

NATIONAL ENERGY BOARD

IN THE MATTER OF:

the *National Energy Board*, R.S.C.
1985, c.N-7

AND IN THE MATTER OF:

An Application by Manitoba Hydro
pursuant to Section 45 of the
National Energy Board Act for
authorization to alter a portion of the
Riel International Power Line, filed
with the National Energy Board
November 10, 2016

RESPONSE TO INFORMATION REQUEST NO. 1

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An Application by Manitoba Hydro pursuant to Section 45 of the *National Energy Board Act* for authorization to alter a portion of the Riel International Power Line, filed with the National Energy Board November 10, 2016

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Manitoba Hydro respectfully submits the following response to the National Energy Board's (the "Board") Information Request No. 1 dated December 22, 2016 in the above referenced proceeding.

For the purposes of this Response to Information Request No. 1, Manitoba Hydro assumes that the references to "Project" in the Board's Information Request No. 1 refers to the Modification Project as described in the application of Manitoba Hydro filed November 10, 2016 seeking authorization for alteration to a portion of the Riel International Power Line (the "Riel IPL").

Aboriginal Matters

1.1 Consultation with Aboriginal Groups

- a) Manitoba Hydro confirms that Birdtail Sioux (Oak Lake) First Nation, Canupawakpa Dakota First Nation, Dakota Plains Wahpeton First Nation, Dakota Tipi First Nation, Manitoba Métis Federation and Sioux Valley Dakota were not provided with: a description of the Project; notice that Manitoba Hydro filed an application with the Board for authorization of the Project; or information on how outstanding application-related

concerns can be raised with the Board within 14 days of receipt of the Project information. These steps were not taken for the reasons explained below.

Manitoba Hydro confirms that it recognizes the general duty to “consult”, with Aboriginal groups that are potentially impacted by a transmission project, and did undertake an extensive public and Aboriginal engagement program for the Bipole III Transmission Project during 2008 through 2010¹. The location of the cross-over of the Riel IPL by the Bipole III transmission line (i.e. the location of the Project) was evident on the maps and materials provided in those public consultations and no concerns regarding that cross-over were raised. For the Bipole III Transmission Project, Manitoba Hydro included 26 First Nations and the Manitoba Métis Federation in the engagement process. All of the communities listed above were included except for Canupawakpa Dakota First Nation. During the engagement process, Manitoba Hydro shared with the group of First Nations and the Manitoba Métis Federation a description of the Bipole III Transmission Project, including the location and main components of the project (See the Bipole III Transmission Project Environmental Assessment Public Consultation Technical Report attached hereto as Attachment 1 that includes copies of the correspondence and newsletter. See in particular page 71 of the Technical Report where the cross-over is evident). There were no concerns expressed by any of the First Nations or Manitoba Métis Federation about the cross-over of the Riel IPL.

The Project is completely located on Manitoba Hydro owned land which has already been included within the scope of the much larger Bipole III Transmission project assessment, and ultimate authorization, by the Province of Manitoba. Accordingly, Manitoba Hydro does not consider further “consultation” with the listed Aboriginal groups necessary. Manitoba Hydro was not directed by applicable provincial authorities to conduct further Aboriginal “consultation”, including with respect to Canupawakpa

¹ It should be noted that Manitoba Hydro views its consultation done in connection with the Bipole III Transmission Project as distinct from Crown consultations conducted pursuant to section 35 of the *Constitution Act, 1982* (*Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (UK), 1982, c. 11.) It is Manitoba Hydro’s position that the legal obligation to undertake section 35 consultations lies with Canada and the Province of Manitoba and has not been delegated to Manitoba Hydro.

Dakota First Nation, prior to receiving authorization under *The Environment Act*² for the Bipole III Transmission Project in August 2014. Manitoba Hydro notes that it has had recent and ongoing correspondence with each of the referenced aboriginal communities in the Preamble regarding other projects and has not been made aware of any concerns regarding the Project.

Manitoba Hydro did not undertake the specific steps referenced in the Information Request No. 1 at a.2) and a.3) because Manitoba Hydro is not aware of any requirements under the *National Energy Board Act* or its associated rules or regulations regarding the service of notice on Aboriginal groups of the application or providing information as to how to raise concerns with the Board within 14 days of receipt when an applicant has filed an application pursuant to section 45 of the *National Energy Board Act*. Nor is there a condition to do so in Certificate No. EC-111-16 issued by the Board for the Riel IPL.

