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August 15<sup>th</sup>, 2012

Mr. Terry Sargeant  
Clean Environment Commission  
305-155 Carlton St.  
Winnipeg, MB R3C 3H8

Dear Mr. Sargeant:

**RE: Bipole III Transmission Project – Response Package #5**

Please find enclosed responses to Information Requests, which were submitted to Manitoba Hydro on July 27<sup>th</sup> with a filing due date of August 15<sup>th</sup>.

We trust the enclosed responds appropriately to all Round One requests (#200 - #324) sent to Manitoba Hydro on July 27<sup>th</sup>. Responses to questions received August 1<sup>st</sup> are in process and will be filed in the near future, as per the letter dated August 1<sup>st</sup>.

Should you have any questions or require further clarification of our comments and information requests please do not hesitate to contact me at 360-4394.

Regards,

A handwritten signature in black ink that reads 'Shannon Johnson'.

Shannon Johnson  
Manager Licensing and Environmental Assessment Department  
820 Taylor Ave (3)  
Winnipeg, Manitoba  
R3M 3T1

sj/tk

Clean Environment Commission  
Bipole III Transmission Project

Package #5

August 15 2012



<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011) Chapter #: 1.2.6, 3.3.1.4 Pages #(s): 4, 17, Map 6</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-200

1

2 **Question:**

- 3       • *EIS Scoping Document Reference: 3.1 Scope of Project: "The EIS will describe*  
4       *the Project, augmented by appropriate figures, diagrams, drawings, maps, air*  
5       *photos and/or orthophotos, and, to the extent possible and practical, will include*  
6       *the following:....Access route locations and details;... Lands to be cleared for the*  
7       *transmission rights-of-way and infrastructure;"*
- 8       • **Rationale:** *"Moose is the most sought after species of large animals by*  
9       *Interviewees, followed by deer and then elk" (MMF 2011). Therefore, impacts on*  
10       *the availability and abundance of moose and elk, which the Manitoba Metis rely*  
11       *upon now and into the future to exercise their rights and interests in a*  
12       *meaningful way, are fundamental concerns. New access roads could impact*  
13       *moose and/or elk through habitat alteration, increased mortality, and increased*  
14       *sensory disturbance.*
- 15       • **Rationale:** *"Moose is the most sought after species of large animals by*  
16       *Interviewees, followed by deer and then elk" (MMF 2011). Therefore, impacts on*  
17       *the availability and abundance of moose and elk, which the Manitoba Metis rely*  
18       *upon now and into the future to exercise their rights and interests in a*  
19       *meaningful way, are fundamental concerns. New access roads could impact*  
20       *moose and/or elk through habitat alteration, increased mortality, and increased*  
21       *sensory disturbance.*

22 **Information Request(s):**

23 • **Please provide information on the locations of new access roads**  
24 **associated with the Project and the amount of moose and elk habitat**  
25 **impacted by these roads. Please re-assess the impact of fragmentation**  
26 **on moose and elk considering this information.**

27 • **Please statistically test the relationship between moose density and**  
28 **access density (Map 6). If a significant relationship is found, re-assess**  
29 **the impact of additional linear access (both roads and rights-of-way)**  
30 **on moose populations considering this information.**

31 **Response:**

32 Access for construction (and subsequent line maintenance) activities will generally occur  
33 along the right-of-way using existing public access roads or trails wherever possible  
34 minimizing the requirement for the development of new access (Section 3.4.8.2 of the  
35 Bipole III EIS). It is expected that any new access will minimally impact high quality  
36 moose or elk habitat thus no further assessment is required.

37 The surveys conducted for moose are qualitative. The data collected do not lend  
38 themselves to statically test the relationship between moose density and access density.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report Chapter #: MTR - 3.3.1.1 &amp; 4.4.1 Pages #(s): MTR - 15, 45, Map 2.</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-201

1

2 **Question:**

3 **MMF IR # 15 High-quality Moose Habitat Aerial Surveys EIS Volume #: Mammals**  
 4 **Technical Report Chapter #: MTR - 3.3.1.1 & 4.4.1 Pages #(s): MTR - 15, 45,**  
 5 **Map 2. (2011), TLUKS– Map C**

6 *EIS Scoping Document Reference:*

7 3.2 Scope of Assessment and Factors: "The following factors will be considered in the  
 8 environmental assessment and addressed in the EIS: ...Current use of lands and  
 9 resources for traditional purposes by Aboriginal persons; Consideration of Aboriginal  
 10 Traditional and local knowledge;"... "Aboriginal Traditional Knowledge and local  
 11 knowledge will be considered and incorporated into each of the above topics to the  
 12 extent possible" 7.2 Environmental Assessment: "The objectives of the environmental  
 13 assessment for the Project include:...Integrating Aboriginal Traditional Knowledge  
 14 through-out the environmental assessment process from scoping to EIS preparation and  
 15 implementation, to the extent feasible;" 7.4.2.9 Mammals and Mammal Habitat: "The  
 16 EIS will provide available information on mammals and mammal habitat as it relates to  
 17 the Project including the following: Mammal species including populations, habitats and  
 18 seasonal use patterns; ...Known habitat and critical areas for woodland caribou and  
 19 moose including wintering and calving areas;"

20 **Rationale:**

21 According to the TLUKS (MMF 2011), there is an area of high intensity moose harvesting  
22 by Metis immediately south of Red Deer Lake (TLUKS, Map C Central). High-quality  
23 moose habitat aerial survey blocks did not include this area, and thus, the importance of  
24 the area south of Red Deer Lake for Metis moose harvest may not be adequately  
25 addressed with the limited moose baseline data collected by Manitoba Hydro. Adequate  
26 baseline data are required to improve our confidence in the predictions made by  
27 Manitoba Hydro. For the ongoing comparison with baseline data and for the detection of  
28 effects that were not predicted, the most fundamental necessity is that both the  
29 baseline and the future monitoring information must be quantifiable.

30 **Review Comments:**

31 The EIS Scoping Document Reference 7.4.2.9 requires that information on known  
32 moose habitat and critical areas for moose be provided, but we find that Manitoba  
33 Hydro has not presented sufficient information to support their conclusions regarding  
34 the location of moose habitat. Aerial surveys of high-quality moose habitat, as defined  
35 through a habitat modeling exercise, were completed to compare wintering moose  
36 populations on alternative routes. Section 3.4.3 of the MTR discusses how models were  
37 validated, but model validation results do not appear to be provided. If the model has  
38 not been properly validated, the location of aerial survey blocks for "*high-quality moose*  
39 *habitat*" may not be correct. In addition, calculations of moose habitat loss due to  
40 Project facilities used to determine Project impact on moose may not be correct and  
41 thus the baseline data may be a questionable foundation for future monitoring  
42 programs. The objective of these aerial surveys "*was to compare differences between*  
43 *alternative routes on wintering population of moose*" (MTR, p. 15). However, only a very  
44 small portion of a single 2010 survey block appears to overlap with the FPR (MTR, Map  
45 2). It is not clear how all alternative routes could have been compared with respect to  
46 moose if the FPR did not receive adequate survey coverage. The EIS Scoping Document  
47 References 3.2 and 7.2 require that the use of lands and resources for traditional  
48 purposes be considered in the environmental assessment and that Aboriginal Traditional  
49 Knowledge (ATK) be integrated throughout the document, respectively. Based on the

50 location of the 2010 high-quality moose habitat aerial survey blocks, the importance of  
51 the area south of Red Deer Lake for Metis moose harvest may not be adequately  
52 addressed with the limited moose baseline data collected by Manitoba Hydro. This area  
53 falls within GHA 13 for which no data from past aerial moose surveys by Manitoba  
54 Conservation were presented (Section 3.3.1.2).

55 **Information Request(s):**

56 • **Was the moose model validated? If so, please provide statistical results of**  
57 **moose habitat model validation. If not, please validate and, if necessary,**  
58 **adjust the moose habitat model and re-assess the impact of the Project on**  
59 **moose habitat.**

60 • **Provide a map of high-quality moose habitat aerial survey blocks in**  
61 **reference to all alternative routes (not just the FPR). Explain how the FPR**  
62 **was assessed in terms of wintering populations of moose given that such a**  
63 **small portion of the FPR fell within high-quality moose habitat aerial survey**  
64 **blocks.**

65 • **Considering the discrepancy in the location of high intensity moose hunting**  
66 **by Metis and the location of aerial surveys for moose, is the baseline data**  
67 **collected for moose considered adequate to address any Metis concerns about**  
68 **the impacts of alternative routes to moose populations? (i.e., are the moose**  
69 **data for the area south of Red Deer Lake sufficient to understand the impacts**  
70 **of the alternative routes on moose populations in a key area for Metis moose**  
71 **harvest?)**

72 **Response:**

73 The moose model was not statistically validated. Based on literature, professional  
74 judgment and field studies, the coarse scale LCCEB moose model (see the Bipole III  
75 Mammals Technical Report, Section 3.4.1) successfully identified areas of known high  
76 quality moose habitat in the province including Porcupine Hills, Duck Mountains and  
77 Riding Mountain and provides a fair representation of important moose habitat in the

78 Project Study Area. Refinement of the model based on validation would not result in  
79 changes to the assessment of impacts as the loss or change in moose habitat is small  
80 compared to available habitat in the Local Study Area. No further assessment is  
81 required. Also refer to *CEC/MH-VI-205* and *CEC/MH-VI-206*.

82 See attached map illustrating the quality moose habitat aerial survey blocks in reference  
83 to all alternative routes (See *CEC/MH-VI-201(2)*). The selection of the FPR which was  
84 based on avoidance of important wildlife areas and intact forest (core communities)  
85 included known high density moose areas (Duck Mountains and Porcupine Hills) and  
86 high quality habitat and where feasible routed in proximity to existing disturbance and  
87 linear development.

88 The baseline data for moose were considered adequate for assessing alternative routes  
89 in areas south of Red Deer Lake based on habitat modeling and review of past aerial  
90 surveys conducted by Manitoba Conservation and Water Stewardship. The importance  
91 of the Porcupine Hills and Duck Mountain areas were considered in the selection of the  
92 FPR which avoided these areas. Specific moose surveys would not have changed the  
93 evaluation of these areas as being important.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011), TLUKS Chapter #: MTR - 3.3.1.3, 5.1.4.2 Pages #(s): MTR - 16, Map 4, 76-77 TLUKS – Map C, Map E</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-202

1

2 **Question:**3 MMF IR # 16 *Multispecies Aerial Surveys and Manitoba Metis Large Mammal Harvest*4 **EIS Volume #: Mammals Technical Report (2011), TLUKS Chapter #: MTR -**5 **3.3.1.3, 5.1.4.2 Pages #(s): MTR - 16, Map 4, 76-77 TLUKS – Map C, Map E**6 *EIS Scoping Document Reference: 3.2 Scope of Assessment and Factors: " The following*7 *factors will be considered in the environmental assessment and addressed in the*8 *EIS:...Current use of lands and resources for traditional purposes by Aboriginal persons;*9 *Consideration of Aboriginal Traditional and local knowledge;" ... " Aboriginal Traditional*10 *Knowledge and local knowledge will be considered and incorporated into each of the*11 *above topics to the extent possible" 7.2 Environmental Assessment: " The objectives of*12 *the environmental assessment for the Project include:...Integrating Aboriginal Traditional*13 *Knowledge through-out the environmental assessment process from scoping to EIS*14 *preparation and implementation, to the extent feasible;" 7.4.2.9 Mammals and Mammal*15 *Habitat: " The EIS will provide available information on mammals and mammal habitat as*16 *it relates to the Project including the following: Mammal species including populations,*17 *habitats and seasonal use patterns; ...Known habitat and critical areas for woodland*18 *caribou and moose including wintering and calving areas;"*

19 **Rationale:**

20 According to the TLUKS (MMF 2011), there is an area of high intensity moose harvesting  
21 by Metis immediately south of Red Deer Lake (TLUKS, Map C Central) and elk harvesting  
22 by Metis in the Swan Lake area (TLUKS, Map E Central). Multispecies aerial survey  
23 blocks did not include these areas, and thus, the importance of the area south of Red  
24 Deer Lake for Metis moose harvest and the Swan Lake area for elk harvest may not be  
25 adequately addressed with the limited baseline data collected by Manitoba Hydro.  
26 Adequate baseline data are required to improve our confidence in the predictions made  
27 by Manitoba Hydro. For the ongoing comparison with baseline data and for the detection  
28 of effects that were not predicted, the most fundamental necessity is that both the  
29 baseline and the future monitoring information must be quantifiable.

30 **Review Comments:**

31 Aerial surveys were completed in 2010 and 2011 to provide estimates of Valued  
32 Environmental Component (VEC) winter distribution based on observations of animals  
33 and tracks. The selection of survey blocks appears to be driven by boreal woodland  
34 caribou ranges, though observations for caribou, moose, wolf, and wolverine were  
35 recorded. According to the TLUKS (MMF 2011), high intensity moose harvesting and elk  
36 harvesting by Manitoba Metis occurs south of the multispecies survey blocks shown in  
37 Map 4. The EIS Scoping Document References 3.2 and 7.2 require that the use of lands  
38 and resources for traditional purposes be considered in the environmental assessment  
39 and that ATK be integrated throughout the document, respectively. Given that the  
40 region south of Red Deer Lake is an important area for Metis moose harvest and areas  
41 west and south of Swan Lake are important for Metis elk harvest, it is not clear why  
42 multispecies aerial survey blocks were not completed for these regions.

43 Manitoba Hydro states that *"...aerial surveys conducted in the winters of 2010 and 2011*  
44 *in the northern portion of the Project Study Area indicate that the FPR route is favorable*  
45 *for existing moose populations."* (MTR, p. 76-77). Rationale is needed to support this  
46 statement. Map 4 shows that only a small portion of the FPR actually falls within the  
47 2010 and 2011 aerial survey blocks. It is not clear how conclusions about the

48 favourability of the FPR can be made using data from just a small portion of the entire  
49 proposed transmission line. The EIS Scoping Document Reference 7.4.2.9 requires that  
50 information on mammals and mammal habitat be provided, but it appears that Manitoba  
51 Hydro has not collected sufficient information to make conclusions about the  
52 favourability of the FPR.

53 **Information Request(s):**

- 54 • **Please explain why sample survey blocks were not stratified across the**  
55 **Project area if the data collected are to be used to evaluate multiple species.**  
56 **Please explain why aerial surveys (other than those completed directly along**  
57 **the FPR) were not completed south of Red Deer Lake and south and west of**  
58 **Swan Lake, areas used by Metis for large mammal harvest.**
- 59 • **Please explain why aerial survey blocks were not distributed along the**  
60 **entire FPR that falls within the moose and elk ranges in Manitoba.**
- 61 • **Provide further rationale for conclusions about the favorability of the FPR**  
62 **with respect to moose.**

63 **Response:**

64 Sample survey blocks were not stratified across the Project Study Area. Specific multi-  
65 species surveys were conducted in boreal woodland caribou ranges to assess moose and  
66 wolf distribution and overlap with core boreal woodland caribou winter use areas.  
67 Historical moose survey data from Manitoba Conservation and Water Stewardship were  
68 used for areas south of Red Deer Lake. Based on these data, the Duck and Porcupine  
69 Mountain areas have low population counts, with the last density in GHA 12 estimated at  
70 0.1 to 0.4 moose/km<sup>2</sup> (between 1991 and 2000).

71 The Bipole III Study Area is very large, and it was not feasible to sample everywhere. As  
72 described in the Section 3.3.1 (also see Maps 2, 4 & 5, of the Bipole III Mammals  
73 Technical Report), four areas were sampled in the high-quality moose habitat block  
74 surveys. The entire FPR was flown to provide complete coverage of potential moose and  
75 elk concentrations along the FPR for assessment and mitigation purposes. Aerial

76 surveys also detected a small number of elk along the FPR, which is located mainly  
77 outside their primary core ranges (see Map 23, Map 25 and Sections 4.4.2., Bipole III  
78 Mammals Technical Report).

79 The route selection criteria resulted in the selection of a FPR that minimized the  
80 potential effects of the Project to moose by avoiding alternative routes that traversed  
81 large core forest habitat and high quality moose habitat areas (e.g., Riding Mountain,  
82 Duck Mountain, and Porcupine Hills) and utilizes existing linear features where  
83 practicable.

<b>Date</b>	July 27 2012
<b>Reference</b>	<i>Potential Effect of ROW on Moose</i> <b>EIS Volume #: Mammals Technical Report (2011) Chapter #: 5.1.4.3 Pages #(s): 80</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-203

1

2 **Question:**

3 **MMF IR # 17** *Potential Effect of ROW on Moose* **EIS Volume #: Mammals**  
 4 **Technical Report (2011) Chapter #: 5.1.4.3 Pages #(s): 80**

5 *EIS Scoping Document Reference: 7.5 Environmental Effects Assessment:*  
 6 *"Environmental effects of the proposed Project components and activities on the existing*  
 7 *environment will be identified and described as changes to the environment caused by*  
 8 *the Project...Direct, indirect and cumulative environmental effects (adverse and*  
 9 *beneficial) will be identified and assessed."* 7.6 Mitigation Measures: *"Mitigation*  
 10 *measures will be identified and described to avoid or minimize adverse environmental*  
 11 *effects of the Project."*

12 **Rationale:**

13 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
 14 *deer and then elk"* (MMF 2011). Therefore, impacts on the availability and abundance of  
 15 moose, which the Manitoba Metis rely upon now and into the future to exercise their  
 16 rights and interests in a meaningful way, are fundamental *MMF IRs on Bipole III Project*  
 17 *Submitted July 18, 2012* Page 5 concerns. New ROWs could result in increased  
 18 fragmentation of moose habitat which may result in a decrease in the number of moose  
 19 in the area.

20 **Review Comments:**

21 The EIS Scoping Document Reference 7.5 requires that environmental effects of the  
22 proposed Project be identified and described, but it appears that Manitoba Hydro does  
23 not discuss the potential landscape level effects of moose habitat fragmentation.  
24 Manitoba Hydro acknowledges the potential for increased hunting and predation of  
25 moose on ROWs. An additional effect of ROWs on moose is increased fragmentation of  
26 moose habitat resulting in smaller patch sizes of moose habitat. There is a great deal of  
27 evidence from research in landscape ecology that fragmentation and isolation of habitat  
28 patches affects the ability of animals to use the patches (Collingham et al. 2000,  
29 Laurance et al. 2002). Research on moose in Alberta appears to support this evidence  
30 (Stewart and Komers 2012; Stewart et al. 2010). Moose are less likely to use small and  
31 isolated patches of habitat because it may not be worthwhile to reach them. Evidence of  
32 moose reducing their use of habitat patches in highly fragmented areas has been  
33 documented in the Foothills Natural Region of Alberta (Stewart and Komers 2012). The  
34 implication of these results is that the number of moose in an area declines faster than  
35 expected from the decline in habitat availability alone because moose are unlikely to use  
36 habitat patches that are small and isolated. Manitoba Hydro has also found that moose  
37 density appears to decrease with increasing number of existing access features (MTR,  
38 Map 6). These additional effects of ROWs on moose need to be considered in the impact  
39 assessment for moose. Mitigation measures need to be identified to minimize any  
40 adverse effects of habitat fragmentation due to the Project, as per EIS Scoping  
41 Document Reference 7.6.

42 **Information Request(s):**

- 43 • **Please explain how fragmentation effects were factored into the impact**  
44 **assessment for moose. If fragmentation effects have not been considered,**  
45 **please include an assessment with respect to moose.**
- 46 • **What mitigation measures, other than predator and access control, have**  
47 **been proposed to manage fragmentation effects on moose? If none have**  
48 **been provided, please do so.**

49 **Response:**

50 Fragmentation effects on moose were considered in the selection of the FPR. One of the  
51 main considerations was the avoidance of important wildlife areas and intact forest (core  
52 communities), which included known high density moose areas (Duck Mountains and  
53 Porcupine Hills) and high quality habitat. The route selection process resulted in the FPR  
54 being located away from these areas and in proximity to existing disturbance and linear  
55 development where feasible resulting in minimal habitat fragmentation for moose (See  
56 Section 7.3.2 of the Bipole III EIS).

57 Fragmentation was mitigated mainly through the route selection process as described  
58 above. The Bipole III ROW is not expected to have an effect on moose movement or  
59 habitat utilization on or near the ROW. General mitigation measures that address  
60 aspects of fragmentation are outlined in Section 8.2.6.4 of the Bipole III EIS. These  
61 include undertaking pre construction surveys and the development of site specific  
62 prescriptions such as the establishment of buffers (wildlife corridors), timing of  
63 construction, reducing public access and restricting hunting by project personnel. See  
64 *CEC/MH-III-044*.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011) Chapter #: 5.1.5.1 Pages #(s): 80</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-204

1

2 **Question:**

3 **MMF IR # 18 Potential Effect of ROW on Elk EIS Volume #: Mammals Technical**  
4 **Report (2011) Chapter #: 5.1.5.1 Pages #(s): 80**

5 *EIS Scoping Document Reference: 7.5 Environmental Effects Assessment:*  
6 *"Environmental effects of the proposed Project components and activities on the existing*  
7 *environment will be identified and described as changes to the environment caused by*  
8 *the Project.....Direct, indirect and cumulative environmental effects (adverse and*  
9 *beneficial) will be identified and assessed."*

10 **Rationale:**

11 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
12 *deer and then elk"* (MMF 2011). Therefore, impacts on the availability and abundance of  
13 elk, which the Manitoba Metis rely upon now and into the future to exercise their rights  
14 and interests in a meaningful way, are fundamental concerns. New ROWs could result in  
15 alterations to elk movement beyond the construction period due to increased hunting  
16 and predation on ROWs.

