EXECUTIVE SUMMARY

This Environmental Impact Statement ("EIS") is filed as part of the process to secure an Environment Act License for the Project in order that construction can commence as planned in the fall of 2012 with a projected in-service date of October 2017.

Current Vulnerability

Approximately 70% of Manitoba's hydroelectric generating capacity is delivered to southern Manitoba 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, for much of their length from northern Manitoba to a common terminus at the Dorsey Converter Station, northwest of Winnipeg. In 1996, severe winds caused the failure of 19 Bipole I and II transmission towers and in 2007, the strongest confirmed tornado in Canadian history flattened the town of Elie, only 30 kilometres from the Dorsey Converter Station. Similar catastrophic events could lead to an interruption of weeks. If an event caused significant damage to the Dorsey Converter Station, the interruption to the supply of electricity to southern Manitoba could last three years. In the event of such an interruption, Manitoba Hydro estimates that in months of peak domestic demand, for example January, it would be unable to meet demand 85% of the time. 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. In order to reduce the impact of such catastrophic events on its ability to meet demand, and thus to improve the reliability of its system, Manitoba Hydro has designed the Bipole III Transmission Project (the "Project").

Project Components

When electricity is required to flow over long distances, losses are much less if the transmission current is direct rather than alternating. Similar to the existing Bipole I and II facilities, the Project converts electricity from an alternating current, as generated in the hydroelectric generating stations located on the Nelson River, into direct current for transmission to southern Manitoba and then back to alternating current for distribution to homes and businesses in Manitoba and in export markets supplied by Manitoba Hydro.

The Project requires two new converter stations with two new related ground electrodes, new 230 kV ac transmission collector lines to connect the new northern converter

station to existing converter stations, and a new +/- 500 kV HVdc line to connect the two new converter stations.

- **Two new converter stations:** The two new converter stations are required in order to convert electricity from alternating current, as generated at northern Manitoba hydroelectric generating stations, into direct current and then back to alternating current for distribution in southern Manitoba. The first, Keewatinoow Converter Station is to be located near the site of the potential, future Conawapa Generating Station on the Nelson River, northwest of Gillam. The second, Riel Converter Station, southwest of Winnipeg, is to be at the site of an already approved project, the Riel Sectionalization Project. The Riel Sectionization Project is located sufficiently far from the existing Dorsey Converter Station so as to decrease significantly the probability that a single catastrophic weather event or natural disaster would damage both the Riel and Dorsey converter stations.
- **Two new ground electrodes:** The two converter stations each require a ground electrode to which they will each be connected by a low voltage feeder line. Electricity requires a complete circuit in order to "flow". The ground electrodes serve as an alternative return circuit for the flow of direct current in the HVdc line.
- **New northern ac collector lines:** New 230 KV ac transmission lines are required to link the Keewatinoow Converter Station to the existing Henday Converter Station and the Long Spruce Switching Station. Each of those facilities require some modifications for these new "collector lines".
- **New +/- 500 kV HVdc transmission line:** The Keewatinoow Converter Station and the Riel Converter Station will be linked by a new +/- 500 kV HVdc transmission line, approximately 1,384 km in length, centred on a 66m wide right-of-way which will follow a westerly route, that is to the west of lakes Winnipegosis and Manitoba. This new transmission line has been routed, as far as practical, sufficiently far from Bipoles I and II so as to decrease significantly the probability that a single catastrophic weather event or natural disaster would damage both the new transmission line and Bipoles I and II.

Planning Milestones to Date

Manitoba Hydro's Board approved the Project in September 2007. Thereafter, its engineers proceeded with the detailed preparations and studies for the design of converter stations, towers and lines. Simultaneously, a team of Manitoba Hydro staff and external consultants developed and carried out an extensive series of public consultations, gathered data and reviewed pertinent literature in order to prepare specialist studies on a variety of bio-physical and socio-economic studies and then

analyzed and debated all of the foregoing with a view to selecting the most appropriate sites for the converter stations and electrodes, the most suitable western route for the HVdc transmission line, and the most suitable routes for the northern collector lines and the feeder lines to the electrodes. Key milestones in project planning included the December 2009 submission to Manitoba Conservation of an Environment Act Proposal Form and the June 2010 approval by Manitoba Conservation of the Scoping Document intended to guide the preparation of this EIS.

Site Selection and Environmental Assessment ("SSEA") Process

Manitoba Hydro used a Site Selection and Environmental Assessment (SSEA) process to determine the most appropriate sites for the Project's facilities and routes for its transmission lines. The overarching objective in this SSEA approach was to avoid impacts wherever feasible through wise routing choices and to maximize management opportunities at every stage of development and implementation of the Project, from pre-licensing through post-construction. Integral to the process were four rounds of public consultation spaced so that subsequent rounds could be used to gather further public comment on preliminary siting and routing choices. In addition to open houses, hotlines, websites, and newsletters, Manitoba Hydro funded six self-directed studies carried out by First Nations whose communities lie in the vicinity of parts of the Project and a seventh study carried out by the Manitoba Metis Federation. Manitoba Hydro has established processes with some First Nations in northern Manitoba and the Project was discussed and reviewed with certain of those First Nations over a number of meetings. With respect to First Nations with whom Manitoba Hydro does not have established processes, Manitoba Hydro staff met with many Chiefs and Councils for the purpose of describing the Project and listening to comments and concerns. Finally, members of nineteen communities (five of which were First Nations), whose populations are largely or entirely composed of Aboriginal peoples, participated in workshops and interviews organized and conducted by consultants to Manitoba Hydro.

