

# Bipole III Transmission Project Socio-Economic Monitoring Plan For Construction



**MANITOBA HYDRO**

**BIPOLE III TRANSMISSION PROJECT**

**SOCIO-ECONOMIC MONITORING PLAN**

**FOR**

**CONSTRUCTION**

**PREPARED BY**

**Manitoba Hydro**

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## Introduction

This document describes the construction Socio-Economic Monitoring Plan (SEMP) for the Bipole III Transmission Project (the project). Monitoring project socio-economic (SE) effects was a commitment identified in the Bipole III Environmental Impact Statement (EIS). Monitoring SE effects is also a condition of the Bipole III Environment Act Licence (No. 3055). The monitoring plan focuses on key components of the SE environment that may be affected, including both direct and indirect effects during the construction phase of the project. This SEMP is also part of an Environmental Protection Program developed for the project.

## Project Overview

The purpose of the project is to provide enhanced reliability to Manitoba Hydro's system, and to reduce the severity of the consequences of major outages. Approximately 70% of Manitoba's hydroelectric generating capacity is delivered to southern Manitoba, where most of the demand for energy is, via the Bipole I and Bipole II high voltage direct current (HVdc) transmission lines. Bipoles I and II share the same transmission corridor through the Interlake region over much of their length from northern Manitoba to a common terminus at the Dorsey Converter Station, northwest of Winnipeg. The existing transmission system is vulnerable to the risk of catastrophic outage of either (or both) Bipoles I and II in the Interlake corridor and/or at the Dorsey Converter Station due to unpredictable events, particularly severe weather. This vulnerability, combined with the significant consequences of prolonged, major outages, justifies a major initiative to reduce dependence on the Dorsey Converter Station and the existing HVdc Interlake transmission corridor.

The project includes:

- A new converter station, the Keewatinoow Converter Station, to be located near the site of the potential, future Conawapa Generating Station on the Nelson River northeast of Gillam, Manitoba;
- A ground electrode site connected by a low voltage feeder line to the Keewatinoow Converter Station;
- New 230 kV transmission lines linking the Keewatinoow Converter Station to the northern ac collector system at the existing 230 kV switchyards at the Henday Converter Station and Long Spruce Generating Stations;
- Modifications to the Henday Converter Station and the Long Spruce Generating Station to accommodate the new collector lines;
- The development of a new +/-500 kV HVdc transmission line, approximately 1,400 km in length centred on a 66 m wide right-of-way, that will originate at the Keewatinoow Converter Station, follow a westerly route to southern Manitoba and terminate at a new converter station, the Riel Converter Station, immediately east of Winnipeg;
- The completion of the Riel Converter Station, development of the site for which is already underway pursuant to a separate license; and

- A ground electrode site connected by a low voltage feeder line to the Riel Converter Station.

## **Purpose and Objectives**

The socio-economic monitoring plan for the project is intended to document conditions over time for Valued Environmental Components (VECs) and other environmental parameters to:

- Confirm impact predictions in the EIS;
- Identify unanticipated effects;
- Confirm adherence to EIS commitments regarding follow-up monitoring;
- Monitor the effectiveness of mitigation measures;
- Identify other mitigation or remedial actions that may be implemented;
- Confirm compliance with regulatory requirements including project approvals and environmental regulations; and
- Provide baseline data and development information and experience for other Manitoba Hydro projects.

The monitoring plan does not attempt to address all potential changes to the environment described in the EIS, but rather focuses on potential important effects to key components of the socio-economic environment. The plan builds on the assessment studies conducted for the EIS using established methods for data collection and analysis.

A separate monitoring plan has been developed in relation to physical, terrestrial and aquatic components. All efforts will be made to quantify results from socio-economic monitoring as per the measurable parameters outlined in Table 1. Where quantitative information is not available, qualitative trends will be described in the monitoring report to the extent feasible.

