENVIRONMENT 5-41
5.5.1 Population 5-41
5.5.2 Economy 5-43
5.5.3 Property Ownership and Land Use 5-48
5.5.4 Infrastructure and Services 5-54
5.5.5 Resource Use 5-57
5.5.6 Recreation and Tourism 5-62
5.6 HERITAGE AND CULTURAL RESOURCES 5-67
5.6.1 Cultural Occupation and Culture History 5-67
5.6.2 Current Archaeological Environment 5-73
6.0 PUBLIC ENGAGEMENT PROGRAM 6-1
6.1 PURPOSE AND GOALS 6-1
6.2 METHODS 6-1
6.2.1 Participants 6-1
6.2.2 Engagement Materials and Activities 6-2
6.2.3 Engagement Process 6-5
6.2.4 Aboriginal Engagement 6-11
6.2.5 Manitoba Government Engagement 6-20
6.2.6 Public Engagement Input to Site Selection 6-20
6.3 PUBLIC ENGAGEMENT PROCESS FEEDBACK 6-21
6.3.1 Recommendations and Follow-up Requirements 6-25
6.3.2 Route Adjustment 6-28

6.4 FUTURE FOLLOW-UP REQUIREMENTS 6-28

7.0 EFFECTS ASSESSMENT AND MITIGATION 7-1

7.1 OVERVIEW 7-1

7.2 PW75 115 KV TRANSMISSION LINE 7-1

7.2.1 Physical Environment 7-2

7.2.2 Aquatic Environment 7-5

7.2.3 Terrestrial Environment 7-13

7.2.4 Socio-Economic Environment 7-63

7.3 POINTE DU BOIS AND WHITESHELL STATION MODIFICATIONS . 7-96

7.3.1 Physical Environment 7-96

7.3.2 Aquatic Environment 7-96

7.3.3 Terrestrial Environment 7-96

7.3.4 Socio-Economic Environment 7-97

7.4 EFFECTS OF THE ENVIRONMENT ON THE PROJECT 7-101

7.4.1 Context 7-101

7.4.2 Potential Effects 7-101

7.5 ACCIDENTS AND MALFUNCTIONS 7-102

7.5.1 Context 7-102

7.5.2 Mitigation 7-102

7.6 CUMULATIVE EFFECTS 7-105

7.6.1 Introduction 7-105

7.6.2 Cumulative Effects Assessment Scoping 7-105

7.6.3 Cumulative Effects Assessment 7-108

7.7 SUSTAINABLE DEVELOPMENT 7-116

7.7.1 Sustainable Development 7-116
7.7.2 Project Sustainability Assessment 7-118
7.7.3 Conclusions 7-118
8.0 ENVIRONMENTAL PROTECTION, FOLLOW-UP AND MONITORING 8-1
8.1 INTRODUCTION 8-1
8.2 ENVIRONMENTAL PROTECTION PROGRAM 8-2
8.2.1 Overview 8-2
8.2.2 Organization 8-2
8.2.3 Roles and Responsibilities 8-4
8.2.4 Resources 8-6
8.2.5 Environmental Management 8-6
8.2.6 Environmental Protection Documents 8-6
8.2.7 Pre-Construction Activities 8-8
8.2.8 Construction Activities 8-8
8.2.9 Work Stoppage 8-9
8.2.10 Emergency and Contingency Response 8-9
8.2.11 Tools and Resources 8-10
8.3 ENVIRONMENTAL PROTECTION PLAN 8-10
8.3.1 General Environmental Protection Measures 8-11
8.3.2 Timing Windows 8-11
8.3.3 Buffers and Setbacks 8-14
8.3.4 Specific Environmental Protection Measures 8-42
8.3.5 Follow-up Activities 8-42
8.3.6 Review and Updating 8-44

9.0 REFERENCES 9-1
9.1 LITERATURE AND WEBSITES CITED 9-1
9.2 PERSONAL COMMUNICATIONS 9-27
10.0 GLOSSARY OF TERMS 10-1

APPENDICES

APPENDIX A	FISH SPECIES
APPENDIX B	TERRESTRIAL PLANTS, HABITAT AND ECOSYSTEMS
APPENDIX C	WILDLIFE
APPENDIX D	PUBLIC ENGAGEMENT PROGRAM
APPENDIX E	FORESTRY

