

SUBJECT AREA: Routing, None

REFERENCE: EIS Chapter 5, page 73, Table 5 – 26

QUESTION:

In Table 5-26 Segment or Pair-wise Comparisons, page 73 of Chapter 5 of the EIS, the discussion on the following segment is produced:

352 vs 353 353 The segments are in a rural residential area, west of Richer. Segment 353 would require purchase of a home. Segment 352 affects a 42-lot subdivision (under development). It was decided to select Segment 353 with the potential mitigation of tower type alignment to reduce ROW width and to limit effects on the future homes in the area (Figure 5-20). Please clarify how "tower type alignment to reduce ROW" is practically achieved and the resulting reduction in ROW that is realized and what that reduced ROW is in metres

RESPONSE:

- 1 Mitigation of tower type alignment to reduce the right-of-way (ROW) was not required as the
- 2 home within the ROW of Segment 353 was purchased by Manitoba Hydro.

SUBJECT AREA: Noise & EMF, None

REFERENCE: Section 2.9.7 Right-of-Way Width page 38

QUESTION:

"ROW widths are also designed to avoid damage to adjacent property in the event of a structure failure and to reduce electric and magnetic field (EMF) effects, such as radio interference and audible noise, which decrease with increasing distance from the lines."

- i. Is audible noise the deciding factor in width of right-of-way?
- ii. What is the calculated audible noise at the edge of an 60 m ROW, 80 m ROW and at the edge of a 100 m ROW? (See also section 2.13.4 where it is stated that mathematical modelling of audible noise is determined in field and corona effects calculations)

RESPONSE:

- 1 Audible noise is one of many factors considered when determining width of the right-of-way
- 2 (ROW). Please see Chapter 2– Section 2.9.7, for a list of factors in determining ROW width.
- 3 These factors are based on related design parameters in CSA standards, NERC/MRO/MH
- 4 reliability criteria and internal Manitoba Hydro Transmission Line Design Guidelines.
- 5 Chapter 18 Section 18.5.4.1.2 provides an assessment of audible noise levels for the ROW. As
- 6 noted in this section, the predicted fair-weather audible noise from Project transmission lines
- 7 at the edge of the ROW represents an inaudible increase in noise (less than 1 dB) from 22 dBA
- 8 for existing configurations to 23 dBA (Table 18-9) (Exponent 2015b). Therefore, noise from the
- 9 transmission line would have a negligible effect on ambient noise levels, and total sound levels
- 10 would remain below guidelines for residential and commercial areas. Modeling details can also
- 11 be found in the Electric Field, Magnetic Field, Audible Noise, and Radio Noise Calculations
- 12 Technical Data Report.
- 13

SUBJECT AREA: **Routing, Process**

REFERENCE: **EIS Chapter 5, Page 17, Table 6 - 3**

QUESTION:

Table 6-3 MMTP Alternative Corridor Evaluation Model, Page 17 of Chapter 5 includes many factors that have been studiously developed for the EPRI-GTC analysis. An apparent weakness of this method is the lack of allowance for extra and significant input such as unique issues from individuals. In other words individual and significant issues are diluted with the multitude of inputs to result in being ineffectual. Please justify why impacted communities and municipalities should not have the final say in where the MMTP line should be routed through their area and be given a selection of aesthetic structure designs with minimum ROW width rather than just the unattractive and ancient structures of figures 2-4 and 2-5 of chapter 2 pages 2-29 and 2-30 in the EIS.

RESPONSE:

- 1 There appears to be two questions and an assertion above:
 - 2 1) An assertion that the alternate corridor model (depicted in Table 5-3 on page 5-17) has
 - 3 a weakness in that it does not make allowances for “extra and significant input such as
 - 4 unique issues from individuals”
 - 5 2) A question asking Manitoba Hydro to justify why impacted communities and
 - 6 municipalities should not have the final say in where the MMTP line should be routed
 - 7 through their area, and
 - 8 3) A question asking why communities and municipalities are not given a selection of
 - 9 aesthetic structure designs with minimum ROW widths.
- 10 The following respond to the above, in the order listed above:

- 11 1) As outlined in the response CEC-IR-007, the alternate corridor model is not intended to
12 represent site specific, micro-scale concerns, rather it is a regional representation of
13 landscape features and the relative suitability for routing a transmission line on or near
14 these features. Unique concerns from an individual perspective are incorporated at
15 various other points in the routing process as outlined in Chapters 3 and 5.
- 16 2) The determination of where to locate a transmission line is a complex process that
17 requires the balancing of multiple interests, across multiple municipalities and
18 communities, interested parties and the consideration of technical requirements.
19 Communities with an interest in the proposed line were engaged since 2013 (Figure 3-
20 1). This feedback helped Manitoba Hydro better understand concerns, develop
21 mitigation for these concerns, and informed the routing process as described in
22 Chapters 3 and 5.
- 23 3) Please see the response MWL-IR-040. As tower type selection involves a number of
24 considerations including cost and system implications, land use and industry standards,
25 Manitoba Hydro must have ultimate decision making authority.

SUBJECT AREA: Project Description, None

REFERENCE: MWL Round 1 IRs 1-63 (no 8)

QUESTION:

In Table 5-9 Preference Determination Model used for MMTP, page 39 of Chapter 5, a select project team evaluated preferences for the MMTP line based on geographical and sociological makeup and input from public engagement process.

Schedule Risks were only evaluated at 5%. Given that Manitoba Hydro is going into very deep debt which the MMTP line contributes to, please provide a detailed assessment for delaying construction of the MMTP line perhaps for 5 years or more. In considering this request, please take into account:

- i. The rating of the existing Ridgeway to Shannon 230 kV line and what additional capacity could be sent to the Iron Range to fill up this line's additional capacity thus allowing a partial contract with Minnesota Power
- ii. Approaching Minnesota Power to see how amenable they are to such a delay or, a partial contract followed by a final contract at the original level of export when the MMTP line is finally constructed after a planned delay
- iii. Another advantage of delaying the construction of the MMTP line is it enables time to design the line for greater social acceptance

RESPONSE:

- 1 This question is out of scope of the Clean Environment Commission hearing.

SUBJECT AREA: Project Description, None

REFERENCE: Public Registry File # 5750

QUESTION:

Transcript CEC MMTP Pre hearing conference, Manitoba Sustainable Development Environmental Approvals Public Registry File # 5750

Based on confirmation from the Chair of the CEC at the MMTP pre hearing conference of parties that Manitoba Hydro responded to the MMTP TAC comments with these comments being posted in the public registry, and confirmation from Environmental Approvals staff that Manitoba Hydro responded to the MMTP TAC comments, please provide Manitoba Hydro responses to the TAC comments regarding MMTP. (all sets of TAC comments.)

RESPONSE:

- 1 The responses can be found at the following link:
- 2 <http://www.gov.mb.ca/sd/eal/registries/5750mbhydrombminnesota/index.html>

SUBJECT AREA: **First Nation and Metis Engagement, Public Engagement**

REFERENCE: **5-27**

QUESTION:

5-27 – “MM-06 – Manitoba Hydro will contact local resource users ... to the extent feasible and practical prior to start-up”

Please provide further details on what is meant by "to the extent feasible and practical"? Has MH already collated a list of potentially concerned/impacted resource users? If so, how many resource users have been identified? Moreover, how is MH identifying resource users that may travel vast distances at different seasonal times of the year?

RESPONSE:

- 1 Please refer to response SCO-IR-022.

SUBJECT AREA: Groundwater, None

REFERENCE: TDR – Groundwater Final Report. 1.1.2.2 Local Assessment

QUESTION:

This entire section is very confusing, please clarify the rationale for not including aquifers extent within the Local Assessment Area and Regional Assessment Area?

RESPONSE:

- 1 Clearing and foundation construction has the potential to interact with shallow sand and gravel
- 2 aquifers within the Project Development Area (PDA) for a short period of time. As indicated in
- 3 Section 1.1.2.2, there are multiple types of aquifers in the region including sand and gravel, and
- 4 bedrock aquifers of varying sizes. Many of these aquifers have not been well characterized in
- 5 terms of location or extent in the available data, or their location or extent is known and
- 6 extends far beyond the area expected to be influenced by the Project.

- 7 The MMTP EIS uses a pathway of effect approach to environmental assessment. The pathway
- 8 of effect refers to the cause and effect linkage between a project and a VC. Groundwater is
- 9 included as a pathway component, rather than a valued component because any potential
- 10 changes to its quality or quantity would be captured by other VCs in the assessment. Thus, the
- 11 extent of aquifers in the LAA and RAA of the receiving VCs, such as Fish and Fish Habitat and
- 12 Land and Resource Use, was used in the assessment.

SUBJECT AREA: Community Health and Well-being, None

REFERENCE: Chapter 19

QUESTION:

Did the EIS include a chapter on the environmental effects on community health and well-being? Please identify.

Chapter 19 includes Social effects, but omits potential residual environmental effects. Please explain.

RESPONSE:

- 1 Chapter 19 includes environmental effects on community health and wellbeing. In the Chapter,
- 2 there are characterizations of residual social effects for health effects associated with socio-
- 3 economic change, the mobile workforce, Aboriginal health, and health care services and
- 4 infrastructure.

SUBJECT AREA: NFAT, None

REFERENCE: Chapter 14, Section 3.2.1

QUESTION:

Did Manitoba Hydro include environmental externalities in the economic assessment? See definition of externalities and discussion in the transcript for Keeyask, CEC transcript and exhibits. Please provide explicit information in regards to how this was included in the analysis or whether any cost-benefit analysis was prepared. If Manitoba Hydro did not include environmental externalities in the economic or environmental assessment, what methodology was used instead ?

RESPONSE:

- 1 These questions are in relation to the NFAT and the justification for the Project, which are
- 2 outside of the scope of the CEC hearing.

SUBJECT AREA: Groundwater, Health and Well Being

REFERENCE: MMTP Biophysical TDR: Groundwater

QUESTION:

On page 2.4, it states that no baseline data were available to include in this assessment. Given this lack of information, how did Manitoba Hydro take into consideration how the herbicide management program would affect groundwater quality, and subsequently if and how any potential effects would impact health and well being of people within the RAA or First Nation communities? Did Manitoba Hydro apply results from other corridor herbicide programs to inform this assessment? Please provide the personal communication documentation that concluded there were no baseline monitoring results to inform this assessment. Please explain why Manitoba Hydro decided not to establish any baseline data.

RESPONSE:

- 1 The second bullet on page 2.4 of the Groundwater Technical Data Report reads “MCWS,
- 2 Groundwater Management Program was contacted to request baseline data for pesticides in
- 3 the provincial groundwater monitoring wells within the RAA. The provincial groundwater
- 4 monitoring wells are not sampled for pesticides and have not been historically and therefore do
- 5 not have baseline pesticide (herbicide) water well data available (Phipps 2015, pers. comm.)”.

- 6 Manitoba Hydro reviewed literature available within the public domain and reviewed its own
- 7 transmission line corridor herbicide programs and used the information gained to inform the
- 8 assessment related to groundwater quality. Based on the infrequent and limited application of
- 9 herbicides, Project-related use of herbicides is not expected to alter groundwater quality in the
- 10 vicinity of the Project and as such, no baseline was established.

SUBJECT AREA: Greenhouse gas, None

REFERENCE: EIS Section 23.4.4.1 and table 7-1

QUESTION:

In Table 7-1, Environmental Elements Included in the Environmental Impact Statement, one of the observations is that the project may result in an increase in Green House Gas (GHG) emissions in Manitoba during the construction, operations and maintenance phases.

In Section 23.4.4.1 on page 26 Manitoba Hydro suggests that this project could displace 30 million tons of GHG emissions by reducing energy needs from fossil fuels.

Please elaborate on why these two sections contradict each other. Please elaborate on sustainability best practices for reducing versus displacing GHG emissions. Explain whether the reduction of emissions and carbon pollution is in Canada or in Manitoba.

RESPONSE:

- 1 These two sections do not contradict each other: Section 23.4.4.1 indicates that the Keeyask
- 2 station alone could displace 30 million tons. Exporting hydroelectricity from Manitoba to U.S.
- 3 markets will displace energy from gas and coal generated electricity, primarily in the U.S.
- 4 Midwest, thus contributing to substantial GHG reduction. MMTP will enable transmission of
- 5 power from hydroelectric sources in Manitoba to more carbon intense markets in the U.S.
- 6 Table 7-1 lists the environmental elements of the MMTP, not Keeyask. The *Greenhouse Gas Life*
- 7 *Cycle Assessment of the Manitoba–Minnesota Transmission Project* includes estimates of life
- 8 cycle emissions from the construction, operation, and maintenance phases of the MMTP.