Engineering Matters

1.2 Scope of Work

- a) Transmission lines designed by Manitoba Hydro must meet the requirements of CSA Standard C22.3 No.1-15 ‘Overhead Systems’. Specifically, for power line crossings, the following minimum clearances are applicable and must be maintained:
 - (i) Minimum conductor-to-ground clearance for a 500kV AC transmission line (Riel IPL) of 9.9m based on Table 2 of CSA 22.3 No.1-15,
 - (ii) Minimum conductor-to-ground clearance for a ± 500 kV DC transmission line (Bipole III) of 7.70m based on Table 4 of CSA 22.3 No.1-15,
 - (iii) Minimum vertical clearance of 5.0m is required between the phase conductors of a ± 500 kV DC transmission line (Bipole III) crossing over the phase conductors of a 500kV AC transmission line (Riel IPL).

² S.M. 1987-88, c.26

For item (iii) above, the upper phase conductor(s) of Bipole III are assumed to be in their maximum sag position, and the lower conductor(s) (Riel IPL) are assumed to form a straight line between their points of support (“line of sight”).

The clearances mandated by CSA are minimums which include a modest buffer; this buffer may be increased where additional considerations warrant. Considerations include allowances for design tolerances, minor site modifications, limitations of modeling methods, etc.

Violating clearances may result in reduced reliability of the transmission lines in question due to possible flashovers, possibly resulting in outages, damage to equipment and/or facilities, and/or risks to public safety.

While maximizing the clearances between crossing lines is preferable, it must be balanced against increased material and construction costs, aesthetics, environmental impact, and the inadvertent creation of new hazards (for example, extremely tall towers may require special permissions to ensure they do not obstruct air navigation).

- b) A drawing showing the elevation of both the Riel IPL and the Bipole III transmission lines at the cross-over point and the required clearance between the two transmission lines is attached hereto as Attachment 2.
- c) The proposed modifications to the Riel IPL aim to minimize environmental impact and impacts to other stakeholders, be more aesthetically pleasing and reduce the cost of materials and construction while still maintaining adequate and reasonable clearance between the Riel IPL and the new Bipole III transmission line.

While early preliminary routing offered options to avoid crossing the Riel IPL, the final approved route for Bipole III necessitates crossing the Riel IPL. With the need to cross the Riel IPL established, several options for the cross-over were considered by Manitoba Hydro:

- (i) Modify the Riel IPL such that it would go underground for the crossing span in question. The combined design and construction cost for this option was

estimated at 15-20 times that of an overhead crossing, and increased maintenance and other lifecycle costs could be expected. Thus, this option was deemed undesirable.

- (ii) Cross Bipole III under the Riel IPL. This was not feasible due to insufficient clearance between the lines without modifications to the Riel IPL. It was also considered less reliable to have the three phase conductors of the Riel IPL cross over the phase two conductors of Bipole III.
- (iii) Increase the height of the Bipole III crossing towers such that clearance to the Riel IPL is increased. While significantly taller towers would increase clearance between the two lines, it would also subject the Bipole III towers to decreased reliability (due to increased exposure to wind and ice at higher elevations), negatively impact public perception and aesthetics (as the required towers would be significantly taller than surround infrastructure), and may result in inadvertent creation of new hazards (such as to air navigation).
- (iv) Removing one existing tower from the Riel IPL and replacing it with two new towers of a lower height to allow for the cross-over of Bipole III (as more particularly described in Manitoba Hydro's Application dated November 10, 2016). This is the preferred option and meets the clearance requirements of CSA C22.3 No.1-15, and has the following additional benefits:
 - 1. The new structures to be constructed on the Riel IPL are deadend structures, which have increased ability to resist unbalanced loading, especially when compared to the existing suspension structures,
 - 2. The crossing Bipole III conductors will provide adequate lightning protection for the crossing.
 - 3. The Bipole III structures are similar in height to the existing infrastructure, mitigating negative public perception and/or aesthetics, and any impact to air navigation.
 - 4. This solution is more cost effective than those proposed in Options i) through iii) above.