17 **Review Comments:**

18 The EIS Scoping Document Reference 7.5 requires that environmental effects of the  
19 proposed Project be identified and described, but it appears that Manitoba Hydro does  
20 not discuss the potential for longterm restricted use of ROW foraging habitat by elk.  
21 Manitoba Hydro discusses how elk tend to avoid linear features; however, Project effects

22 on elk movement would likely be short term (during construction) as browsing  
23 opportunities would be created by the ROW. Browsing opportunities may be provided by  
24 the ROW after construction, but elk use of these potential foraging habitats may be  
25 restricted due to the presence of predators and/or humans (Frair et al. 2005). Increased  
26 hunting and predation on the ROW, if not adequately controlled, could result in adverse  
27 effects on elk movement that extend beyond construction.

28 Manitoba Hydro also states that "*Generally the highest quality forage available for elk*  
29 *exists in old-growth forests, particularly during the summer (Happe et al., 1990)*" (MTR,  
30 p. 80). The full reference for "*Happe et al., 1990*" is not provided. Assuming this  
31 reference refers to the article titled "*Nutritional quality and tannin astringency of browse*  
32 *in clear-cuts and old-growth forests*", the conclusion regarding the favourability of old-  
33 growth forests for elk forage appears to be taken out of context as only clear-cut and  
34 old-growth habitat were compared in the article. Manitoba Hydro has not discussed or  
35 provided a reference for the relative quality of elk forage on ROWs. Potentially low  
36 forage quality, in combination with increased hunting and predation on the ROW, could  
37 result in adverse effects on elk.

#### 38 **Information Request(s):**

39 • **Please discuss if and how potential restrictions to elk use of the new ROW**  
40 **as foraging habitat were considered in the impact assessment.**

41 • **Please provide the full reference for "*Happe et al., 1990*".**

42 • **Please discuss and consider the expected quality of elk forage on the ROW**  
43 **in the assessment of Project effects on elk.**

#### 44 **Response:**

45 The potential restrictions to elk, including sensory disturbances and increased risk of  
46 mortality, using the ROW as foraging habitat are discussed in Section 5.1.5.1 of the  
47 Bipole III Mammal Technical Report.

48 Elk are considered mixed feeders, as they both browse and graze. They demonstrate a  
49 preference for more open habitats where they can graze/browse on grasses, sedges,  
50 shrubs, forbes and other vegetation (Hudson *et al.* 2002). The habitat along the ROW is  
51 expected to produce a range of low to high quality forage opportunities for elk after  
52 construction. Section 5.1.5 of the Bipole III Mammals Technical Report details regarding  
53 elk foraging opportunities resulting from the project.

54 **References:**

55 Happe, P.J., K.J. Jenkins, E.E. Starkey, and S.H. Sharrow. 1990. Nutritional Quality and  
56 Tannin Astringency of Browse in Clear-cuts and Old-Growth Forests. *Journal of*  
57 *Wildlife Management*. 54(4): 557-566.

58 Hudson, R.J., J.C. Haigh, and A.B. Bubenik, 2002. Physical and Physiological  
59 Adaptations. *North American Elk: ecology and management*. Eds. D.E. Towell  
60 and J.W. Thomas. Smithsonian Institute Press. Washington, DC, USA. pp. 199-  
61 257.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: 8 Chapter #: 8.1 Pages #(s): 8-3</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-205

1

2 **Question:**

3 **MMF IR # 19 Potential Effects of all Project Facilities on Moose and Elk EIS Volume**  
 4 **#: 8 Chapter #: 8.1 Pages #(s): 8-3**

5 *EIS Scoping Document Reference:*

6 7.5 Environmental Effects Assessment: *"Environmental effects of the proposed Project*  
 7 *components and activities on the existing environment will be identified and described*  
 8 *as changes to the environment caused by the Project....Environmental effects will be*  
 9 *expressed in quantitative terms using environmental indicators and measurable*  
 10 *parameters/variables to the extent possible... Environmental effects will be identified and*  
 11 *assessed for each phase of the project (site preparation, construction, operation and*  
 12 *maintenance, decommissioning) and for each major project component (physical,*  
 13 *aquatic, terrestrial, socio-economic), and will incorporate available scientific, Aboriginal*  
 14 *Traditional Knowledge and local knowledge. 8.0 Cumulative Effects Assessment: "The*  
 15 *cumulative effects assessment will consider the potential for the environmental effects*  
 16 *of the proposed Project to act in combination with the effects of other past, present*  
 17 *and/or reasonably foreseeable future projects in the defined regional or cumulative*  
 18 *effects assessment area."*

19 **Rationale:** *"Moose is the most sought after species of large animals by Interviewees,*  
 20 *followed by deer and then elk" (MMF 2011). Therefore, impacts on the availability and*  
 21 *abundance of moose and elk, which the Manitoba Metis rely upon now and into the*  
 22 *future to exercise their rights and interests in a meaningful way, are fundamental*  
 23 *concerns. An assessment of the full scope of Project effects on elk and moose is needed*

24 for the MMF to have a complete understanding of how the Project may impact their  
25 traditional resources.

26 **Review Comments:**

27 EIS Scoping Document Reference 7.5 does not indicate that the effects assessment is to  
28 be broken down by Project component. However, within the EIS, "*Biophysical effects are*  
29 *examined separately for linear project components (HVdc line and ac collector lines), the*  
30 *Keewatinoow Station and Area (and related construction camp, borrow pits, and other*  
31 *elements), the Riel Station and Area, and the Ground Electrodes and Lines."* (Volume 8,  
32 Section 8.1, p. 8-3). By breaking down the assessment of the biophysical effects of the  
33 Project into multiple components, it is difficult to see and understand the full scope of  
34 Project effects on elk and moose. A quantitative assessment, as indicated by EIS  
35 Scoping Document Reference 7.5, of the environmental effects of all Project components  
36 and activities combined on elk and moose should be completed. This information would  
37 also strengthen the cumulative effects assessment which considers the overall effects of  
38 the Project in combination with other projects in the Project Study Area.

39 **Information Request(s):**

40 • **For transparency, please provide a summary of the total amount and**  
41 **percent of elk and moose habitat to be removed by the Project (including all**  
42 **Project facilities) in the Local Study Area (LSA). This can then be used to**  
43 **calculate the area and percent losses of elk and moose habitat in the Project**  
44 **Study Area (general regional study area) for use in the cumulative effects**  
45 **assessment.**

46 **Response:**

47 This information is provided in Sections 5.1.4 and Table 35 (moose) and Section 5.1.5 in  
48 Table 37 (elk) of the Bipole III Mammal Technical Report. The measured effects are less  
49 than 1% for moose and 1.4% for elk for the Local Study Area and would be  
50 considerably less for the Project Study Area. Further calculations will not change the  
51 effects assessment.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011)</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-206

1

2 **Question:**

3 **MMF IR # 20 Functional Habitat Loss EIS Volume #: Mammals Technical Report**  
 4 **(2011) Chapter #: 5.5.1 Pages #(s): 90**

5 *EIS Scoping Document Reference: 7.5 Environmental Effects Assessment:*

6 *"Environmental effects of the proposed Project components and activities on the existing*  
 7 *environment will be identified and described as changes to the environment caused by*  
 8 *the Project....Environmental effects will be expressed in quantitative terms using*  
 9 *environmental indicators and measurable parameters/variables to the extent possible."*

10 **Rationale:**

11 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
 12 *deer and then elk" (MMF 2011). Therefore, impacts on the availability and abundance of*  
 13 *moose and elk, which the Manitoba Metis rely upon now and into the future to exercise*  
 14 *their rights and interests in a meaningful way, are fundamental concerns.*

15 Baseline data are used to inform the impact assessment and the impact assessment  
 16 must assess all potential impacts. Confidence in the impact assessment is reliant on  
 17 whether or not baseline data adequately support impact predictions. Additional  
 18 information is needed on how Manitoba Hydro reached conclusions about the impact of  
 19 the Project on moose and elk functional habitat to improve confidence in the impact  
 20 assessment. Additional calculations may be required to ensure that functional habitat  
 21 loss is properly considered in the impact assessment.

22 **Review Comments:**

23 The EIS Scoping Document Reference 7.5 requires that environmental effects of the  
24 proposed Project be identified and described, quantitatively to the extent possible, but it  
25 does not appear that Manitoba Hydro has quantitatively evaluated functional habitat loss  
26 for moose and elk. The summary of effects for all species concludes that moose and elk  
27 will likely shift to other areas (i.e., away from the ROW) of their home ranges in  
28 response to habitat removal (MTR, p. 90). There is further discussion that sensory  
29 disturbance will result in short-term avoidance of active Project Study Areas. It is not  
30 clear how or if loss of functional habitat was quantified for the impact assessment on  
31 moose and elk. It does not appear that any zones of influence (area adjacent to  
32 disturbance that is avoided by animals) were considered in the assessment.

33 Many peer-reviewed studies exist that document the negative effects of human caused  
34 landscape changes, such as roads and right-of-ways, on moose populations including  
35 Laurian et al. (2008), Kunkel and Pletscher (2000), Maier et al. (2005), Snaith et al.  
36 (2002), James and Stuart-Smith (2000), Gurarie et al. (2011). Likewise, studies on elk  
37 have demonstrated similar negative effects of landscape changes, including Frair et al.  
38 (2005), Frair et al. (2008), Rowland et al. (2000), and Buckmaster et al. (1999). These  
39 aspects of moose and elk habitat use may be an important consideration when  
40 evaluating functional habitat loss and considering a zone of influence for Project  
41 impacts.

42 **Information Request(s):**

- 43 • **Please include a quantitative assessment of habitat loss that includes**
- 44 **reduced habitat effectiveness (functional habitat loss) for both moose and**
- 45 **elk.**
  
- 46 • **Please consider the use of zones of influence in the development of the**
- 47 **moose and elk habitat models.**

48 **Response:**

49 After construction, functional loss (sensory disturbance) of habitat is not expected as  
50 moose and elk will utilize edge and early seral habitat created in the ROW therefore a  
51 revised quantitative assessment is not required. Please see Tables 35 and 37 of the  
52 Bipole III Mammals Technical Report, Sections 5.1.4 and 5.1.5.

53 Habitat evaluation using the moose and elk habitat models was conducted for the Local  
54 Study Area (3 mile corridor), which would account for a "zone of influence" relative to  
55 the actual project footprint. Moose and elk models are described in Section 5.1.4.2 and  
56 5.1.5.2 respectively of the Bipole III Mammals Technical Report. The amount of habitat  
57 contained in the Local Study Area is less than one tenth of 1 % of that in the Project  
58 Study Area.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011) Chapter #: 5.5.1.1 Pages #(s): 91, 96</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-207

1

2 **Question:**

3 **MMF IR # 21 Mitigation of ROW Impacts - Hunting EIS Volume #: Mammals**  
 4 **Technical Report (2011) Chapter #: 5.5.1.1 Pages #(s): 91, 96**

5 *EIS Scoping Document Reference:*

6 7.6 Mitigation Measures: *"Mitigation measures will be identified and described to avoid*  
 7 *or minimize adverse environmental effects of the Project."* 10.0 Monitoring and Follow-  
 8 Up Program: *"Monitoring and follow-up involves verifying the accuracy of the*  
 9 *environmental assessment and determining the effectiveness of measures implemented*  
 10 *to mitigate adverse environmental effects. EIS will outline mitigation measures, and*  
 11 *monitoring and follow-up requirements to be implemented through a monitoring and*  
 12 *follow-up program that will extend through the site preparation, construction, operation*  
 13 *and maintenance, and decommissioning phases of the proposed Project."*

14 **Rationale:**

15 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
 16 *deer and then elk"* (MMF 2011). Therefore, impacts on the availability and abundance of  
 17 moose and elk, which the Manitoba Metis rely upon now and into the future to exercise  
 18 their rights and interests in a meaningful way, are fundamental concerns.

19 In an attempt to improve our confidence in the predictions made, we need a better  
 20 understanding of the mitigation measures proposed and the effectiveness of those  
 21 mitigation measures. It is essential that the agency or agencies identified as being

22 responsible for the implementation and enforcement of successful mitigation provide a  
23 clear commitment to do so. Agencies responsible for the testing of mitigation  
24 effectiveness and the implementation, monitoring, evaluation, and adjustment of follow-  
25 up programs need to be clearly identified.

26 **Review Comments:**

27 Mitigation measures need to be identified to minimize any adverse effects of the Project  
28 (EIS Scoping Document Reference 7.6) and the effectiveness of mitigation measures  
29 needs to be verified (EIS Scoping Document Reference 10.0). In response to improved  
30 hunter access to moose and elk due to the proposed transmission line ROW and  
31 associated access roads, Manitoba Hydro states that "*Provincial harvest management*  
32 *strategies are expected to be an important tool in ensuring stable game species*  
33 *populations.*" (MTR, p. 91 and 96). The accuracy of predictions of residual Project  
34 effects is dependent on successful mitigation measures. Therefore, it is necessary to  
35 have a clear understanding of what mitigation measures are proposed, confidence that  
36 mitigation measures will be successfully implemented, and verification of mitigation  
37 measure success.

38 **Information Request(s):**

- 39 • **Please elaborate on what "*harvest management strategies*" are specifically**  
40 **being referred to in this statement.**
- 41 • **Please verify that provincial agencies are aware that they are partially**  
42 **responsible for managing the impacts of the Manitoba Hydro ROW and access**  
43 **roads on moose and elk populations.**
- 44 • **Please indicate how the success of mitigation be gauged and what agencies**  
45 **are involved in determining mitigation success.**
- 46 • **In GHA's that are still open for moose hunting, what are the restrictions on**  
47 **the number of moose harvested?**

48 **Response:**

49 Manitoba Conservation and Water Stewardship (MCWS) is the resource manager for  
50 wildlife and is responsible for developing harvest management strategies for moose,  
51 deer and elk. Manitoba Hydro is currently discussing mitigation and monitoring  
52 strategies with MCWS and will participate in any future stakeholder meetings as and  
53 when requested. As such MCWS is well aware of the Bipole III Transmission Project and  
54 continues to provide input on mitigation and monitoring.

55 Manitoba Hydro's Draft Environmental Protection Program provides the framework for  
56 implementing, managing, monitoring and evaluating wildlife mitigation measures  
57 consistent with regulatory requirements, corporate commitments, best practices and  
58 public expectations. The Draft Environmental Protection Plan will be updated based on  
59 the results of ongoing consultations with regulators and stakeholders and finalized in  
60 accordance with the *Environment Act* Licence for the project. Annual monitoring reports  
61 will provide a summary of:

- 62 ○ Potential effects as outlined in the EIS
- 63 ○ Mitigation activities associated with these effects
- 64 ○ Monitoring activities conducted to assess the potential effects
- 65 ○ Results of monitoring and success of mitigation
- 66 ○ Recommendations for adaptive management if required
- 67 ○ Summaries and conclusions

68 These reports are generally required as part of the licensing process and will be  
69 provided to Manitoba Conservation and Water Stewardship.

70 In regards to moose harvest, Manitoba Conservation and Water Stewardship is the  
71 responsible authority for the management of moose hunting. Information on allowable  
72 bag limits is available in the annual hunting guide and website or through contacting  
73 Manitoba Conservation and Water Stewardship.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Volume #: 11, Attachment 11-1 – Draft Environmental Protection Plan (Envpp) Chapter #: 3.5.1, 3.5.8, 3.6.9, 3.7.4, 5.4.9, Appendix E, Appendix F Pages #(s): Tables 12, 19, 30, 34
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-208

1

2 **Question:**

3 EIS Scoping Document Reference:

4 7.6 Mitigation Measures: *"Mitigation measures will be identified and described to avoid*  
 5 *or minimize adverse environmental effects of the Project."* 10.0 Monitoring and Follow-  
 6 Up Program: *"Monitoring and follow-up involves verifying the accuracy of the*  
 7 *environmental assessment and determining the effectiveness of measures implemented*  
 8 *to mitigate adverse environmental effects. EIS will outline mitigation measures, and*  
 9 *monitoring and follow-up requirements to be implemented through a monitoring and*  
 10 *follow-up program that will extend through the site preparation, construction, operation*  
 11 *and maintenance, and decommissioning phases of the proposed Project."*

12 **Rationale:**

13 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
 14 *deer and then elk"* (MMF 2011). Therefore, impacts on the availability and abundance of  
 15 moose and elk, which the Manitoba Metis rely upon now and into the future to exercise  
 16 their rights and interests in a meaningful way, are fundamental concerns.

17 In an attempt to improve our confidence in the predictions made, we need a better  
 18 understanding of the mitigation measures proposed and the effectiveness of those  
 19 mitigation measures. Mitigation measures must also be thorough to ensure that all  
 20 adverse effects of the Project are managed effectively.

21 **Review Comments:**

22 Mitigation measures need to be identified to minimize any adverse effects of the Project  
23 (EIS Scoping Document Reference 7.6) and the effectiveness of mitigation measures  
24 needs to be verified (EIS Scoping Document Reference 10.0). The following highlights  
25 selected environmental protection measures listed by Manitoba Hydro in the Draft  
26 Environmental Protection Plan (EnvPP) and identifies aspects that require clarification:

27 PC-1.2, Table 12, Envpp: "*Public use of access roads and trails during construction will*  
28 *be controlled through the Access Management Plan.*"

29 PC-1.19, Table 12, Envpp: "*Access roads and trails required for future monitoring,*  
30 *inspection or maintenance will be maintained in accordance with the Access*  
31 *Management Plan.*"

32 • The Access Management Plan has not yet been prepared for the Project.  
33 Therefore, details of how public access to roads and trails will be managed and how  
34 access roads and trails will be maintained are, as yet, unavailable. Without knowledge of  
35 how access management is intended to work, it is not possible to form an opinion of  
36 how effective the management might be. Given that the ROW has the potential to serve  
37 as habitat for VECs such as moose, elk and deer if left undisturbed, deterring human  
38 access is critical to mitigating the effects of this Project on habitat loss, fragmentation  
39 and mortality.

40 PC-1.21, Table 12, Envpp: "*Vegetation control along access roads and trails will be in*  
41 *accordance with contract specifications and Manitoba Hydro guidelines (Appendix E).*"

42 • Appendix E states: "*Transmission Line and Transmission Station Vegetation*  
43 *Management Strategies (Manitoba Hydro (2006) provide background information and a*  
44 *general understanding of Manitoba Hydro's transmission line system vegetation*  
45 *management practices. The report provides information on responsibilities and the*  
46 *methods used to control tree growth on transmission line rights of way.*" Without  
47 knowledge of vegetation control measures specific to the Bipole III Project, it is not  
48 possible to form an opinion of how effective the management might be.

49 PC-8.10, Table 19, Envpp: "*Vegetation control along rights-of-way during construction*  
50 *will be in accordance with the Vegetation Management Plan.*"

51 • The Vegetation Management Plan has not yet been prepared for the Project. It  
52 is expected to be completed and implemented prior to the commencement of the  
53 construction phase for the Project (Envpp, Section 5.4.9). Without knowledge of  
54 vegetation management specific to the Bipole III Project, it is not possible to form an  
55 opinion of how effective the management might be.

56 EC-9.4, Table 30, Envpp: "*Clearing will occur during late fall and winter to the extent*  
57 *possible to avoid the spring/summer nesting season for birds and parturition times for*  
58 *mammal species and breeding windows for frog species.*"

59 EC-9.7, Table 30, Envpp: "*Construction activities will not be carried out during*  
60 *prescribed timing windows for wildlife species (Appendix F).*"

61 • Late fall and winter are critical times of year for ungulates as they enter a  
62 negative energy balance due to reduced food quality and food access in combination  
63 with harsher environmental conditions (Tighem 2001). Construction activities should be  
64 avoided during this time period, particularly in critical winter ranges for moose and elk.  
65 Critical winter ranges for moose and elk in western Manitoba should be identified.

66 • Within Appendix F, Manitoba Hydro states that "*Table 1 outlines draft wildlife*  
67 *reduced risk work windows applicable to the Project.*" Table 1 is not included in  
68 Appendix F. Without knowledge of the wildlife reduced risk work windows specific to the  
69 Bipole III Project, it is not possible to form an opinion of how effective the management  
70 might be.

71 EI-4.23, Table 34, Envpp: "*Pesticide storage will be in accordance with provincial*  
72 *legislation (Appendix C) and Manitoba Hydro guidelines (Appendix E).*"

73 • The time, location, and requirement for the expected use of pesticides does not  
74 appear to be indicated in the Envpp. Without knowledge of the details of pesticide use  
75 specific to the Bipole III Project, it is not possible to form an opinion of how effective the  
76 management might be.