LIST OF TABLES

Page

Table 2-1: Minimum Conductor to Ground Clearances....2-4
Table 2-2: Estimated Construction Workforce for PW75 2-18
Table 2-3: Whiteshell Station Termination PW75 Workforce Requirements 2-19
Table 2-4: Pointe du Bois Station PW75 Termination Workforce Requirements....2-20
Table 3-1: Valued Environmental Components (VECs)....3-5
Table 3-2: Project-Environment Interaction Matrix[1] 3-10
Table 3-3: Assessment Factors and Criteria Used to Evaluate Significance of Residual Effects....3-15
Table 4-1: Site Selection Factors or Routing the PW75 Transmission Line 4-3
Table 4-2: Areas of Least Preference for the Pointe du Bois Transmission Line 4-5
Table 5-1: Climate Normals (1981-2010) from Pinawa Weather Station 5-3
Table 5-2: Surficial Materials in the Regional and Project Study Areas 5-5
Table 5-3: Discharge of Winnipeg and Whitemouth Rivers (April to November)[1]....5-6
Table 5-4: Water Quality in Rivers in the Project Study Area....5-7
Table 5-5: Fish species at risk in watersheds of, and in the immediate area surrounding the Project Study Area 5-11
Table 5-6: Linear Feature Length and Density by Degree of Human Use and Feature Type..5-19
Table 5-7: Core Area Size as a Percentage of Project Study Area Land Area by Minimum Core Area Size, Before and After Removal of Cutline/trail Buffers 5-20
Table 5-8: Listed Species that Could Occur in the Project Study Area 5-31
Table 5-9: Estimated Moose Population in Game Hunting Area 26, 1980s to 2013....5-34
Table 5-10: Population of Municipalities in the Project Study Area 2006 and 2011[1] 5-42
Table 5-11: Aboriginal and Non-Aboriginal Population 2006 5-42
Table 5-12: Employment, Participation and Unemployment in the Labour Force (2006) 5-46
Table 5-13: Occupational Classifications (2006) 5-47
Table 5-14: Development Controls in the Project Study Area....5-53
Table 5-15: Utilities and Services in Communities in the Project Study Area....5-57
Table 5-16: Forest Management Unit 24 & 30 Area Classification 5-58
Table 5-17: Annual Allowable Cut for FMU 24 & 30 5-59
Table 5-18: Total Growing Stock for FMU 24 & 30 5-59
Table 5-18: Chronology of Aboriginal Occupancy in Manitoba 5-69
Table 5-19: Registered Archaeological Sites and Centennial Farm within the PPR....5-73
Table 6-1: Community and Stakeholder Meetings....6-8
Table 6-2: Public Open Houses 6-9
Table 6-3: Telephone and Email Inquiries....6-10
Table 6-4: Black River First Nation Engagement....6-13
Table 6-5: Brokenhead Ojibway Nation Engagement....6-15
Table 6-6: Hollow Water First Nation Engagement....6-15
Table 6-7: Lake St. Martin First Nation Engagement....6-16
Table 6-8: Manitoba Métis Federation Engagement....6-17