- 9 It is best practice to consider both emission implications within the region of study and globally.
- 10 *The Greenhouse Gas Life Cycle Assessment of the Manitoba–Minnesota Transmission Project*
- 11 incorporates both. The MMTP provides access to an alternative source of energy than
- 12 Manitoba Hydro’s fossil-fueled generation in some low flow conditions. The corresponding
- 13 displacement of GHG emissions would occur in Manitoba, and therefore Canada as well. Over a

- 14 wide range of potential future scenarios assessed, analysis indicates that the MMTP is expected
- 15 to produce an overall net reduction in global GHG emissions.

SUBJECT AREA: Sustainable Development, None

REFERENCE: EIS Table 23B - Sustainable Development Principles – Project Analysis Conservation Principle

QUESTION:

In Table 23B Sustainable Development Principles – Project Analysis, the Manitoba Hydro Conservation Principle is similar to other jurisdictional sustainability principles with the exception of the "when practical" clause. Please elaborate on the "when practical" clause regarding common definitions of sustainable development. Please provide examples of when conservation is and is not practical when planning, constructing or operating Manitoba Hydro infrastructure projects.

RESPONSE:

1 Manitoba Hydro adopted a Sustainable Development policy with 13 complementary guiding
2 principles based on the principles and guidelines of sustainable development adopted by the
3 Manitoba Round Table on Environment and Economy. Under the Conservation principle, Table
4 23B reads *“Conservation: To the extent practical, plan, design, build, operate, maintain and
5 decommission Corporate facilities in a manner that protects essential ecological processes and
6 biological diversity. Give preference, where practical, to projects and operating decisions that
7 use renewable resources or that extend the life of supplies of non-renewable resources.”*

8 Over 97% of Manitoba Hydro’s power is sourced from renewable resources because it has
9 generally been practical. There are some instances, such as remote communities with diesel
10 generation, where the use of renewable resources is not practical due to the high cost of
11 infrastructure. This aligns with Manitoba’s sustainable development principles which state that
12 *“Manitoban’s should...make wise and efficient use of renewable and non-renewable resources.”*

SUBJECT AREA: Sustainable Development, None

REFERENCE: Section 23.4.4

QUESTION:

In section 23.4.4.2, Sustainable Development Analysis on the economy, the key economic driver for the project is to assist in maintaining low electricity rates in Manitoba. How does this driver fit into economic theory of price and scarcity? Explain how current public statements by Manitoba Hydro and the Manitoba Premier about debit loads, dramatic increases in electricity rates in Manitoba to be expected, and the need to cut 900 staff positions from Manitoba Hydro all assist in maintaining low electricity rates>

RESPONSE:

- 1 This question is not within the scope of the Clean Environment Commission hearing.

SUBJECT AREA: Sustainable Development, None

REFERENCE: EIS 23.5, Sustainable Development Analysis - Conclusion

QUESTION:

In Manitoba Hydro's conclusion of the sustainable development analysis, statements are made to conclude the analysis but the related actions and policies to support these statements are not explicitly identified.

Please provide section references to the conclusion statements/summary.

RESPONSE:

- 1 Section 23.5 is a conclusion of the sustainable development analysis provided earlier in the
- 2 chapter and within the appendices of that chapter. It references the analysis that occurred
- 3 throughout the chapter. Table 23b-1 explicitly identifies the means (actions) of achieving each
- 4 guideline or principle, including applicable Manitoba Hydro principles (policies).
- 5 Section 23.6 provides the references drawn up throughout the Chapter to support the
- 6 information provided in the analysis.

SUBJECT AREA: Groundwater, None

REFERENCE: Technical Data Report – Groundwater Section 2.2: Data Gaps and Limitations

QUESTION:

In section 2.2: "Using groundwater well data for the locations of aquifers is only assessing aquifers that have the volume, capacity and/or quality for a groundwater well. There will be other aquifers that exist within the RAA that are not mapped or have ground water wells installed into them"

Please provide rationale for not conducting further studies on non-mapped and mapped aquifers that exist within the RAA. What are the potential threats to groundwater wells and aquifers by not conducting further studies in relationship to unmapped aquifers?

RESPONSE:

- 1 As referred to in Section 2.1, the provincial well database, discussions with provincial
- 2 groundwater management program staff, numerous publicly available studies, and maps of
- 3 groundwater and hydrogeology were compiled to develop an understanding of groundwater
- 4 resources throughout the RAA. The resulting data and mapping provided the broad
- 5 understanding of groundwater conditions in the RAA sufficient to define potential concerns and
- 6 determine that the typical measures for groundwater protection would mitigate effects. The
- 7 information from these resources was compiled to identify general areas of potential concern
- 8 that resulted in the identification of potential environmentally sensitive sites to be addressed
- 9 further through the EPP process. The limiting statement in Section 2.2 is meant to simply
- 10 recognize that over the large area of the Project, not all aquifers (particularly sand and gravel
- 11 aquifers) are in use and/or have been characterized. More detailed information on previously
- 12 undefined aquifers would not have appreciably affected the proposed mitigation measures or
- 13 the resulting assessment of the Land and Resource Use or Fish and Fish Habitat VCs.

- 14 The Project has potential to interact with groundwater during clearing and foundation work.
- 15 The depth of this work could potentially interact with shallow sand and gravel aquifers within

16 the Project Development Area (PDA) for a short period of time. Potential project effects on the
17 yield (quantity) or quality of unidentified or undefined wells and aquifers would be from
18 alteration via contamination and/or spillage of hazardous materials or from providing
19 interconnection between previously separated aquifers. Measures for the protection of
20 aquifers from contamination and interconnection are outlined in MWL-IR-056. These measures
21 would be equally protective of both undefined and defined aquifers. As the measures in place
22 would be protective of any aquifers encountered, there is no comparable additional threat
23 posed to unmapped aquifers. Further attempts to study groundwater in the RAA or further
24 define previously undefined aquifers and wells would not change the assessment results.

SUBJECT AREA: Groundwater, None

REFERENCE: Chapter 21: Accidents, Malfunctions and unplanned events
Section 21.7.5: Summary of Residual Effects & MMTP TDR – Groundwater Final Report. Section 2.2

QUESTION:

In section 21.7.5, the Summary of Residual Effects states: Interconnection of aquifers may occur during construction activities and introduce the risk of groundwater contamination. Surficial discharge may have high ecological and social importance, depending on the quality and quantity of the discharging groundwater; particular if used for domestic water supply. Freshwater groundwater discharges could directly or indirectly affect other local environments (e.g., wildlife habitat, vegetation and wetlands), and these effects could persist beyond the effects on groundwater or surface water. While the magnitude of effects could be high, the likelihood is low. How can the likelihood of freshwater groundwater contamination be low, if stated in the Manitoba-Minnesota Transmission Project Technical Data Report – Groundwater Final Report. Section 2.2: Data Gaps and Limitations states "Using groundwater well data for the locations of aquifers is only assessing aquifers that have the volume, capacity and/or quality for a groundwater well. There will be other aquifers that exist within the RAA that are not mapped or have ground water wells installed into them"

If there are significant data/information gaps regarding the unmapped and unknown aquifers that exist within the RAA, provide a rational why a low likelihood of contamination is arrived at, through the identification of environmentally sensitive sites, the avoidance of areas where there is a risk of occurrence, and the use precautions such as adherence to drill protocols and groundwater monitoring.

How will Manitoba Hydro make sure there is no 'interconnection of aquifers' during construction of MMTP?

RESPONSE:

1 The low likelihood of groundwater contamination is based on factors described in Section
2 21.5.1.1 (addressing the limitation of quantities of hazardous materials on-site during
3 construction); Section 21.5.1.3 (describing how Manitoba Hydro and its contractors employ
4 proper herbicide use and licensing); Section 21.5.2 (describing Manitoba Hydro's Spill Response
5 and Prevention Program and personnel trained in spill prevention as well as Manitoba Hydro's
6 code of practice for storage and handling of petroleum products and storage tank systems); and
7 Section 21.7.4 (indicating that any hazardous materials spills will be addressed with the spill
8 response plan and the use of on-site emergency spill response kits). As summarized in Section
9 21.5.5, the potential for a spill to reach the receiving environment is low and limited to
10 extreme/unlikely events.

11 While the interconnection of aquifers is not anticipated, due to the minimum depths to known
12 saline aquifers being deeper than the tower foundation depths, the incident prevention
13 measures outlined in Section 21.7.2 describe the additional prevention measures that will be in
14 place, should there be an instance where previously undefined aquifers may become
15 interconnected via geotechnical drilling or construction. These measures will provide for
16 sealing/grouting the zone of interconnection so that the barrier between the aquifers is
17 maintained.

SUBJECT AREA: Water Quality, None

REFERENCE: 7.3.2.1: Selection of Valued Components

QUESTION:

In Table 7-1: Water Quality and quantity contributes significantly to the entire EIS process. With a number of pathways, components and discussion (chapters sections) as well rational within the EIS process. Being a major component, water quality does not have an entire chapter dedicated to it within the EIS. Why was water quality not developed into a single chapter, with sections located in others? Please provide another document that contains all water quality and quantity attributes. This will provide the reader with less confusion and a better understanding of the topic, including multiple components. Or Manitoba Hydro could provide a directory of all water component content in the EIS.

RESPONSE:

1 The MMTP Environmental Impact Statement (EIS) has used a Valued Component (VC)-based
2 approach to environmental assessment. VCs were selected based on the criteria provided in
3 Section 7.3.2.1 of the Methods Chapter. The EIS used a 'pathway of effect' approach for
4 selecting VCs and assessing effects. Water quality was considered a measurable parameter for
5 understanding changes in fish habitat under the Fish and Fish Habitat VC, as well as other
6 physical components that can be measured (such as aerial extent of altered habitat, timing and
7 duration of habitat alteration, etc.). For the MMTP EIS, biophysical VCs were reserved for the
8 evaluation of components that may be affected by changes in the physical environment, rather
9 than the physical components themselves. This helped to prevent double counting, helped to
10 focus the assessment on effects more relevant and more affected by the project, and reflected
11 concerns heard through engagement.

- 12 Details on surface water quality can be found in Section 2.2.2.3 Surface Water Quality of the
- 13 Manitoba-Minnesota Transmission Project Biophysical Technical Data Reports 1.4 Fish and Fish
- 14 Habitat.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Section 9.2.1 Local assessment area (LAA).

QUESTION:

In regards in the Local assessment area (LAA) includes all components of the PDA plus a 1 km buffer surrounding each component. Its states that “A review of literature for other wildlife known to occur within the region did not reveal a great distance in which effects from Project activities could be measured” Please provide a list of the reviewed literature and references that can confirm this statement, with citations as there is no reference cited.

Please also explain the various sizes of the components of the PDA, and what total size of these components would be with a 1 km buffer surrounding each component.

RESPONSE:

1 The size of the PDA is defined in Section 7.3.2.4.1 (Spatial Boundaries) as being 80-100 m wide
2 along the new right-of-way, and 177-245 m along the existing transmission corridor, plus
3 station modification footprints, and associated access roads and marshalling yards.

4 The Local Assessment Area (LAA) is intended to capture the geographic extent of measurable
5 Project effects to each VC, therefore it is VC-specific. In many cases a 1km buffer is used for
6 LAAs, based in part on maximum recommended setback distances from disturbance, e.g.:

- 7 • Environment Canada. 2009. Petroleum Industry Activity Guidelines for Wildlife Species
8 at Risk in the Prairie and Northern Region. Canadian Wildlife Service, Environment
9 Canada, Prairie and Northern Region, Edmonton Alberta. 64p.
- 10 • Government of Saskatchewan. 2014. Saskatchewan Activity Restriction Guidelines for
11 Sensitive Species. Regina, Saskatchewan.
- 12 • Manitoba Conservation Data Centre. 2014. Recommended Development Setback
13 Distances from Birds.
- 14 • Manitoba Sustainable Development. 2010. Forest Guidelines for Terrestrial Buffers.

15 A variety of other sources were reviewed during the development of the LAA boundary, none of
16 which suggested that a larger distance was warranted. These included:

- 17 • Burke, D.M. and E. Nol 1998. Influence of food abundance, nest-site habitat, and forest
18 fragmentation on breeding ovenbirds. *The Auk* 115: 96-104
- 19 • Burke, D.M. and E. Nol. 2000. Landscape and fragment size effects on reproductive
20 success of forest-breeding birds in Ontario. *Ecological Applications* 10: 1749-61.
- 21 • Rogala, J.K., M. Hebblewhite, J. Whittington, C. A. White, J. Coleshill, and M. Musiani.
22 2011. Human activity differentially redistributes large mammals in the Canadian Rockies
23 national parks. *Ecology and Society* 16(3): 16.
- 24 • Storlie, J. 2006. Movements and habitat use of female Roosevelt elk in relation to
25 human disturbance on the Hoko and Dickey Game Management Units, Washington. A
26 thesis presented to the Faculty of Humboldt State University.

