

## MANITOBA HYDRO'S RESPONSE TO AUDIT FINDINGS

### NON-CONFORMANCE (MINOR)

Finding Reference	Commitment/ Assumption/ Prediction	Summary of Observations	Findings	Manitoba Hydro Response/Actions Taken
<b>Avian</b>				
Bipole III commitment Table page 30	Clearing of trees with roost cavities will be limited to daylight hours, and preferably in fall, to minimize disruption of resident woodpeckers and retain shelter and nesting sites.	The majority of clearing was completed during the daylight hours, but in December and January during shortened daylight hours, some clearing was carried out in the dark. Surveys were not conducted to identify trees with roost cavities.	No surveys were conducted to identify woodpecker roost cavities and some clearing was carried out in the dark which could result in negative effects (i.e., destruction) to undetected roost cavities.	Specific surveys were not conducted to identify trees with roost cavities, however Manitoba Hydro had environmental inspectors, Indigenous environmental monitors and contractor environmental staff on site during project clearing activities trained in avian awareness. No occupied roost cavities were identified during winter clearing activities. The potential for trees cleared with occupied roost cavities during non-daylight hours is low. Manitoba Hydro has enhanced its avian awareness training on recent projects such as the Manitoba-Minnesota Transmission Project to further increase the identification and protection of nest sites.
<b>Forestry</b>				
Bipole III commitment Table page 63	Where practical, all merchantable timber will be salvaged.	Evidence from the site visit included several piles of merchantable timber on the ROW totaling approximately 100m <sup>3</sup> . These piles were limited to within a 100 km stretch south from Thompson, MB.	There was evidence of merchantable timber left behind on the ROW. If removal was not practical, documentation should have been available as to why.	Substantial effort was made to salvage all merchantable timber, however unfavorable ground conditions and transportation logistics resulted in a small amount left on ROW south of Thompson, MB. For the Bipole III Transmission project over 35,000m <sup>3</sup> of merchantable timber was salvaged including 4,500m <sup>3</sup> in this area of the project. Remaining timber piles will be left in-situ to provide a source of coarse woody debris within the ROW for small mammal habitat.
Bipole III commitment Table page 64	Cleared woody debris will be disposed of to prevent infestations of sawyer beetles.	Evidence from the site visit included piles of woody debris left behind on the ROW and in riparian buffers (approximately 80 m <sup>3</sup> ). These were limited to within a 100 km stretch south from Thompson, MB (as with the merchantable timber referenced above). Chapter 8 of the EIS describes planned activities associated with clearing of vegetation as including: cutting, piling, and burning of slash (p. 8-27). There is a risk of sawyer beetle infestation associated with leaving piles of woody debris (p. 8-260).	Piles of woody debris were left behind on the ROW, including riparian buffers. This could increase the risk of sawyer beetle infestation.	The piles of woody debris pose little to no risk for sawyer beetle infestation as there were no documented sawyer beetle population outbreaks in the area at the time. The debris piles are now providing coarse woody debris for small mammal habitat.  On subsequent transmission projects developed Clearing Management Plans have been developed to further prescribe clearing methods and specify woody debris disposal guidance.

		Note that other instances were observed of woody debris having been left behind in other areas of the ROW, but these were retained as prescribed for stream protection (total of approximately 100 m3) and/or moose line of sight mitigation (total of approximately 200 m3).		
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## OPPORTUNITIES FOR IMPROVEMENT