Environmental Matters

1.3 *Migratory Birds*

- a) Manitoba Hydro confirms it will utilize a qualified avian biologist to conduct pre-construction bird nest surveys prior to commencement of clearing and construction activities on the Project.
- b) Manitoba Hydro confirms pre-construction bird nest surveys will be conducted using non-intrusive survey methods as outlined by ECCC in reference iii).
- c) Manitoba Hydro confirms that the pre-construction bird nest surveys will be conducted within 7 days prior to commencement of clearing or construction.
- d) Manitoba Hydro confirms that should migratory bird nest(s) be found during pre-construction surveys, Manitoba Hydro and its contractors will establish buffer zones and setback distances from the nest(s) according to guidance from ECCC outlined in reference iii).
- e) Manitoba Hydro confirms it will consult with ECCC and relevant provincial authorities if a migratory bird nest or nests are discovered.
- f) Manitoba Hydro will utilize the buffers and setbacks as outlined by ECCC and provincial authorities if a migratory bird nest or other bird nests are discovered. These buffers and setbacks are outlined in an updated Appendix E: Buffers and Setbacks, to the Bipole III Transmission Project, Transmission Line Construction Environmental Protection Measures document, attached hereto as Attachment 3.

- g) Environmental Inspectors from Manitoba Hydro will be supervising Project construction activities and will be attentive to any unexpected Project effects on migratory birds that may require mitigative actions.

1.4 Wetlands, Amphibians and Reptiles, Bats

- a) An aerial photograph of the Project area is attached hereto as Attachment 4.
- b) The nearest wetland is located approximately 350 meters north of the project works. This class V wetland (based on the Stewart & Kantrud Classification System) is located on private land adjacent to a cultivated agricultural field, mature trees and private residence.
- c) All the project works will be conducted on private land that is currently under cultivated agriculture production with no suitable habitat for amphibians and reptiles. Very low suitability habitat may occur along the road margins and ditches. Habitat suitability of these locations will be determined by level of moisture and municipal mowing regime.
- d) Manitoba Hydro developed setback distances for amphibians in reference iv) in consultation with Provincial regulators in the preparation of environmental protection plans for similar transmission projects.
- e) All the Project works will be conducted on private land that is currently under cultivated agriculture production with very limited suitable habitat for bats within 500 m of the Project. Some bats may forage near the wetland site (350 m north of the Project works), and there may be some roosting opportunities in the trees adjacent to the wetland (350 m north of the Project works).
- f) Environmental inspectors from Manitoba Hydro will be supervising Project construction activities and will be attentive to any unexpected effects on wildlife, including species at risk, that may require mitigative actions.
- g) The field studies mentioned in reference v) were conducted in 2010.

1.5 Interactions Table

Please see completed Interactions Table including detailed information for those identified biophysical attributes, a description of how the biophysical attributes in a) interact with the Project and a detailed description of the mitigation measures that Manitoba Hydro proposes to minimize the effects of the Project on specific biophysical elements, attached hereto as Attachment 5.

1.6 Environment Act Licence

- a) Manitoba Hydro confirms that it will be implementing the mitigation measures outlined in reference i) for the Project.

- b) Manitoba Hydro communicates mitigation measures through startup meetings with the contractor and Manitoba Hydro construction staff. The Licence is also attached as an appendix to the Bipole III Transmission Project, Transmission Line Construction Environmental Protection Measures which is shared both hard and softcopy with the contractor.³ Manitoba Hydro has dedicated Environmental Inspectors (trained in all aspects of Licence conditions and environmental protection mitigation measures) as outlined in the Environmental Protection Measures that inspect construction sites and practices for compliance with the Environmental Protection Measures and Licence conditions. Supplemental information to the general mitigation measures is included as appendices to the Environmental Protection Measures (i.e. Appendix F to the Environmental Protection Measures is Manitoba Hydro's Biosecurity Protocol which addresses the spread of invasive plants and noxious weeds).

³ A copy of the Bipole III Transmission Project, Transmission Line Construction Environmental Protection Measures was provided as Attachment 4 to the Manitoba Hydro application in this matter. [A80550-5]

ALL OF WHICH IS RESPECTFULLY SUBMITTED,

January 16, 2017

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Attachment 1 – Bipole III Transmission Project Environmental Assessment Public Consultation Technical Report

Attachment 2 – Drawing showing the Elevation of Riel IPL and Bipole III Transmission Line at the Cross over Point.

Attachment 3 – Appendix E (to the Bipole III Transmission Project, Transmission Line Construction Environmental Protection Measures) Buffers and Setbacks

Attachment 4 – Aerial Photograph of the Project area

Attachment 5 – Interactions Table