SUBJECT AREA: Assessment Area, None

REFERENCE: Section 9.2.1 Regional assessment area (RAA)

QUESTION:

In Section 9.2.1 Regional assessment area (RAA)

“The regional area used to determine the significant of the project specific effects on wildlife and wildlife habitat and assess the cumulative effects; includes a 15 km buffer on either side of the Project Development Area. It states that "Determination of the RAA is supported by baseline field studies, key person interviews and First Nation ATK". Please provide more information and rationale on how this 15 km buffer was determined. Is this the same buffer used for Bipole III? For the St. Vital Complex transmission project? Where does the EIS provide the explanation of the total impact zone for MMTP including:

- RAA
- PDA
- ROW and construction impact zone

RESPONSE:

1 The Project Development Area (PDA, including the right-of-way and construction areas), the
2 Local Assessment Area (LAA), and the Regional Assessment Area (RAA) are defined for the
3 Project in Section 7.3.2.4. and refined with respect to wildlife and wildlife habitat in Section
4 9.2.1. The RAA is meant to describe the geographic extent to which cumulative effects of the
5 Project and other activities may affect wildlife and wildlife habitat. As such, the size of the RAA
6 reflects the degree to which wildlife species move across the landscape (i.e., how far from the
7 Project might an individual animal roam to encounter another past, present, or foreseeable
8 future activities, based on a typical range of movement?). Whereas 5km buffers were used for
9 the St. Vital Transmission EA and the Bipole III EA, a more conservative buffer of 15km was
10 adopted for MMTP, in part to better reflect the range of movement of large mammals known
11 to occur in southeastern Manitoba (Section 9.2.1). Field studies, key person interviews, and

- 12 First Nation ATK yielded data on the distribution and movements of elk and other large
- 13 mammals but did not provide any evidence to suggest that a 15km buffer was insufficient.

SUBJECT AREA: **Regional Assessment, None**

REFERENCE: **Section 9.2.1**

QUESTION:

“The regional area used to determine the significant of the project specific effects on wildlife and wildlife habitat and asses the cumulative effects; includes a 15 km buffer on either side of the Project Development Area. Its states that "Determination of the RAA is supported by baseline field studies, key person interviews and First Nation ATK". Please provide confirmation that First Nation approved the 15km buffer as adequate, please provide transcripts from key personal interviews that approved a 15km buffer as adequate. Please provide the information how the First Nation ATK determined supported the RAA as well as key personal interviews?

RESPONSE:

- 1 Please see response MWL-IR-061.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: In Section 9.2.1 Regional assessment area (RAA)

QUESTION:

“The regional area used to determine the significant of the project specific effects on wildlife and wildlife habitat and asses the cumulative effects; includes a 15 km buffer on either side of the Project Development Area. Its states that "Determination of the RAA is supported by baseline field studies, key person interviews and First Nation ATK". Please provide the baseline field studies information that determined the development of the RAA 15 km buffer on either side of the Project Development Area. How was this determined given using limited amount of field studies, not addressing all species found within the Project Development Area? Does the quote above mean that cumulative effects were only assessed within the RAA and the PDA?

RESPONSE:

- 1 The RAA is based on the home ranges of wildlife species known to inhabit the Project area
- 2 (Section 9.2.1). The statement “*Determination of the RAA is supported by baseline field studies,*
- 3 *key person interview, and First Nation ATK*” was meant to indicate that these sources did not
- 4 reveal the occurrence of any other species with larger home ranges. Cumulative effects were
- 5 assessed within the entire RAA, which includes the PDA.

SUBJECT AREA: Life Cycle Analysis, None

REFERENCE: Technical Data Report – Part 11.1.6

QUESTION:

A life cycle assessment (LCA) is the assessment of the environmental impact of a given product throughout its lifespan. The goal of LCA is to compare the environmental performance of products in order to be able to choose the least burdensome. The term 'life cycle' refers to the notion that for a fair, holistic assessment the raw material production, manufacture, distribution, use and disposal (including all intervening transportation steps) need to be assessed. This then is the 'life cycle' of the product. The concept can also be used to optimize the environmental performance of a single product (ecodesign) or that of a company.

http://www.iso.org/iso/home/news_index/news_archive/news.htm?refid=Ref1019 ISO indicates that LCA promotes and helps fulfill sustainable development goals. Explain how LCA fits with Manitoba Hydro and Manitoba government sustainable development principles. Confirm that the LCA report for MMTP includes all the elements in the life cycle of a product listed above by the ISO.

RESPONSE:

1 The primary objective of the LCA was to quantify the non-generation life cycle GHG emissions
2 associated with the construction, operation, and decommissioning of the MMTP for
3 incorporation into its EIS. Evaluation of GHG emissions via LCA aligns with Manitoba Hydro's
4 sustainable development principle of Global Responsibility. LCA of the MMTP considered the
5 impact of the project both within and outside of Manitoba. While ISO 14040 states that LCA
6 *"might not be the most appropriate technique to use in all situations"*, due to the clear global
7 implications of climate change Manitoba Hydro employs LCA as an appropriate tool for
8 assessing GHG emissions. There are no political and jurisdictional boundaries to our
9 environment, and there is ecological interdependence among provinces and nations. And, as
10 stated in Manitoba's Principles and Guidelines of Sustainable Development, *"Manitobans*

- 11 *should think globally when acting locally, recognizing that there is economic, ecological and*
12 *social interdependence among provinces and nations, and working cooperatively, within Canada*
13 *and internationally, to integrate economic, environmental, human health and social factors in*
14 *decision making while developing comprehensive and equitable solutions to problems.”*
15 Manitoba Hydro confirms that, as noted in the report, the LCA followed ISO 14040.

SUBJECT AREA: Life Cycle Analysis, None

REFERENCE: Technical Data Report – Part 11.1.6

QUESTION:

Did Manitoba Hydro include ISO 14040-2006 when it contracted an LCA for MMTP?
ISO 14040:2006 describes the principles and framework for life cycle assessment (LCA) including: definition of the goal and scope of the LCA, the life cycle inventory analysis (LCI) phase, the life cycle impact assessment (LCIA) phase, the life cycle interpretation phase, reporting and critical review of the LCA, limitations of the LCA, the relationship between the LCA phases, and conditions for use of value choices and optional elements. ISO 14040:2006 covers life cycle assessment (LCA) studies and life cycle inventory (LCI) studies. It does not describe the LCA technique in detail, nor does it specify methodologies for the individual phases of the LCA. The intended application of LCA or LCI results is considered during definition of the goal and scope, but the application itself is outside the scope of this International Standard.
http://www.iso.org/iso/catalogue_detail?csnumber=37456

Advise which of the principles and framework of ISO 14040:2006 it full fills in its MMTP LCA report.

RESPONSE:

- 1 Yes, Manitoba Hydro included ISO 14040 when it contracted an LCA for MMTP. The ISO 14040
- 2 principles followed by the analysis are listed in Section 2.2 of the report.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Section 6.4

QUESTION:

Section 6.4 summarizes that there are 11 First Nations that are located near the project or have expressed interest in the project – how were these interests identified? What documents were reviewed to identify the First Nations that expressed interest?

RESPONSE:

- 1 Section 4.3.1 of Chapter 4 of the MMTP Environmental Impact Statement outlines factors used
- 2 to determine who to contact regarding participation in the FNMEP.
- 3 Manitoba Hydro also identified communities that might have interest in the project based on
- 4 feedback heard during the MMTP engagement itself.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: EIS – Section 4.1 and Section 6.3.3

QUESTION:

Why does Manitoba Hydro say they will use the term First Nations, in Chapter 4.1 and then refer to First Nations as Aboriginal in the population section 6.3.3?

RESPONSE:

- 1 The Statistics Canada data in section 6.3.3 uses the term Aboriginal. This section of the Chapter
- 2 6 was referencing federal data. According to Statistics Canada, the term Aboriginal includes
- 3 First Nations, Metis, Inuk (Inuit), those that identify with multiple Aboriginal identities and
- 4 Aboriginal identities not included elsewhere.

- 5 Some communities indicated a preference to use the term 'First Nations' when referencing
- 6 their community, rather than 'Aboriginal'. Manitoba Hydro respected this preference as much
- 7 as possible, with exceptions occurring when referencing Statistics Canada data.

SUBJECT AREA: First Nation and Metis Engagement, Public Engagement

REFERENCE: Stakeholder Identification Process Section 3.4.2.

QUESTION:

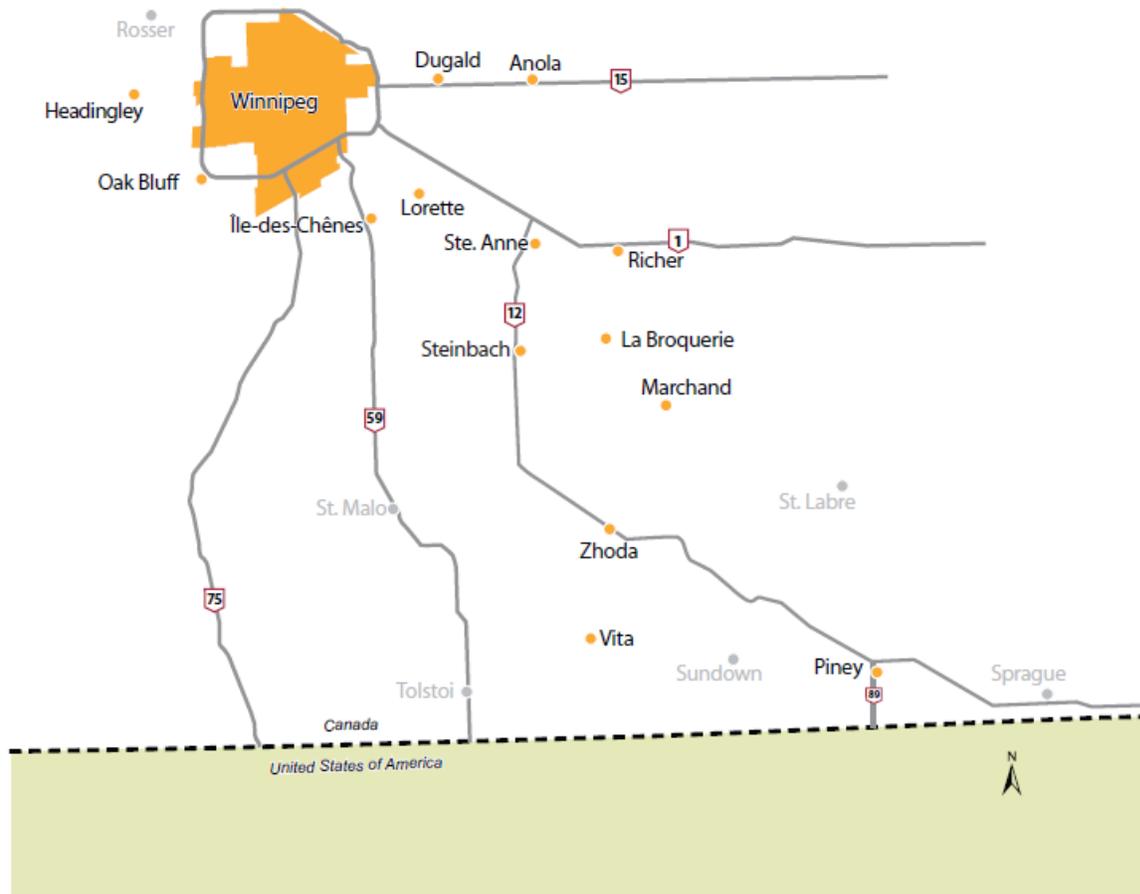
How were the affected First Nations involved in the Public Engagement Process? Were they sent invitations to the sessions, the same as the other participants? They are not identified in the stakeholder identification process. Were sessions held in convenient locations? Were any First Nations Representatives invited to attend the Key Person Interviews? How were Key Persons identified? What criteria does Manitoba Hydro use to choose Key Persons for interviews?

RESPONSE:

1 Letters were sent to First Nations, the MMF and Aboriginal organizations sharing information
2 about the public information sessions, and indicating that their members were welcome to
3 attend any of the public open houses. The letters provided a link to sign up for email
4 notifications. However, Manitoba Hydro recognized the need for a separate and specific
5 engagement process for First Nations and Metis. Participation in the separate engagement
6 process for First Nations and Metis did not preclude participating in the general public
7 engagement process for any communities who wished to do so.

8 Newspaper advertising for the public open house events were printed in the Winnipeg Free
9 Press and Winnipeg Sun and appeared in Grassroots News. Native Communications Inc. (NCI-
10 FM) ran ads for notification of the Project engagement events. The radio advertisements ran
11 during “Metis Hour x2” and “NCI Bingo” on NCI-FM on Saturday, as well as three times daily
12 during weekdays. Advertisements included project status, upcoming public open houses and
13 contact information.

14 Locations for the public open houses were determined based on proximity of the route(s),
15 locations of venues of appropriate size, population and minimizing potential commuting times.