77 **Information Request(s):**

78 • **Please describe how access will be managed and how linear features will be**  
79 **maintained. How will Manitoba Hydro ensure that human access to the ROW**  
80 **is minimal during the operational stages of the Project? What enforcement**  
81 **and physical measures can be placed to achieve compliance?**

82 The Operations and Maintenance Access Management Plan (O&MAMP) will be  
83 implemented once the Bipole III Transmission Project has been constructed and  
84 commissioned, and remain in effect for the life of the Project. Based on Manitoba  
85 Hydro's experience with existing transmission line ROWs, it is anticipated that traffic  
86 volumes on most portions of the Bipole III ROWs will be low and largely seasonal  
87 (winter) during the operations and maintenance phases of the Project. New access onto  
88 and along the ROWs is limited to seasonal trails.

89 Natural terrain conditions, remoteness and private property restrictions are expected to  
90 limit traffic on the Bipole III Transmission Project ROW at all times of the year but, in  
91 particular, during the non-frozen ground period. Opportunities will increase during the  
92 frozen ground period and although anticipated traffic levels are expected to be low, the  
93 following strategies have been identified and are currently being developed for inclusion  
94 in the Access Management Plan to minimize potential access opportunities to the ROW  
95 and to address issues of safety and system reliability:

- 96 • Education and communication (e.g., public, stakeholders, between maintenance  
97 crews and resource users, etc.);
- 98 • Vegetation management plan (strategies to promote desirable species on the  
99 ROW that create beneficial habitat and limit line of sight);
- 100 • Timing windows and logistic for operations and maintenance activities  
101 particularly in environmentally sensitive sites;
- 102 • The continued maintenance and management of identified environmentally  
103 sensitive sites;
- 104 • Maintenance of riparian buffers and wildlife corridors established during the  
105 construction phase;

- 106 • Case by case assessment and evaluation, in conjunction with Manitoba  
107 Conservation and Water Stewardship, of applications for ROW use for industrial  
108 and recreational purposes;
- 109 • In specific environmentally sensitive sites limit activities as much as possible to  
110 air access (e.g., caribou ranges);
- 111 • Access will be restricted to all site components (e.g., Keewatinoow Converter  
112 Station, camps, etc.)
- 113 • Signage (e.g., safety, respect, responsible use, use at own risk);
- 114 • Decommissioning of access by way of slash spreading, trenching, cross ditching  
115 or berming;
- 116 • Manitoba Conservation and Water Stewardship is responsible for managing  
117 wildlife resources within the province. Where required, the Minister can impose  
118 wildlife harvest limitations and travel restrictions.

119 • **Given the remoteness of some areas of the ROW, how will access**  
120 **management plans be prioritized with respect to distance to human**  
121 **communities, proximity to adjacent and intersecting roads, and habitat**  
122 **quality of VECs?**

123 Aside from the standard access management strategies that will be identified in the AMP  
124 and those identified above, focus is placed on specific environmentally sensitive sites as  
125 identified through the SSEA studies (e.g. caribou ranges, moose hunting closure areas)  
126 some of which may change over time. Where specific values exist or evolve over time  
127 and access becomes an issue, then Manitoba Hydro will work with Manitoba  
128 Conservation and Water Stewardship to address those issues.

129 • **Please describe expected vegetation control measures specific to the Bipole**  
130 **III Project.**

131 Manitoba Hydro utilizes an integrated approach to vegetation management and utilizes  
132 both mechanical and herbicide vegetation control methods. These methods may  
133 include; shear blading, mowing, hand cutting, feller bunchers, and selective herbicide  
134 application using ground or aerial equipment,

- 135 • **Please describe the potentially negative impact on wildlife health from the**  
136 **use of herbicides for vegetation control.**

137 Negative impacts on wildlife health are not expected from the limited application of  
138 herbicides used for vegetation control during the Bipole III operational period. All  
139 herbicides that are employed by Manitoba Hydro are done so in accordance with their  
140 recommended and Provincially permitted rates and under normal circumstances. See  
141 *CEC/MH-II-022b*.

- 142 • **Please identify areas along the FPR that are potentially critical winter range**  
143 **for elk and moose.**

144 High quality habitat was identified and discussed for moose and elk ranges in the Bipole  
145 III Study Area (see Mammals Technical Report, Maps 10 & 11, and Bipole III EIS,  
146 Chapter 6, Sections 6.2.6.5 and 8.2.6.4). Moose and elk are both common species in the  
147 Study Area, and since habitat availability does not appear to be a limiting factor, none of  
148 the moose or elk habitat was determined to be critical.

149 If areas are deemed “potentially critical winter ranges for elk and moose”, they will be  
150 discussed with Manitoba Conservation and Water Stewardship and if required, identified  
151 and addressed in the Environmental Protection Plan. Game Hunting Areas with moose  
152 hunting closures will be included in these discussions (see *CEC-MH-III-050*).

- 153 • **Please provide the wildlife reduced risk work windows for review (Table 1,**  
154 **Appendix F, Envpp).**

155 The table noted above was inadvertently not included in the EnvPP. The table has been  
156 attached as file *CEC/MH-VI-208(2)*.

- 157 • **Please describe when and where pesticide use is expected in association**  
158 **with the Project.**

159 Both the construction and operation phase EnvPPs will include a vegetation  
160 management plan that outlines pesticide use. Pesticide use may occur when the need to  
161 mitigate the establishment of invasive plants is required. Borrow sites may require

162 treatment to remove noxious weeds and/or invasive plants as part of the vegetation  
163 management program for the operation of the project.

164 • **Please describe the potentially negative impact on wildlife health from**  
165 **pesticide use.**

166 Negative impacts on wildlife health are not expected from the limited application of  
167 pesticides used during the Bipole III operational period. All pesticides that are employed  
168 by Manitoba Hydro are done so in accordance with their recommended and Provincially  
169 permitted rates and under normal circumstances.

170

171 • **Provide details as to how the effectiveness of proposed mitigation**  
172 **measures will be measured.**

173 Manitoba Hydro's Draft Environmental Protection Program provides the framework for  
174 implementing, managing, monitoring and evaluating wildlife mitigation measures  
175 consistent with regulatory requirements, corporate commitments, best practices and  
176 public expectations. The Draft Environmental Protection Plan will be updated based on  
177 the results of ongoing discussions with regulators and stakeholders and finalized in  
178 accordance with the *Environment Act* Licence for the project. Annual reports will provide  
179 a summary of wildlife monitoring activities related to wildlife mitigation measures and  
180 recommendations for further monitoring if required. These reports will be provided to  
181 Manitoba Conservation and Water Stewardship and will be available to the public.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011) Chapter #: 5.5.7 Pages #(s): 96</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-209

1

2 **Question:**

3 *EIS Scoping Document Reference:*

4 3.1 Scope of Project: " *The EIS will describe the Project, augmented by appropriate*  
 5 *figures, diagrams, drawings, maps, air photos and/or orthophotos, and, to the extent*  
 6 *possible and practical, will include the following:.... Concepts for decommissioning*  
 7 *project components." 7.3.5 Decommissioning: "It [the EIS] will also provide a general*  
 8 *concept plan for decommissioning the transmission lines and other project components*  
 9 *at the end of their operational life including site restoration and remediation."*

10 **Rationale:**

11 Safe-guarding Manitoba Metis rights and interests is a fundamental concern. To  
 12 understand whether Metis rights and interests will be protected, the capacity and  
 13 accessibility of traditional resources to meet the needs of current and future generations  
 14 should be determined. Manitoba Hydro has not provided an assessment of  
 15 decommissioning plans due to the long (>50 year) anticipated operating life of the  
 16 Project (Volume 4, Section 4.2.2). With no goals provided for the future, it is not clear if  
 17 or how the Project footprint will be rehabilitated post-operations such that a similar level  
 18 of accessibility to traditional resources as today exists in the future for Manitoba Metis.

19 **Review Comments:**

20 EIS Scoping Document References 3.1 and 7.3.5 require that the EIS describe concepts  
 21 for decommissioning Project components, but additional detail is required to understand

22 Manitoba Hydro's vision for decommissioning. Manitoba Hydro anticipates that "...all  
23 *components of the proposed Project are fully reversible*" (MTR, p. 96) and that  
24 *"...biophysical disruption resulting from the Project should be outweighed by ongoing*  
25 *naturally occurring variation (e.g. succession, wildfire)".* It is not clear what Manitoba  
26 Hydro is suggesting with this statement. Are Project impacts fully reversible or just the  
27 presence of infrastructure and facilities? Are natural processes expected to have a  
28 greater impact on the biophysical environment than the Project itself? Whatever the  
29 intentions of this statement, there are no supporting references to corroborate Manitoba  
30 Hydro's expectations.

31 **Information Request(s):**

32 **Please elaborate on what Manitoba Hydro expects for decommissioning using**  
33 **peer-reviewed literature to support the argument.**

34 Chapter 3 of the Bipole III EIS (i.e., Project Description) provides the concept for  
35 transmission line decommissioning (Section 3.4.10), decommissioning the Keewatinooow  
36 Converter Station (Section 3.5.6) and decommissioning the Riel Converter Station  
37 (Section 3.6.6). Furthermore, as alluded to in Chapter 11 under section 11.2.6, a  
38 detailed Decommissioning Phase Environmental Protection Plan would be prepared prior  
39 to the eventual decommissioning of the Project that would incorporate best practices  
40 and meet regulatory and legislative requirements.

41

42 Regarding decommissioning transmission lines and all facilities, the goal of Manitoba  
43 Hydro is to rehabilitate the landscape to its natural state, which would accommodate  
44 various land use activities similar to what occurs on the landscape today. Current  
45 methods of transmission line decommissioning entail the dismantling of structures and  
46 salvage or disposal of all steel structure components, as well as removal and salvage of  
47 insulators, conductors and ground wires. Decommissioning rights-of-way currently  
48 involves clean-up and/or remediation to a standard commensurate with local  
49 environmental conditions, including the existing land use and policy with respect to  
50 future development. Decommissioning of marshalling yards currently involves the

- 51 removal of all new and used equipment and materials, dismantling of any ancillary
- 52 equipment or structures, and the remediation of the yard property.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011), 4 Chapter #: MTR - 6.1 V4 - 4.2.10 Pages #(s): MTR - 105, Table 43 V4 - 4-32</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-210

1

2 **Question:**

3 **MMF IR # 24** *Moose and Elk Populations – Natural Range of Variability* **EIS Volume**  
4 **#: Mammals Technical Report (2011), 4 Chapter #: MTR - 6.1 V4 - 4.2.10**  
5 **Pages #(s): MTR - 105, Table 43 V4 - 4-32**

6 *EIS Scoping Document Reference:*

7 3.2 Scope of Assessment and Factors: " *The following factors will be considered in the*  
8 *environmental assessment and addressed in the EIS:...Significance of the residual*  
9 *environmental effects;" 7.2 Environmental Assessment: " *The objectives of the*  
10 *environmental assessment for the Project include:...Providing sufficient information*  
11 *about the existing environment so environmental effects can be identified and mitigated,*  
12 *and follow-up requirements can be defined;" 7.4.2.9 Mammals and Mammal Habitat:*  
13 *" The EIS will provide sufficient level of detail in order to predict, avoid and/or minimize*  
14 *any potential adverse effects on mammals, mammal populations and mammal habitats."**

15 **Rationale:**

16 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
17 *deer and then elk" (MMF 2011). Therefore, impacts on the availability and abundance of*  
18 *moose and elk, which the Manitoba Metis rely upon now and into the future to exercise*  
19 *their rights and interests in a meaningful way, are fundamental concerns. Manitoba*  
20 *Hydro has predicted that moose and elk populations will be maintained within their*

21 natural ranges of variability once the Project commences. Any claim of no adverse  
22 effects on moose and elk must be tested in the future. For that reason, data sufficient to  
23 produce testable predictions must be produced prior to Project implementation, so that  
24 monitoring results depicting future conditions can be compared to baseline conditions.

25 **Review Comments:**

26 EIS Scoping Document References 7.2 and 7.4.2.9 require that sufficient information  
27 about the existing environment be provided so that environmental effects can be  
28 identified and mitigated; However, Manitoba Hydro has not provided the information  
29 that, according to their definitions, would be used to determine significance of residual  
30 effects (as required by EIS Scoping Document Reference 3.2). Table 43 of the MTR lists  
31 the residual environmental effects for moose and elk as "*populations maintained with*  
32 *the natural range of variability*" (MTR, p.105). This implies that the natural ranges of  
33 variability in Manitoba moose and elk populations are known. The natural ranges of  
34 variability for moose and elk are needed to verify impact predictions after the Project  
35 commences. This information is also needed to accurately determine "*Magnitude*" of an  
36 effect (which is, in turn, necessary to determine significance of an effect). The definition  
37 for Magnitude (Volume 4, Section 4.2.10, p. 4-32) requires a comparison of effects to  
38 "*established thresholds of acceptable change*". The current presentation of data for  
39 moose and elk does not clearly indicate the natural range of variability or any thresholds  
40 for Manitoba moose and elk populations.

41 **Information Request(s):**

- 42 • **Please present data outlining the natural range of variability and thresholds**  
43 **in moose and elk populations (i.e., please provide upper and lower targets in**  
44 **moose and elk populations, beyond which adaptive management action**  
45 **would need to be implemented).**

46 **Response:**

47 Neither Manitoba Hydro nor Manitoba Conservation and Water Stewardship (MCWS)  
48 have sufficient data to outline the natural range of variability and sustainability

49 thresholds for moose and elk populations province-wide. Manitoba Hydro's statement in  
50 the summary of residual effects on the natural range of variability is meant to indicate  
51 that moose and elk populations will continue to increase or decline (or fluctuate through  
52 time) as a result of natural processes, habitat succession, habitat alteration as well as  
53 from hunting and predation. The Bipole III Transmission Project will not significantly  
54 contribute to the increase or decline of these populations.

55 Manitoba Conservation and Water Stewardship is the agency responsible for establishing  
56 thresholds for area closures to moose, elk and deer. Currently MCWS is in the process of  
57 developing moose management plans and hunting strategies, including working with  
58 stakeholders in setting harvest and population targets. Manitoba Hydro also continues to  
59 work MCWS on site specific mitigation where required including access management and  
60 wildlife prescriptions during construction and operation.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011), 4, 8 Chapter #: MTR - 7.4 V4 - 4.2.10 V8 - 8.2.6.4 Pages #(s): MTR - 110-111 V4 – 4-32, 4-36, Figure 4.2-2 V8 - 8-103 to 8-104</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-211

1

2 **Question:**

3 **MMF IR # 25 Determining Residual Environmental Effect - Moose EIS Volume #:**  
 4 **Mammals Technical Report (2011), 4, 8 Chapter #: MTR - 7.4 V4 - 4.2.10 V8 -**  
 5 **8.2.6.4 Pages #(s): MTR - 110-111 V4 – 4-32, 4-36, Figure 4.2-2 V8 - 8-103 to**  
 6 **8-104**

7 *EIS Scoping Document Reference:*

8 3.2 Scope of Assessment and Factors: *"The following factors will be considered in the*  
 9 *environmental assessment and addressed in the EIS:...Significance of the residual*  
 10 *environmental effects;" 7.2 Environmental Assessment: "The objectives of the*  
 11 *environmental assessment for the Project include:...Providing sufficient information*  
 12 *about the existing environment so environmental effects can be identified and mitigated,*  
 13 *and follow-up requirements can be defined;" 7.4.2.9 Mammals and Mammal Habitat:*  
 14 *"The EIS will provide sufficient level of detail in order to predict, avoid and/or minimize*  
 15 *any potential adverse effects on mammals, mammal populations and mammal habitats."*

16 **Rationale:**

17 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
 18 *deer and then elk" (MMF 2011). Therefore, impacts on the availability and abundance of*

19 moose, which the Manitoba Metis rely upon now and into the future to exercise their  
20 rights and interests in a meaningful way, are fundamental concerns.

21 Manitoba Hydro has predicted that the Project will not have a significant effect on  
22 moose populations. Confidence in the impact assessment is reliant on whether or not  
23 baseline data adequately support impact predictions. To improve confidence in the  
24 impact assessment, additional rationale is needed in support of Manitoba Hydro's  
25 conclusion of no significant impact of the Project on moose populations. Furthermore,  
26 any claim of no adverse effects on moose must be tested in the future. For that reason,  
27 data sufficient to produce testable predictions must be produced prior to Project  
28 implementation, so that monitoring results depicting future conditions can be compared  
29 to baseline conditions.

30 **Review Comments:**

31 EIS Scoping Document References 7.2 and 7.4.2.9 require that sufficient information  
32 about the existing environment be provided so that environmental effects can be  
33 identified and mitigated. However, Manitoba Hydro has not provided the information  
34 that, according to their definitions, would be used to determine significance of residual  
35 effects (as required by EIS Scoping Document Reference 3.2).

36 Manitoba Hydro concludes that "*Based on the dual nature of the positive and negative*  
37 *residual effects listed here, it is anticipated that the overall residual effects of the Project*  
38 *on moose populations will be minimally negative to nil and not significant.*" (MTR,  
39 p.111). The only positive effect of the Project listed was that "*Moose habitat may*  
40 *become enhanced due to the presence of palatable forage species growing in the newly*  
41 *cleared ROW.*" (p.110, MTR). Ricard and Doucet (1999) is cited in support of this  
42 statement. However, Ricard and Doucet (1999) concluded that the rights-of-way studied  
43 did not actually offer very good moose feeding habitat and a small sample size limited  
44 them from making any conclusions about whether moose browsed more or less  
45 intensively in rights-of-ways than adjacent woods. Given the number of negative  
46 impacts listed including: increased parasite transmission, increased predator/prey  
47 interaction, increased accessibility by human hunters, increased recreational use of

48 ROW, and increased moose-vehicle collisions, it is not clear how it was concluded that  
49 there would be only a "*minimally negative to nil and not significant*" impact.  
50 Furthermore, conservation initiatives by Manitoba Conservation (Manitoba Conservation  
51 2012), including recent management decisions to cancel moose hunting seasons in  
52 various GHA's (Manitoba Conservation 2011a and 2011b) along the FPR to protect  
53 remaining moose and hopefully ensure future sustainability of Manitoba's moose  
54 population, indicate that moose populations may not tolerate much more disturbance.  
55 As it stands, there is little substantive justification for Manitoba Hydro's conclusion  
56 regarding moose populations. Further rationale is required, particularly in light of the  
57 current status of moose in Manitoba.

58 Within Volume 8, Manitoba Hydro concludes that "*The residual effects on moose from*  
59 *Project construction and operation include potential for: overharvest from increased*  
60 *access; sensory disturbance; some functional habitat loss; increased predation; and*  
61 *increased parasites and disease. The residual effects are characterized as negative in*  
62 *direction, small in magnitude, Local Study Area in geographic extent, medium term in*  
63 *duration (operation), regular/continuous in frequency, reversible and therefore*  
64 *considered not significant.*" [Emphasis Added] (Volume 8, p. 8-103 to 8-104). Small  
65 Magnitude is described as: "*no definable or measurable effect or below established*  
66 *thresholds of acceptable change*" (Volume 4, p. 4-32). Further rationale is required to  
67 support the conclusion of "*Small in Magnitude*" by Manitoba Hydro. First, thresholds for  
68 moose (habitat, density, mortality, etc.) do not appear to be established in the EIS.  
69 Second, moose populations are apparently measurably decreasing in the region - rapidly  
70 enough to result in management actions (Manitoba Conservation 2011a and 2011b).  
71 Therefore, it is probable that Project effects on moose could be of Moderate or Large  
72 Magnitude given the definitions provided by Manitoba Hydro and the, as yet, undefined  
73 thresholds for moose.

74 If Project effects were of Large Magnitude, according to Figure 4.2-2 (Volume 4, p. 4-  
75 36), this would result in a "Potentially Significant Effect" and therefore "Moderate  
76 Residual Effect". This level of effect could be enough to further contribute to moose  
77 population declines in the region and result in unsustainable moose populations.

78 Furthermore, Manitoba Hydro states that *"...thresholds or guides may identify highly*  
79 *vulnerable environmental VECs where the loss of even a few individuals may affect the*  
80 *long-term status of the population."* (p.4-36). Considering the recent implementation of  
81 management actions by Manitoba Conservation (Manitoba Conservation 2011a and  
82 2011b), the range of variability in Manitoba moose populations and thresholds should be  
83 clearly defined to support any determination of Magnitude of effect of the Project.