## **Socio-Economic Monitoring Management**

The SEMP is part of the overall Environmental Protection Program for Bipole III which provides a framework for the delivery, management and monitoring of environmental protection measures that satisfy corporate policies and commitments, regulatory requirements, environmental protection guidelines and best practices, and inputs from stakeholders, Aboriginal communities and the general public. The Program describes how Manitoba Hydro is organized and functions to deliver timely, effective, and comprehensive solutions and mitigation measures to address potential environmental effects. Roles and responsibilities for Manitoba Hydro employees and contractors are defined, along with management, communication and reporting structures for implementation of the Program. The Environmental Protection Program includes the what, where and how aspects of protecting the environment during the pre-construction, construction, operation and decommissioning of the project. To facilitate the delivery of the SEMP, Manitoba Hydro has established a Socio-Economic Monitoring Working Group (SEMWG) to oversee monitoring and follow-up activities.

## Socio-Economic Monitoring Geographic Area

Monitoring activities will occur throughout the Project Study Area in relation to the final preferred route (See Appendix A). For routing, the relatively large study area allowed for appropriate range of planning choices for consideration based on the collection of environmental information about its physical and biological characteristics (including vegetation, wildlife and aquatic resources), as well as socio-economic and land use characteristics (including locations of communities, conservation areas, economic land uses [e.g., agriculture], archaeological and heritage resources). The Project Study Area defines the broadest area used to provide spatial context and comparison to the project components (with allowance for some socio-economic topics that require a larger regional context such as northern Manitoba and communities just outside the study area such as Gillam). The majority of the SE monitoring activities will occur at the Project Study Area level, and different issues/effects will occur in different parts of the Project Study Area that were identified in the EIS.

## Socio-Economic Topics

Monitoring activities will be linked to broad environmental components of the socio-economic environment that were identified in the EIS noted below:

- Economy
- Community Services
- Resource Use
- Personal, Family and Community Life
- Culture and Heritage Resources

Not all broad environmental components or effects will be considered in this plan. For example, culture and heritage resources will be monitored through a Culture and Heritage Resources Protection Plan (CHRPP). Monitoring activities will focus on those effects that are potentially significant, effects where there is high uncertainty regarding the effects prediction, or effects that discipline specialists identified as requiring further monitoring.

The following table for each effect to be monitored outlines the broad environmental SE component, associated Valued Environmental Components (i.e., VEC), effect/issue under consideration, rationale for monitoring, measurable parameter, timeline and analysis method. The details are described in the sections following the table in the remainder of this document. Efforts will be made to quantify effects, to the extent possible, from the baseline condition presented in the EIS. As indicated earlier, if presenting quantitative information is not feasible, qualitative trends will be presented.

Environmental Component	VEC	Effect/Issue	Rationale	Measurable Parameter	Timeline	Methods/Analysis
Economy	Economic opportunities	Project employment associated with the project.	To determine the extent of direct project employment in comparison to predictions made in the Environmental Impact Statement.	<ul style="list-style-type: none"> <li>Total person years of employment for each project component.</li> <li>Total number of hires.</li> <li>Total number of employees.</li> <li>Average duration of work.</li> <li>Type (job classifications) of work available.</li> </ul>	Annually	Collected and reported using Construction Employment Database.
Economy	Economic opportunities	Direct business effects associated with the project.	To determine the extent of direct business effects associated with the project.	<ul style="list-style-type: none"> <li>Direct project expenditures.</li> </ul>	Annually	Collected and reported using Manitoba Hydro's existing accounting and tracking system and purchasing reports.
Economy	Economic opportunities	Indirect business effects of the project.	To determine the extent of indirect (i.e., spin-off) business effects associated with the project.	<ul style="list-style-type: none"> <li>Indirect business opportunities.</li> </ul>	Post Construction	Key person interviews (KPIs). Interviews in Gillam will take place post construction for the Keewatinoow Converter station. Two communities will also be selected in the vicinity of the transmission line to participate in KPIs.
Economy	Economic opportunities	Direct labor income and taxes generated by the project.	To determine direct labor income and contribution of the project to tax revenue.	<ul style="list-style-type: none"> <li>Direct labour income.</li> <li>Project taxes generated (non-labour).</li> </ul>	Annually	Manitoba Hydro's existing accounting and tracking system and labour reports.