16

17 **Figure 1 MMTP Public Open House Locations**

18 KPIs were conducted with representatives identified from various organizations, agencies and
 19 stakeholders involved in agriculture, environment, recreation, business and industry, resource
 20 use, health and emergency services to supplement secondary baseline information.

21 It is Manitoba Hydro's understanding that the MMF and First Nations generally prefer to
 22 conduct interviews with their members directly rather than have Manitoba Hydro staff conduct
 23 interviews with their members. As such, any key person interviews undertaken with members
 24 of First Nations or the MMF were undertaken at the discretion of the MMF or First Nations
 25 through the self-directed studies.

SUBJECT AREA: Traditional Land and Resource Use, None

REFERENCE: Section 11.5.2.2

QUESTION:

There is no mention that if traditional or medicinal plants are identified within the proposed transmission line corridor and construction impact zone, that the plants will be transplanted or relocated to other traditional harvesting areas. Will traditional plants be relocated or transplanted to other secure areas? Is there an option for the First Nation communities to participate in field studies to collect traditional plants for relocation from the proposed transmission corridor and construction impact zone, prior to construction? This will allow for the preservation of culturally significant plants to be spared, and allow capacity building among First Nation communities affected by MMTP. Does Manitoba Hydro intend to provide compensation for medicinal and traditional plants lost during the construction and operation periods for MMTP?

RESPONSE:

1 Manitoba Hydro is committed to working with Indigenous communities to minimize the effects
2 on traditional plants within the ROW. Feedback from the FNMEP, indicated that 95% of the 300
3 traditional plants species identified in the Regional Assessment Area (RAA) are known medicinal
4 plants. Relocating or transplanting the vast quantities of these plants discovered within the
5 ROW is not feasible or practical. Through the FNMEP, including continued discussions through
6 the EPP process, Manitoba Hydro will continue to identify sites and potential mitigation
7 measures that will be applied within the Construction Environmental Protection Plan. In
8 designating these areas MH will consider among other factors; traditional and medicinal plant
9 species diversity, abundance, accessibility, land tenure, clearing method, and location within
10 ROW.

11 Manitoba Hydro does not have a policy for the compensation of loss of medicinal and
12 traditional plants during construction or operations periods for MMTP.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Section 11.5.2.2

QUESTION:

There is no mention that if traditional or medicinal plants are identified within the proposed transmission line corridor and construction impact zone, that the plants will be transplanted or relocated to other traditional harvesting areas. Will traditional plants be relocated or transplanted to other secure areas? Is there an option for the First Nation communities to participate in field studies to collect traditional plants for relocation from the proposed transmission corridor and construction impact zone, prior to construction? This will allow for the preservation of culturally significant plants to be spared, and allow capacity building among First Nation communities affected by MMTP. Does Manitoba Hydro intend to provide compensation for medicinal and traditional plants lost during the construction and operation periods for MMTP?

RESPONSE:

- 1 Please see response PFN-IR-004.

SUBJECT AREA: Environmental Protection, Follow-up and Monitoring, None

REFERENCE: Chapter 18, Section 18.5.2

QUESTION:

First Nations are concerned about the risks and effects of chemical use on the quality of traditional foods, called 'country food quality' in Chapter 18. On Page 35, MH states it will follow its established herbicide use and application practices for mitigation purposes: (18-35), "Sensitive areas- such as those used for gathering berries and harvesting other types of traditional plant and animal country foods, that have been identified through ATK, will not be treated with herbicides. " Has MH defined and compiled all sensitive areas, and integrated this into appropriate management and monitoring plans? Have "sensitive area' maps been created specifically within the Vegetation Management Plan to prohibit the use of herbicides in specific areas? What is the Sensitive Areas process? What is the Sensitive Area definition ? How will these sites be integrated in the EIS, management, operations and maintenance, and monitoring plans? Does Manitoba Hydro intend to avoid herbicides for all Sensitive Areas in the project area, corridor, and right of way ?

RESPONSE:

1 Manitoba Hydro has begun compiling, where possible, sensitive sites (as described above) from
2 existing ATK reports submitted to date and will include them in the Construction Environmental
3 Protection and Environmental Monitoring, Operational Environmental Protection Plans. As
4 additional sites are identified through First Nations and Metis Engagement Process, they will be
5 reviewed and incorporated into the applicable plans. The sensitive sites process starts with
6 identifying a location and nature of sensitivity, followed by field verification, characterization of
7 existing environment, mapping and incorporation into applicable environmental protection and
8 monitoring plans. Through the EPP process and the Community Monitoring Working Group (see
9 CEC-IR-079) Manitoba Hydro will continue to work with communities to seek to develop

- 10 mitigation measures for sensitive sites with respect to construction and vegetation
- 11 management activities.
- 12 As described in Table 11-6, Manitoba Hydro will consider non-chemical vegetation
- 13 management in clearly identified sensitive sites that contain plants that are of importance to
- 14 Aboriginal harvesters.

SUBJECT AREA: Human Health Risk, Traditional Land and Resource Use

REFERENCE: Chapter 18, Section 18.1

QUESTION:

What were the documents, literature, knowledge used to generate the four indicators (listed below), which drove the human health risk assessment in Chapter 18? Many potential indicators could have been chosen, so why ONLY assess these four in particular? It states that Health Canada 2012 was used, but can you be more specific?

- Change in Air Quality
- Change in Country food quality
- Change in Noise pollution
- And Change in EMFs

How was Traditional Knowledge used in the creation of this list? It is noted that there were concerns regarding the quality of traditional foods, which is where 'change in country food quality' comes from. Were there any other human health risk or effect concerns raised or identified by first nations in the participation process besides those noted above, that were not considered in this assessment? Chapter 18, Section 18.1

RESPONSE:

- 1 The human health risk assessment used the Health Canada document, *Guidance on Human*
- 2 *Health Preliminary Quantitative Risk Assessment (PQRA) Version 2* (Health Canada 2012) for
- 3 assessing the risks associated with human exposure to chemicals in the environment. The four
- 4 indicators selected were chosen because they are the components of health that could be
- 5 affected by Project activities that result in physical changes in the environment in the Project
- 6 area. Project effects on sociological and cultural determinants on health are assessed in other
- 7 sections of the EIS.

8 The use of changes in air and country food quality as indicators was based on an understanding
9 of the Project-related activities that have the potential to directly affect human health through
10 changes in chemical concentrations in air and country foods.

11 The use of noise and EMF as indicators, while not listed in the Health Canada guide, was based
12 on an understanding of how Project-related activities such as construction and operation could
13 alter (i.e., potentially increase) noise and EMF levels near the Project.

14 Traditional knowledge relating to country food harvesting and traditional land uses was used to
15 identify the ways that people could be exposed to Project-related chemicals and how this could
16 alter potential human health risks for Indigenous people. Feedback from communities
17 identified concerns about the potential movement of herbicides into plants and from plants
18 into animals and people that may consume the plants. It also includes the potential movement
19 of herbicides into people who may consume animals that have eaten vegetation containing
20 herbicides.

SUBJECT AREA: Traditional Land and Resource Use, None

REFERENCE: Chapter 11, Table 1-1

QUESTION:

For Brokenhead, Dakota Tipi, Dakota Plains Wapetun, Sandy Bay and Manitoba Metis Federation, discussions regarding TLU are listed as pending. What is the status of these, and how will they be incorporated into the CEC? There is a reference to four Aboriginal organisations being approached. How were these organizations selected, and are any of them pending with regard to TLU?

RESPONSE:

- 1 Please refer to CEC-IR-021 for an update on the status of the discussions.
- 2 The four Aboriginal organizations referenced have interests or mandates related to the Project
- 3 area. The organizations were identified based on engagement in previous projects. None of the
- 4 organizations selected are pending with regard to TLU.

SUBJECT AREA: **Methods, General Assessment**

REFERENCE: **Chapter 11, Section 11-2**

QUESTION:

TLRU assessment also considered the conclusions of other VC effects assessments that could be related to Land Use activity.’ - How were these VC effects assessments integrated into TLRU assessment? Shouldn’t it be the other way around? The TLRU assessment be integrated into the VC assessment? Isn’t traditional knowledge from persons in the environment and historically and currently regularly harvesting relevant to assessing the biological resources? If there’s an apparent inconsistency between other VC effects assessments and TLRU assessment, how is that addressed?

RESPONSE:

- 1 The MMTP Environmental Impact Statement used a pathway-of-effect approach for assessing
- 2 project effects to Valued Components (VCs). The pathway-of-effect approach considers linkages
- 3 between different components. For example, hunting and trapping activities depend on wildlife
- 4 availability and habitat in which to hunt. Positive or negative effects to wildlife and wildlife
- 5 habitat could affect the success of traditional hunting and fishing activities.

- 6 Additionally, information from the First Nation and Metis engagement process (Chapter 4) was
- 7 incorporated into the biophysical VC chapters where appropriate. This included information as
- 8 summarized in Appendix 4B on botanical sites and important wildlife species; and any
- 9 information from the Aboriginal Traditional Knowledge (ATK) studies. The TLRU included
- 10 information from the other VC chapters as well as the information provided from the First
- 11 Nations and Metis engagement in assessing the effects on traditional land and resource use.

- 12 By considering the outcome of VCs in other chapters, assessment authors ‘integrated’ effects
- 13 into the Traditional Land and Resource Use assessment. By considering linkages between
- 14 chapters, inconsistencies in the assessment were avoided.

SUBJECT AREA: **Methods, First Nation and Metis Engagement**

REFERENCE: **Chapter 11, Section 11.2.3**

QUESTION:

The conclusions in this section were derived from (a) information provided in Project-specific, self-directed ATK studies, (b) assessment for the Project and © information from secondary sources, First Nation and Metis engagement process, past project experience and professional judgement.

- 'assessment for the Project' - does this refer to mediation or assessment of the ATK studies, or does it refer to additional assessment? If additional assessment, then by whom, and how is this identified? - 'secondary sources' - is this descriptive of the following items, or a specific category by itself? If a category, what are secondary sources?

RESPONSE:

- 1 'Assessment for the Project' is intended to mean the assessment completed in the MMTP EIS,
- 2 particularly the analysis provided in Chapter 11 as well as input from other, relevant Valued
- 3 Components in the EIS.

- 4 'Secondary sources' are information available in the public domain, including other
- 5 environmental assessments and academic studies, and cited in section 11.11 for this chapter.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: PFN Round 1 IRs 8-25

QUESTION:

'The FNMEP refers to communications ... from August 2013 through to filing of EIS, including leadership meetings, open houses, field visits, letters, phone calls and understandings from self directed studies.' 'Information relevant to existing conditions were provided to the VC discipline leads were incorporated into the VC sections where applicable.' - How was information relevant to existing conditions provided to VC discipline leads? Was there a formal process or protocol? - How is FNEMP balanced against AKT?

RESPONSE:

1 When developing the approach to the MMTP EIS, Manitoba Hydro worked with the assessment
2 professionals to develop a template that met the needs of the scoping document, including
3 how engagement understandings and ATK would be incorporated into the assessment.
4 Manitoba Hydro staff had ongoing conversations with VC discipline leads regarding the FNMEP
5 process as engagement proceeded. These conversations included discussions around the types
6 of information the discipline leads would consider relevant to their Chapter and questions
7 discipline leads may have had for FNMEP communities. Manitoba Hydro worked to respect
8 preferences and concerns from communities about sharing sensitive information with discipline
9 leads. When appropriate, Manitoba Hydro shared information, preferences, and site-specific
10 information and confirmed understandings and outcomes from the FNMEP including TK
11 studies. VC leads were encouraged to demonstrate in each chapter how the engagement
12 processes including TK was incorporated into their Chapter. Please note that ATK was part of
13 the FNMEP process.

14 Some ATK reports were completed after the completion of the EIS. VC leads were asked to
15 consider if the information provided in the reports would change any of the conclusions

16 previously indicated in the EIS. At this time no assessment leads have indicated that their
17 conclusions would change based on the information received.

18 The FNMEP process included the ATK studies. Understandings shared during FNMEP, including
19 ATK studies, helped inform the environmental assessment and routing processes, and to
20 develop the EIS and Environmental Protection Program for the Project.

SUBJECT AREA: First Nation and Metis Engagement, Traditional Land and Resource Use

REFERENCE: Chapter 11, Section 11.3.1.3

QUESTION:

Regarding Secondary Sources, how was this applied or contrasted to AKT or FNMEP? Only North/South's Metis report was identified specifically and included as an appendix. Are there disclosure of all of the secondary sources? Over what time frame and geographical scope were these secondary sources drafted?