Table 6-9: Peguis First Nation Engagement....6-18
Table 6-10: Pinaymootang First Nation Engagement....6-19
Table 6-11: Sagkeeng First Nation Engagement....6-19
Table 6-12: Manitoba Government Engagement....6-20
Table 6-13: Round 1 Feedback and Response....6-21
Table 6-14: Round 2 Feedback and Response....6-23
Table 6-15: Round 1 & 2 Recommendations and Follow-up Requirements....6-26
Table 6-16: Future Follow-up Requirements....6-28
Table 7-1: Physical Environment Residual Effects Summary....7-5
Table 7-2: Residual Effects of PW75 on the Aquatic Environment....7-12
Table 7-3: Residual Effects on the Terrestrial Ecosystems, Habitat and Plants....7-25
Table 7-4: Improved Access Intersections and Estimated Risk Ranking Relative to Potential Harvest of Local Wildlife Populations....7-59
Table 7-5: Residual Effects of PW75 on Wildlife....7-61
Table 7-6: Residual Effects of PW75 on VECs for Land Use....7-69
Table 7-7: Residual Effects of PW75 on VECs for Economy....7-71
Table 7-8: Residual Effects of PW75 on VECs for Services....7-74
Table 7-9: Residual Effects of PW75 on VECs for Personal, Family and Community Life....7-80
Table 7-10: Effects on FMU 24 & 30 Productive Forest Area....7-89
Table 7-11: Effect on FMU 24 Annual Allowable Cut Levels....7-89
Table 7-12: Effect on FMU 24 Crown Land Standing Timber....7-89
Table 7-13: Effect on Private Land Natural Forest Areas....7-91
Table 7-14: Residual Effects of PW75 on VECs for Resource Use....7-92
Table 7-15: Residual Effects of PW75 on VECs for Heritage Resources....7-95
Table 7-16: Residual Effects of Modifications to the Pointe du Bois and Whiteshell Stations on VECs for Services during Construction....7-99
Table 7-17: Residual Effects of Modifications to the Pointe du Bois and Whiteshell Stations on VECs for Personal, Family and Community Life during Construction....7-100
Table 7-18: Application of CEA with Future Projects and Human Activities to VECs....7-109
Table 7-19: Results of the CEA with Reasonably Foreseeable Future and Prospective Projects....7-112
Table 7-20: Project Sustainability Assessment....7-119
Table 8-1: Wildlife Reduced Risk Timing Windows....8-12
Table 8-2: Timing windows for no in water work to occur....8-13
Table 8-3: Setbacks and Buffers....8-15
Table 8-4: Riparian Setbacks, Buffers and Zones....8-19
Table 8-5: General Mitigation Tables....8-20

LIST OF FIGURES

Page

Figure 2-1: Guyed Lattice Steel Structure – Preliminary Design 2-2
Figure 2-2: Heavy Angle Structure – Preliminary Design 2-3
Figure 2-3: Guyed Structure Showing Typical ROW Requirements 2-6
Figure 2-4: P1 to P4 Existing ROW 2-7
Figure 2-5: ROW Looking Northeast towards Seven Sisters Generating Station 2-8
Figure 2-6: Location of the Cross Section shown in Figure 2-5. 2-9
Figure 2-7: Pointe du Bois Station Switchyard 2-13
Figure 3-1: Significance Determination 3-17
Figure 4-1: Portion of the Priority Habitat Factor Layer 4-7
Figure 4-2: Example of a Pair-wise Comparison for Input into the AHP Process 4-8
Figure 4-3: Combining the Factor Layers and Areas of Least Preference into the Suitability Surface 4-9
Figure 4-4: Diagram of the Aggregation Process for Combining Factor Layers into the Suitability Surface 4-10
Figure 4-5: Suitability Surface for Pointe du Bois. Black areas are “areas of least preference”. Color Scale Goes from Light Pink (very low) to Dark Purple (very high) 4-11
Figure 4-6: Diagram of the Least Cost Path Analysis. The sum of the "suitability values" for the green line will be lower than the sum of any other combination of grid cells to get from the start to the end 4-12
Figure 5-1: Game Hunting Area 26 Moose Restoration Zones 5-35
Figure 5-2: American Marten Harvest on Eight Registered Traplines Overlapping the Project Study Area, 1996/1997 to 2011/2012 (MCWS unpublished data) 5-37
Figure 5-3: American Marten Population Cycle in the Whiteshell Registered Trapline Section, 1996/1997 to 2011/2012 (MCWS unpublished data) 5-37
Figure 5-4: Four Stages of Glacial Lake Agassiz (Teller 1984) 5-68
Figure 5-5: Approximate boundaries of Algonkian Terminal Woodland Culture Areas (based on Dawson 1981. Map base from Reid & Ross, 1981) 5-71
Figure 8-1: Environmental Protection Organizational Structure 8-3
Figure 8-2: Typical Organizational Lines of Reporting and Communication 8-5
Figure 8-3: Typical Environmental Protection Documents 8-7