Environmental Component	VEC	Effect/Issue	Rationale	Measurable Parameter	Timeline	Methods/Analysis
Transportation	Travel and transportation (traffic, transportation services)	Increase in traffic volumes and accidents on key roadways.	To determine the increase in traffic volumes and accidents on key roadways potentially as a result of the project.	<ul style="list-style-type: none"> <li>• Traffic volumes – compare actual traffic volumes from estimates in the EIS on key roadways in Keewatinoow area (e.g. PR 280).</li> <li>• Traffic accidents in the Keewatinoow area on key roadways through RCMP incident reports as available.</li> <li>• Tracking the number and type of vehicles going through the access gate at Keewatinoow.</li> </ul>	Annually	Analysis of data at traffic counters, RCMP data, as available and gate records.
Community Services	Community services (emergency, health, social)	Increased pressure on community services.	To determine the extent of project effects on community services in Gillam.	<ul style="list-style-type: none"> <li>• Demand on Gillam Hospital. <ul style="list-style-type: none"> <li>- Number of visits by workers to Gillam Hospital, as available from the Hospital.</li> </ul> </li> <li>• Demand on policing services. <ul style="list-style-type: none"> <li>- Number of RCMP calls to Keewatinoow work camp, and changes in total numbers of RCMP calls in Gillam, as available from the RCMP.</li> </ul> </li> </ul>	Annually	Keewatinoow specific information provided to the extent possible by the Gillam Hospital and the RCMP, through the Worker Interaction Subcommittee (WIS) (See pages 11 and 12 for an overview of WIS)  May also include informal surveys with emergency services providers.

Environmental Component	VEC	Effect/Issue	Rationale	Measurable Parameter	Timeline	Methods/Analysis
Personal and community well-being	Public Safety	Worker interaction.	To monitor worker interaction and provide for adaptive management to respond to adverse interactions.	<ul style="list-style-type: none"> <li>• Summary of Worker Interaction Sub-committee activities.</li> <li>• Nature of issues identified by the WIS.</li> <li>• Mechanisms to address identified issues.</li> </ul>	Annually	<p>Information will be provided through the members of the Worker Interaction Sub-committee.</p> <p>May also include interviews with reps identified by WIS members.</p>
Personal, family and community life	Human Health	Electric and magnetic field (EMF) levels.	To compare EMF levels from those modeled in the EIS.	<ul style="list-style-type: none"> <li>• Electric field (kV/m).</li> <li>• Magnetic field (mG – milligauss).</li> <li>• Charged aerosols (counts, size, charge).</li> <li>• Air conductivity/ion density (cm<sup>3</sup> - per cubic centimeter).</li> <li>• Space charge.</li> <li>• Radio frequency noise (dB).</li> <li>• Audible noise (dB).</li> <li>• Corona loss kW/km – kilowatts per kilometer. (during operations)</li> <li>• Ozone concentration (ppm – parts per million).</li> <li>• Weather measurements (i.e., wind speed and direction, temperature, humidity, air pressure, sunlight, precipitation).</li> </ul>	Post Construction	<p>Measurements at Bipole III testing site.</p> <p>Changes from baseline conditions will be reported on post construction.</p>

Environmental Component	VEC	Effect/Issue	Rationale	Measurable Parameter	Timeline	Methods/Analysis
Resource use	Trapping	Possible sensory disturbance resulting in reduced harvest success rate in the vicinity of the transmission line.	To determine if the construction and presence of transmission lines impact harvest success rate.	<ul style="list-style-type: none"> <li>• Trapper success rate.</li> <li>• Changes in fur bearer behavior.</li> </ul>	Information will be collected and reported on annually for a total of three years	Interviews/workshops.

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## Socio-Economic Monitoring Activities

The remainder of the document describes the details of the monitoring activities identified in Table 1.

### Economic Monitoring

The economic monitoring activities that will occur for the project during construction, including employment, income and business outcomes associated with the project are outlined below. The estimates of the economic impact of the project were documented in the EIS and included in the Economic Impact Assessment Technical Report that was appended to the EIS. The intent is to compare the predictions made in the EIS to actuals.

#### *Employment/Workforce*

The EIS estimated the workforce for all project components. Estimates vary by project component and year depending on the activity. The majority of employment opportunities will occur during the construction phase of the project with fewer opportunities during the operations phase of the project. Due to seasonality constraints for some aspects of the work certain project components will have activities concentrated at specific times of the year (e.g., clearing and construction of the transmission line in the winter months for certain areas), while other project construction components will occur throughout the entire year (e.g., Riel and Keewatinoow Converter Stations).