A broad, regional area, known as the Project Study Area was initially identified for the purpose of exploring potential sites and routing locations for the Project. This area runs in a very wide arc from the vicinity of Gillam west and south to a point south of Portage la Prairie and then east to the vicinity of Winnipeg. As the SSEA process continued, potential routing choices progressively required more detailed analyses which led to the development of Local Study Areas defined to be three mile wide bands down the centres of which ran potential routes for the HVdc line. Included in the definition of Local Study Area were the areas immediately surrounding the other Project components, namely the two converter stations, the electrode sites and connecting electrode lines and the northern ac collector lines. Finally, the term Project Footprint was used to define the right of way for the HVdc, collector and electrode lines and the physical space actually

occupied by the converter stations and the electrodes. In order to facilitate the very complex task of analyzing a huge quantity of scientific data, public comments, shared ATK, engineering requirements, and specialist opinions, the HVdc line route was divided into 13 sections and the issues regarding routing in each section were studied separately.

As the SSEA moved in an iterative manner towards selection of a final preferred route (the FPR) for the HVdc transmission line and final sites for other Project components, specific biophysical and socio-economic environmental components that could potentially still be impacted by the Project were identified as important or valued by members of the proponent's technical team and/or by the public, by ATK studies, and by other elements of the SSEA process. These components, or Valued Environmental Components (VECs), facilitated assessment of the interactions between the Project and the environment. There are some 46 bio-physical VECs and some 21 socio-economic VECs.

All potential environmental effects of the Project were studied by VEC and individual Project component. As noted earlier, many potential effects were avoided altogether through site and routing choices. For example, eight of the eleven known ranges of boreal woodland caribou in northern and western Manitoba were avoided altogether. In southern Manitoba, effects on agriculture were minimized by selecting wherever practical routes that follow existing rights-of-way, by routing through pastures and less productive land and by avoiding as much as possible routing the HVdc line diagonally across cropland. In the result, less than 50 hectares of arable land will be removed from cultivation. Similarly, Provincial parks, Designated Protected Areas and Aboriginal lands, defined in this EIS as Reserves and any currently identified Treaty Land Entitlement (TLE) selections, were avoided in their entirety with the exception of two recent TLEs which are anticipated to be resolved prior to the commencement of construction.

Assessing Residual Effects on Valued Environmental Components ("VECs")

Where potential adverse effects could not be avoided altogether, specialists and Manitoba Hydro staff proposed and discussed mitigation measures which would either eliminate, or reduce, potential adverse effects on each VEC that was foreseeably affected by one or other Project component. After taking into account all mitigation measures that were to be adopted, any likely remaining residual effects of the Project on each VEC were evaluated, in accordance with the Scoping Document's eight criteria, for their regulatory significance. Determining the regulatory significance of the residual effects required specialist opinions on the probability of the effect actually occurring, the degree of certainty in our present knowledge of the subject and the expected results of

mitigation measures, continued follow-up monitoring and, in some cases, the development and implementation of follow up adaptive management plans to address uncertainties.

The team of specialists and Manitoba Hydro staff who considered the cases where there is a residual adverse effect on a VEC after mitigation due to one or other Project component were satisfied in most situations that the residual effect in question was not significant from a regulatory perspective, usually because it is small in magnitude, short term (meaning no more than five years) and confined either to the Project Footprint or to the Local Study Area. Four VECs were the subject of particular concern, namely:

- One biophysical VEC (boreal woodland caribou) affected by construction and operation of the HVdc transmission line in up to three specific ranges for these caribou, which are listed as a threatened species in Manitoba; and
- Three socio-economic VECs affected by construction of the Project in the Gillam regional area (public safety [flowing from potential worker interactions with members of the local community in the Gillam area], transportation [air travel to Gillam] and community services).

Given the concerns identified, the proposed mitigation measures were revisited for these specific VECs. In the case of Gillam and neighbouring communities, Manitoba Hydro has reviewed the proposed mitigation measures with representatives of the Fox Lake Cree Nation and is committed to ongoing meetings with both the Fox Lake Cree Nation and the Tataskweyak Cree Nation. In the case of the boreal woodland caribou, Manitoba Hydro asked its consultants to develop enhanced mitigation measures and to provide suggestions for monitoring and adaptive management that will be reviewed with Manitoba Conservation and will be reconsidered when the Province and the Federal Government publish, in 2012, their respective caribou recovery strategies. Taking into account the extensive mitigation measures proposed for these four VECs and the proposals for monitoring and, where recommended, adaptive management, specialists and Manitoba Hydro staff have been able to conclude that the potential, adverse effects of the Project will not be significant.

These same VECs were revisited in the analysis of the cumulative effects of the Project. The conclusions, similarly, were that taking into account the proposed mitigation measures, the anticipated cumulative effects of the Project will not be significant from a regulatory perspective. In the case of boreal woodland caribou, this conclusion will be revisited in 2012 when the Province and the federal government issue new recovery strategies for boreal woodland caribou.

Easements, Compensation and Community Development Initiative ("CDI")

The Project will require easements on Crown land in northern Manitoba. In addition, particularly in southern Manitoba, Manitoba Hydro will require that easements be discussed and finalized with some 750 private landowners. Manitoba Hydro's Board approved in August 2011 an enhanced policy to govern the acquisition of easements from private landowners that provides for payment equal to 150% of the fair market value of the land required for the easement. In addition, Manitoba Hydro recognizes that many citizens in past years have said they do not see in their communities any direct benefit from major transmission projects. In response to such observations, Manitoba Hydro is proposing a Community Development Initiative (CDI) as part of the Project. The CDI will provide, over ten years, annual distributions of some $5.0 Million to rural municipalities, First Nations and incorporated towns and villages within 25 kilometres of the Project for local projects that promote environmental sustainability, resource rehabilitation, cultural and social development, or community economic development.