LIST OF MAPS

Map 1-1: P1 to P4 Sub-Transmission Lines 1-5
Map 2-1: Final Preferred Route 2-25
Map 3-1: Project Study Area 3-18
Map 3-2: Project and Terrestrial Study Areas 3-19
Map 4-1: Parks and Protected Areas Factor Layer 4-13
Map 4-2: Areas of Least Preference 4-14
Map 4-3: Canada Warbler Habitat Factor Layer 4-15
Map 4-4: Final Preferred Route 4-16
Map 5-1: Project Study Area 5-75
Map 5-2: Surface Materials 5-76
Map 5-3: Terrestrial Habitat Composition 5-77
Map 5-4: Linear Features and Core Area 5-78
Map 5-5: Provincially Rare Plant Locations 5-79
Map 5-6: Protected Areas Initiative Lands 5-80
Map 5-7: Project Study Area Municipalities 5-81
Map 5-8: Project Study Area Infrastructure 5-82
Map 5-9: FMU Boundaries/Timber Sales Area 5-83
Map 5-10: High Value Forest Areas 5-84
Map 5-11: Registered Traplines and Game Hunting Areas 5-85
Map 5-12: Recreational Trails 5-86
Map 5-13: Heritage Resources 5-87
Map 7-1: Final Preferred Route 7-123
Map 7-2: Final Preferred Route Water Crossings 7-124
Map 7-3: Moose Habitat Quality 7-125
Map 7-4: American Marten Habitat Quality 7-126
Map 7-5: Bald Eagle Habitat Quality 7-127
Map 7-6: Ruffed Grouse Habitat Quality 7-128
Map 7-7: Canada Warbler Habitat Quality 7-129

LIST OF ACRONYMS

ASI	Area of Special Interest
AAC	Annual Allowable Cut
AECL	Atomic Energy of Canada
AHP	Analytic Hierarchy Process
ASI	Area of Special Interest
ATK	Aboriginal Traditional Knowledge
ATV	All Terrain Vehicles
BP	Before Present
CCME	Canadian Council of Ministers of the Environment
CEA	Cumulative Effects Assessment
CNR	Canadian National Railway
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CS	Consistency Ratio
CSA	Canadian Standards Association
CEWG	Cumulative Effects Working Group
DSC	Distribution Supply Centre
DS	Designatable Unit
DOC	Dissolved Organic Carbon
DFO	Department of Fisheries and Oceans
ER	Ecological Reserve
EMF	Electric and Magnetic Fields
EAPF	Environment Act Proposal Form
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMS	Environmental Management System
EnvPP	Environmental Protection Plan
EPP	Environmental Protection Program
ESS	Environmentally Sensitive Site
FDAV	Forest Damage Appraisal and Valuation
FIHCS	Fish Inventory and Habitat Classification System
FMU	Forest Management Unit

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

NERC	North American Electric Reliability Corporation
OPGW	Optical Ground Wire
PAI	Protected Areas Initiative
PW75	Pointe du Bois to Whiteshell Station 115 kV Transmission Line
PR	Provincial Road
PPR	Preliminary Preferred Route
PTH	Provincial Trunk Highway
PEP	Public Engagement Program
RTL	Registered Trapline
ROW	Right-of-Way
RM	Rural Municipality
SARA	Species at Risk Act
SDA	Sustainable Development Act
SPD	System Planning Department
SSEA	Site Selection and Environmental Assessment
TSS	Total Suspended Solids
TK	Traditional Knowledge
TLE	Treaty Land Entitlement
TLECMI	Treaty Land Entitlement Committee of Manitoba Inc.
TLEFA	Treaty Land Entitlement Framework Agreement
VEC	Valued Environmental Component
WLC	Weighted Linear Combination
WMA	Wildlife Management Area