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Access				
Transmission Line Construction Access Management Plan Page 29	Access management monitoring will be undertaken and complement other biophysical and socio-economic monitoring conducted during the construction phase of the Project. Access related issues will be summarized by Environmental Inspectors and the Construction Supervisor in their respective monthly reports.	The monitoring of access is directly related to mitigation measures associated with a number of categories of VECs including: Birds and Habitat, Mammals, and Habitat, Resource Use, terrestrial Ecosystems and Vegetation, and Designated Protected Areas and Protected Area Initiative (PAI). Additionally, a variety of access-related concerns were documented in the EIS in relation to values and potential effects including: increased access to sensitive areas identified by Aboriginal communities, the potential for human-caused fires, potential increased mortality of wildlife species due to overharvesting via increased access (trapping, hunting, poaching), and potential sensory disturbance to wildlife due to increased and ongoing access. Lastly, the Clean Environment Commission Report (2013) reiterates much of the above in addition to stating that, "It is understood that these access routes for construction are intended to be temporary, but there is danger that once they are cleared it will be difficult to keep people from using them" (p. 50-51)	Improvements could be made to the access monitoring program by developing a more rigorous and purpose-driven design where the methods and locations of monitoring (sampling approaches) are more clearly linked to each of the potential effects of access identified in the EIS. The proposed general mitigation of access-related concerns was to consider means to limit access through access management planning, including decommissioning of access trails (where they were no longer required for operations or maintenance). Given that the Manitoba Government agreed to not require decommissioning activities associated with the project's access trails, comprehensive monitoring is important to confirm use and, if needed allow action to reduce negative effects if identified. In addition, to augment results of monitoring, more detailed documentation could be compiled to specific access-related issues and responses as they arise.	The Provincial Government agreed to not require decommissioning activities associated with the project's access trails as there were very few new access trails developed for the project; almost all were existing trails.  We acknowledge that our access monitoring program could have been better designed to clearly link the methods and locations of monitoring with the potential effects of access identified in the EIS. Manitoba Hydro continues to monitor access along the ROW and report on those results in annual monitoring reports submitted to the Province. To date there has been limited use of the ROW by people and the potential effects as described in the EIS include: increased access to sensitive areas identified by Aboriginal communities; the potential for human-caused fires; potential increased mortality of wildlife species due to overharvesting via increased access (trapping, hunting, poaching); and potential sensory disturbance to wildlife due to increased and ongoing access have not been found to be significant. Subsequent access monitoring on other projects have been designed to detect relevant potential effects as a result of increased access, along with additional mitigation measures put in place such as access decommissioning.

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		<p>Manitoba Hydro has been monitoring access at a variety of locations for a variety of purposes, using a variety of methods which makes it difficult to compare results over time.</p> <p>In addition, no specific detail was encountered documenting access issues and responses; only very general commentary is provided in summary reports.</p>		
Aquatics				
Bipole III commitment Table page 15	Contractors will provide sufficient erosion control materials on-site (such as sediment, fencing, stakes, and geotextile fabric) to facilitate timely response to erosion and sedimentation issues that arise during construction activities.	Several instances of non-conformance relating to erosion sediment control were identified in 2016, 2017, and 2018.	Measures to avoid slumping and erosion of erodible banks should be implemented during construction to avoid post-construction slumping and sedimentation of the watercourses. Bare ground was identified at one watercourse crossing (N1-Aqua-131) in 2018, located on a watercourse that is considered important fish habitat. To address the finding, additional erosion and sediment control measures were suggested at the crossing to protect the watercourse from bank erosion. However, no follow-up inspection of the crossing was recommended in the 2018 Transmission Line Watercourse Crossing Post-Construction Monitoring report. There remains an opportunity to revisit the crossing and provide additional erosion and sediment control measures to address the potential for erosion at this crossing.	<p>For Bipole III, contractors developed the erosion control plans which led to inconsistencies in the level of preparedness and training. Subsequent to Bipole III, Manitoba Hydro now develops a project Erosion and Sediment Control Management Plan included in the Construction Environmental Protection Plan which must be adhered to by contractors. As part of this, slumping and erosion mitigation must be implemented during construction where required.</p> <p>Manitoba Hydro has continued to improve its quality control program to include contractor environmental deficiency tracking and follow-up programs as well as merging the once separate responsibilities of environmental monitoring and construction environmental inspection programs into one department.</p> <p>Manitoba Hydro has flown high resolution imagery over this site in summer of 2019, which did not show sign of a sedimentation plume from erosion and some natural re-vegetation had occurred. A field visit was anticipated in summer 2020 but has been delayed until spring 2021 due to pandemic.</p>
Keewatinow Converter Station Facilities and Infrastructure and	Operational Statements (OS) developed by Fisheries and Oceans Canada will be applied	Department of Fisheries and Ocean OS outlined in the Environmental Protection Plan and Aquatic Technical Report were carried	There were several instances documented in monitoring reports where setbacks and buffer zones were shown to have evidence of exposed soils. This could be as a result of not clearly marking limits and	For projects subsequent to Bipole III, Manitoba Hydro has prioritized construction environmental inspection time for inspection of riparian clearing activities to ensure adequate oversight and flagging of limits by the contractor. Prescriptions