84 **Information Request(s):**

- 85 • **Taking into consideration the above comments, please re-assess the Project**  
86 **impact on moose populations using supporting peer-reviewed literature and**  
87 **information available on Manitoba moose populations.**

88 Manitoba Hydro's characterizations regarding residual effects on moose relate to the  
89 overall Project Study Area and associated mitigation measures. The predicted effects as  
90 outlined in the EIS do not change. However, given the concerns expressed about moose  
91 populations in some specific areas of the Province (i.e. Duck Mountains), Manitoba  
92 Hydro is discussing mitigation and monitoring strategies with Manitoba Conservation and  
93 Water Stewardship to address site specific issues.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011), 9 Chapter #: MTR - 8.1 &amp; 8.2 V9 - 9.2.1 Pages #(s): MTR - 116-121, 123 V9 – 9-17, Table 9.2-1 to 9.2- 3</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-212

1

2 **Question:**3 *EIS Scoping Document Reference:*

4 8.0 Cumulative Effects Assessment: *"The cumulative effects assessment will consider*  
5 *the potential for the environmental effects of the proposed Project to act in combination*  
6 *with the effects of other past, present and/or reasonably foreseeable future projects in*  
7 *the defined regional or cumulative effects assessment area."* Canadian Environmental  
8 Assessment Agency Cumulative Environmental Effects Operation Policy 2008 (CEAA  
9 2008): *"Subsection 16(1) of the Act requires every environmental assessment to include*  
10 *consideration of the environmental effects of a project, including "any cumulative*  
11 *environmental effects that are likely to result from the project in combination with other*  
12 *projects or activities that have been or will be carried out."*

13 **Rationale:**

14 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
15 *deer and then elk"* (MMF 2011). Therefore, impacts on the availability and abundance of  
16 moose, which the Manitoba Metis rely upon now and into the future to exercise their  
17 rights and interests in a meaningful way, are fundamental concerns.

18 As per EIS Scoping Document Reference 8.0 and CEAA (2008), Manitoba Hydro must  
19 complete a cumulative effects assessment for the Project study area. An analysis of  
20 cumulative effects must permit an understanding of the incremental contribution of all

21 projects or activities in the delineated study areas, and of the Project alone, to the total  
22 cumulative effects on moose over the life of the Project. Manitoba Hydro has predicted  
23 that the Project will not have a significant incremental cumulative effect. However, the  
24 information provided does not allow for an understanding of the potential cumulative  
25 effects, particularly spatially as little information is provided regarding the location of  
26 various projects and activities, but also with respect to insufficiency of baseline data on  
27 moose populations.

28 **Review Comments:**

29 Several large scale activities, including forestry, mining, and other transmission lines, are  
30 proposed or ongoing in and around the Project Study Area (listed in the Mammal  
31 Technical Report, Section 8.1 & Volume 9, Tables 9.2-1 to 9.2-3). Generally, these  
32 activities all contribute to habitat loss, habitat fragmentation, and/or avoidance of the  
33 area.

34 With respect to moose, Manitoba Hydro concluded that "*a small magnitude, medium-*  
35 *term cumulative effect is expected...due to impacts on habitat in the Local Study Area*  
36 *and consequent fragmentation...*" (Volume 9, p. 9-17). However, due to mitigation  
37 measures such as access management, harvest management, regional planning for  
38 access roads, and lower speed limits, Manitoba Hydro considers the incremental  
39 cumulative effects of the Project not to be significant. *MMF*

40 Conservation initiatives by Manitoba Conservation (Manitoba Conservation 2012),  
41 including recent management decisions to cancel moose hunting seasons in various  
42 GHA's (Manitoba Conservation 2011a and 2011b) along the FPR to protect remaining  
43 moose and hopefully ensure future sustainability of Manitoba's moose population,  
44 indicate that moose populations may not tolerate much more disturbance. The fact that  
45 these actions have occurred prior to the development of the Bipole III Project indicates  
46 that these concerns exist even before any Project impacts are considered. Therefore, it  
47 is difficult to understand, without more detailed information on moose population  
48 variability and thresholds, how Manitoba Hydro can conclude that the Project is unlikely

49 to have a significant effect on moose and is unlikely to have an incremental cumulative  
50 effect.

51 Manitoba Hydro also states that "*Severity of these cumulative effects cannot be fully*  
52 *measured due to unknown response of wildlife to these activities and the unknown*  
53 *degree of spatial/temporal scales of activities which may occur within and around the*  
54 *Project Study Area.*" (MTR, p. 123), indicating that Manitoba Hydro does not understand  
55 the cumulative effects of the Project on wildlife. To understand the potential cumulative  
56 impact to Manitoba moose populations, more detail with respect to the location of the  
57 projects discussed in the Mammal Technical Report, Section 8.1 & Volume 9, Tables 9.2-  
58 1 to 9.2-3 and a quantitative assessment of cumulative effects is warranted.

59 **Information Request(s):**

60 • **Please provide a map showing the location of all development listed in**  
61 **Volume 9, Tables 9.2-1 to 9.2-3.**

62 • **Please provide information on moose population variability and moose**  
63 **population thresholds.**

64 • **Please provide a quantitative assessment of the cumulative effects of**  
65 **habitat loss and fragmentation in relation to moose.**

66 • **Please demonstrate that mitigation measures in the region have been**  
67 **successful at avoiding significant impacts to moose.**

68 **Response:**

69 Please see *CEC/MH-VI-210* for more information. Maps denoting development listed in  
70 Volume 9, Tables 9.2 to 9.2-3 can be found in *CEC/MH-VI-212(2)*, *CEC/MH-VI-212(3)*,  
71 *and CEC/MH-VI-212(4)*.

72 As the cumulative effects in relation to moose are anticipated to be minimal, a  
73 quantitative assessment is not required. Site specific mitigation will be undertaken where  
74 required as will be identified in the Environmental Protection Plan.

75 To date, no mitigation measures specifically relating to moose have been implemented  
76 on transmission lines in the region, as there has not been a need to do so.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: 7, Habitat Fragmentation Technical Report (2011) Chapter #: V7 - 7.2.2.1 Pages #(s): V7 – Map 7-8, Table 7.2-1, Map 7-14, HFTR – Map 6</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-213

1

2 **Question:**

3 **MMF IR # 27 Mitigation Measures for Moose and Elk EIS Volume #: 7, Habitat**  
 4 **Fragmentation Technical Report (2011) Chapter #: V7 - 7.2.2.1 Pages #(s):**  
 5 **V7 – Map 7-8, Table 7.2-1, Map 7-14, HFTR – Map 6**

6 *EIS Scoping Document Reference:*

7 3.2 Scope of Assessment and Factors: " *The following factors will be considered in the*  
 8 *environmental assessment and addressed in the EIS:... Review of alternative*  
 9 *transmission routes and facility locations;... Identification of technically and economically*  
 10 *feasible measures to mitigate adverse environmental effects;" 4.0 Needs and*  
 11 *Alternatives: "The transmission line routing process for the Project will not address the*  
 12 *east side of Lake Winnipeg as an alternative route due to a decision reached in 2007*  
 13 *jointly by the Manitoba Government and the Manitoba Hydro-Electric Board. The*  
 14 *requirement for physical separation from the existing Bipole I and II transmission lines*  
 15 *has also precluded the Interlake area as a potential alternative route." 7.1 Site Selection*  
 16 *and Environmental Assessment (SSEA): " The iterative SSEA process includes:...*  
 17 *Developing mitigation measures, where required, to address potential adverse*  
 18 *environmental effects."*

19 **Rationale:**

20 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
21 *deer and then elk"* (MMF 2011). Therefore, impacts on the availability and abundance of  
22 moose, which the Manitoba Metis rely upon now and into the future to exercise their  
23 rights and interests in a meaningful way, are fundamental concerns. Although an  
24 elaborate route selection process was undertaken on the west side on Lake  
25 Winnipegosis, as per EIS Scoping Document References 3.2 and 4.0, some route  
26 sections may not be ideal for minimizing Project impacts to moose and elk. In an  
27 attempt to improve our confidence in the predictions made and meet the requirements  
28 of EIS Scoping Document Reference 7.1, we need a better understanding of the  
29 mitigation measures proposed and the effectiveness of those mitigation measures.

30 **Review Comments:**

31 Manitoba Hydro identifies numerous constraints (Volume 7, Table 7.2-1) that they have  
32 tried to work around (Volume 7, Map 7-8). Within Section 5 of the route selection  
33 options, a bottleneck area, route option B11C13 was rated as High (level of constraint)  
34 because of concerns about further fragmentation of habitat along this particular route  
35 segment. This route segment also has a High rating for caribou and a Medium rating for  
36 mammals (Section 7.2.2.1) and has been identified as containing prime moose habitat  
37 according to ATK (Map 7-8). Alternative route options for this section contain "*moose*  
38 *concentration areas*" and "*core winter area and calving complex*". The FPR follows  
39 segment B11C13 (Map 7- 14).

40 GHA's within this bottleneck (GHA's 7 and 8) appear to remain open for moose hunting.  
41 It is not clear whether or not the effects of potential concentrated moose hunting within  
42 GHA's 7 and 8 in response to closures of GHA's to the north and south have been  
43 considered when determining the Project impact on moose. Furthermore, the addition of  
44 a linear corridor in this region will improve hunter access to moose populations and  
45 increase access density in the region. Manitoba Hydro has illustrated a relationship  
46 between reduced moose densities and increased levels of fragmentation (a function of

47 increased access for hunting) (MTR, Map 6). The combined effects of high hunting  
48 pressure and increased hunter access may adversely affect moose in the area.

49 Manitoba Hydro identifies constraints they have tried to work around within the  
50 bottleneck area south of Red Deer Lake (Section 7 of route selection options; GHAs 13  
51 and 14). Within Section 7, none of the proposed route options appear to run along  
52 existing ROWs which could reduce impacts to moose and elk. The FPR follows segment  
53 B18 (Map 7-14).

54 **Information Request(s):**

55 • **What assurance can Manitoba Hydro provide that moose populations will**  
56 **not be adversely affected in Section 5 of the FPR?**

57 • **How will access be managed in GHA's still open to moose hunting? Is any**  
58 **alternative mitigation for moose proposed for Section 5 of the FPR?**

59 • **How is increased access density expected to influence moose density in**  
60 **Section 5 of the FPR? • Discuss options for alternative routing of the**  
61 **transmission line in Section 7 (GHA's 13 and 14) such that the transmission**  
62 **line follows existing linear features to a greater extent.**

63 **Response:**

64 The routing of Bipole III in Section 5 parallels the existing Wuskwatim transmission line  
65 thus minimizing the regional fragmentation effects on moose by utilizing existing access.  
66 Although segment B11C13 in this section was ranked a high concern based on ATK, this  
67 option provided the least overall effect on moose in a larger by paralleling existing linear  
68 development. Selection of other segments (AA2, A 12 and A 13) would have resulted in  
69 fundamental re-routing in Section 4, 6 and 7, which would have further increasing  
70 effects on wildlife as other segments would have to connect with these options.  
71 Segments A 13 also bisects a locally important moose areas in GHAs 6 and 6A, and if  
72 selected would require routing through critical habitat in The Bog boreal woodland  
73 caribou range. This westerly route (if selected) would also have resulted in the selection

74 of important moose and elk habitat through the Red Deer River, Porcupine Hills and  
75 Duck Mountains, which was avoided.

76 Manitoba Conservation and Water Stewardship (MCWS) is the regulating body for GHA  
77 hunting activities and harvest level within each GHA. With respects to Project sites in  
78 which Manitoba Hydro operates, an Access Management Plan will be provided by  
79 Manitoba Hydro for addressing access to Project Sites and Infrastructure.

80 The FPR is not expected to contribute to increased access densities as it parallels  
81 existing transmission line facilities.

82 Manitoba Hydro is working with MCWS on options for mitigation in Section 7 (GHAs 13  
83 and 14).

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011), 8, 11, Attachment 11-1 Chapter #: MTR - 9.0 V8 - 8.2.6.6 V11 - 11.3.4.2 EnvPP Appendix H Pages #(s): MTR – 121-122 V8 - 8-132 V11 - 11-15 to 11-16 EnvPP App H - 1-16</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-214

1

2 **Question:**

3 **MMF IR # 28 Monitoring and Follow-up EIS Volume #: Mammals Technical**  
 4 **Report (2011), 8, 11, Attachment 11-1 Chapter #: MTR - 9.0 V8 - 8.2.6.6 V11**  
 5 **- 11.3.4.2 EnvPP Appendix H Pages #(s): MTR – 121-122 V8 - 8-132 V11 - 11-**  
 6 **15 to 11-16 EnvPP App H - 1-16 (EnvPP)**

7 EIS Scoping Document Reference:

8 10.0 Monitoring and Follow-up Program: *"Monitoring and follow-up involves verifying the*  
 9 *accuracy of the environmental assessment and determining the effectiveness of*  
 10 *measures implemented to mitigate adverse environmental effects." "An environmental*  
 11 *effects monitoring program will be developed to verify predictions made in the EIS and*  
 12 *to detect and address any unforeseen environmental effects during all phases of the*  
 13 *Project. The monitoring programs will describe parameters to be monitored, methods to*  
 14 *be followed, roles and responsibilities, and reporting requirements." "The monitoring*  
 15 *programs will describe parameters to be monitored, methods to be followed, roles and*  
 16 *responsibilities, and reporting requirements." CEAA Adaptive Management Operation*  
 17 *Policy 2009 (CEAA 2009): "It is important to establish testable EA predictions when*  
 18 *planning a follow-up program or potential adaptive management measures."*

19 **Rationale:**

20 Safe-guarding Manitoba Metis rights and interests is a fundamental concern. To  
21 understand whether Metis rights and interests will be protected, the capacity and  
22 accessibility of traditional resources to meet the needs of current and future generations  
23 needs to be determined. That is, Manitoba Hydro's predictions about alleviating Project  
24 impacts on moose and elk rely on how well the mitigation will work. Therefore, the  
25 effectiveness of mitigation must be measured. This requires that both the baseline and  
26 the future effects can be quantified. The effectiveness of mitigation measures can only  
27 be determined by a monitoring approach that is based on testable questions and  
28 includes adequate sampling and statistical procedures. Manitoba Hydro's application  
29 must discuss how the effectiveness of the proposed mitigation and how the monitoring  
30 program would be designed to test mitigation effectiveness.

31 **Review Comments:**

32 Manitoba Hydro states that "*Follow-up monitoring is employed in cases where there is*  
33 *uncertainty about the effectiveness of the mitigation measures for a cumulative effect,*  
34 *or in cases where a cumulative effects assessment is based on a new and/or innovative*  
35 *approach (Hegmann et al, 1999).*" (MTR, p. 121). However, according to the EIS  
36 Scoping Document Reference 10.0, monitoring and follow-up initiatives are not  
37 necessarily limited to cases where there is uncertainty about the effectiveness of  
38 mitigation measures.

39 Manitoba Hydro discusses plans for on-going monitoring of caribou populations. No  
40 other VECs are mentioned within Volume 8, Section 8.2.6.6, although Section 9.0 of the  
41 MTR indicates that Manitoba Hydro is involved in a "*series of mammalian monitoring*  
42 *programs*". Within Volume 11, Manitoba Hydro generally discusses monitoring plans  
43 further and in Appendix H of the draft EnvPP only caribou are included under mammal  
44 monitoring requirements. The rationale for the inclusion of caribou as an environmental  
45 indicator is that they are of regulatory importance (i.e., Species at Risk Act (SARA) and  
46 Manitoba Endangered Species Act (MESA) listed). The EIS Scoping Document Reference  
47 10.0 (Manitoba Hydro 2010) requires that monitoring programs describe the parameters  
48 to be monitored and the methods to be followed. However, with respect to moose, it  
49 appears that there is no discussion as to the effectiveness of the proposed mitigation or

50 how the monitoring program would be designed to test mitigation effectiveness.  
51 Mitigation measures cannot be presumed effective once implemented and the success of  
52 mitigation measures must be verified through monitoring.

53 Although Manitoba Hydro does provide a Biophysical Monitoring Framework that outlines  
54 monitoring requirements (Appendix H of the draft EnvPP), a Biophysical Monitoring Plan  
55 has not yet been developed and submitted. Manitoba Hydro has committed to do so  
56 prior to the commencement of the Project construction phase. Critiques of monitoring  
57 programs have highlighted the need for well-designed programs with quantifiable  
58 questions that include targets for measuring progress (Yoccoz et al. 2001; Lindenmayer  
59 et al. 2008; Lindenmayer and Likens 2010). Programs lacking in testable questions may  
60 be incapable of adequately detecting outcomes and trends (Lindenmayer and Likens  
61 2010). This is further supported by the adaptive management operational policy of the  
62 CEAA (2009) which states that: "*It is important to establish testable EA predictions when*  
63 *planning a follow-up program or potential adaptive management measures.*" Currently,  
64 there is a lack of monitoring details and it is not clear if Manitoba Hydro will meet this  
65 objective outlined in the CEAA policy (2009).

66 **Information Request(s):**

- 67 • **Please verify that follow-up monitoring is not only being employed in cases**  
68 **where there is uncertainty with respect to cumulative effects, but is**  
69 **implemented to verify all predictions in the EIS.**
- 70 • **Please explain why follow-up and monitoring plans are only discussed with**  
71 **respect to caribou populations. Please discuss follow-up and monitoring plans**  
72 **with respect to moose populations, particularly given the current decline in**  
73 **moose populations in western Manitoba.**
- 74 • **If Manitoba Hydro will not be conducting any monitoring with respect to**  
75 **moose, please indicate who will be responsible for ensuring that mitigation**  
76 **measures applicable to moose are effective. Please consider including moose**  
77 **in the biophysical monitoring plan given the importance of moose to the**  
78 **Manitoba Metis (as outlined in the TLUKS).**

79 • **Please provide supporting literature or data that would demonstrate the**  
80 **effectiveness of the proposed mitigation measures for moose in similar**  
81 **projects. If there is no supporting literature or data, please discuss how**  
82 **Manitoba Hydro will evaluate mitigation success for moose.**

83 • **Please explain how Manitoba Hydro would ensure that the biophysical**  
84 **monitoring programs are designed and implemented prior to construction, in**  
85 **accordance with CEAA's policy (2009).**

86 **Response:**

87 Please see *CEC/MH-VI-207*.

88 All monitoring activities will be directly related to the *Environment Act* licence terms and  
89 conditions and Manitoba Hydro's Draft Environmental Protection Plan. Boreal woodland  
90 caribou currently has some specific monitoring attached to them as they are a listed  
91 species under both provincial and federal legislation and is a collaborative project  
92 between Manitoba Hydro and Manitoba Conservation and Water Stewardship (MCWS).

93 Please see *CEC/MH-III-044*, *CEC/MH-III-050* and *CEC/MH-III-052* for further  
94 information.

95 The need for monitoring programs to be undertaken by Manitoba Hydro is being  
96 discussed with MCWS as part of on-going review of mitigation and monitoring planning.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011), 6, 8 Chapter #: MTR – 4.5.1 V6 – 6.2.6.5, V8 – 8.2.6.2 Pages #(s): MTR – 61, V6 – 6-87, V8 – 8-83</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-215

1

2 **Question:**

3 **MMF IR # 29 Wolf Population Estimates EIS Volume #: Mammals Technical**  
 4 **Report (2011), 6, 8 Chapter #: MTR – 4.5.1 V6 – 6.2.6.5, V8 – 8.2.6.2 Pages**  
 5 **#(s): MTR – 61, V6 – 6-87, V8 – 8-83**

6 EIS Scoping Document Reference:

7 7.2 Environmental Assessment: *"The objectives of the environmental assessment for the*  
 8 *Project include:...Providing sufficient information about the existing environment so*  
 9 *environmental effects can be identified and mitigated, and follow-up requirements can*  
 10 *be defined;" 7.4.2.9 Mammals and Mammal Habitat: "The EIS will provide sufficient level*  
 11 *of detail in order to predict, avoid and/or minimize any potential adverse effects on*  
 12 *mammals, mammal populations and mammal habitats."*

13 **Rationale:**

14 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
 15 *deer and then elk" (MMF 2011). Therefore, impacts on the availability and abundance of*  
 16 *moose which the Manitoba Metis rely upon now and into the future to exercise their*  
 17 *rights and interests in a meaningful way are fundamental concerns. Confidence in the*  
 18 *impact assessment is reliant on whether or not baseline data adequately support impact*  
 19 *predictions. Additional information on wolf populations in the Project Study Area is*

20 needed to improve confidence in the impact assessment and to determine appropriate  
21 management actions.

22 **Review Comments:**

23 EIS Scoping Document References 7.2 and 7.4.2.9 require that sufficient information  
24 about the existing environment be provided so that environmental effects can be  
25 identified and mitigated. However, Manitoba Hydro has not provided consistent  
26 information with respect to wolf population estimates in the Project Study Area.

27 Increased mortality of ungulate VECs from wolves has been cited by Manitoba Hydro as  
28 one of the key topics for potential environmental effects. The magnitude of this effect  
29 depends on several assumptions that still need to be addressed, such as foraging  
30 behaviour by wolves, habitat selection by prey, and the importance of predation to  
31 population growth versus other sources of mortality. Even if these assumptions are met,  
32 risk of population decline from predation depends on the size of the predator and prey  
33 populations. For example, a wolf population density of 6.5 individuals/ 1000km<sup>2</sup> has  
34 been suggested as the point at which caribou populations may decline from predation  
35 alone (Bergerud and Elliot 1986, Latham et al. 2011). For moose, a ratio of 1:20 wolves  
36 per moose has been cited as the point at which wolves become very limiting to moose  
37 population growth (Franzmann 1981).