For some of the northern project components (e.g., Keewatinoow), the Burntwood Nelson Agreement (BNA) applies and outlines a hiring preference focusing on northern Aboriginals and locals; clearing and construction of the transmission lines will also be subject to a collective agreement (the Transmission Line Agreement), which will allow Manitoba Hydro to include hiring preferences in the tender specifications.

Monitoring employment results will provide data on actuals incurred on the project and will provide an indication of the overall economic impact of the project.

#### *Monitoring Parameters*

Employment data to be collected for all project components during the construction phase includes:

- Total person years of employment for each project component – Person years of employment are defined as the amount of work that one worker could complete during twelve months of full-time employment;
- Total number of hires – Refers to the number of people hired on the project site for any duration;
- Total number of employees – Refers to the number of individuals hired. The variance between hires and employees can be attributed to an individual being hired to the project more than once;
- Average duration of work on the project; and
- Type (job classification) of work available.

### ***Methodology***

Employment data will be collected on-site by contractors through an employee self-declaration form designed for the project. All completed forms will be provided by on-site contractors to Manitoba Hydro and stored in a central database. Analysis of data will occur on an annual basis and reported in the annual report.

### **Business Opportunities**

Construction of the project will result in business opportunities locally, regionally and throughout the province and Canada. Manitoba Hydro has policies in place to promote local businesses on its projects. For example, Manitoba Hydro's Northern Purchasing Policy's objective is to guide actions with the aim of promoting business, contract and employment opportunities for northern Aboriginal people and northern Manitoba businesses on work within the Province of Manitoba's Northern Affairs Boundary. The goal is to enhance business relationships with the communities and to assist them in building capacity and competitiveness of their businesses through involvement in Manitoba Hydro contracts. Application of this policy ensures northern Aboriginal and northern Manitoba businesses have the opportunity to participate in the economic activity resulting from project construction. Manitoba Hydro has also entered into Direct Negotiated Contracts with local businesses as well. Business outcomes are measured in terms of direct expenditures of the project for goods and services.

Monitoring both direct and indirect business effects will provide data on the success and effectiveness of efforts to enhance local business participation, as well as an indication of the general economic impact of the project in communities in the vicinity of the Bipole III Complex.

### ***Monitoring Parameters***

The following parameters will be monitored in conjunction with the project:

- Direct project expenditures; and
- Indirect business opportunities.

### ***Methodology***

Purchasing data of supplies and services will be collected through Manitoba Hydro's existing accounting and tracking systems. Data will be collected on the total number and value of purchases made. Indirect business effects generated by the project will be measured by undertaking key person interviews post construction for Keewatinoow Construction in Gillam and in two communities in different transmission line construction segments with the appropriate representatives of various sectors and community's representatives.

### **Labour Income and Tax Revenue**

Labour income is an important indicator of direct economic impact of a project. Income levels also affect the general standard of living of individuals and families by influencing the acquisition of basic human needs including housing, food and clothing. Consequently, monitoring income levels can provide a general indication of a project's contribution to the overall standard of living. The estimate of labour

income reflects the direct income of wages and salaries associated with direct person-years employment.

Regarding taxation, direct taxes paid reflect incremental revenue sources generated for governments as a result of the project. The incremental revenues, in turn, contribute to societal programs and general well-being.

### ***Monitoring Parameters***

The following parameters will be monitored during the construction phase:

- Labour income – direct income earned by workers from employment on the project
- Taxes paid:
  - Provincial sales tax
  - Payroll tax
  - Corporate capital tax
  - Fuel tax

### ***Methodology***

Labour income will be calculated using aggregate information on wages paid to employees based on information provided by contractors and Manitoba Hydro. Taxes paid will reflect Manitoba Hydro's actual payments to government associated with the project - examples include sales tax, payroll tax, corporate capital tax and fuel tax.