RESPONSE:

- 1 Please see Chapter 11, Section 11.11 for a list of secondary sources references, as well as the
- 2 reference section of each chapter of the EIS, for information available in the public domain drawn
- 3 upon for the assessment. These references provided in the EIS, and the North/South report, extend
- 4 over a variety of time frames and geographic scopes. Information provided in these secondary
- 5 sources informed the assessment process and the EIS, as did the information from the FNMEP
- 6 including the ATK reports.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Chapter 11, section 11.3.1.3, also 11.4.2.3 and 11.4.3.3

QUESTION:

It appears that North/South's 'Desktop Search' is being presented as a stand in for Metis participation. Moreover, it doesn't appear to be new work, rather a collection of existing work. So for instance, when referenced in 11.4.2.3 regarding plant harvesting, why not reference the original study, rather than North/South? It comes up again in 11.4.3.3, regarding hunting and trapping, where North/South notes that moose are the primary big game harvested by Metis - but other VC indicates moose population collapsed in the 1990's, so the original source would be relevant?

RESPONSE:

- 1 A broad suite of literature available in the public domain as well as specific analysis developed
- 2 in support of the assessment, such as the North/South report, informed the environmental
- 3 assessment. Existing literature sources and developed reports did not replace or act as a stand
- 4 in for Metis participation. Please refer to MMF-IR-014 for further detail on the North/South
- 5 report.

SUBJECT AREA: Traditional Land and Resource Use, None

REFERENCE: Chapter 11, section 11.3.2.2

QUESTION:

‘Beliefs, or perceptions, around adverse effects are difficult to quantify and not easily amenable to assessment in the same way as other project effects. Given the subjective nature of this effect pathway and the limited site-specific information provided by First Nations regarding beliefs and concerns regarding the project, a full effects characterisation was not carried forward. This topic was considered narratively...’ - ATK by its very nature incorporates beliefs and perceptions of adverse effects. Does this suggest that ATK is secondary to other information sources, in whole or in part?

RESPONSE:

- 1 No, this does not suggest that Aboriginal Traditional Knowledge is secondary to other
- 2 information sources, either in whole or in part. The referenced sentence was intended to
- 3 convey that beliefs are difficult to assess in the same manner as other, quantifiable project
- 4 effects. Providing a narrative description can provide the context that may not be otherwise
- 5 captured in an effects characterization.

SUBJECT AREA: **Traditional Land and Resource Use, First Nation and Metis Engagement**

REFERENCE: **Chapter 11, section 11.4**

QUESTION:

‘Results from self-directed ATK studies and oral histories’

- First mention of ‘oral histories’ - were these parts of secondary sources? Or included as part of ATK studies?

RESPONSE:

- 1 Oral histories were included as part of some of the ATK studies.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Chapter 11, section 11.4.2.2, also 11.4.3.2

QUESTION:

‘Plant harvesting from FNMEP’ - this actually appears to continue to reference ATK from Roseau and Peguis, rather than FNMEP. Does the FNMEP include or incorporate the ATK? I’d been under the impression it was a separate process. We see the same thing at 11.4.3.2 - where apparently ATK is apparently presented as FNMEP.’ Is ATK information being presented as FNEMP? Alternatively, if FNEMP information is additional to ATK shouldn’t the focus be on non ATK First Nations.

RESPONSE:

- 1 Please refer to the response to PFN-IR-011.
- 2 FNMEP includes as a subset, the development to ATK studies. More specifically, the FNMEP
- 3 refers to the communication that took place between Manitoba Hydro and First Nations, Metis
- 4 and Aboriginal organizations including leadership meetings, open houses, field visits, letters,
- 5 phone calls and understandings from self-directed studies. Understandings shared during
- 6 FNMEP, including ATK studies, helped inform the environmental assessment and routing
- 7 processes, and to develop the EIS and Environmental Protection Program for the Project.

SUBJECT AREA: **Vegetation Management, None**

REFERENCE: **Chapter 11, section 11.5.2.2 and 11.5.2.3**

QUESTION:

‘References to herbicide use in ROW seems contradictory. 11.5.2.2 ‘Herbicides will not be used for ROW clearing. For maintenance of the ROW an integrated vegetation management program will be developed...’ 11.5.2.3 ‘...frequency is continuous due to periodic herbicide application on the ROW...’ Is herbicide application the default long term strategy?

RESPONSE:

- 1 The wording provided in Chapter 11, section 11.5.2.2. and 11.5.2.3. is correct, herbicides will
- 2 not be used for ROW clearing. Clearing refers to the activities associated with the initial clearing
- 3 of the ROW during construction, and not ongoing maintenance.

- 4 Herbicide application is not the default long term strategy. For the purpose of the
- 5 Environmental Impact Statement Manitoba Hydro has to make a conservative assumption of
- 6 potential project effects. Manitoba Hydro assessed the project under the working assumption
- 7 that until vegetation management planning is conducted post-construction, herbicides in
- 8 conjunction with other integrated vegetation management methods may have to be used on a
- 9 periodic basis for the life of the project. Chapter authors considered the periodic application of
- 10 herbicides be considered ‘continuous’ to capture the ongoing nature of maintenance, and did
- 11 not intend to convey that herbicides would be sprayed continuously.

SUBJECT AREA: Land and Resource Use, First Nation and Metis Engagement

REFERENCE: Chapter 11, section 11.5.4.1

QUESTION:

A conflict regarding increased access by recreational users is noted. Land and resource use assessment considers increased access a positive effect. But First Nations, Metis and Professional judgement considers it a negative effect. Is the overall position a negative effect?

RESPONSE:

- 1 Manitoba Hydro's position is as described in Chapter 11 page 11-52 *"While the land and*
- 2 *resource use assessment (Chapter 16) considered increase access for recreational users as a*
- 3 *positive effect based on experience working with First Nations and Metis and professional*
- 4 *judgment this assessment regards increased access for recreational users as an adverse effect."*

SUBJECT AREA: Significance, None

REFERENCE: Chapter 11, section 11.7.1

QUESTION:

"The effects on TLRU were characterized as low to moderate and extending from the PDA to the LAA..... The effects of the Project on the TLRU are assessed as not significant." This appears to be contradictory. How is the conclusion of non-significant achieved in the face of findings of some moderate effects?

RESPONSE:

- 1 Project effects on plant harvesting, and hunting and trapping were characterized as moderate,
- 2 which is defined as reducing the ability to undertake these activities to the same extent as was
- 3 done previously. These activities are understood to occur on Crown land, which occur on less
- 4 than 25% of the PDA.

- 5 With respect to plant harvesting (see Section 11.5.2.3) the loss of suitable habitat on Crown
- 6 land will reduce but not eliminate plant harvesting in the PDA. Areas used for traditional
- 7 activities, such as the 1073 observations of reported plant gathering locations noted along
- 8 alternative routes, were considered during the route evaluation process. No vegetation cover
- 9 classes that support traditional use plant species will be eliminated from the LAA or RAA as a
- 10 result of Project activities. As identified in other nearby Manitoba Hydro right-of-ways, it is
- 11 expected that many traditionally harvested plants will continue to be abundant in the PDA and
- 12 remain available for harvest.

- 13 In the RAA, there are several plant harvesting areas identified by First Nations that will not be
- 14 affected by the Project and it is expected that there will be viable traditional plant populations
- 15 available for harvesting.

16 With respect to hunting and trapping (see Section 11.5.3.4), First Nations have identified a
17 number of hunting and trapping sites in the PDA that will be affected. Secondary effects, such
18 as sensory disturbance to animals, will extend into the LAA. In addition to the loss of wildlife
19 habitat, the PDA and LAA may be subjected to increased use due to the creation of a new
20 corridor and increased access to previously inaccessible areas. Manitoba Hydro considered
21 access management concerns during the routing process and will continue to consider the
22 concerns during the development of access management plan for the Project. The Access
23 Management Plan will emphasize construction vehicle use of existing roads and trails, rather
24 than disturbing new areas. By using existing access roads, hunting accessibility will be limited.
25 As identified in other nearby Manitoba Hydro ROWs, it is expected that many traditionally
26 harvested animals will continue to be abundant in the PDA and remain available for harvest.

27 Given that the Project will reduce the ability to undertake plant harvesting, and hunting and
28 trapping to the same extent as previously, the effect was characterized as moderate. However,
29 because of the availability of other sites to undertake these activities in the PDA, LAA and RAA,
30 and because the ROW will continue to support some traditional use activities and because
31 many of the specific areas identified through the FNMEP are not traversed by the final
32 preferred route, the effect was assessed as being not significant.

SUBJECT AREA: Environmental Protection, Follow-up and Monitoring, First Nation and Metis Engagement

REFERENCE: Environmental Impact Statement Section 22.3

QUESTION:

Environmental Follow-up and Monitoring

In British Columbia, it is common for BC Hydro to partner with First Nations to conduct environmental monitoring, as required, for projects. Is this type of collaborative monitoring being planned? Will First Nations have input on which and how final valued components will be monitored and reported on? How will VCs be chosen to be a part of the adaptive management monitoring program? Please explain this process, and how First Nations will be involved during the lifetime of the MMTP.

RESPONSE:

- 1 Please see response CEC-IR-079.

SUBJECT AREA: NFAT, None

REFERENCE: Environmental Impact Statement Section 24.4.4.1

QUESTION:

Sustainable Development Analysis - Environment

Has Manitoba Hydro conducted and presented a detailed cost-benefit analysis of the project by assigning a monetary value to environmental impacts? Was this required when the Public Utilities Board reviewed Manitoba Hydro's capital projects plan? Does Manitoba Hydro have a formula or methodology to combine the generation and transmission costs of electricity to arrive a true cost of exported power, or Manitoba use of power?

RESPONSE:

- 1 These questions are in relation to the NFAT and the justification for the Project, which are
- 2 outside the scope of the CEC hearing.

SUBJECT AREA: General Assessment, First Nation and Metis Engagement

REFERENCE: Section 9.2.1 Regional assessment area (RAA)

QUESTION:

“The regional area used to determine the significant of the project specific effects on wildlife and wildlife habitat and asses the cumulative effects; includes a 15 km buffer on either side of the Project Development Area. Its states that "Determination of the RAA is supported by baseline field studies, key person interviews and First Nation ATK". Please provide confirmation that First Nation approved the 15km buffer as adequate, please provide transcripts from key personal interviews that approved a 15km buffer as adequate. Please provide the information how the First Nation ATK supported the RAA as well as key personal interviews. And whether or not First Nations affected by the MMTP were asked about this size of buffer to assessment of valued components, including environmental components.

RESPONSE:

1 First Nations were not asked about the size of the Regional Assessment Area (RAA) buffer, nor
2 to approve the 15km RAA. The spatial boundaries contemplated in the MMTP Environmental
3 Impact Statement (EIS) are sized to encompass the potential environmental effects on the
4 Valued Component (VC) under consideration in conjunction with other physical activities that
5 have been or may be carried out. The Wildlife and Wildlife Habitat RAA is based on the home
6 ranges of wildlife species known to inhabit the Project area (Section 9.2.1). The statement
7 *“Determination of the RAA is supported by baseline field studies, key person interview, and First*
8 *Nation ATK”* was meant to indicate that this boundary encompasses the species considered
9 important, representative or valued in the assessment, including species identified as important
10 through the FNMEP. This RAA encompasses the home ranges of the most wide-ranging species
11 in the assessment, including black bear, elk, white-tailed deer, and red-sided garter snake. The
12 importance of the above listed species was noted by some First Nation communities during the
13 First Nation and Metis Engagement Process and included within ATK reports submitted as part

14 of the EIS. Please see the ATK Studies included as part of the MMTP EIS for references to these
15 and other species considered important in the Project study area. Self-directed ATK studies for
16 the Project from Aboriginal communities may use different spatial boundaries to collect
17 information. The MMTP EIS recognizes that TLRU information provided by Aboriginal
18 communities may reflect broader land use contexts.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: EIS – Section 4.1 and Section 6.3.3

QUESTION:

Why does Manitoba Hydro say they will use the term First Nations, in Chapter 4.1 and then refer to First Nations as Aboriginal in the population section 6.3.3?

RESPONSE:

- 1 Please refer to response PFN-IR-002.

SUBJECT AREA: Traditional Land and Resource Use, None

REFERENCE: Section 11.5.2.2

QUESTION:

There is no mention that if traditional or medicinal plants are identified within the proposed transmission line corridor and construction impact zone, that the plants will be transplanted or relocated to other traditional harvesting areas. Will traditional plants be relocated or transplanted to other secure areas? Is there an option for the First Nation communities to participate in field studies to collect traditional plants for relocation from the proposed transmission corridor and construction impact zone, prior to construction? This will allow for the preservation of culturally significant plants to be spared, and allow capacity building among First Nation communities affected by MMTP. Does Manitoba Hydro intend to provide compensation for medicinal and traditional plants lost during the construction and operation periods for MMTP?