38 The MTR reports a wolf density of 1.5-2.1 individuals/ 1000km<sup>2</sup>, over a study area  
39 >39,000 km<sup>2</sup> (p. 60- 61). Conversely, Volume 8- Environmental Effects Assessment (p.  
40 6-87) reports a wolf density of 5 individuals/ 1000km<sup>2</sup>, over an area of 17,000 km<sup>2</sup>. The  
41 discrepancy in these values has important management implications because if the MTR  
42 value is correct then it suggests that caribou populations are unlikely to suffer declines  
43 from predation even if this was a major source of mortality. Yet if the Volume 8-  
44 Environmental Effects Assessment values are correct, it suggests that the wolf  
45 population may be high enough that there could be a risk to the sustainability of  
46 secondary prey, such as caribou. Similarly, for moose counts in the high quality habitat  
47 areas (median = 74, range 16-132 individuals/km<sup>2</sup>), the ratio of 1:20 is exceeded in

48 Webb Lake under a wolf estimate of 5 individuals/ 1000km<sup>2</sup> for median moose densities,  
49 but not for other habitat blocks or wolf population estimates provided in the MTR.

50 **Information Request(s):**

51 • Please provide a single wolf population estimate for this study area, along with  
52 confidence estimates reflecting detection probability.

53 **Response:**

54 Consideration was given to conduct wolf population estimates using Sample Unit  
55 Probability Estimator (SUPE) (Patterson, Quinn, Becker, & Meier, 2004). This method  
56 has been used in areas where there are no radio collared individuals that are in the  
57 population and sightability is low. Snow conditions were not suitable for conducting  
58 SUPE surveys during the course of studies conducted.

59 The objective of the Bipole III wolf surveys was to obtain minimum counts within boreal  
60 woodland caribou ranges, utilizing data from locating radio collared wolves and stratified  
61 searches to locate un-collared packs/individuals. The purpose of these surveys was to  
62 assess relative risk of predation by wolves on boreal woodland caribou and to gather  
63 baseline data on wolves as part of collaborative research being conducted jointly with  
64 Manitoba Conservation and Water Stewardship. The data from these surveys cannot be  
65 used to produce population estimates as per the SUPE method.

66 **References:**

67 Patterson, B. R., Quinn, N. W. S., Becker, E. F., & Meier, D. B. (2004). Estimating wolf  
68 densities in forested areas using network sampling of tracks in snow. *Wildlife*  
69 *Society Bulletin*, 32(3), 938-947. doi:10.2193/0091-  
70 7648(2004)032[0938:EWDIFA]2.0.CO;2

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: 8 Chapter #: 8.2.6.2 Pages #(s): 8-83 to 8-85</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-216

1

2 **Question:**

3 **MMF IR # 30 Heterogeneity of Biophysical Environment EIS Volume #: 8 Chapter**  
 4 **#: 8.2.6.2 Pages #(s): 8-83 to 8-85**

5 EIS Scoping Document Reference:

6 7.6 Mitigation Measures: *"Mitigation measures will be identified and described to avoid*  
 7 *or minimize adverse environmental effects of the Project."*

8 **Rationale:** *"Moose is the most sought after species of large animals by Interviewees,*  
 9 *followed by deer and then elk"* (MMF 2011). Therefore, impacts on the availability and  
 10 abundance of moose, which the Manitoba Metis rely upon now and into the future to  
 11 exercise their rights and interests in a meaningful way, are fundamental concerns.  
 12 Restoration of plant biomass to the ROW and minimizing risk of predation to ungulate  
 13 VECs was prioritized as mitigation actions by Manitoba Hydro. In an attempt to improve  
 14 our confidence in the predictions made, we need a better understanding of the  
 15 mitigation measures proposed and the effectiveness of those mitigation measures.

16 **Review Comments:** Mitigation measures need to be identified to minimize any  
 17 adverse effects of the Project (EIS Scoping Document Reference 7.6). Manitoba Hydro  
 18 has identified measures to mitigate habitat loss and ungulate mortality but additional  
 19 details are required to understand if and how mitigation measures will be tailored to  
 20 address variability in plant and wildlife communities across the FPR. At northern  
 21 latitudes, temperature and precipitation often limit primary productivity and constrain

22 predatory-prey interactions (Kittle et al. 2008; Franzmann 1981). Given the importance  
23 of mitigating the impacts of the ROW on habitat loss and ungulate mortality, it is  
24 important to understand how these biophysical variables change across the Project  
25 Study Area. In the south, where it is presumably warmer and more productive,  
26 restoration of woody-browse in the ROW may only take a few years. Conversely, in the  
27 north end of the Project, temperature, photoperiod and snow depth may create different  
28 limits on plant community regeneration. Likewise, snow depth, rather than habitat per  
29 se, has been identified as the critical factor in explaining spatial variation in risk for  
30 moose and caribou. A snowfall of 90-100cm is described as critically limiting (reviewed  
31 in Franzmann 1981) to moose populations.

32 **Information Request(s):**

- 33 • **To what extent will biophysical variables limit proposed mitigation**  
34 **measures across the north-south expanse of this Project?**
- 35 • **Are snow-fall records available for across the FPR? If so, please provide and**  
36 **incorporate into the assessment where applicable.**
- 37 • **Discuss how mitigation measures can be tailored to address variability in**  
38 **biophysical limitations to plant and wildlife communities across the FPR.**

39 **Response:**

40 Biophysical variables where necessary will be taken into account in the application and  
41 monitoring of mitigation measures along the FPR (see *CEC/MH-VI-207*).

42 Precipitation information is provided in Section 6.2.2.4 of the Bipole III EIS. Average  
43 accumulated snow fall in the study area rarely exceeds 100cm (Environment Canada,  
44 2012).

45 Please see (see *CEC/MH-VI-207*).

46 **Reference:**

47 Environment Canada. 2012. National Climate Data and Information Archives. Canadian  
48 Climate Normals. 1971-2000.

49 <[http://www.climate.weatheroffice.gc.ca/climate\\_normals/index\\_e.html](http://www.climate.weatheroffice.gc.ca/climate_normals/index_e.html)>

50 Accessed 26 July 2012.

<b>Date</b>	July 27 2012
<b>Reference</b>	<b>EIS Volume #: Mammals Technical Report (2011) Chapter #: 3.3.1.4 Pages #(s): 17</b>
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-217

1

2 **Question:**

3 **MMF IR # 31 Ungulate Sign Reliability and Independence EIS Volume #: Mammals**  
 4 **Technical Report (2011) Chapter #: 3.3.1.4 Pages #(s): 17**

5 EIS Scoping Document Reference:

6 7.4.2.9 Mammals and Mammal Habitat: *"The EIS will provide available information on*  
 7 *mammals and mammal habitat as it relates to the Project including the following:*  
 8 *Mammal species including populations, habitats and seasonal use patterns;"*

9 **Rationale:**

10 *"Moose is the most sought after species of large animals by Interviewees, followed by*  
 11 *deer and then elk"* (MMF 2011). Therefore, impacts on the availability and abundance of  
 12 moose which the Manitoba Metis rely upon now and into the future to exercise their  
 13 rights and interests in a meaningful way are fundamental concerns. Confidence in the  
 14 impact assessment is reliant on whether or not baseline data adequately support impact  
 15 predictions. Additional information on the methods used for deriving track count  
 16 estimates is needed to improve confidence in the impact assessment.

17 **Review Comments:**

18 The EIS Scoping Document Reference 7.4.2.9 requires that information on mammals  
 19 and mammal habitat as it relates to the Project be provided, but we find that Manitoba  
 20 Hydro has not provided consistent information with respect to aerial survey methods

21 used to estimate moose densities. Manitoba Hydro states that "...parallel transects flown  
22 2 km on either side of the entire FPR", but then contradicts this statement with " The  
23 use of 2.5 km for the buffer diameter ensured that all animal and track observations  
24 within the 1 km (emphasis added) transect were included in the species counts." (MTR,  
25 p. 17). Furthermore, points were centered on a 2 km interval, yet a 2.5 buffer was  
26 created at each point to create a "buffer circle". This means that there may be double  
27 counts of tracks along some sections of the FPR. Finally, there is a possibility that some  
28 tracks were made by the same individual since a 2.5 km wide circle (ca.20km<sup>2</sup>) is within  
29 the maximum reported home range size of moose 2-16 km<sup>2</sup> (Franzmann 1981).

30 **Information Request(s):**

- 31 • **Please clarify how far the control transects were from the FPR.**
- 32 • **Please describe how moose density estimates from track counts were**  
33 **screened for double counts.**

34 **Response:**

35 The survey and associated GIS analysis was not intended as a quantitative assessment  
36 of moose density along the FPR, but rather to identify areas of high moose use,  
37 independent of actual numbers. Deriving statistically valid estimates of moose density  
38 would not have changed the identification of areas where moose utilization was  
39 observed. Concern for double counting tracks was considered, however if few moose  
40 were heavily using an area, and not just travelling through, the subsequent analysis  
41 would indicate an important area. Concern for double counting was dismissed as this  
42 method provides a liberal assessment of areas of concern, which is "precautionary" in  
43 making sure all "hot spots" were identified. Therefore, the Methods described in Section  
44 3.3.1.4 of the Mammals Technical Report did not require control transects. The aerial  
45 transect surveys were conducted along the entire FPR to characterize the relative  
46 density of VEC mammal species as (high, medium, and low) through observations of  
47 animals and tracks (please see Section 3.3.1.4 of the Bipole III Mammals Technical  
48 Report) for environmental assessment and environmental protection planning purposes  
49 and to identify hot spots for VECs including moose. These data are being used in

- 50 refining the locations of areas requiring mitigation through establishing various wildlife
- 51 buffers and corridors along the FPR ROW.

<b>Date</b>	July 27 2012
<b>Reference</b>	
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-218

1

2 EIS Scoping Document Reference:

3 7.4.3.1 ... *The EIS will provide available information on resource use as it relates to the*  
 4 *Project including the following:*

5 • *Domestic use of resources by Aboriginal groups including fishing, hunting, trapping*  
 6 *and gathering medicinal, and other plants and berries and fuel wood; ...*

7 *The EIS will provide sufficient level of detail in order to in order to predict, avoid and/or*  
 8 *minimize any potential effects on resource use.*

9 7.4.3.2 ... *The EIS will provide available information on resource use as it relates to the*  
 10 *Project including the following:*

11 • *Land ownership and tenure including Crown lands and the use of waterways by*  
 12 *Aboriginal groups and other, including, Reserve lands, Treaty Land Entitlement lands,*  
 13 *traditional resource use management areas, Community Interest Zones, Crown lands*  
 14 *and waterways used for transportation; ...*

15 *The EIS will provide sufficient level of detail in order to in order to predict, avoid and/or*  
 16 *minimize any potential effects on land and water use.*

17 7.4.3.4 ... *Personal, Family and Community Life*

18 *The EIS will provide available information on resource use as it relates to the Project*  
 19 *including the following:*

- 20 • *Population characteristics of communities including, for example, total population,*  
21 *population growth rates, and structure age and sex;*
- 22 • *Household characteristics including breakdown by family unit, status, children, ages,*  
23 *etc.;*
- 24 • *Personal, family and community well-being including community cohesion, outdoor*  
25 *recreation, aesthetics, culture (i.e., way of life) and spirituality;*
- 26 • *Traditional economy including Aboriginal hunting, fishing, trapping and spirituality;*
- 27 • *Health status and issues; and*
- 28 • *Community organization and governance.*
- 29 *The EIS will provide sufficient level of detail in order to in order to predict; avoid and/or*  
30 *minimize any potential effects on personal, family and community life.*

31 **Rationale:**

32 Throughout the EIS, MH has referred to plans to communicate, involve, and otherwise  
33 consult with "Aboriginal Communities" on an array of matters, including adjustments to  
34 the HVdc routing and transmission line infrastructure within the right of way, location of  
35 construction phase-related infrastructure such as marshalling yards, location of  
36 permanent project components such as repeater stations, construction and operational  
37 phase access management plans, and other mitigation measures. MH has defined an  
38 "Aboriginal Community" as "[a] community where most of the residents are Aboriginal  
39 (i.e. Indian, Metis or Inuit) and that has a separate form of government, provides some  
40 level of service to its residents, and has clear community boundaries." Also, the Scoping  
41 Document repeatedly references providing information in relation to Aboriginal "groups"  
42 and "communities," not solely Aboriginal individuals.

43 **Review Comments:**

44 This definition of " Aboriginal Community" for the purposes of the EIS is inconsistent with  
45 legal and constitutional definitions of Metis communities, as set out by the Supreme  
46 Court of Canada.

47 In *R. v. Powley*, [2003] 2 S.C.R. 207, the Supreme Court of Canada held at paragraph  
48 19, "[a] Metis community can be defined as a group of Metis with a distinctive collective  
49 identity, living together in the same geographic area and sharing a common way of life."

50 Moreover, in Manitoba, courts have recognized that rights-bearing Metis communities do  
51 not fit within the definition set out and used by MH in the development of the EIS. For  
52 example, in *R. v. Goodon*, 2008 MBPC 59, the Manitoba Provincial Court held,

53 [46] The Metis community of Western Canada has its own distinctive identity. As the  
54 Metis of this region were a creature of the fur trade and as they were compelled to be  
55 mobile in order to maintain their collective livelihood, the Metis "community" was more  
56 extensive than, for instance, the Metis community described at Sault Ste. Marie in  
57 *Powley*. The Metis created a large inter-related community that included numerous  
58 settlements located in present-day southwestern Manitoba, into Saskatchewan and  
59 including the northern Midwest United States.

60 [47] This area was one community as the same people and their families used this  
61 entire territory as their homes, living off the land, and only periodically settling at a  
62 distinct location when it met their purposes.

63 [48] Within the Province of Manitoba this historic rights-bearing community includes all  
64 of the area within the present boundaries of southern Manitoba from the present day  
65 City of Winnipeg and extending south to the United States and northwest to the  
66 Province of Saskatchewan including the area of present day Russell, Manitoba. This  
67 community also includes the Turtle Mountain area of southwestern Manitoba even  
68 though there is no evidence of permanent settlement prior to 1880. I conclude that  
69 Turtle Mountain was, throughout much of the nineteenth century, an important part of  
70 the large Metis regional community.

71 [52] The Metis community today in Manitoba is a well organized and vibrant community.  
72 Evidence was presented that the governing body of Metis people in Manitoba, the  
73 Manitoba Metis Federation, has a membership of approximately 40,000, most of which  
74 reside in southwestern Manitoba.

75 [58] I conclude that there remains a contemporary community in southwest Manitoba  
76 that continues many of the traditional practices and customs of the Metis people.

77 [75] I have determined that the rights-bearing community is an area of southwestern  
78 Manitoba that includes the City of Winnipeg south to the U.S. border and west to the  
79 Saskatchewan border. This area includes the Turtle Mountains and its environs.

80 In the abovementioned jurisprudence, there is no requirement regarding "some level of  
81 services", "clear boundaries" or a "form of self-government" in order to for a Metis  
82 community to be recognized as an "Aboriginal community:" MH provides no rationale for  
83 inclusion of these additional prerequisites in order to be recognized as an "Aboriginal  
84 community". The use of this arbitrary definition appears to exclude any meaningful  
85 inclusion and assessment of the Manitoba Metis community in the EIS.

86 Also, MH's approach of focusing on the impacts of use by Aboriginal individuals versus  
87 understanding and assessing use by "Aboriginal communities" is inconsistent with the  
88 language within the Scoping Document with respect to determining impacts on  
89 "Aboriginal groups" and "communities." As a result, the EIS fails to identify or assess  
90 project impacts on Aboriginal collectivities.

91 **Information Request(s):**

92 a) How did MH arrive at its definition of "Aboriginal Community" for the purposes of  
93 its EIS?

94 a) This definition was used by consultants on the Project to assist them in  
95 determining which administrative communities located in the vicinity of the  
96 Project Study Area might have a large proportion of aboriginal residents and  
97 thus should be considered in carrying out workshops and interviews of 'key'  
98 persons. Aside from the ATK shared through those workshops and

- 99 interviews, Manitoba Hydro was presented directly by several First Nations  
 100 and the MMF with proposals to conduct self-directed ATK studies which  
 101 proposals were accepted. The definition and the consultants in question did  
 102 not play a role in the negotiation and presentation of the self-directed studies  
 103 and the definition was not utilized to screen out any possible participants.
- 104 b) Please explain what is required to meet MH's standard of a "separate form of  
 105 government."? Manitoba Hydro does not have standards for the terms in the  
 106 definition. The definition as is stated above was used to assist in planning  
 107 Aboriginal engagement in the Site Selection and Environmental Assessment  
 108 (SSEA) process for the Bipole III Transmission Project.
- 109 b) Please explain what is required to meet MH's standard of "provides some level of  
 110 service to its residents"? See b) above.
- 111 c) Please explain what is required to meet MH's standard of "clear community  
 112 boundaries"? See b) above.
- 113 b) & c) & d) Manitoba Hydro does not have standards for the above.
- 114 d) Please provide a list of what groups MH considers to be "Aboriginal communities"  
 115 for the purposes of the EIS.
- 116 e) Manitoba Hydro invited the following First Nation and NACC communities, and  
 117 the MMF to participate in the ATK process:

<b>First Nation or Northern Affairs Communities and the MMF</b>	
Baden Community Council	Nelson House Community Council
Barrows Community Council	Nisichawayasihk Cree Nation
Birdtail Sioux First Nation	O-Chi-Chak-Ko-Sipi First Nation
Camperville Community Council	Opaskwayak Cree Nation
Chemawawin First Nation	Pelican Rapids Community Council
Cormorant Community Council	Pikwitonei Community Council
Crane River Community Council	Pine Creek First Nation
Dakota Plains First Nation	Powell Community Council
Dakota Tipi First Nation	Red Deer Lake Community Council
Dawson Bay Community Council	Rolling River First Nation
Duck Bay Community Council	Sandy Bay Ojibway First Nation
Easterville Community Council	Sapotaweyak Cree Nation

<b>First Nation or Northern Affairs Communities and the MMF</b>	
Ebb & Flow First Nation	Sherridon Community Council
Fox Lake Cree Nation	Sioux Valley Dakota Nation
Gamblers First Nation	Spence Lake Community Council
Herb Lake Landing Community Council	Swan Lake First Nation
Ilford Community Council	Tataskweyak Cree Nation
Keeseekoowenin Ojibway First Nation	Thicket Portage Community Council
Long Plain First Nation	Tootinaowaziibeeng Treaty Reserve
Manitoba Metis Federation	Wabowden Community Council
Mathias Colomb First Nation	War Lake First Nation
Meadow Portage Community Council	Waywayseecappo First Nation
Moose Lake Community Council	Westgate Community Council
Mosakahiken Cree Nation	Wuskwi Sipiik First Nation
National Mills Community Council	York Factory First Nation

118

119

e) Please provide all technical reports or studies that were commissioned by MH to determine "Aboriginal communities" in the project's study area.

120

121

122

f) No studies or technical reports were commissioned to determine communities.

123

124

f) Did MH receive instructions from the Manitoba Government on what "Aboriginal communities" to engage in relation to the project? If so, please provide copies of all letters, meeting notes and exchanges related to engagement.

125

126

127

g) No.

128

g) Metis in Manitoba do not meet the criteria set out by MH for an "Aboriginal community," please explain MH's justification for this exclusion?

129

130

h) Please explain how an EIS that uses a definition of "Aboriginal community" that excludes Metis could meaningfully assess use and impacts on the Metis as a distinct Aboriginal group?

131

132

133

i) Why does the EIS include no description of the Metis community impacted by the project?