### ***Community Services***

Community-based services (e.g., emergency, health and social) are critical to meeting a wide range of human needs. The range of issues/concerns and related impacts in terms of services will vary by project component and in different geographic areas. Potential effects on community-based services are expected to occur in Project Study Area communities in close proximity to the various project components. Given the location of northern project components and size of the workforce for Keewatinoow infrastructure, community-based services have the potential to be impacted and, as a result, a number of measures have been implemented to mitigate any effects (e.g., main construction camp includes a first-aid building and its own ambulance to limit the need to use Gillam Hospital emergency services). Monitoring activities related to Keewatinoow and associated facilities were proposed in the EIS to determine the impact of the project on services in Gillam.

In terms of the Bipole III transmission line, effects on community services are less of a concern than the Keewatinoow Converter Station area given the smaller magnitude of the workforce and the use of mobile construction camps. Similarly, with the Riel Converter Station and associated facilities, despite a sizeable workforce, the project should not have an effect on community services in the City of Winnipeg. Monitoring the extent of project construction effects on community services in the Gillam area forms an important component of the SEMP.

### ***Monitoring Parameters***

The list below identifies parameters that will be used to determine the potential impact on community infrastructure and services in Gillam during project construction:

- Demand on Gillam Hospital - Number of visits by workers to Gillam hospital, as available from the Hospital; and
- Demand on policing services - Number of RCMP calls to Keewatinoow work camp, and changes in total numbers of RCMP calls in Gillam, as available from the RCMP.

### ***Methodology***

Manitoba Hydro has established a Worker Interaction Subcommittee (WIS) as part of a corporate-wide initiative intended to address anticipated increases in the Gillam area workforce resulting from this project and other Manitoba Hydro projects being constructed in an overlapping timeframe. The WIS is intended as a forum for information sharing and communication related to the anticipated increased workforce, in order to provide for early identification of potential issues; prevention of issues to the extent possible; and, identification of ways and means to work cooperatively to address issues as they arise. Keewatinoow-specific information will be provided to the extent possible by the Gillam Hospital and the RCMP, through the WIS.

Discussions will also occur with relevant parties to determine data availability that can be provided for reporting purposes. This data may include RCMP crime statistics and Gillam hospital statistics. With respect to reporting, due to the sensitive nature of the topics addressed, some information may remain confidential.

Informal surveys with emergency services providers may also be included.

Information collected will form part of the annual reporting process.

### ***Personal and Community Well-being***

The lives of individuals, families and communities, and the quality of peoples' lives, are shaped by many factors. Personal, family and community life is generally looked at in terms of economic well-being, physical well-being (e.g., personal health and safety), social well-being (social supports and services) and the environment. Personal, family and community life can be affected by the accumulated effects of a variety of project-related effects (e.g., physical changes to the land, noise and nuisance effects during construction). The experience of changes will vary for individuals, families and communities as a whole depending on their experience of the effects of the project. One potential issue identified in the EIS related to public safety and the interaction of workers with community members in Gillam and the surrounding area, which is described in more detail below.

### ***Public Safety - Worker Interaction***

Construction of the Keewatinoow Converter Station and associated facilities will require a sizeable workforce which will be drawn from a wide geographic area. As station equipment installation tends to involve highly specialized labour, it is likely that a significant proportion of the work force will come from outside of the region. Neighboring communities (i.e., Fox Lake Cree Nation [FLCN]) have identified

potential adverse effects of construction workers interacting with vulnerable community members, in particular women and youth, as their greatest concern associated with new projects being built in their traditional territory. This is based on past experiences with other major project development within the area.

For the Keewatinooow Converter Station a number of features have been incorporated into the project to minimize the impact on the local communities. Examples are provided below:

- Having recreational facilities at the main camp;
- Operating a shuttle to transfer incoming and outgoing workers to and from Gillam;
- Implementation of Cultural Awareness Training for workers;
- No personal vehicles being allowed at site; and
- Workers not being permitted to hunt or fish at the site, etc.

However, there is still a high degree of uncertainty concerning the extent and specific nature of this problem, and monitoring and adaptive management are very important components of mitigation.

Worker interaction was identified as a potentially significant adverse effect in the EIS that requires monitoring; the Clean Environment Commission also suggested establishing a local committee with representation from FLCN, the Town of Gillam and Manitoba Hydro to keep track of any issues that arise from interaction between local residents and temporary workers.