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

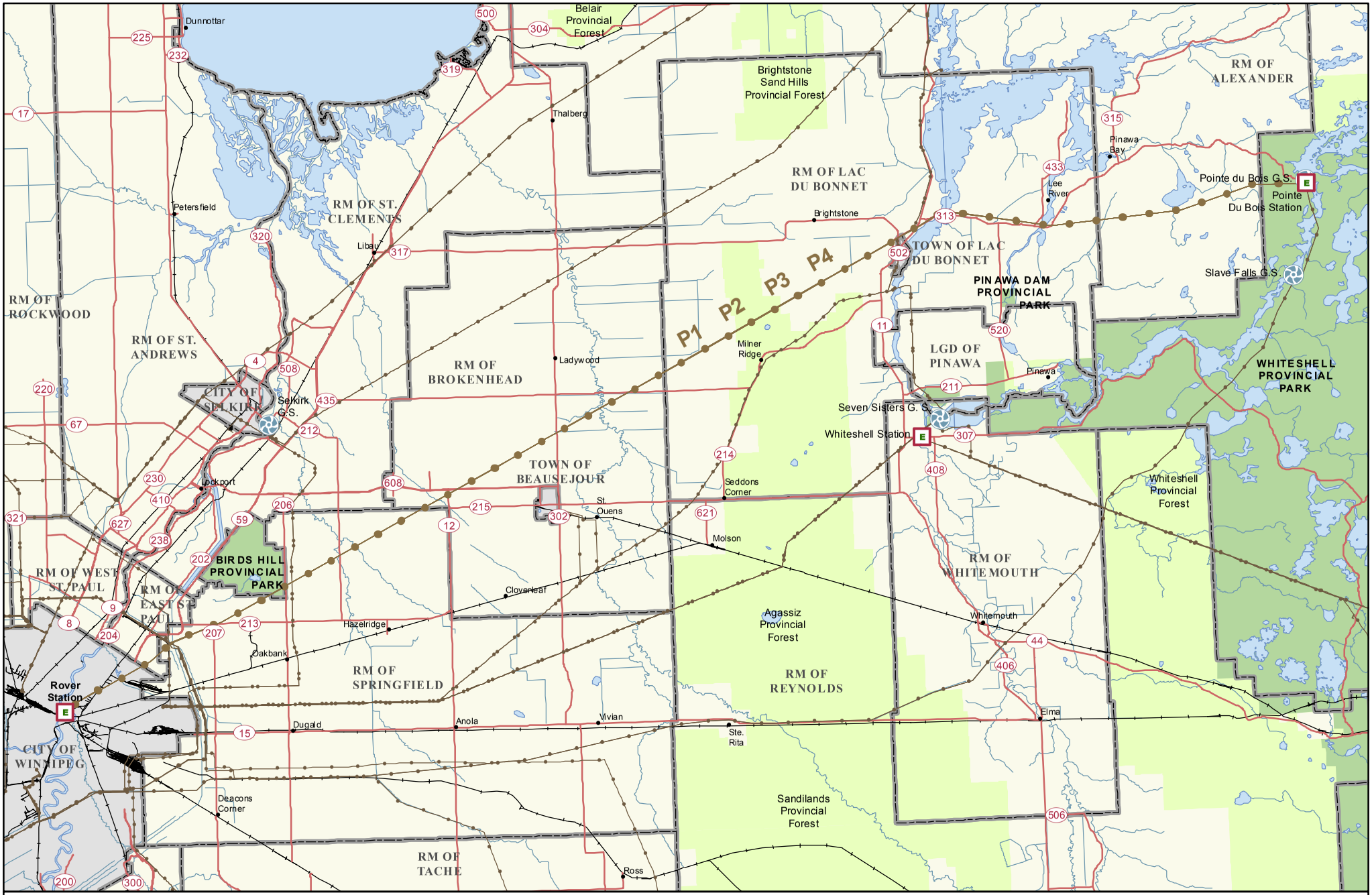
This report includes an examination and consideration of the potential effects that may result from the Project to the:

- 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.



Manitoba Hydro

Coordinate System: UTM Zone 14 NAD 83
Data Source: MBHydro, MMM, ProvMB, NRCan
Date Created: December 12, 2013

0 3 6 9 12 Kilometres
0 2 4 6 8 Mile

N

P1 To P4 Sub-Transmission Lines
Generating Station
Transmission Station
Community
Transmission Line
Provincial HWY / Road
Railway
City / Town
Provincial Park
Provincial Forest
Rural Municipality

Pointe du Bois Transmission Project

P1 to P4 Sub-Transmission Lines

Map 1-1