134

135

- 136 h) & i) & j) Manitoba Hydro did not exclude the Metis people from the Bipole III  
137 Transmission Project. Metis people living in communities in the vicinity of the  
138 project such as NACC communities or First Nations had the opportunity to  
139 participate in open houses, community meetings and ATK processes that  
140 Manitoba Hydro undertook in those communities. Manitoba Hydro also engaged  
141 the MMF to undertake a Traditional Knowledge study to provide further  
142 opportunity for Metis people to provide input and share knowledge held by both  
143 Metis people living in the study area, as well as those Metis people who may live  
144 outside the area, but who may utilize the area for a number of activities.
- 145 **j)** Please provide a detailed record of concerns identified by groups that MH does  
146 consider "Aboriginal communities" for the purposes of the EIS.
- 147 k) Please see the ATK technical Reports #1 and #2 for this information.  
148 Additional information regarding community concerns can also be found in the  
149 Public Consultation Technical Report.
- 150
- 151 **k)** Was MH delegated any procedural aspects of the Crown's legal duty to consult  
152 and accommodate Aboriginal peoples? If yes, please provide documents that  
153 explain and set out this delegation. If no, please provide documents that set out  
154 that no procedural aspects of the Crown's legal duty to consult and  
155 accommodate Aboriginal peoples would be delegated to MH (i.e., letter from  
156 Crown, meeting notes, etc.).
- 157  
158 l) No. No procedural aspect of the Crown's legal duty to consult has been  
159 delegated to MH.
- 160
- 161 **l)** Please provide a detailed list or all correspondence and communications between  
162 the Crown and MH in relation to engagement and/or consultation with  
163 "Aboriginal communities" related to the project?
- 164 m) The Crown Consultation Process for the Bipole III Transmission Project is  
165 staffed with experienced employees of the Province and a consulting firm. These  
166 persons are carrying out the Crown's constitutional obligation to consult with

167 First Nations, the Metis and Aboriginal persons living in communities whose  
168 rights may be adversely affected by the Project. Manitoba Hydro has been asked  
169 to provide overviews of the Bipole III Transmission Project to the Province's  
170 Crown Consultation team and frequently is asked to attend meetings it has  
171 scheduled with First Nations and other parties for the purpose of providing an  
172 overview of the Project and/or the EIS. Communications regarding the  
173 scheduling of such meetings have often taken the form of emails. Manitoba  
174 Hydro has prepared summaries of the Project and the EIS to facilitate  
175 presentations made at such meeting by its employees. Preparation of a list of all  
176 the email communications and of the various presentations would be time-  
177 consuming and would not assist the CEC or Participants in understanding the  
178 Project or the EIS. The CEC is not reviewing the Crown Consultation Process and  
179 thus, to the extent that the foregoing emails and presentations would assist in  
180 understanding the nature of meetings in that process and the materials  
181 presented there, they are outside the scope of the CEC process and Manitoba  
182 Hydro thus respectfully declines to provide a list of them.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 3 – Pgs. 3-39 and 3-40
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-219

1

2 **Question:**

3 On pages 3-39 and 3-40, it is stated that the Community Development Initiative (CDI)  
 4 will provide \$4-5 million annually over 10 years to communities that fulfill the indicated  
 5 eligibility criteria. There may be as many as 60 communities which are eligible and so,  
 6 annual payments to each community will be quite modest.

7 What were the criteria for establishing such a Project impact benefits scheme and, were  
 8 any precedents reviewed, such as the Wuskwatim Transmission Development Fund?

9 **Reponses:**

10 The Community Development Initiative ("CDI") is not intended to compensate for  
 11 impacts. The intent of the CDI is to fund worthwhile projects that will benefit a wide  
 12 spectrum of persons who live within a modest distance of Bipole III facilities and the  
 13 mechanism proposed to do that is to provide the funding to the rural municipality,  
 14 Northern Affairs Community, village, town or First Nation in which they live.

15 Yes, the Wuskwatim Transmission Development Fund was considered when developing  
 16 the Bipole III CDI framework.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 8 – Effects Assessment and Mitigation
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-220

1

2 **Question:**

3 Given the extent of habitat fragmentation associated with this project, a more detailed  
 4 discussion on habitat fragmentation is warranted in this section as it relates to mammals  
 5 (including small mammals), birds, reptiles, and amphibians. Topics that should be  
 6 addressed or expanded upon include:

- 7 a. Edge effects, including changes or effects on species richness, composition, and  
 8 interactions (competition, parasitism rates, predation, etc.);
- 9 b. Effects on genetic, morphological, and/or behavioral traits;
- 10 c. Synergistic interactions with other variables such as climate change, disturbance  
 11 regimes, and other drivers of population decline; and/or
- 12 d. Long-term effects on biodiversity.

13 **Response:**

14 Habitat fragmentation and its effects in relation to the Project have been addressed in  
 15 the Technical Reports associated with the Bipole III EIS as follows:

- 16 • The Bipole III Habitat Fragmentation Technical Report, Section 3.1, outlines the  
 17 general effects fragmentation can have on the existing environment and the  
 18 species within it.
- 19 • The Bipole III Mammals Technical Report, Section 5.1, discusses the effects  
 20 associated with fragmentation for four VEC mammal species (beaver, American  
 21 marten, elk, moose and wolverine). Section 5.5.1.2 and 5.5.5.3 also summarizes  
 22 the effects of fragmentation on all VEC mammal species.

- 23 • The Bipole III Birds Technical Report, Section 3.6.1.2, defines the general  
24 potential effects of fragmentation and habitat alteration to birds. Each VEC bird  
25 species has its potential effects outlined including fragmentation when applicable  
26 Sections 5.1.1.4 and 5.1.3.5 detail the potential effects of habitat fragmentation  
27 to birds and include population declines and increases, effects of edge habitat,  
28 incidence of brood parasitism, effects to niche species and nesting success. The  
29 effects for each ecoregion are also summarized in the latter section.
- 30 • The Bipole III Terrestrial Invertebrates, Amphibians and Reptiles Technical  
31 Report, Sections 6.1.1.1.1, 6.1.1.2.1, and 6.1.1.3.1, describe the effects of  
32 habitat alteration including fragmentation on invertebrates, amphibians and  
33 reptiles, respectively.
- 34 • Residual, long term effects on all VEC species are covered in the Bipole III  
35 Mammals Technical Report, Section 7.0, in the Caribou Technical Report, Section  
36 7.0, in the Bipole III Terrestrial Invertebrates, Amphibians and Reptiles Technical  
37 Report, Section 6.2 and in the Bipole III Birds Technical Report, Section 5.3.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 8 – Effects Assessment and Mitigation
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-221

1

2 **Question:**

3 This chapter consistently references percentage of habitat in the local study that will be  
 4 affected or altered. How is the percentage of habitat loss calculated and how much of  
 5 this is critical habitat?

6 **Response:**

7 Expert based habitat models for VEC mammals, birds, terrestrial invertebrates, reptiles  
 8 and amphibians and plant species/communities were developed using the Land Cover  
 9 Classification Enhanced for Bipole III (LCCEB). All VEC species were assessed for the  
 10 amount of high quality habitat affected in the Local Study area (3 mile corridor) and  
 11 were compared to the available habitat either within each ecodistrict or ecoregion  
 12 intersected by the Final Preferred Route (FPR). Area of VEC habitat contained in the  
 13 ROW was then compared to the amount of habitat available in the Local Study Area.  
 14 “Critical habitat” is defined as “habitat that is necessary for the survival or recovery of a  
 15 listed wildlife species and that is identified as the species’ critical habitat in the recovery  
 16 strategy or in an action plan for the species” (SARA, 2009) and is not specifically  
 17 referred to in these analyses. Quantitative analyses of critical habitat were undertaken  
 18 for boreal woodland caribou (see below). Specific details of expert models are as  
 19 follows:

- 20 ○ Section 3.2.1 of the Bipole III Mammals Technical Report describes how the GIS
- 21 landcover model was created and outlines how all habitat analysis and modeling
- 22 was conducted using these LCCEB categories.

- 23       ○ Table 4-6 on page 101 of the Bipole III Birds Technical Report outlines the VEC  
24       bird species and their associated habitat variables used in the LCCEB habitat  
25       modeling. Section 5.1.3.3 outlines the effects of habitat alteration to bird VEC  
26       species. The exact model used to determine bird habitat is outlined in Appendix  
27       D of the Bipole III Birds Technical Report. Appendix F-16 outlines the amount of  
28       habitat, per bird VEC species, per modeled habitat area, which will experience  
29       habitat alteration as a result of Bipole III, while Appendix F-17 outlines the  
30       amount of habitat affected per Project feature and Appendix F-18 shows the  
31       total percent of habitat affected per bird VEC species.
- 32       ○ Section 3.2 describes the models used for the respective species in the Bipole III  
33       Terrestrial Invertebrates, Amphibians and Reptiles Technical Report, and Section  
34       6.1 describes the habitat required for these VEC species and the alteration of  
35       habitat each may potentially experience.
- 36       ○ Section 6.1 of the Terrestrial Ecosystems and Vegetation Technical Report  
37       describes the vegetation communities affected by the FPR in relation to the Local  
38       Study Area.
- 39       ○ Section 3.6 of the Bipole III Caribou Technical Report as well as Section 3.4 of  
40       the Bipole III Supplemental Caribou Report outlines the models used to  
41       determine calving and important winter caribou habitat selection and the effects  
42       on available habitat.

43       **Reference:**

- 44       SARA (Species at Risk Act) Public Registry. 2009 [online]. Available at  
45       <http://www.sararegistry.gc.ca>. [Accessed March 25, 2010].

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 9 – Cumulative Effects Assessment
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-222

1

2 **Question:**

3 The spatial scale of the cumulative effects assessment (CEA) appears to be limited to  
4 the project study area. What is the basis or criteria used for determining the spatial  
5 scale in the CEA? If a regional- or landscape-level scale was used, how might this affect  
6 the outcome of the results given the extensive hydroelectric and other resource-based  
7 development in the north?

8 **Response:**

9 As reviewed below in more detail, the spatial scale of the Project Study Area defined for  
10 the environmental assessment of the Project, including the CEA, is very broad. The  
11 environmental assessment as provided in Chapter 8 also considered the broadest  
12 relevant spatial scale for each VEC and the outcome of the environmental assessment  
13 results, including the CEA, fully reflect these considerations.

14 The Project Study Area (see Chapter 1, Map 1-1) is described in section 4.2.3.1 of the  
15 Chapter 4 (Assessment Approach) of the EIS. The Project Study Area defines the  
16 broadest area used to provide spatial context and comparison to the Project  
17 components. The relatively large study area facilitates an appropriate level of  
18 assessment of the nature and spatial scope of the environmental effects associated with  
19 each of the Project components. In fact, as indicated in Map 1-1 provided in Chapter 1  
20 of the EIS, most of Manitoba Hydro's northern development occurs within the Project  
21 Study Area.

22 As indicated in Chapter 9 (Cumulative Effects), the cumulative effects assessment  
23 approach considers those adverse residual effects of the Project on Valued  
24 Environmental Components (VECs) (as identified in the effects assessment provided in  
25 Chapter 8) that have the potential to act in concert with the effects of other past,  
26 existing or potential future projects or human activities. In this regard the spatial extent  
27 where cumulative effects are considered is relative to the VEC and not specifically  
28 limited by the Project Study Area, i.e., for there to be a cumulative effect on a VEC there  
29 is required to be a residual adverse effect from the Project combined with an effect from  
30 other existing or potential future projects that overlap both spatially and temporally with  
31 the effect of the Project.

32 For example, with regard to caribou the effects assessment in Chapter 8 considered  
33 cumulative effects related to fragmentation due to past linear developments on each  
34 caribou range (and the assessment was not restricted to those parts of the range that  
35 occurred within the Project Study Area). Maps 6-18 and 6-17 (Chapter 6 of the EIS)  
36 indicate the extent of boreal woodland caribou ranges in relation to the Manitoba  
37 Conservation Boreal Woodland Caribou Management Zone. These maps illustrate that  
38 for the Wabowden range, part of the range is outside the Project Study Area; however,  
39 the effects assessment specifically considered that the Wabowden range had the highest  
40 degree of existing fragmentation due to anthropogenic disturbance, i.e., the assessment  
41 considered the existing stresses on the VEC due to impacts that occurred over its range,  
42 not just impacts that occurred within the Project Study Area.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 9 – Cumulative Effects Assessment
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-223

1

2 **Question:**

3 The temporal scale also appears to be somewhat limited. What are the criteria used for  
 4 determining the temporal scale in the CEA? The appropriate temporal scale would also  
 5 be useful for determining specific project-related impacts, such as habitat  
 6 fragmentation.

7 **Response:**

8 As reviewed below in more detail, the temporal scale defined for the environmental  
 9 assessment of the incremental effects of the Project on each VEC considered the  
 10 relevant temporal scale for such effects on each VEC and the outcome of the  
 11 environmental assessment results, including the CEA, fully reflect these considerations.  
 12 Similarly, other projects and human activities included in the CEA reflected temporal  
 13 scales adopted for the assessment of each VEC and what can be reasonably foreseeable  
 14 at this time as regards other projects and human activities.

15 Scoping of the environmental assessment for each VEC in Chapter 8 considered the time  
 16 scales that affect significance assessment of incremental effects of the Project on each  
 17 VEC, including the expected duration of such Project effects.

18 Scoping for the cumulative effects assessment (CEA) is described in Section 9.2 of  
 19 Chapter 9 of the EIS. In addition to adopting time scales for each VEC as determined in  
 20 Chapter 9, Section 9.2 notes as follows regarding the CEA:

- 21 • **For past projects and activities** – the effects of past and current projects and  
 22 human activities form an integral part of, and have been incorporated into, the

**Comment [PM1]:** A guidance piece was provided to subs last for use in their TRs. This indicated the time scales and provided rationale. This needs to be accounted for in this response as it can be seen in a number of the TRs.

23 description of the existing environment in Chapter 6. Accordingly, these projects  
24 form an integral part of the baseline against which the likely incremental effects  
25 of the Project are assessed in Chapter 8; the likely cumulative effects of the  
26 Project in combination with other past and current projects are considered as  
27 part of that assessment in the determination of the regulatory significance of the  
28 incremental effects of the Project on each VEC. Cumulative effects assessment  
29 in Chapter 9 considered effects of past and current projects further if ongoing  
30 effects of such projects were expected to measurably change over time.

31 • ***For current and future projects and activities*** – the cumulative effects  
32 assessment focused on other projects that have already been approved and are  
33 being constructed or are planned to be constructed/ carried out, or, though not  
34 yet approved, are in planning/ approval processes preparatory to being  
35 constructed or carried out. This limitation is necessary to appropriately assess  
36 cumulative effects, i.e., in order to undertake the assessment it is necessary for  
37 the identified project or activity to be defined in sufficient detail to allow effects  
38 to be characterized. Where future projects were not able to be defined in  
39 sufficient detail for their effects to be characterized they were not considered in  
40 the cumulative effects assessment. Identified future projects will, if and when  
41 they proceed, be subject to their own review processes. Where there is  
42 temporal and spatial overlap, the cumulative effects of Bipole III would be  
43 considered as part of the existing environment and the effects of future projects  
44 would be considered against that baseline. As part of any future review process  
45 the proponent would need to satisfy the regulatory process that there would be  
46 no significant adverse effects (including cumulative effects) from the future  
47 project.

48 By way of example of the basic approach adopted, the temporal scale did not arbitrarily  
49 limit (based on some fixed prior time period) the consideration of the cumulative effects  
50 of other past/existing or future project effects related to habitat fragmentation. For  
51 relevant VECs (e.g., caribou, American marten, elk) fragmentation was considered as  
52 part of the effects assessment in Chapter 8 (as well as in Technical Reports on Mammals  
53 and on Fragmentation). For caribou specifically, Chapter 8 indicates that the degree of

Bipole III Transmission Project

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54 existing fragmentation was assessed for each range in order to quantify disturbance  
55 regimes and to qualify the degree to which a new right-of-way may contribute to  
56 additional cumulative effects in caribou range. Fragmentation effects were also  
57 considered in Chapter 9 relative to potential future projects with specific focus on  
58 caribou.

59 Please also see response to *CEC/MH-VI-224*.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 9 – Cumulative Effects Assessment
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-224

1

2 **Question:**

3 Why wasn't a description of the local environment provided prior to development,  
4 particularly in the north? A pre-development scenario would provide useful baseline data  
5 for determining cumulative effects over time and space.

6 **Response:**

7 Pursuant to the Project Scoping Document the environmental assessment was  
8 undertaken consistent with Provincial and Federal Environmental Assessment legislation,  
9 guidelines and procedures, as well as Canadian and international best practices. The  
10 Scoping Document did not require a description of the local pre-development baseline  
11 environment as part of the assessment (if this is taken to mean "pre any development  
12 by humans in the region"), and such a description for each VEC would not be in  
13 accordance with the environmental assessment practice, guidelines and procedures  
14 noted above.

15 In accordance with the requirements and practices noted above, environmental  
16 assessment for regulatory review of a specific project considers the incremental effects  
17 that the proposed project will have on the existing environment, i.e., it considers how  
18 the world as it is today (and as it is expected to evolve into the future) would look with  
19 the Project and how the world would look without the Project. This approach assumes  
20 that the world as expected without the Project must be understood in order to  
21 determine the incremental effects that the Project is expected to have.

22 As noted in Chapter 4 (Assessment Approach) and Chapter 9 (Cumulative Effects  
23 Assessment), the effects of past and current projects and activities form an integral part  
24 of, and are incorporated into, the description of existing environment or baseline in  
25 Chapter 6. Where relevant, expected future changes are noted in the description of this  
26 existing environment or baseline for specific VECs. Project effects are identified and  
27 assessed and mitigation and follow up measures are implemented relative to that  
28 baseline.

29 Accordingly, cumulative effects that are likely to result from the Project in combination  
30 with other past and current projects or activities have generally been assessed as part of  
31 the effects assessment in Chapter 8. Past projects are further addressed in the  
32 cumulative effects assessment in Chapter 9 if ongoing effects from such projects were  
33 expected to change measurably over time.

34 In accordance with the requirements and practices noted above, the ultimate regulatory  
35 significance assessment of the incremental residual effects of the Project on each VEC,  
36 after mitigation, considers the extent to which each VEC is already expected to be  
37 vulnerable under future existing or baseline conditions without the Project due to the  
38 effects of other past or current Projects. This analysis is developed as required and  
39 feasible for each VEC, looking to the expected future conditions and requirements rather  
40 than simply attempting to define the VECs past pre-development condition. In some  
41 instances, however, such as analysis of fragmentation effects on some terrestrial VECs  
42 such as caribou, the assessment of such vulnerability in effect considers the extent to  
43 which the pre-development environment has already been materially changed by  
44 existing roads, rail lines, hydro-electric and other developments. Chapter 8 (pages 8-94  
45 to 8-96) indicates ecological and demographic considerations relevant to the assessment  
46 of Project effects include cumulative effect response to linear development (at page 8-  
47 95); the degree of existing fragmentation was assessed for each range in order to  
48 quantify disturbance regimes and qualify the degree to which a new right of way may  
49 contribute to additional cumulative effects in a caribou range.

50

51 For example, with regard to the Wabowden range, the effects assessment in Chapter 8  
52 considered that this range had the highest degree of existing fragmentation due to  
53 anthropogenic disturbance and consequent potential for increased predation in known  
54 areas of caribou occurrence in summer and winter related to the presence of the HVdc  
55 line. By contrast, the assessment in Chapter 8 indicated for the Reed range that  
56 potential effects associated with increased predation and hunting are not anticipated to  
57 be a cumulative factor given the HVdc line parallels the existing Wuskwatim transmission  
58 line, is at the extreme eastern edge of the known Reed Lake winter range and does not  
59 bisect any major core use area and avoids all known calving areas.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 9 – Cumulative Effects Assessment
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-225

1

2 **Question:**

3 How were the valued components for the socioeconomic environment determined and  
4 why are other important components—including health, social opportunities, social  
5 inequalities, infrastructure, pollution, and maintenance and development of cultural  
6 heritage—not addressed?

7 **Response:**

8 As reviewed in more detail below, valued environmental components (VECs) for the  
9 overall Project’s effects assessment were determined for each of the socio-economic and  
10 biophysical components as provided for in the Scoping Document. Socio-economic VECs  
11 with direct pathways for effects from the Project included:

- 12 • Land Tenure and Residential Development;
- 13 • Private Forestlands;
- 14 • Aboriginal Lands;
- 15 • Designated Protected Areas and Protected Areas Initiative;
- 16 • Infrastructure;
- 17 • Agricultural Land Use/ Productivity;
- 18 • Commercial Fishing;
- 19 • Commercial Forestry;
- 20 • Mining/Aggregates;
- 21 • Trapping;
- 22 • Recreation and Tourism;

- 23 • Domestic Resource Use;
- 24 • Economic Opportunities;
- 25 • Community Services;
- 26 • Travel and Transportation;
- 27 • Human Health;
- 28 • Public Safety;
- 29 • Aesthetics;
- 30 • Culture; and
- 31 • Heritage Resources.

32 As explained in Chapter 9, the cumulative effects assessment included only VECs that  
33 had an overall residual negative effect of the Project as identified in Chapter 8, as well  
34 as a spatial and temporal overlap of the effects of the Project on that VEC with the  
35 effects of the other past, existing or future projects and human activities specified in  
36 Section 9.2.<sup>1</sup>

### 37 **VEC Selection Processes**

38 VEC selection processes are described in detail in the EIS Chapter 1, Section 1.5, and  
39 the approach adopted for this Project is described in Chapter 4 (Effects Assessment) and  
40 Chapter 7 (Evaluation of Route Alternatives). Please see also response to *CEC/MH-II-*  
41 *001(f)* which provides the criteria used to identify each socio-economic VEC for the  
42 Project.

43 In summary, in accordance with the Scoping Document, the environmental assessment  
44 of the Project's expected effects was structured by broad biophysical (e.g., atmosphere,  
45 soils, aquatic, terrestrial, mammals, birds, etc.) and socio-economic (e.g., land use,

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<sup>1</sup> As indicated in response to CEC/MH-VI-226 there is an errata in Table 9.3-2 and Table 9.3-3 – the symbols for No Adverse Cumulative Effects and Negligible Cumulative Effects (beyond assessment discussed in Chapter 8) are reversed in the legend and consequently do not correspond with the coincidence of effects indicated on the table. Corrected tables are attached to *CEC/MH-VI-226*.