As noted in “Community Services”, Manitoba Hydro has established a Worker Interaction Subcommittee to address concerns surrounding worker interaction for its projects in the Gillam area. In addition to Manitoba Hydro, Fox Lake Cree Nation, and the Town of Gillam, other members will be determined on an as needed basis. Membership may change from time to time, and may include representatives of groups such as, (but not limited to): the RCMP, Gillam Hospital, Gillam School, Native Alcohol Drug Abuse Program (NADAP), Awasis Agency, and staff from relevant Provincial agencies such as Manitoba Health, Manitoba Infrastructure and Transportation, etc. With respect to reporting, due to the sensitive nature of the topics addressed, some information will remain confidential.

### ***Monitoring Parameters***

The following parameters will be monitored during the construction phase, based on information available from the WIS:

- Summary of Worker Interaction Subcommittee activities;
- Nature of issues identified at the WIS; and
- Mechanisms to address identified issues.

### ***Methodology***

Information will be provided through the members of the Worker Interaction Subcommittee.

Manitoba Hydro may also conduct interviews with representatives identified by WIS members to identify issues and concerns as well as actions taken to address any problems that arise.



Information collected will form part of the annual reporting process.

## **Electric and Magnetic Fields**

The issue of EMFs was raised throughout the public engagement program for the project. EMFs are invisible lines of force surrounding any wire carrying electricity and are produced by electric tools and appliances, household wiring and transmission lines. Both electric and magnetic fields diminish rapidly as the distance from the source increases. Numerous studies have been conducted with respect to health effects and EMFs. National and international scientific agencies responsible for public health have convened multidisciplinary groups of scientists to evaluate the research and to determine if health effects are associated with exposure to EMFs. Such groups include the World Health Organization (WHO) in 2006, the National Radiological Protection Board of Great Britain (NRPB) in 2004 and the International Agency for Research on Cancer (IARC) in 2002. These organizations have concluded that there are no known adverse health effects associated with EMFs from transmission lines. Despite these conclusions, Manitoba Hydro is sensitive to public concerns regarding the perceived health effects associated with EMFs and continues to undertake activities to ensure it has the most up to date information regarding the current state of knowledge. System Planning has begun a new EMF monitoring effort to determine EMF levels of the project once in operation.

The intent of the initiative is to:

- Take measurements of select variables pre-construction to establish a baseline (e.g., electric fields, magnetic fields);
- Take measurements of select variables post-construction to determine project contribution to select variable levels; and
- Compare measurements to the predictions made in the EIS.

## **Monitoring Parameters**

Monitoring parameters for the study will include:

- Electric field (kV/m)
- Magnetic field (mG – milligauss)
- Charged aerosols (counts, size, charge)
- Air conductivity/ion density ( $\text{cm}^3$  - per cubic centimeter)
- Space charge
- Radio frequency noise (dB)
- Audible noise (dB)
- Corona loss kW/km – kilowatts per kilometer
- Ozone concentration (ppm – parts per million)
- Weather measurements (i.e., wind speed and direction, temperature, humidity, air pressure)

## *Methodology*

A monitoring station has been developed near Dugald approximately three kilometers from the Riel Converter Station. Operating since September 2012, electric and magnetic field, space charge, natural ion counts, and weather data has been collected to understand the baseline condition. Monitoring will occur post-construction to compare measurements to the predictions made in the EIS.

## **Transportation**

### *Road Traffic*

Construction-related impacts associated with travel and transportation for the development of the transmission line will generate additional traffic on an extensive area of the Provincial Road network. Three types of traffic are anticipated to occur — local traffic, workforce traffic and shipping of materials. Roads likely to notice an increase in traffic will be those used to transport materials for all major components of the project. This would include roads between the Riel site, the northern transmission line segments and Keewatinoow. Portions of other roads not in the vicinity of the Riel site and the Keewatinoow Converter Station site likely to experience increased truck movements to varying degrees during construction are PTH10, PTH50, PR248, PR261, PR268, PR271, PR287, PR364, PR373, PR384 and PR596.

Although a number of roads will be used for the construction of the Bipole III line outside of the vicinity of the Keewatinoow and Riel Converter Stations, the effects are expected to be insignificant. This is due, in part, to the use and temporary nature of mobile construction camps which are expected to reduce the number of trips on the surrounding road network.