RESPONSE:

- 1 Please refer to the response PFN-IR-004.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Volume 5, Appendix 1, First Nations Lands Studies

QUESTION:

MMTP Supplemental filing re Sagkeeng and Dakota Tipi Studies

Please provide the Manitoba Hydro definition of TEK. Is this definition in materials provided to First Nations undertaking MMTP studies? Please indicate whether all of the First Nations MMTP lands and TEK studies were conducted on the same methodology or criteria from Manitoba Hydro. Confirm that Manitoba Hydro funded these studies and reports. Confirm that each First Nation holds its own data, shape files, and owns the product filed with the CEC for the MMTP proceedings. Indicate which standards and methodology for interviews with Aboriginal Persons were in place for these MMTP studies and reports from the First Nations. Does Manitoba Hydro support the Tri Council standards for interviews with Aboriginal Persons? (See transcript of Keeyask hearings regarding this question.)

RESPONSE:

- 1 There is a definition of ATK (“Aboriginal Traditional Knowledge”) that includes a definition TEK
- 2 (Traditional Ecological Knowledge) in the Glossary in Chapter 4 of the EIS. The methodology and
- 3 criteria used to develop ATK studies were determined by each First Nation and the MMF.

- 4 Manitoba Hydro funded these reports.

- 5 Each First Nation and the MMF and its members own the intellectual property upon which the
- 6 reports are based (save and except where third party sources are quoted). In accordance with
- 7 the agreements each signed, Manitoba Hydro has the right to use the reports in planning and
- 8 presenting the MMTP.

- 9 The standards and methodology for interviews with Indigenous Persons were determined by
- 10 each First Nation and the MMF.

11 Manitoba Hydro supports standards that are respectful of the persons from whom interviews
12 are sought. As stated above, Manitoba Hydro did not conduct interviews undertaken as part of
13 any ATK studies. Manitoba Hydro did not demand or ask that a particular interview standard be
14 followed.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Chapter 4, ATK Protocol

QUESTION:

"Aboriginal communities have extensive knowledge and expertise of the lands ... The sharing of this knowledge ... assists with understanding how a particular project may affect the people and the environment."

Why does Manitoba Hydro take a particular project approach, rather than funding long-term ATK studies over a broader area so that this knowledge can be incorporated into numerous Manitoba Hydro projects and inform these project environmental assessments at a much earlier stage in the process?

RESPONSE:

- 1 Manitoba Hydro develops projects that may be different in nature, scope, scale and geographic
- 2 location. Communities may have concerns unique to each project and Manitoba Hydro provides
- 3 a forum for hearing concerns on a project-by-project basis. Some communities and
- 4 organizations may not be open to sharing ATK over a broad region. Feedback Manitoba Hydro
- 5 has received in the past suggests there may be a reluctance to share information that may be
- 6 used for multiple uses and over a broad period of time.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Chapter 4, Draft Sample Engagement Plan

QUESTION:

for the MMTP – "Manitoba Hydro would consider funding Traditional Knowledge Workshops or Studies for the Project." How does Manitoba Hydro determine which workshops or studies to fund? Were there any proposed workshops or studies which Manitoba Hydro declined to fund? Were there any proposed workshops or studies which had their proposed budgets cut-back?

RESPONSE:

- 1 Manitoba Hydro offered First Nations and the MMF the opportunity to conduct self-directed
- 2 ATK or land use and occupancy studies. Manitoba Hydro provided funding for these studies.
- 3 Those who indicated an interest in undertaking a study were invited to submit a proposal
- 4 Manitoba Hydro worked with those who submitted proposals to develop a mutually agreeable
- 5 scope, budget, and timeline for the proposed work.

SUBJECT AREA: Mitigation, None

REFERENCE: EIS 9-2; 9-32-35; & 9-121.

QUESTION:

MH identifies bird collisions with wires ("strikes") as a risk. It also notes the paucity of data in MB, which limits ability to mitigate, and lists searches for bird carcasses as a monitoring/follow-up activity for mitigation purposes. What is MH's plan if monitoring activities reveal higher than expected bird mortalities? Are there any other mitigation options that can be implemented if/once the MMTP is built?

RESPONSE:

- 1 Manitoba Hydro has developed a draft environmental monitoring plan that is designed to
- 2 evaluate the effectiveness of bird-wire collision mitigation activities (Chapter 22, 4.4.3 Bird-
- 3 Wire Collision). In the event that bird mortality statistics are above expected values based on
- 4 pre-construction abundance/flight path surveys, Manitoba Hydro is committed to providing this
- 5 information to Manitoba Sustainable Development regional wildlife manager/biologist and
- 6 jointly identifying what additional mitigation measures should be implemented as a part of
- 7 adaptive management. These could include, but would not be limited too, adding additional
- 8 bird diverters to the area of concern and/or employing different models of bird diverters.
- 9 Additional information on this topic can be found in the response CEC-IR-069.

SUBJECT AREA: **Planning, None**

REFERENCE: **MMTP EIS 2.4.1.1, p. 2-14**

QUESTION:

"Manitoba Hydro has been planning, acquiring and obtaining easements for dedicated transmission corridors that contain multiple transmission lines since the early 1960s." How long has the planning for what is now referred to as the MMTP been in the works? i.e. What is the earliest date in which Manitoba Hydro first considered building an international power line? In answering please provide background, on the planning and development history of all of Manitoba Hydro's power connections with the United States.

RESPONSE:

- 1 Manitoba Hydro was formed in 1961. A study of the hydro-electric potential of the Nelson River
- 2 began in 1963. In 1964, a memorandum of understanding was signed with the Mid-Continent
- 3 Area Power Pool regarding possible interconnecting lines between Manitoba and the U.S. This
- 4 is likely the earliest date that Manitoba Hydro first considered building an international power
- 5 line for the importing and exporting of energy.

- 6 The specific planning for MMTP began in 2007.

SUBJECT AREA: **Construction, None**

REFERENCE: **5-9 – Blasting and Exploding (PA-1)**

QUESTION:

Has a draft of the blasting period Communication Plan been prepared? If so, please provide a copy. If not, please explain when and how this Communication Plan will be made public?

RESPONSE:

- 1 If a Licence is granted for the project, construction supervisors and the engagement team will
- 2 coordinate letters or mailers to be distributed near the timing of these events. Manitoba Hydro
- 3 will notify local RCMP/police detachments, Manitoba Sustainable Development, resource users
- 4 and rural municipal offices when blasting/implosions are undertaken for the project.

SUBJECT AREA: Construction, Fish and Fish Habitat

REFERENCE: 5-9 – Blasting and Exploding

QUESTION:

5-9 – Blasting and Exploding (PA-1)

Please elaborate on the impacts blasting will have on nearby fauna and aquatic life?

RESPONSE:

- 1 Sensory disturbance to wildlife is discussed Section 9.5.2.1.1 of Chapter 9. Periodic explosive
- 2 discharges by implosive sleeves required for conductor stringing can create a noise measuring
- 3 upwards of 115dba.

- 4 Fisheries and Oceans Canada (DFO) has determined that the use of explosives in or near water
- 5 produces shock waves that can impact fish (Fisheries and Oceans Canada, Measures to Avoid
- 6 Causing Harm to Fish and Fish Habitat, Fish Protection, [http://www.dfo-mpo.gc.ca/pnw-
7 ppe/measures-mesures/index-eng.html](http://www.dfo-mpo.gc.ca/pnw-
7 ppe/measures-mesures/index-eng.html)). Based on this information, DFO has developed
- 8 measures to avoid causing harm to fish and fish habitat that provides details on the use of
- 9 explosives in or near water. Manitoba Hydro will follow these guidelines, as described in
- 10 Chapter 22.

SUBJECT AREA: Accidents, Malfunctions and Unplanned Events, None

REFERENCE: 5-12 – Burning (PA-2) "PA-2.01

QUESTION:

5-12 – Burning (PA-2) "PA-2.01 – All occurrences of fire spreading beyond the debris pile will be reported immediately in accordance with work permit conditions." Can you indicate the number of occurrences of fire spreading beyond debris pile occurred during other transmission constructions projects such as Bipole 3?

RESPONSE:

- 1 There were two fires that may have spread beyond debris piles associated with the Bipole III
- 2 Transmission Project in 2015. Occasionally a fire may spread beyond a debris pile but those are
- 3 routinely contained and extinguished as part of construction operations. Fires associated with
- 4 transmission construction very seldom extend beyond the right-of-way or require external
- 5 response.

SUBJECT AREA: Mitigation, None

REFERENCE: 5-12 – Burning (PA-2) "PA-2.12

QUESTION:

5-12 – Burning (PA-2) "PA-2.12 – Slash will be piled in a manner that allows for clean, efficient burning of material and on mineral soils where applicable (i.e. permafrost)

It would seem that there is little if any permafrost in the vicinity of the proposed MMTP. Please identify the areas where permafrost exists within the study area?

RESPONSE:

- 1 No permafrost exists in the study area. The draft Construction Environmental Protection Plan
- 2 was based on a standard Manitoba Hydro template, which contains all mitigation for all areas
- 3 of the province. The final CEnvPP will be edited to remove reference to permafrost mitigation
- 4 MMTP.

SUBJECT AREA: Mitigation, None

REFERENCE: 5-12 – Burning (PA-2) "PA-2.12

QUESTION:

5-12 – Burning (PA-2) "PA-2.12 – Slash will be piled in a manner that allows for clean, efficient burning of material and on mineral soils where applicable (i.e. permafrost)

Please identify what other types of soil, aside from permafrost, is most suitable for the burning of slash?

RESPONSE:

- 1 Typically during frozen ground conditions (when burning is targeted to occur) all soils are
- 2 suitable for burning of slash with the exception of permafrost soils where the use of mineral
- 3 soils or rock is preferable to mitigate the potential for melting of the active layer. The MMTP
- 4 has no permafrost soils in its project area.

SUBJECT AREA: Mitigation, None

REFERENCE: 5-12 – Burning (PA-2) "PA-2.12

QUESTION:

5-12 – Burning (PA-2) "PA-2.12 – Slash will be piled in a manner that allows for clean, efficient burning of material and on mineral soils where applicable (i.e. permafrost) What volume of slash, expressed either in weight and/or area does MH anticipate needing to burn with respect to the MMTP project?

RESPONSE:

- 1 Manitoba Hydro does not have an estimate of volume of slash to be burned. There are
- 2 approximately 550ha (Chapter 10, Table 10-6) of treed ROW that will require debris
- 3 management. Manitoba Hydro is currently investigating economically feasible markets and
- 4 opportunities to manage debris disposal including, firewood, chips, timber products, and
- 5 biomass fuel. Where it is not feasible to manage debris disposal using the above methods,
- 6 mulching and burning while taking into account the surrounding environment are options being
- 7 considered.

SUBJECT AREA: Mitigation, None

REFERENCE: 5-12 – Burning (PA-2) "PA-2.12

QUESTION:

5-12 – Burning (PA-2) "PA-2.12 – Slash will be piled in a manner that allows for clean, efficient burning of material and on mineral soils where applicable (i.e. permafrost)

Has MH investigated the feasibility of chipping and composting wood, rather than burning it? If so, please comment on your findings?

RESPONSE:

- 1 Manitoba Hydro utilizes a variety of methods to dispose of vegetation when clearing the ROW,
- 2 including mulching, chipping, salvage of merchantable timber for saw logs, firewood, building,
- 3 and biomass fuel. Vegetation disposal methods vary along the ROW and are determined by a
- 4 variety of factors including density, size, structure, accessibility, markets, and landowner
- 5 requests.

SUBJECT AREA: Accidents, Malfunctions and Unplanned Events, None

REFERENCE: 5-19 Emergency Response

QUESTION:

What if any emergency response plans does MH have in place regarding the potential of an ice storm (such as the Quebec/Ontario ice storm of 1998) impacting MMTP?

RESPONSE:

- 1 Manitoba Hydro monitors ice build up on lines through weather stations and patrols during an
- 2 event. In the event that the transmission line is impacted by severe weather, Manitoba Hydro
- 3 has an emergency preparedness/response plan to restore the line to service as quickly as
- 4 possible. The emergency response plan includes having spare material such as towers,
- 5 conductor, and hardware ready and available.

SUBJECT AREA: Accidents, Malfunctions and Unplanned Events, None

REFERENCE: 5-19 – Emergency Response

QUESTION:

5-19 – Emergency Response EI-2 "All fires will be reported... All spills will be reported"

Can you indicate the number of occurrences of reported spills and fires during other transmission constructions projects such as Bipole 3? When commenting on spills, please provide as much detail as possible. With regards to spills please indicate what was spilled and how much? When commenting on fires please provide details regarding the duration of the fire and the total affected area?

RESPONSE:

- 1 **Fires:** There were two fires that may have spread beyond debris piles associated with the Bipole
- 2 III Transmission Project in 2015 These fires affected approximately 10 and 108 hectares and
- 3 both events took place over several days. The two 2015 fires were atypical occurrences.
- 4 **Spills:** Spills are reported to the province as prescribed by Manitoba Environmental Accident
- 5 Reporting Regulation. Manitoba Hydro reports spills resulting from its own activities and
- 6 activities of its contractors.
- 7 For the Bipole 3 Transmission Project, since the start of the project (February 2014) to date,
- 8 there have been approximately 35 reportable spills.
- 9 The majority of spills associated with transmission construction activity are related to operation
- 10 and re-fueling of heavy construction equipment. They involve hydraulic oil, diesel fuel,
- 11 antifreeze and engine oil. Approximately five spills were between 5 and 10 liters; thirteen were
- 12 10 to 50 liters, three were 50 to 100 litres and two were larger than 100 L (132 L hydraulic oil
- 13 and 300 L diesel fuel) with the remainder less than 5 litres.
- 14 These spills have been all reported and cleaned up as per regulatory requirements.