46 resource use, economy, infrastructure and services, heritage resources, etc.)  
47 environmental components. As the SSEA moved in an iterative manner towards  
48 selection of a Final Preferred Route for the HVdc transmission line and final sites for  
49 other Project components, specific biophysical and socio-economic environmental  
50 components that could potentially still be impacted by the Project were identified as  
51 important or valued by Manitoba Hydro's specialists and/or by the public, by ATK  
52 studies, and by other elements of the SSEA process.

53 VECs were identified for each environmental component category based on  
54 consultations within Manitoba Hydro, discussions with discipline experts and the public  
55 consultation process, as well as a literature review and Manitoba Hydro's experience  
56 with other projects. The selected VECs, which are elements of the environment having  
57 scientific, social, cultural, economic, historical, archaeological, or aesthetic importance,  
58 are used to describe the environmental effects of the Project including the residual  
59 environmental effects. ATK and local knowledge was considered for each of the above  
60 component categories and incorporated into the assessment to the extent possible.

61 The list of biophysical and socio-economic VECs for the Project is provided in Chapter 4,  
62 pages 4-9 and 4-11 and each VEC is considered and assessed in detail in Chapter 8  
63 (Effects Assessment). This list includes among the socio-economic VECs considered,  
64 Community Services, Human Health, Public Safety, and Culture and Heritage. Other  
65 components were not considered in the assessment, as there was no direct pathway of  
66 effect.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 9 – Cumulative Effects Assessment
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-226

1

2 **Question:**

3 Page 9-21 identifies resource use, as well as cultural and heritage resources, as  
 4 socioeconomic environment subcomponents. Table 9.3-2 on page 9-22 indicates that  
 5 Bipole III will generally have no adverse cumulative effects on these components. This  
 6 seems contrary to what is presented in the ATK reports. Please specify and discuss how  
 7 you reached these conclusions.

8 **Response:**

9 There is an errata in legend in the Tables 9.3-1 and 9.3-2 in Chapter 9. Specifically,

- 10 • The symbol for ***No Adverse Cumulative Effects*** is noted as a checkmark in  
 11 the legend in the versions of Table 9.3-1 and Table 9.3-2 provided in the EIS  
 12 filed December 2, 2011. This should be a green box.
- 13 • The symbol for ***Negligible Cumulative Effects (beyond assessment***  
 14 ***discussed in Chapter 8)*** is a green box in the legend in the version of Table  
 15 9.3-2 and Table 9.3-3 provided in the EIS filed December 2, 2011. This should be  
 16 a checkmark.

17 Consequently, with regard to No Adverse Cumulative Effects and Negligible Cumulative  
 18 Effects (beyond assessment discussed in Chapter 8), the legend in each of Table 9.3-1  
 19 and 9.3-2 as filed December 2, 2011 does not correspond with the determination of  
 20 coincidence of effects on the biophysical or socioeconomic environmental components  
 21 indicated in the rest of each table. With the above-noted corrections to the legend, the  
 22 table is correct and corresponds with and reflects the discussion in the text of Chapter 9.

23 To be clear, this correction to the legend does not change any conclusions regarding  
24 cumulative effects in Chapter 9 (i.e., the error occurred after the substance of the  
25 document was finalized).

26 Versions of the tables as filed December 2, 2011 and revised versions are provided as  
27 Attachment 1 (Table 9.3-1 and Table 9.3-2 Filed December 2, 2011) and Attachment 2  
28 (Table 9.3-1 and Table 9.3-2 REVISED). The revised tables have also been edited to  
29 indicate more clearly which projects & human activities are considered past/existing  
30 projects and human activities and which projects and human activities are considered  
31 future and prospective future projects and human activities.

32 With the correction to the legend described above, Table 9.3-2 REVISED indicates  
33 negligible cumulative adverse effects (rather than no adverse cumulative effects) for the  
34 Resource Use and Culture and Heritage socio-economic environmental sub-component  
35 VECs, based on the assessments of Project effects on these VECs in Chapter 8 and the  
36 potential overlap of Project effects on these VECs with effects of the other past, current  
37 and future projects identified in these tables. This revision brings the presentation in  
38 the table in line with the rest of the document and does not change any conclusions in  
39 the document.

40

41 **ATTACHMENT 1 - --TABLE 9.3-1 & TABLE 9.3-2 FILED DECEMBER 2, 2011**

42 **Table 9.3-1: Potential Coincidence of Effects on Biophysical Environment**

Other Projects & Activities		Bio-physical Environment Sub-components								
Adverse Project Effects on VECs (Not Significant as discussed in Chapter 8)	◇	Soils & Terrain	Air Quality and Climate	Groundwater	Aquatic Environment	Terrestrial Ecosystems & Vegetation	Mammals & Habitat	Birds & Habitat	Amphibians & Reptiles	Terrestrial Invertebrates
No Adverse Cumulative Effects	✓									
Negligible Cumulative Effects (beyond assessment discussed in Chapter 8)	□									
Potentially Non-negligible Cumulative Effects	□									
<b>Bipole III Project</b>	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Wuskwatim Transmission Project (230 kV transmission lines, Thompson-Birchtree Station)	✓	□	□	✓	✓	□	✓	✓	✓	✓
Riel Sectionalization Project - The Riel Reliability Improvement Initiative	□	□	□	✓	✓	✓	✓	✓	✓	✓
Multiple existing (utility) corridors, such as water pipelines, fibre optics line, that serve local and regional needs	□	□	□	□	✓	□	✓	✓	✓	✓
Forestry operations and road development (Tolko, Louisiana Pacific)	✓	✓	□	✓	✓	□	✓	✓	✓	✓
Mineral licence area exploration, mineral lease, mining claim, and quarry lease developments	✓	✓	□	✓	✓	□	✓	✓	✓	✓
Provincial Highways and Roads, Winter road development	□	□	□	✓	✓	□	✓	✓	✓	✓
Keewatinoow wastewater management	✓	□	✓	✓	✓	✓	✓	✓	✓	□
Keeyask Generation/Transmission	□	□	□	✓	□	□	✓	✓	✓	✓
Kettle Generating Station Upgrades	□	□	□	□	□	□	□	□	□	□
Urban residential development (potential for new housing stock within the Town of Gillam)	□	□	□	□	□	□	□	□	□	□
Conawapa Generating Station Projects	□	□	✓	✓	□	□	✓	✓	✓	□
Forestry operations including road development (Tolko, Louisiana Pacific)	✓	✓	□	✓	✓	□	✓	✓	✓	✓
Mineral licence area exploration, mineral lease, mining claims, and quarry lease developments	✓	✓	□	✓	✓	□	✓	✓	✓	✓
Current and future agricultural activities	✓	✓	□	✓	✓	✓	✓	✓	✓	✓

44 **Table 9.3-2: Potential Coincidence of Effects on the Socio-Economic**  
 45 **Environment**

Other Projects & Activities		Socio-economic Environment Sub-components					
Adverse Project Effects on VECs (Not Significant as discussed in Chapter 8)	◇	Land Use	Resource Use	Economy	Services	Personal, Family & Community Life	Culture & Heritage
No Adverse Cumulative Effects	✓						
Negligible Cumulative Effects (beyond assessment discussed in Chapter 8)	□						
Potentially Non-negligible Cumulative Effects	□						
<b>Bipole III Project</b>	◇	◇	◇	◇	◇	◇	◇
Wuskwatim Transmission Project (230 kV transmission lines, Thompson-Birchtree Station)	✓	✓	□		□	✓	
Riel Sectionalization Project - The Riel Reliability Improvement Initiative	✓	□	□		□	✓	
Multiple existing (utility) corridors, such as water pipelines, fibre optics line, and serve local and regional needs	✓	✓	□	□	□	✓	
Forestry operations and road development (Tolko, Louisiana Pacific)	✓	✓	□	□	□	✓	
Mineral licence area exploration, mineral lease, mining claim, and quarry lease developments	✓	✓	□	□	□	✓	
Provincial Highways and Roads, Winter road development	✓	✓	□	□	□	✓	
Keewatinoow wastewater management		□	□	□	□	□	✓
Keyask Generation/Transmission	✓	✓	□	□	□	□	✓
Kettle Generating Station Upgrades		□	□	□	□	□	✓
Urban residential development - plans (potential for new housing stock within the Town of Gillam)	✓	□	□	✓	✓	✓	
Conawapa Generating Station Projects	✓	✓	□	□	□	□	✓
Forestry operations including road development (Tolko, Louisiana Pacific)	✓	✓	□	□	□	✓	
Mineral licence area exploration, mineral lease, mining claims, and quarry lease developments	✓	✓	□	□	□	✓	
Current and future agricultural activities	✓	✓	□	□	□	□	

46  
47

48 **ATTACHMENT 2 –TABLE 9.3-1 & TABLE 9.3-2 REVISED**

49 **Table 9.3-1: Potential Coincidence of Effects on Biophysical Environment -**  
 50 **REVISED**

Other Projects & Activities		Bio-physical Environment Sub-components								
Adverse Project Effects on VECs (Not Significant as discussed in Chapter 8)	◇	Soils & Terrain	Air Quality and Climate	Groundwater	Aquatic Environment	Terrestrial Ecosystems & Vegetation	Mammals & Habitat	Birds & Habitat	Amphibians & Reptiles	Terrestrial Invertebrates
No Adverse Cumulative Effects	■									
Negligible Cumulative Effects (beyond assessment discussed in Chapter 8)	✓									
Potentially Non-negligible Cumulative Effects	■									
<b>Bipole III Project</b>		◇	◇	◇	◇	◇	◇	◇	◇	◇
<b>Past &amp; Existing Projects</b>	Wuskwatim Transmission Project (230 kV transmission lines, Thompson-Birchtree Station)	✓	■	■	■	✓	✓	■	✓	✓
	Kettle Generating Station Upgrades	■	■	■	■	■	■	■	■	■
	Riel Sectionalization Project - The Riel Reliability Improvement Initiative	■	■	■	■	✓	✓	✓	✓	✓
	Multiple existing (utility) corridors, such as water pipelines, fibre optics line, that serve local and regional needs	■	■	■	■	■	✓	■	✓	✓
	Forestry operations and road development (Tolko, Louisiana Pacific)	✓	✓	■	■	✓	✓	■	✓	✓
	Mineral licence area exploration, mineral lease, mining claim, and quarry lease developments	✓	✓	■	■	✓	✓	■	✓	✓
	Provincial Highways and Roads, Winter road development	■	■	■	■	✓	✓	■	✓	✓
<b>Future and Prospective Future Projects</b>	Keewatinoow wastewater management	✓	■	✓	■	✓	✓	✓	✓	■
	Keeyask Generation/Transmission	■	■	■	■	■	■	■	✓	✓
	Urban residential development (potential for new housing stock within the Town of Gillam).	■	■	■	■	■	■	■	■	■
	Conawapa Generating Station Projects	■	■	■	■	✓	■	■	✓	✓
	Future forestry operations including road development (Tolko, Louisiana Pacific)	✓	✓	■	■	✓	✓	■	✓	✓
	Future mineral licence area exploration, mineral lease, mining claims, and quarry lease developments	✓	✓	■	■	✓	✓	■	✓	✓
	Current and future agricultural activities	✓	✓	■	■	✓	✓	✓	✓	✓

51

52

53 **Table 9.3-2: Potential Coincidence of Effects on the Socio-Economic**  
 54 **Environment – REVISED**

Other Projects & Activities		Socio-economic Environment Sub-components					
Adverse Project Effects on VECs (Not Significant as discussed in Chapter 8)	◇	Land Use	Resource Use	Economy	Services	Personal, Family & Community Life	Culture & Heritage
No Adverse Cumulative Effects	■						
Negligible Cumulative Effects (beyond assessment discussed in Chapter 8)	✓						
Potentially Non-negligible Cumulative Effects	■						
<b>Bipole III Project</b>		◇	◇	◇	◇	◇	◇
<b>Past &amp; Existing Projects</b>	Wuskwatim Transmission Project (230 kV transmission lines, Thompson-Birchtree Station)	✓	✓	■	✓	■	✓
	Kettle Generating Station Upgrades	■	■	■	■	■	✓
	Riel Sectionalization Project - The Riel Reliability Improvement Initiative	✓	■	■	✓	■	✓
	Multiple existing (utility) corridors, such as water pipelines, fibre optics line, and serve local and regional needs	✓	✓	■	■	■	✓
	Forestry operations and road development (Tolko, Louisiana Pacific)	✓	✓	■	■	■	✓
	Mineral licence area exploration, mineral lease, mining claim, and quarry lease developments	✓	✓	■	■	■	✓
	Provincial Highways and Roads, Winter road development	✓	✓	■	■	■	✓
<b>Future and Prospective Future Projects</b>	Keewatinoow wastewater management	■	■	■	■	■	✓
	Keeyask Generation/Transmission	✓	✓	■	■	■	✓
	Urban residential development - plans (potential for new housing stock within the Town of Gillam)	✓	■	■	✓	✓	✓
	Conawapa Generating Station Projects	✓	✓	■	■	■	✓
	Future forestry operations including road development (Tolko, Louisiana Pacific)	✓	✓	■	■	■	✓
	Future mineral licence area exploration, mineral lease, mining claims, and quarry lease developments	✓	✓	■	■	■	✓
	Current and future agricultural activities	✓	✓	■	■	■	■

55

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 10 – Sustainability Assessment
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-227

1

2 **Question:**

3 The EIS references the Brundtland Commission Report (p. 10-1). Specifically it  
 4 references the definition of sustainable development in that report. However, this  
 5 definition contains two key concepts:

- 6 • the concept of “needs,” in particular the essential needs of the world’s poor, to  
 7 which overriding priority should be given; and
- 8 • the ideal of limitations imposed by the state of technology and social  
 9 organization on the environment’s ability to met present and future needs. (*see*  
 10 Chapter 2, Brundtland Report, 1997).

11 If Manitoba has adopted this definition as policy and Hydro accepts this definition, can  
 12 you please clarify how this project addresses these concepts and in particular, the  
 13 concept of ‘needs’? How does this project address the essential needs—including food,  
 14 clothing, and shelter—of the poor in Manitoba, including First Nation, Metis, and other  
 15 communities?

16 **Response:**

17 Manitoba Hydro followed the *Sustainable Development Act* in addressing issues of  
 18 sustainability.

19 There is no direct pathway between the Project and the essential needs identified above  
 20 i.e. food, clothing and shelter. The Project was not intended to address those issues.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 10 – Sustainability Assessment
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-228

1

2 **Question:**

3 It is stated that thirteen guiding principles are considered in all aspects of Manitoba  
4 Hydro's operations. All of these, except economic enhancement, are discussed in the  
5 accompanying table. Is there a reason that the principle of economic enhancement is  
6 not addressed in the table? Please provide more information on how this principle  
7 applies to this project.

8 **Response:**

9 The listing of Manitoba Sustainable Development Principles and Guidelines in the first  
10 column of Table 10.2.1 inadvertently omitted the Economic Enhancement principle.  
11 However, the information for addressing this principle was included in the Comment and  
12 Indicator sections of the Table on pages 10-4 to 10-15. The following presents the  
13 missing principle and restates the applicable information about the principle that  
14 appeared in the EIS.

15 Principle

16 Economic Enhancement

17 Enhance the productive capability and quality of Manitoba's economy and the well-being  
18 of Manitobans by providing reliable electrical services at competitive rates.

<b>Date</b>	July 27 2012
<b>Reference</b>	Reference: Chapter 10 – Sustainability Assessment
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-229

1

2 **Question:**

3 In the Project Sustainability Assessment table, a list of indicators is provided for each  
4 principle or activity. Has a target number, percentage, or goal been established for these  
5 indicators, such as percent of total project workforce is Aboriginal. Please quantify or  
6 provide available targets for these indicators, where appropriate.

7 **Response:**

8 The Sustainable Development indicators are presented to facilitate tracking and  
9 reviewing progress on important effects of the Project. Most are drawn from monitoring  
10 measures proposed in the site selection and effects assessment portions of the EIS.  
11 Targets for select indicators identified in Chapter 10 are currently being developed.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 11 – Monitoring and Follow-up
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-230

1

2 **Question:**

3 The EIS references numerous monitoring and management plans, including:

- 4 a. A sediment and erosion control plan;
- 5 b. An access management plan; and
- 6 c. A socioeconomic and a heritage resources monitoring plan.

7 When are these plans expected to be completed and available for review?

8 **Response:**

9 The plans listed above are discussed in Chapter 11 of the Project EIS and Attachment  
10 11-1 (Draft Environmental Protection Plan). With respect to the socio-economic  
11 monitoring plan, the heritage resources monitoring plan and the access management  
12 plan: These components of the Environmental Protection Plan are currently under  
13 development and are in draft form. The plans will not be considered 'completed' or final  
14 until such time as the *Environment Act* licence conditions are incorporated.

15 The development and implementation of the sediment and erosion control plan will be  
16 the responsibility of construction contractors, and will be reviewed by Manitoba Hydro  
17 Staff and completed prior to construction.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #1
<b>Source</b>	CEC Information Request #1
<b>Question</b>	CEC/MH-VI-231

1

2 **Question:**

3 *Reference:*

4 "...construction is planned to commence in the fall of 2012 with a projected in-service  
5 date of October 2017." (EIS Ch1-1)

6 *Preamble:*

7 CEC hearings are scheduled for fall of 2012, with the CEC report following, and the  
8 license is not likely to be issued until 2013.

9 *Request:*

10 What is the new timeline to start construction and the targeted in-service date?

11 **Response:**

12 The start date of construction will be contingent upon receipt of the *Environment Act*  
13 Licence. Targeted in-service date is 2017.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-232

1

2 **Question:**3 *Reference:*

4 In chapter 2, reference is made to 2001 and 2006 studies by Teshmont Consultants in  
5 regards to the probability of converter and/or transmission failure due to tornado, wind,  
6 fire, ice storms, etc. (EIS Chapter 2-3).

7 "Teshmont Consultants Inc. 2001. Probability of Catastrophic Outages of Bipole I and  
8 Bipole 2 of the Nelson River HVDC Transmission System, Volume 1 - Main  
9 Report. October 2001.

10 Teshmont Consultants Inc. 2006. A Weather Risk Assessment of the Existing and  
11 Proposed HVdc Transmission Lines. October 2006."  
12 (EIS Chapter 2-22)

13 *Preamble:*

14 We recognize that Manitoba Hydro has recently provided copies of these 2001 & 2006  
15 Teshmont reports in both paper and electronic format?

16 *Requests:*

17 Have Manitoba Hydro undertaken further studies on weather risks since 2006? And will  
18 Manitoba Hydro make these available in both paper and electronic format?

19 **Response:**

20 Manitoba Hydro undertook another study on weather risks in 2011-12. This study  
21 evaluated the weather risk of the Manitoba Hydro HVdc system with Bipole III assuming  
22 the Preliminary Preferred Route.

23 This study also analyzes the weather risk in specific segments of the Bipole III line that  
24 may be more vulnerable, thereby evaluating the overall impact on the weather risk.

25 Please also see the response to *CEC/MH-II-023* for more information on the 2012  
26 Teshmont report.

27 Teshmont Report on "Weather Hazard and Reliability Assessment for the Preliminary  
28 Preferred Route of the Bipole III HVDC Transmission Line" 4078-001-001-Rev00,  
29 January 2012 was provided to the CEC on July 17, 2012. Copies were distributed to all  
30 participants.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-233

1

2 **Question:**3 *Reference:*

4 Chapter 2 refers to the following report:

5 "Manitoba Hydro 2011. Reliability alternatives for mitigating the risks of a Dorsey or  
6 Interlake Corridor outage, cost reviews and reliability implications. Joint report by  
7 System Planning and Power Planning Departments. October 2011." (EIS Chapter 2-21)

8 *Request:*

9 Manitoba Hydro to provide a copy of this report in both paper and electronic format.

10 **Response:**

11 A copy of this report was provided to the CEC on July 17, 2012 and has been distributed  
12 to all participants.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-234

1

2 **Question:**3 *Reference:*

4 "The following three alternative project options for enhancing the reliability of the  
5 Manitoba Hydro system were identified and evaluated:

6 1. The addition of 2000 MW of north-south HVdc transmission to continue to supply  
7 power from existing hydraulic generating sources in the north.

8 2. The addition of up to 2000 MW of gas turbines in southern Manitoba.

9 3. The addition of up to 1500 MW of new import tie lines to the United States (USA) to  
10 provide access to firm US generation, which is assumed to be comprised mainly of  
11 natural gas-fired generation, plus the addition of another 500 MW of natural gas-fired  
12 generation in southern Manitoba" (EIS Chapter 2-9)

13 *Preamble:*

14 Other options, including but not limited to: 1) emergent load shedding programs in the  
15 case of transmission and/or converter station failure; 2) expanded wind generation in  
16 Southern Manitoba; 3) biogas generation; 4) expanded solar generation; 5) small-scale  
17 hydro development in southern Manitoba; 5) demand side management that results in  
18 reduced overall demand for electricity in Manitoba; 6) curtailment of firm contract  
19 exports; 7) some combination of all of the above mentioned options is not been  
20 considered.