Transportation monitoring will focus on activities related to construction of the Keewatinoow Converter Station due to the increase in traffic volumes during the construction phase. Potential construction-related impacts associated with travel and transportation for the development of the Keewatinoow Converter Station and associated facilities will be principally confined to the area highways. Shipping of construction materials to the site by road will originate from Winnipeg, via PTH 6, PTH 10, PTH 39, PR 391, PR 280, PR 290 and the Conawapa access road. All of these roads are classified as RTAC (allowing for the heaviest Gross Vehicle Weights [GVW]) with the exception of PR 280 and PR 290 which are rated as A1 loading (B1 routes allow the lightest loads). Trucks can exceed the weight limits set by the Province by applying for and receiving an overweight truck permit (the cost is based on the damage the overweight load is expected to cause). Local construction-related vehicular traffic will be confined effectively to PR 290 and the Conawapa access road.

Additional traffic generated from all sources identified above (workers, truck and additional traffic) during peak construction activities at Keewatinoow could be substantial on PR 280, 290 and on the Conawapa access road at times.

The increased traffic volumes could put local drivers at greater risk of being involved in an accident on some roadways and, therefore, warrants further monitoring.

### *Monitoring Parameters*

Parameters to be monitored during the construction phase will include:

- Traffic volumes – compare actual traffic volumes from estimates in the EIS on key roadways in Keewatinoow area (e.g. PR 280);
- Traffic accidents in the Keewatinoow area on key roadways through RCMP incident reports as available; and
- Tracking the number and type of vehicles going through the access gate at Keewatinoow.

### *Methodology*

Traffic counters will be used to acquire monitoring information relating to traffic. Permanent traffic count stations on key roadways (e.g., PR 280) will assist in determining project traffic volumes. Existing count station data will be acquired from Manitoba Infrastructure and Transportation where applicable.

Traffic accidents will be obtained through the RCMP to the extent possible. This data will be used to potentially link project related incidents to certain conditions, whether it be related to the traffic volume, truck load size, time of collision, weather or road conditions.

Traffic at the control/security gate (i.e., Keewatinoow Converter Station) will be tracked for the project during the construction phase. This provides an opportunity to obtain accurate information on the movement of traffic to and from the project site at all hours of operation. In order for accurate data to be recorded, procedures will be put in place for recording and processing the information.

### *Resource Use*

#### *Trapping*

To address Licence conditions 30 and 31 and recommendations from the Clean Environment Commission, Manitoba Hydro has committed to conducting a furbearer and trapline monitoring program for the project. Manitoba Hydro will seek active registered traplines (RTL) that are set aside by Manitoba Conservation and Water Stewardship as Community/Youth RTLs to participate in the program. RTLs must be directly impacted by the project (meaning that the transmission line must either cross or be in close proximity to the RTL) in order to participate. The main purpose of the monitoring program is to help Manitoba Hydro better understand the impacts (positive and negative) that transmission facilities have on furbearer behavior and trapper success.

Critical to the success of this program will be the involvement of trappers and their Local Fur Councils (if active). Trappers will be solicited to provide information on where their trapping areas are and who may be the most suitable participants. Training will be conducted prior to actual field study set-up to be certain that pertinent data is collected in a consistent fashion.

Local schools would also be asked if they would like to participate in the program since some have an outdoor education curriculum that would likely compliment this program. The goal of this program would be to better understand transmission line effects on trapping success and to improve Manitoba Hydro's relationships with the trappers as well as with communities directly in the vicinity of transmission projects.

### ***Monitoring Parameters***

Parameters to be monitored will include:

- Trapper success rate; and
- Changes in fur bearer behavior.

### ***Methodology***

During the trapping season, trappers will record the number of catches per trap, location and species harvested. Trapping results will be submitted to the study team for analysis. Furthermore, trappers will be required to provide trapper/community involvement summaries, project mapping, trapper diaries, and other program results and reports.

### **Reporting**

Results from SE monitoring will be reported on annually as part of the environmental protection program. The monitoring report will be submitted to regulators each year and will be made available to the public.

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# Appendix A Final Preferred Route