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Ground Electrode Construction Environmental Protection Plan Page 6-3	to modify construction of overhead lines, temporary stream crossings, ice bridges and snow fills, and dry open cut stream crossings (Appendix E). In addition to Fisheries and Oceans Canada OS requirements, Contractors will implement setbacks and buffers as indicated on Site-specific information Map Sheets Section 7.0.	out as evidenced in annual monitoring reports. There were adequate setbacks and buffers implemented at most of the watercourse crossings sites during construction with the exception of nine sites assessed in 2014 (four where the right of way width was minimized to 310 m for the AC Collector and Construction Power lines making it impossible to maintain the full riparian buffer of 30 m, five where exposed soil was identified within the buffer zone) and three sites assessed in the 2015 monitoring program (where exposed soils were identified along the banks or within the buffer zone) and multiple crossings in 2016, 2017 and 2018 (where exposed soils required additional erosion and sediment control). However, exposed soils at only a handful of the over 300 watercourse crossing sites is relatively low.	sensitive areas prior to vegetation removal or it could be as a result of lack of adequate training or oversight.	of clearing activities have also been implemented through a Manitoba Hydro developed Clearing Management Plan with specific clearing prescriptions for riparian buffers and acceptable clearing equipment in riparian buffer zones.
AC Collector Lines, Electrode Line, Construction Power Line and Station CEPP Page 92	No logs or Woody debris are to be left within the water body or on the banks or shoreline where they can wash back into the water body.	A couple of instances were observed on the site visit where it appeared there was wood debris on the shoreline of water bodies. Auditors were told that in these areas the slope was likely such that removal could result in greater effects than leaving them in place. This explanation was deemed to be reasonable.	Documentation of rationale for not applying mitigation measures in certain circumstances is desirable. This helps to reinforce the accuracy of predictions made in the EIS given that predictions of effects are based on assumptions that all mitigation will be applied.	Mitigation measures as prescribed may be altered from the original design due to a variety of changes during construction such as environmental conditions (i.e. snow cover, frozen ground), or a change in construction practices (i.e. screw pile foundation vs pile, helicopter tower erection vs crane). No matter the modification to the prescribed mitigation the intent is the same, to mitigate and minimize the potential effect.  Manitoba Hydro has increased its training and documentation of prescription changes and rationale by its Construction Environmental Inspection staff when mitigation measures as prescribed in the Environmental Protection Plan are modified.
Bipole III Environmental Impact	Potential negative residual effects are	The residual effects of infill (converter station only), loss of riparian vegetation, stream bank	In-stream slash/woody debris continued to restrict flow and fish habitat at three stream crossings (i.e.,	Manitoba Hydro has removed the slash and woody debris from these stream crossings and put into place on subsequent