SUBJECT AREA: Heritage Resources, None

REFERENCE: 5-26 – Heritage Resources (EC-5)

QUESTION:

If indigenous archeological sites are found, what mechanisms will be in place for local indigenous communities to participate in the archeological preservation?

RESPONSE:

1 If Manitoba Hydro, its contractors and/or consultants, discover a cultural or heritage resource,
2 Manitoba Hydro will follow processes outlined in the Cultural and Heritage Resources
3 Protection Plan (CHRPP) and as per the terms Manitoba's *Heritage Resources Act* (1986). The
4 use of a CHRPP is a proactive approach to effectively manage potential discoveries of human
5 remains, and cultural and heritage resources. The CHRPP includes results from the shared
6 Traditional Knowledge (TK) reports, as well as a Protocol that invites community involvement
7 and provides the opportunity for new information on cultural or heritage sites to be included in
8 the monitoring program and Construction and Environmental Protection Plans (CEnvPPs).

9 Communities will be notified of any find(s) and if sacred or ceremonial objects are found,
10 Community Representative(s) may arrange for and facilitate an appropriate ceremony. Ongoing
11 implementation of a heritage resource impact monitoring (HRIM) field work program will
12 continue the assessment of areas of high heritage potential over the course of clearing and
13 construction activities. The HRIM will include First Nation and Metis knowledge regarding
14 cultural and heritage resource sites. In addition, First Nation and Metis will have the
15 opportunity for involvement in the HRIM field investigations to share results and processes with
16 their respective communities. Results of the monitoring program will be available through
17 annual reports submitted to the Manitoba Historic Resources Branch as per the terms of the
18 *Heritage Resources Act* (1986) and heritage permit requirements.

- 19 Any artifacts that are recovered will be transferred to Manitoba's Historic Resources Branch.
- 20 Communities may undertake repatriation agreements with the Province.

SUBJECT AREA: Mitigation, None

REFERENCE: 5-26 – Heritage Resources (EC-5)

QUESTION:

Will local indigenous people be provided the opportunity to perform culturally appropriate ceremonies with regards to any indigenous archeological sites that might unearthed? If so, please describe what opportunities will be provided, and how these opportunities will be communicated to potentially interested indigenous communities?

RESPONSE:

- 1 Communities will be notified by letter, email or phone call of any find(s) and if sacred or
- 2 ceremonial objects are found, Community Representative(s) may arrange for and facilitate an
- 3 appropriate ceremony. Manitoba Hydro will engage in discussions with communities regarding
- 4 what ceremonies might be appropriate.

SUBJECT AREA: Mitigation, None

REFERENCE: 5-26 – Heritage Resources (EC-5)

QUESTION:

Please provide comments on what archeological finds that MH has found in relations to previous transmission projects such as Bipole 3.

RESPONSE:

- 1 This question is out of scope for the Clean Environment Commission hearing. .

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: MMTP EIS, 4.3.1, p. 4-7

QUESTION:

"Manitoba Hydro considered a number of factors in determining whom to contact regarding participation in the FNMEP [First Nations Metis Engagement Process]." Why were only First Nations that signed Treaty 1 and those located within the Treaty 1 area contacted regarding the FNMEP?

RESPONSE:

- 1 Manitoba Hydro did not only contact First Nations that signed Treaty 1 or those located within
- 2 Treaty 1. Section 4.3.1 of Chapter 4 of the MMTP Environmental Impact Statement outlines
- 3 factors used to determine who to contact regarding participation in the FNMEP.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: MMTP EIS, 4.3.1, p. 4-7

QUESTION:

"Manitoba Hydro considered a number of factors in determining whom to contact regarding participation in the FNMEP [First Nations Metis Engagement Process]." How was interest in the project determined?

RESPONSE:

- 1 Please refer to the response PFN-IR-001.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: MMTP EIS, 4.3.1, p. 4-7

QUESTION:

"Manitoba Hydro considered a number of factors in determining whom to contact regarding participation in the FNMEP [First Nations Metis Engagement Process]." How was 40 km from the Study Area arrived at as the appropriate distance from the Study Area to engage First Nations? Additionally, Was this 40 km from First Nation reserve land, or 40 km from First Nation traditional territories?

RESPONSE:

1 The distance of 40 km was considered as a reasonable distance to consider whether
2 communities may have an interest in the project based on proximity; this distance would have
3 been used in relation to community locations not traditional territory. As noted in Chapter 4,
4 this was only one factor considered and it was not used as a means to exclude communities
5 from being engaged; eleven of the First Nation communities engaged are located more than 40
6 kms away from the initial Project study area.

SUBJECT AREA: **Planning, None**

REFERENCE: **MMTP EIS 2.4.1.1, p. 2-14**

QUESTION:

"Manitoba Hydro has been planning, acquiring and obtaining easements for dedicated transmission corridors that contain multiple transmission lines since the early 1960s." How long has the planning for what is now referred to as the MMTP been in the works? i.e. What is the earliest date in which Manitoba Hydro first considered building an international power line? In answering please provide background, on the planning and development history of all of Manitoba Hydro's power connections with the United States.

RESPONSE:

- 1 Please refer to the response SCO-IR-004 (duplicate question).

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Section 5-27

QUESTION:

5-27 – "MM-04 – Manitoba will contact First Nation and Aboriginal community representatives prior to project start-up" Please provide a list of the First Nations and Aboriginal community representatives who MH intend to contact prior to start-up?

RESPONSE:

- 1 Manitoba Hydro intends to contact the designated representatives from the following First
- 2 Nations, the MMF, and Indigenous organizations:
 - 3 • Black River First Nation
 - 4 • Brokenhead Ojibway Nation
 - 5 • Buffalo Point First Nation
 - 6 • Dakota Plains Wahpeton First Nation
 - 7 • Dakota Tipi First Nation
 - 8 • Iskatewizaagegan 39 Independent First Nation
 - 9 • Long Plain First Nation
 - 10 • Peguis First Nation
 - 11 • Roseau River Anishinabe First Nation
 - 12 • Sagkeeng First Nation
 - 13 • Sandy Bay Ojibway First Nation
 - 14 • Shoal Lake 40 First Nation
 - 15 • Swan Lake First Nation
 - 16 • Manitoba Metis Federation
 - 17 • Aboriginal Chamber of Commerce
 - 18 • Assembly of Manitoba Chiefs

- 19 • Dakota Ojibway Tribal Council
- 20 • Southern Chiefs Organization

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: 5-27

QUESTION:

5-27 – "MM-06 – Manitoba Hydro will contact local resource users ... to the extent feasible and practical prior to start-up" Please provide further details on what is meant by "to the extent feasible and practical"? Has MH already collated a list of potentially concerned/impacted resource users? If so, how many resource users have been identified? Moreover, how is MH identifying resource users that may travel vast distances at different seasonal times of the year?

RESPONSE:

- 1 *"To the extent feasible and practical prior to start-up"* means that Manitoba Hydro will
- 2 endeavor to notify local resource users through various means including direct mail, project
- 3 email and the Manitoba Hydro website. Manitoba Hydro will also share relevant information
- 4 regarding start up with communities whose members may include resources users as well as
- 5 with specific organizations that represent resource users.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Socio-economic and Land Use Environment – Technical Data Report, 4.2.3.1, pp. 4.9-10.

QUESTION:

Stantec, " According to the Stantec report of the First Nations identified as having an interest in the project "in total more First Nations live off reserve than on reserve." Given that more First Nations people live on-reserve than off-reserve, how were the aboriginal and Treaty rights of off-reserve members considered?

RESPONSE:

- 1 The projects' effects have not been discussed in the context of "rights" but rather in the context
- 2 of Manitoba Hydro's understanding of valued traditional activities, practices, areas and
- 3 resources that are of cultural importance. Where requested, Manitoba Hydro worked with
- 4 communities to develop engagement processes that were adaptive and inclusive of off-reserve
- 5 members.

SUBJECT AREA: **Herbicides, First Nation and Metis Engagement**

REFERENCE: **EIS 8.5.2.1.2 & 10.6.6**

QUESTION:

Has Manitoba Hydro ever investigated the opportunity of engaging traditional indigenous harvesters to maintain, care, for and protect Right-of-Ways (ROWs) through the use of traditional plant harvesting along ROWs as a way to avoid the use of herbicides, while also creating cultural and economic opportunities for indigenous peoples? If this idea has been investigated, please elaborate on the results? If not, why?

RESPONSE:

- 1 While Manitoba Hydro has not considered specifically engaging traditional Indigenous
- 2 harvesters to maintain ROWs it has extensive experience involving indigenous peoples in the
- 3 maintenance of transmission ROWs in Northern Manitoba and distribution ROWs throughout
- 4 Manitoba.
- 5 Manitoba Hydro is striving for further involvement of Indigenous peoples in integrated
- 6 vegetation management, and acknowledges the benefits and challenges of involving the
- 7 numerous First Nation and Metis over a vast 13,000km transmission line system.
- 8 Managing trees on the over 13,000km of transmission line ROW, while maintaining system
- 9 reliability in a cost efficient manner is not conducive to labour intensive clearing methods such
- 10 as traditional plant harvesting. There is a role at a smaller scale for manual labour methods in
- 11 maintaining sensitive sites such as riparian areas and medicinal/traditional plant harvesting
- 12 areas. It is in these locations Manitoba Hydro believes economic and cultural opportunities for
- 13 Indigenous peoples have the greatest potential to be realized.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: 4.4.7, Chapter 9

QUESTION:

TAC comments 2 of 3

(http://www.gov.mb.ca/sd/eal/registries/5750mbhydrombminnesota/tac_comments2of3.pdf)

In the TAC comments it is noted that: "We appreciate that MB Hydro selected a route which avoids traversing the known core area of the Vita elk herd. Notwithstanding these efforts, it should be recognized that the full scope of elk movements is currently unknown. The core area in the vicinity of Vita only represents winter observations, and elk are known to be highly mobile"

Given this information, how has MH, or how does MH intend to adjust its EIS?

RESPONSE:

- 1 Manitoba Hydro addressed this question in MCWS-MH-I-81 and is available on the public
- 2 registry.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: 4.4.7

QUESTION:

"Moose were a common species in southeastern Manitoba prior to the late 1990s but populations in the regions have since collapsed ... No specific monitoring for moose is being proposed..." Given the decline in moose population, and their importance to resource users, First Nations and Metis why is no specific monitoring being proposed?

RESPONSE:

- 1 As outlined on page 39 in the draft Environmental Monitoring Plan in Chapter 22, no specific
- 2 monitoring for moose is being proposed. However, moose observations in all aerial survey and
- 3 camera trap surveys will be documented.

- 4 For further information, please see the response CEC-IR-055.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS 9.1, 9-3

QUESTION:

‘White-tailed deer were found to be a highly valued resource for First Nations and was important for local livelihoods and there was concern about increased mortality from increased access.’ What mitigation measures does Manitoba Hydro have in place to address these concerns? Please elaborate?

RESPONSE:

- 1 Measures to control access and hunting are described in the Construction Access Management
- 2 Plan (Chapter 22, Appendix B).
- 3 Manitoba Hydro also addresses concerns related to access in CEC-IR-078.
- 4 Manitoba Hydro addresses concerns regarding white-tailed deer in MMF-IR-024.

SUBJECT AREA: **Routing, None**

REFERENCE: **EIS, Chapter 5, section 5.1 and Table 5-1**

QUESTION:

In Table 5-1 the Management Team Involvement/Discussion role is noted to be “developed the criteria and weights for the preference determination model”. Please explain:

- (a) Where the role of the Management Team is found in the funnel process; and
- (b) Explain how this decision reflects the input noted to be gathered from the Public Engagement Process (PEP)

RESPONSE:

- 1 Please see response CEC-IR-013.

SUBJECT AREA: Routing, None

REFERENCE: Chapter 5, section 5.1 and Figure 5.2

QUESTION:

The term “preference determination” is used in the points of each of Rounds 1, 2 and 3. It is also one of the roles for the Manitoba Hydro (MH) Management Team as see on pg. 5-6 Please define, explain and discuss this clearly important term, which is not defined in the Glossary of Technical Terms.