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Statement. Chapter 8: Effects Assessment and Mitigation Page 8-60	associated with most Project components, but none are significant as presented in Table 8.2-5 (of the EIS).	<p>alteration, increase in TSS during construction at the HVdc transmission line, AC collector lines, construction access trails, converter station, Borrow areas, material placement areas and northern ground electrode and lines, were deemed to be negative but not significant at the majority of watercourse crossings spanned by the Project. Instances of non-conformance related to mitigation commitments have been predominantly addressed following post-construction monitoring annual reports. However, in-stream slash/woody debris continues to restrict the flow and fish habitat at three stream crossings (i.e., N1-Aqua-135, N1-Aqua-161, and N1-Aqua-167), as identified through the post-construction monitoring in 2018. In addition, the temporary crossing (consisting of wood slash and debris) at one stream crossing (i.e., N1-Aqua-169), had not been removed from the water course since its construction in 2015. Although the water course at this location is not identified to contain important fish habitat, the in-stream debris may negatively restrict flow and fish passage.</p> <p>Most areas disturbed as a result of construction, including channel bed and banks, have been restored as reported in the 2018 annual monitoring report. Inadequate erosion and sediment control measures identified through post-construction monitoring have been addressed. However, one stream crossing (i.e., N1-Aqua-131) remains vulnerable to erosion with sparse riparian vegetation growth along the banks of the water crossing.</p>	<p>N1-Aqua-135, N1-Aqua-161, and N1-Aqua-167). In addition, the temporary crossing (consisting of wood slash and debris) at one stream crossing (i.e., N1-Aqua-169) had not been removed from the watercourse since its construction in 2015. Although the watercourse at this location is not indicated to contain important fish habitat the in-stream debris could negatively restrict flow and fish passage. One stream crossing (N1-Aqua-131) remains vulnerable to erosion with sparse riparian revegetation growth along the banks of the water crossing.</p> <p>Based on this evidence these Project related effects on water quality and fish habitat are evaluated to continue to not represent a significant effect to the short term: however, they do present an opportunity to reduce the likelihood of potential effects during operations and maintenance.</p>	<p>projects a Quality Control Program that tracks contractor environmental deficiencies until completion which eliminates the opportunity for watercourses to have debris left in them as the result of contractor activities.</p>

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		The water course at this stream crossing contains important fish habitat and additional erosion control measures are recommended to prevent loss and degradation of fish habitat.		
Communication				
Bipole III Commitment Table Page 32	The Bipole III ATK process brought to light the valuable knowledge that exists within First Nation, Métis and other communities. In addition, through this process, as well as the key person interviews and EACP, communities identified concerns and issues important to them regarding the Project. Apart from the other mitigation measures outlined in this section, Manitoba Hydro will continue to liaise with First Nations, the MMF, and other communities to review concerns that arise about the Project and opportunities for cultural preservation occasioned by the project.	The available reports provide only a very brief and vague summary of general issues raised; there was no evidence of the specific First Nation communities that were liaised with, nor were there indications of when. Several specific email examples with more detail were provided by Manitoba Hydro in response to an information request.	Despite several examples of email responses to specific issues raised by Indigenous people and communities, Manitoba Hydro does not have a comprehensive tracking system for communication (e.g., engagement record). Without such a system, auditors could not be confident that Manitoba Hydro has continued to liaise with communities and that all issues have been documented and reviewed. Comprehensive documentation of concerns and tracking of follow-up actions could help to verify the effectiveness of mitigation measures (including ongoing communication with communities) including the relationships between issues raised and the potential effects identified in the Environmental Assessment.	<p>Subsequent to Bipole III, a new SharePoint engagement documentation system was implemented that tracks Project related correspondence with Indigenous communities including phone calls, emails, meeting minutes and letters.</p> <p>For projects after Bipole III, including the Manitoba-Minnesota Transmission Project (MMTP), an issue tracking system was developed that documents concerns, contact info for the concerned party, a detailed description of the issue (and its impact on the effectiveness of mitigation measures), the response provided by Manitoba Hydro, the date of the response, the date the issue was resolved and a summary of subsequent interactions and dates about the concern.</p> <p>Manitoba Hydro also maintains a corporate complaint registry for documenting complaints, contact info for the concerned party, a detailed description of the response provided by Manitoba Hydro, the date of the complaint, department and staff involved in the complaint, and the date the complaint was resolved.</p>