RESPONSE:

- 1 Preference Determination is the name given to the model used in the final step of comparative
- 2 route evaluation. In the EPRI-GTC process this model is referred to as “Expert Judgment” (EPRI-
- 3 GTC, 2006.). As described on pages 5-38 – 5-39, this model is composed of criteria and
- 4 associated weightings set by the Management team (Table 5-1, page 5-6). The application of
- 5 this model helps determine the preferred route from a subset of finalists; hence the
- 6 terminology of ‘preference’ determination. Manitoba Hydro felt this terminology was more
- 7 descriptive of the model’s application than simply referring to it as ‘Expert Judgment’.
- 8 See response CEC-IR-013 for further information.

SUBJECT AREA: Routing, None

REFERENCE: EIS, Chapter 5, section 5.3.3.1

QUESTION:

The weighting assigned by stakeholders is noted in the paragraph at the top of pg. 5-21, but there is also weighting noted to be assigned by the Management Team (see Table 5-1, pg. 5-6)

(a) Please reconcile the weighting processes, and advise which one has priority in the decision making process, and at what point that priority takes effect;

(b) Please advise if the weighting process can result in a hierarchical decision making process where a Round 2 routing decision can affect or eliminate a route option in Round 3.

RESPONSE:

- 1 As noted in Chapter 5 of the EIS, there are four distinct stages in the transmission line routing
- 2 process that incorporate models that include criteria and associated weightings. The
- 3 Management Team input is included in a separate stage from public input and, as such, are not
- 4 weighed against each other.

- 5 All of these models and the processes used to develop criteria and weightings of the criteria are
- 6 described in detail in the EIS.

- 7 The objective of transmission line routing is to develop one preferred route for a project. As
- 8 such, decisions taken in the second round are designed to eliminate options from further
- 9 consideration in subsequent rounds.

- 10 See SSC-IR-125 for further information.

SUBJECT AREA: Routing, None

REFERENCE: EIS, Chapter 5, section 5.3.3.2

QUESTION:

Please advise or confirm if the EPRI-GTC method was used to generate Composite Corridors, as well as specific routes within those corridors.

RESPONSE:

- 1 The following general steps of the EPRI-GTC method (EPRI-GTC 2006) were used to generate
2 composite corridors:
- 3 • Alternative Corridor Data Collection - (Gathering Data, page 5-21) datasets relating to
4 all the features in the corridor model were gathered;
 - 5 • Alternative Corridor Database (Creating geospatial data layers, page 5-21) – the
6 datasets were scored (values 1-9), data layers weighted (based on model), and grouped
7 by “Perspective”;
 - 8 • Avoidance Areas (Areas of Least Preference, page 5-19) were removed from the
9 database;
 - 10 • Preference surfaces (Creating Suitability surface, page 5-21) were created for each
11 perspective;
 - 12 • Least Cost Path (Developing Alternate Corridors, Section 5.3.3.2, page 5-22) – the least
13 cost path algorithm was used to create corridors.
- 14 ○ The EPRI-GTC (2006) report refers to 5% of optimal paths and discusses creating
15 histograms and using the statistical break in the histograms to determine the
16 top % to create corridors. Manitoba Hydro used the top 3% to create the
17 corridors. When the EPRI-GTC siting methodology was first created, it was
18 validated against recent electric transmission line siting projects. It was
19 discovered that the routes selected for these projects typically fell within

20 corridors created at 3% of all potential routes. For this reason, 3% has become
21 widely used by utilities implementing this methodology to create alternative
22 corridors.

- 23 • The four corridors created (Natural, Built, Engineering, Simple Average) are combined
24 to create the composite corridor.

25 Manitoba Hydro developed routes within the alternate corridor composite as described in CEC-
26 IR-071.

SUBJECT AREA: Routing, None

REFERENCE: EIS, Chapter 5, section 5.4.3, Figure 5-5 and Appendix 5B

QUESTION:

The Preferred Route shown in purple is an obviously inferior route compared to the blue Mitigation segment. Please explain how the best cost process employed by the EPRI-GTC model (as explained in Appendix 5B) allowed for a route adjacent to multiple home sites when this criteria was demonstrably the number 1 factor to avoid?

RESPONSE:

- 1 As described in Section 5.5.4 homes sites are an important factor when evaluating routes but it
- 2 is one of many factors considered during route segment development. Please see CEC-IR-71 for
- 3 further description of route and segment development.

- 4 The Alternative Corridor Evaluation Model (Table 5-3, page 5-17) is used to create the suitability
- 5 surfaces, run least cost path and generate the composite corridor. At this stage, “buildings” are
- 6 part of the Areas of Least Preference. Within the buildings dataset, occupied houses are given a
- 7 50 m buffer. Therefore the least cost path for any perspective can be anywhere outside of that
- 8 50 m buffer.

- 9 Both the purple and blue segments fall within the composite corridor.

SUBJECT AREA: Routing, None

REFERENCE: EIS, Chapter 5, section 5.6.4 and Map 5-21

QUESTION:

The mapping of the B series of routes (BMX, BMY, BOB, BWZ, BXP) appears to show overlaps of the BOB, BMX and BMY routes.

- (a) Please provide maps that show the total length and location of each of the 5 final routes.
- (b) Provide a table showing the length of overlap of routes with common alignments.

RESPONSE:

- 1 Because the information was readily available, maps of each of the 5 routes are provided as
- 2 SSC-IR-006_Attachment(1-6). A table showing the segments included in each route, route
- 3 length and segment length is attached to show which segments overlap on each route.

Name	Segments	Length (m)
Route BMX	Segments 400,406,407,477,479,401,412,409,482,472,471,468,474,417,420,402,451,404,452	121,015.210
Route BMY	Segments 400,406,407,477,479,401,412,409,482,472,471,468,416,475,420,402,451,404,452	121,512.658
Route BOB	Segments 400,406,407,477,479,401,412,465,481,482,472,471,468,416,417,420,402,451,404,452	121,331.190
Route BWZ	Segments 400,406,453,456,458,459,401,464,472,463,460,471,468,416,417,420,402,451,404,452	128,014.353
Route BXP	Segments 400,406,453,456,458,459,401,463,414,460,415,416,417,420,402,451,404,452	124,786.905

	BMX	BMY	BOB	BWZ	BXP	Length (m)
400	2,318.348	2,318.348	2,318.348	2,318.348	2,318.348	2,318.348
401	750.956	750.956	750.956	750.956	750.956	750.956
402	6,554.971	6,554.971	6,554.971	6,554.971	6,554.971	6,554.971
404	1,045.122	1,045.122	1,045.122	1,045.122	1,045.122	1,045.122
406	10,506.812	10,506.812	10,506.812	10,506.812	10,506.812	10,506.812
407	9,539.877	9,539.877	9,539.877			9,539.877
409	2,550.032	2,550.032				2,550.032
412	15,662.129	15,662.129	15,662.129			15,662.129
414					2,039.845	2,039.845
415					7,850.366	7,850.366
416		18,979.939	18,979.939	18,979.939	18,979.939	18,979.939
417	11,811.002		11,811.002	11,811.002	11,811.002	11,811.002
420	20,170.598	20,170.598	20,170.598	20,170.598	20,170.598	20,170.598
451	3,066.560	3,066.560	3,066.560	3,066.560	3,066.560	3,066.560
452	5,352.223	5,352.223	5,352.223	5,352.223	5,352.223	5,352.223
453				2,886.841	2,886.841	2,886.841
456				10,752.117	10,752.117	10,752.117
458				6,550.608	6,550.608	6,550.608
459				6,746.406	6,746.406	6,746.406
460				6,318.648	6,318.648	6,318.648
463				1,085.546	1,085.546	1,085.546
464				2,481.986		2,481.986
465			2,527.741			2,527.741
468	2,944.455	2,944.455	2,944.455	2,944.455		2,944.455
471	4,341.677	4,341.677	4,341.677	4,341.677		4,341.677
472	3,349.541	3,349.541	3,349.541	3,349.541		3,349.541
474	19,000.908					19,000.908
475		12,329.418				12,329.418
477	25.086	25.086	25.086			25.086
479	1,564.186	1,564.186	1,564.186			1,564.186
481			359.239			359.239
482	460.730	460.730	460.730			460.730
Length (m)	121,015.210	121,512.658	121,331.190	128,014.353	124,786.905	

Manitoba-Minnesota Transmission Project

Project Infrastructure

- Converter Station (Existing)
- Southern Loop Transmission Corridor
- Riel to Vivian Transmission Corridor (Existing)
- Route BWZ

Infrastructure

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line

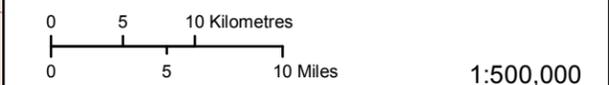
Route Planning Area

- Adjusted Border Crossing
- Route Planning Area

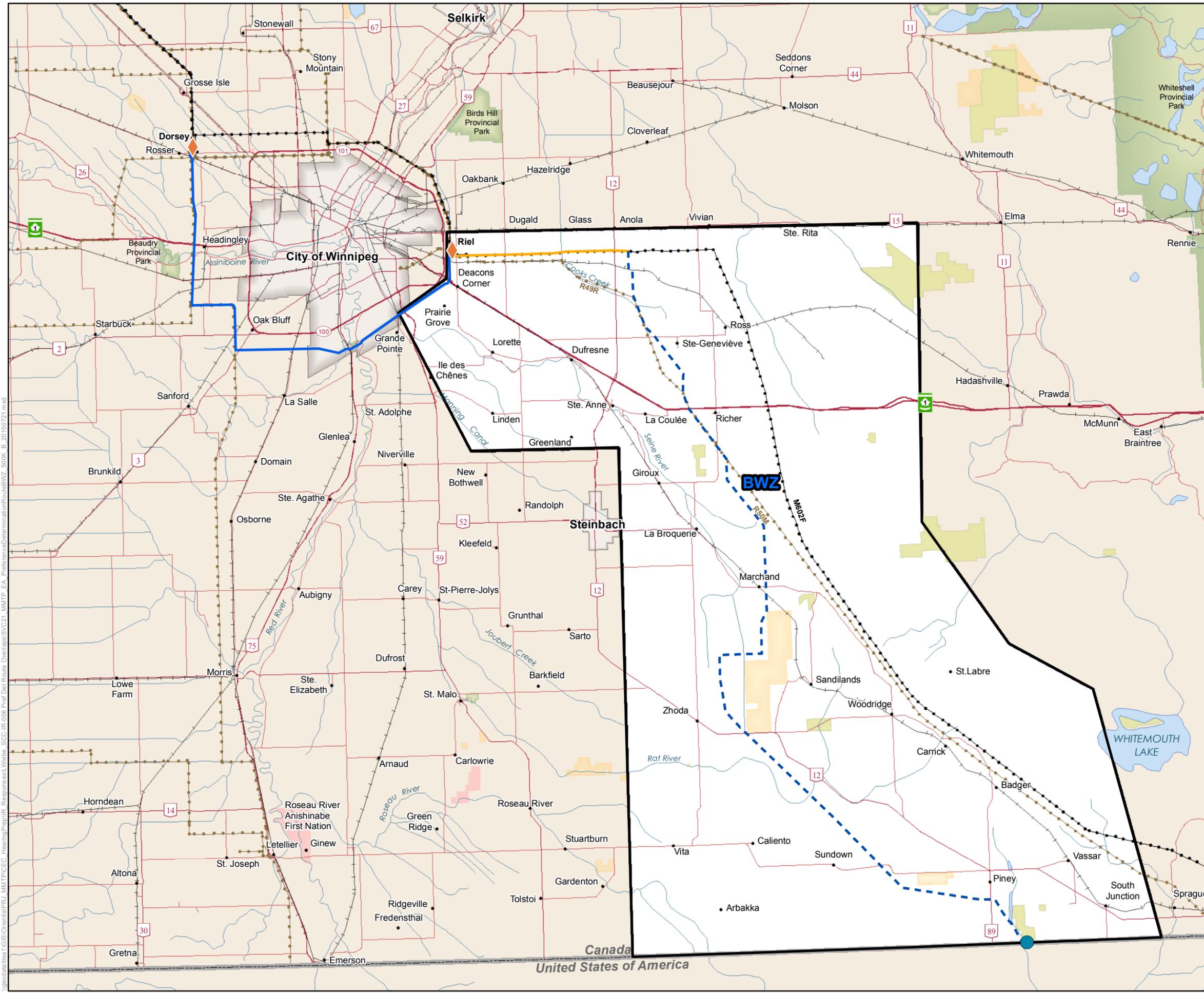
Landbase

- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- City
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- Provincial Park

Coordinate System: UTM Zone 14N NAD83
 Data Source: MBHydro, ProvMB, NRCAN
 Date Created: February 17, 2017



Preference Determination Route BWZ



I:\projects\1515\GIS\Carta\PRJ\MMTP\EC-Hearing\Map\IR-Response\east\Wibe-SCC\IR-008-Prf\Del\Route\Overlaps\BWZ-500kV-EA-PreferenceDetermination\RouteBWZ-500kV-B-20150721.mxd