21 *Request:*

22 Manitoba Hydro to explain why the above mentioned options (emergent load shedding,  
23 reducing overall loads through demand side management, wind, solar, biogas, small-  
24 scale hydro) appear not to be considered? Are reports available on these options? If so,  
25 will Manitoba Hydro provide these reports in both paper and electronic format?

26 **Response:**

27 The supply deficit of generation vs. demand is 1500MW at peak in 2017 for an outage of  
28 Bipole I & II as stated in Chapter 2. Collectively, the options mentioned above would not  
29 adequately address the reliability concern. The options identified in this information  
30 request are discussed below.

31 *Emergent load shedding programs in the case of transmission and/or converter station*  
32 *failure*

33 The shedding of Manitoba load is considered to be part of the overall framework for  
34 reliability and would be employed as required in the form of rotating blackouts. For  
35 example, following the 1996 wind event resulting in the loss of Bipole I and II a  
36 contingency plan of rotating load shed was established despite arranging for imports of  
37 985MW from the neighbouring utilities. See response *CEC/MH-V-149* for details of the  
38 contingency plan. However, load shedding of such a large magnitude (1500 MW of a  
39 peak forecast load of 4750 MW ~30%) for periods that extend into years, as in the  
40 event of a complete Dorsey failure, is not an acceptable option. Load shedding is  
41 considered the "do nothing" scenario and is the very event Manitoba Hydro is planning  
42 to avoid, to the extent possible, with the recommended construction of Bipole III, given  
43 the extreme hardship to the Province of extended electricity outages especially during  
44 the frigid winter months.

45 *Expanded wind generation in Southern Manitoba*

46 Wind generation is an intermittent resource and cannot be relied upon for reliability  
47 purposes to meet peak loads.

48 *Biogas generation*

49 While bio-fuel resources provide a reliable, dispatchable source of generation, they are  
50 more costly than natural gas-fired generation, and it is unlikely that a supply of 1500 to  
51 2000 MW of bio-fuels would be available. Bio-fuel resources are generally small (less  
52 than 50 MW) due to transportation limitations of feedstock from increasingly large areas.  
53 Manitoba Hydro would consider adding some level of bio-fuel resources when they are  
54 economically and financially viable in addition to being environmentally acceptable.

55 *Expanded solar generation*

56 Solar power generation is an intermittent resource and cannot be relied upon for  
57 reliability purposes to meet peak loads. Solar power is also at its lowest availability  
58 during the winter months when Manitoba loads are greatest. Solar power is currently  
59 one of the most costly resources available on a commercial scale.

60 *Small-scale hydro development in southern Manitoba.*

61 Potential small hydro sites in southern Manitoba have an aggregate capacity of  
62 approximately 260 MW with each site ranging between 1 and 50 megawatts. Potential  
63 small hydro sites exist on the Manigotagan River, Bloodvein River, Berens River, Pigeon  
64 River, and Waterhen River, and are not currently being considered due to environmental  
65 interests and the high cost of constructing multiple small hydro facilities and associated  
66 transmission.

67 *Demand side management that results in reduced overall demand for electricity in*  
68 *Manitoba.*

69 Demand side management (DSM) consistent with Manitoba Hydro's DSM plans have  
70 been incorporated into the load values. In 2024, an additional 275 MW of DSM is  
71 included.

72 *Curtailment of firm contract exports.*

73 In the event of a complete loss of the existing HVdc system, Manitoba Hydro assumes  
74 that no export deliveries will be made.

75 *Some combination of all of the above mentioned options*

76 As mentioned above, load shedding, curtailment of exports, and DSM have been  
77 incorporated into Manitoba Hydro's overall reliability plans. The remaining options are  
78 currently more costly, have environmental concerns, and/or are intermittent and cannot  
79 be relied upon for reliability purposes. Combining these options would not provide  
80 adequate reliability, nor would such a combination be less costly than the options  
81 included in Chapter 2.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Chapter 3-13
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-235a

1

2 **Question:**

3 According to the EIS Bipole III "...development will also adhere to applicable North  
4 American Reliability Council/Midwest Reliability Organization/Midwest Independent  
5 System Operator (NERC/MRO/MISO) criteria and Canadian Standard Association (CSA)  
6 standards." (EIS Chapter 3-13)."

7 *Preamble:*

8 MWL outline numerous other standards in our comments submitted to the  
9 Environmental Approval Branch on the Bipole III Scoping Document and EIS  
10 (International Standards Organization (ISO), International Association for Impact  
11 Assessment (IAIA), Hydropower Sustainability Assessment Protocol (HSAP).

12 *Links:*

13 <http://manitobawildlands.org/pdfs/MWL-BiPoleIII-ScopingComments-31Mar2010.pdf>

14 [http://manitobawildlands.org/pdfs/MWL-BipoleIII\\_Resources\\_March2010.pdf](http://manitobawildlands.org/pdfs/MWL-BipoleIII_Resources_March2010.pdf)

15 <http://www.manitobawildlands.org/pdfs/BP3-EIS-LetterBraunMackintosh->

16 16March12\_FINAL.pdf

17 [http://manitobawildlands.org/pdfs/MWL\\_BP3\\_EIS\\_Comments\\_2012Attachments.pdf](http://manitobawildlands.org/pdfs/MWL_BP3_EIS_Comments_2012Attachments.pdf)

18 *Request:*

19 a) Which additional standards will Manitoba Hydro adhere to?

20 **Response:**

21 Manitoba Hydro follows industry standards and adopts good utility practice when  
22 planning and designing transmission facilities. As such, the related industry standards  
23 include the NERC Standards for transmission planning, and CSA standard for line design.

24 The HVdc transmission line will be subject to two general design standards, C22.3 No. 1-  
25 10 "Overhead Systems" standard and the CAN/CSA-C22.3 No. 60826-10 "Design criteria  
26 of overhead transmission lines" to determine all electrical and safety clearances, and to  
27 establish all structural and mechanical design requirements.

28 The Manitoba Hydro Environmental Management System conforms to the International  
29 Standards Organization ISO 14001 Environmental Management Systems standard.

30 A response related to ISO 2600 and Hydropower Sustainability Assessment Protocol was  
31 previously provided in *MCWS/MH-TAC-006d*.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-235b

1

2 **Question:**

3 MWL outline numerous other standards in our comments submitted to the  
4 Environmental Approval Branch on the Bipole III Scoping Document and EIS  
5 (International Standards Organization (ISO), International Association for Impact  
6 Assessment (IAIA), Hydropower Sustainability Assessment Protocol (HSAP).

7

8 Links:

9 <http://manitobawildlands.org/pdfs/MWL-BiPoleIII-ScopingComments-31Mar2010.pdf>10 [http://manitobawildlands.org/pdfs/MWL-BipoleIII\\_Resources\\_March2010.pdf](http://manitobawildlands.org/pdfs/MWL-BipoleIII_Resources_March2010.pdf)11 [http://www.manitobawildlands.org/pdfs/BP3-EIS-LetterBraunMackintosh-  
12 16March12\\_FINAL.pdf](http://www.manitobawildlands.org/pdfs/BP3-EIS-LetterBraunMackintosh-16March12_FINAL.pdf)13 [http://manitobawildlands.org/pdfs/MWL\\_BP3\\_EIS\\_Comments\\_2012Attachments.pdf](http://manitobawildlands.org/pdfs/MWL_BP3_EIS_Comments_2012Attachments.pdf)

14

15 *Request:*

16 b) Will Manitoba Hydro adhere to the International Hydropower Assessment (IHA)  
17 Sustainability Protocol, which it supports?

18 **Response:**

19 The Hydropower Sustainability Assessment Protocol is a sustainability assessment  
20 framework for hydropower development and operation (Hydropower Sustainability  
21 Assessment Protocol 2010, page 5).

22

- 23 The Protocol has not been designed to be applied to stand alone transmission lines,  
24 such as Bipole III.
- 25 Please see previously provided response *MCWS/MH-TAC-006d*.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 3-13
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-235c

1

2 **Question:**

3 *According to the EIS Bipole III "...development will also adhere to applicable North*  
4 *American Reliability Council/Midwest Reliability Organization/Midwest Independent*  
5 *System Operator (NERC/MRO/MISO) criteria and Canadian Standard Association (CSA)*  
6 *standards." (EIS Chapter 3-13)."*

7 *Request:*

8 MWL outline numerous other standards in our comments submitted to the  
9 Environmental Approval Branch on the Bipole III Scoping Document and EIS  
10 (International Standards Organization (ISO), International Association for Impact  
11 Assessment (IAIA), Hydropower Sustainability Assessment Protocol (HSAP).

12

13 Links:

14 <http://manitobawildlands.org/pdfs/MWL-BiPoleIII-ScopingComments-31Mar2010.pdf>15 [http://manitobawildlands.org/pdfs/MWL-BipoleIII\\_Resources\\_March2010.pdf](http://manitobawildlands.org/pdfs/MWL-BipoleIII_Resources_March2010.pdf)16 [http://www.manitobawildlands.org/pdfs/BP3-EIS-LetterBraunMackintosh-](http://www.manitobawildlands.org/pdfs/BP3-EIS-LetterBraunMackintosh-16March12_FINAL.pdf)  
17 [16March12\\_FINAL.pdf](http://www.manitobawildlands.org/pdfs/BP3-EIS-LetterBraunMackintosh-16March12_FINAL.pdf)18 [http://manitobawildlands.org/pdfs/MWL\\_BP3\\_EIS\\_Comments\\_2012Attachments.pdf](http://manitobawildlands.org/pdfs/MWL_BP3_EIS_Comments_2012Attachments.pdf)

19 c) Manitoba Hydro to provide NERC/MRO/MISO and CSA standards referenced above.

20 **Response:**

21 The related NERC/MRO/MISO standards are listed and discussed in Appendix 3a of the  
22 EIS submission.

23 The CSA standards are copyrighted materials by Canadian Standards Association and  
24 requests can be made to the CSA to obtain such information. The titles of the related  
25 CSA standards are listed below:

- 26 - CAN/CSA-C22.3 No. 1-10 "Overhead Systems" standard
- 27 - CAN/CSA-C22.3 No. 60826-10 "Design criteria of overhead transmission lines"

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Chapter 3-29
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-236a

1

2 **Question:**

3 *Reference:*

4 According to the EIS:

5 "Detailed engineering... will be undertaken after receipt of project environmental  
 6 approvals, and following right-of-way acquisition and detailed field survey. Precise tower  
 7 locations and required conductor-to-ground clearances will be established at that time."  
 8 (EIS Chapter 3-29).

9 "Final structure locations will be determined on the basis of field surveys, including input  
 10 from affected landowners/stakeholders, and will reflect detailed engineering and  
 11 economic analysis ... tower location (tower "spotting") has been identified as a potential  
 12 mitigative measure to reduce adverse environmental and aesthetic impacts. ..." (EIS  
 13 Chapter 3-29).

14 *Preamble:*

15 It is difficult to assess and quantify the impact that nearly 1400km (which with two or  
 16 more towers per kilometer would result in roughly 3000 individual towers) will have on  
 17 ecosystems, particularly wetlands and bogs, without knowing the precise location of the  
 18 towers. Manitoba Hydro has started to drill holes to choose location for towers.

19 There also needs to be clarity regarding the process of who will qualify as a  
 20 "landowner/stakeholder."

21 a) Manitoba Hydro to provide current tower siting locations, surveys, and maps before  
22 the start of CEC hearings?

23 **Response:**

24 Tower locations will not be determined before the start of CEC hearings. Final tower  
25 locations are the results of tower spotting process, which is a complex and labour  
26 intensive computer based study aimed at finding the most economical tower placement  
27 solution based on various inputs. These inputs involve: three-dimensional terrain model,  
28 mechanical and electrical parameters of all tower types considered, installation cost of  
29 each tower type, required minimum conductor clearances to ground and objects,  
30 required tower offsets, special local site conditions and restrictions identified by various  
31 stakeholders including land owners or interest groups. At this time, some of these inputs  
32 are still unknown. Hence, final tower locations cannot be identified.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Chapter 3-29
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-236b

1

2 **Question:**3 *Reference:*

4 According to the EIS:

5 "Detailed engineering... will be undertaken after receipt of project environmental  
6 approvals, and following right-of-way acquisition and detailed field survey. Precise tower  
7 locations and required conductor-to-ground clearances will be established at that time."  
8 (EIS Chapter 3-29).

9 "Final structure locations will be determined on the basis of field surveys, including input  
10 from affected landowners/stakeholders, and will reflect detailed engineering and  
11 economic analysis ... tower location (tower "spotting") has been identified as a potential  
12 mitigative measure to reduce adverse environmental and aesthetic impacts. ..." (EIS  
13 Chapter 3-29).

14 *Preamble:*

15 It is difficult to assess and quantify the impact that nearly 1400km (which with two or  
16 more towers per kilometer would result in roughly 3000 individual towers) will have on  
17 ecosystems, particularly wetlands and bogs, without knowing the precise location of the  
18 towers. Manitoba Hydro has started to drill holes to choose location for towers.

19 There also needs to be clarity regarding the process of who will qualify as a  
20 "landowner/stakeholder."

21 b) Make "detailed engineering and economic analysis" available.

**22 Response:**

23 Economic analysis is always an integral part of designing transmission lines. It is present  
24 during preliminary design process to select main design parameters. It is also used  
25 during detailed engineering stage where it involves optimization of tower designs and  
26 selection of tower locations (tower spotting). Intense computing, during which  
27 numerous iterations are considered, is used to find the most economical solution. During  
28 tower design optimization various options are considered such as selection of tower  
29 member sizes, different bracing patterns or various connection details, each of them  
30 affecting the overall tower strength and its weight. During the tower spotting process  
31 most of the optimization is done using computer software. However, human intervention  
32 is required to address site specific restrictions such as fixing tower locations in pre-  
33 determined spots or maintaining mandatory offsets. Detailed results of these exercises  
34 are not captured in one common document. Instead, they exist in various electronic files  
35 used by design software packages. In order to see the specific optimization details, the  
36 user would have to be familiar with and run these design programs.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Chapter 3-29
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-236c

1

2 **Question:**3 *Reference:*

4 According to the EIS:

5 "Detailed engineering... will be undertaken after receipt of project environmental  
6 approvals, and following right-of-way acquisition and detailed field survey. Precise tower  
7 locations and required conductor-to-ground clearances will be established at that time."  
8 (EIS Chapter 3-29).

9 "Final structure locations will be determined on the basis of field surveys, including input  
10 from affected landowners/stakeholders, and will reflect detailed engineering and  
11 economic analysis ... tower location (tower "spotting") has been identified as a potential  
12 mitigative measure to reduce adverse environmental and aesthetic impacts. ..." (EIS  
13 Chapter 3-29).

14 *Preamble:*

15 It is difficult to assess and quantify the impact that nearly 1400km (which with two or  
16 more towers per kilometer would result in roughly 3000 individual towers) will have on  
17 ecosystems, particularly wetlands and bogs, without knowing the precise location of the  
18 towers. Manitoba Hydro has started to drill holes to choose location for towers.

19 There also needs to be clarity regarding the process of who will qualify as a  
20 "landowner/stakeholder."

21 c) In regards to input from stakeholders, what steps have been taken? Please provide  
22 update(s).

23 **Response:**

24 During Round 4 of the EACP, specific tower placement preferences were provided by  
25 landowners and are documented in Appendix 7B – Preliminary Preferred Route  
26 Adjustments, Map Series 7 - 1200 of the EIS.

27 Throughout the easement negotiation process with affected landowners, Manitoba  
28 Hydro will continue to collect site specific tower preference locations and they will be  
29 considered by Manitoba Hydro's design team.

30 Other requests have come to Manitoba Hydro's attention regarding tower spotting with  
31 regards to cultural and heritage resources from First Nations as well as concerns  
32 regarding aggregate deposits from Manitoba's Department of Infrastructure and  
33 Transportation. Any comments regarding tower spotting through the Environmental  
34 Protection Plan discussions with communities or through other means will be considered  
35 by Manitoba Hydro's tower design team.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Chapter 3-29
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-236d

1

2 **Question:**3 *Reference:*

4 According to the EIS:

5 "Detailed engineering... will be undertaken after receipt of project environmental  
6 approvals, and following right-of-way acquisition and detailed field survey. Precise tower  
7 locations and required conductor-to-ground clearances will be established at that time."  
8 (EIS Chapter 3-29).

9 "Final structure locations will be determined on the basis of field surveys, including input  
10 from affected landowners/stakeholders, and will reflect detailed engineering and  
11 economic analysis ... tower location (tower "spotting") has been identified as a potential  
12 mitigative measure to reduce adverse environmental and aesthetic impacts. ..." (EIS  
13 Chapter 3-29).

14 *Preamble:*

15 It is difficult to assess and quantify the impact that nearly 1400km (which with two or  
16 more towers per kilometer would result in roughly 3000 individual towers) will have on  
17 ecosystems, particularly wetlands and bogs, without knowing the precise location of the  
18 towers. Manitoba Hydro has started to drill holes to choose location for towers.

19 There also needs to be clarity regarding the process of who will qualify as a  
20 "landowner/stakeholder."

21 d) Manitoba Hydro to provide information and maps about current test drill holes for  
22 towers.

23 **Response:**

24 Drill hole locations to determine soil conditions in the Northern line segments N1  
25 through N4 and Central line segments C1 and C2 have been selected. Maps showing  
26 these locations are available. It is worth noting that the selected drill hole locations do  
27 not match locations of future towers as those have not been determined yet.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Chapter 3-32 & EIS Chapter 3-43
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-237

1

2 **Question:**

3 *Reference:*

4 According to the EIS:

5 "Some sections of the line, particularly in northern Manitoba, may require supplementary  
 6 right-of-way area for marshalling or supply of construction materials (e.g., aggregate for  
 7 tower foundations), or for construction and maintenance access. Such requirements  
 8 ...cannot be identified until post-approval field surveys, detailed design, and construction  
 9 contract arrangements are finalized." (EIS Chapter 3-32)

10 "The exact number and location of marshalling yards will be determined during the  
 11 course of developing detailed construction specifications and contract arrangements."  
 12 (EIS Chapter 3-43)

13 *Preamble:*

14 The location of these additional right-of-ways, including potential right of ways, is  
 15 needed to assess the impact from additional right-of-ways. If the field studies are done  
 16 pre-approval the additional right-of-ways can be identified for the environmental review  
 17 process.

18 *Request*

19 Manitoba Hydro to provide current field surveys and design for rights of ways  
 20 prehearing.

21 **Response:**

22 As indicated in the EIS, marshalling yards and borrow locations for the transmission line  
23 are determined as construction is undertaken. The Study Area for the Project prior to  
24 the determination of the Final Preferred Route was comprised of a 3 mile corridor to  
25 assess potential effects. Any additional ROW in regards to the marshalling yards and  
26 borrow locations required will have already been assessed through that process.

27 Borrow material that is required for transmission line construction is sourced where  
28 possible from within the ROW. In some instances where suitable borrow material is not  
29 available within the ROW, MH will obtain borrow material from local suppliers in active  
30 pits or obtain a permit for a new or already excavated borrow location.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-238

1

2 **Question:**3 *Reference:*

4 The EIS states that right-of-way clearing will be "...subject to standard environmental  
5 protection measures ...established in association with Manitoba Hydro transmission line  
6 construction practices..." (EIS Chapter 3-40)

7 *Request:*

8 Can Manitoba Hydro provide an outline of these "standard environmental protection  
9 measures?" Is there a document, which outlines these "standard environmental  
10 protection measures?" If so, can Manitoba Hydro provide a copy in both paper and  
11 digital formats?

12 **Response:**

13 All environmental protection measures for right-of-way clearing are described Table 4  
14 Section 3.4.3 in the Draft Environmental Protection Plan included in the EIS. Paper and  
15 digital copies of the EIS were provided to Manitoba Conservation and Water Stewardship  
16 and the CEC.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Chapter 3-42
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-239a

1

2 **Question:**3 *Reference:*

4 The EIS states: "Clearing will be modified in environmentally sensitive areas (e.g., river  
5 and stream crossings)" with a 58m right-of-way rather the standard 66m and "hand  
6 clearing with chain saws in environmentally sensitive sites..." (EIS Chapter 3-42)

7 *Request:*

8 a) Criteria used to identify an area as "environmentally sensitive" to be provided.

9 **Response:**

10 Environmentally sensitive sites are locations, features, areas, activities or facilities along  
11 or immediately adjacent to the Bipole III 5 km wide local study area, that were  
12 determined to be ecologically, socially, economically or culturally important and sensitive  
13 to disturbance by the Project. Environmentally sensitive sites as a result, require site-  
14 specific mitigation measures. Examples of Environmentally Sensitive Sites:

15 Ecological- Native Grass Prairie habitat is sensitive to ground disturbance of rare plants  
16 and wildlife.

17 Social – Users of canoe routes are sensitive to noise disturbance and visual alternations  
18 of surrounding natural environment.

19 Economic – Campgrounds users are sensitive to noise disturbance during construction,  
20 which may affect use.

- 21 Culture - Archaeological sites are sensitive to disturbance or damage and require
- 22 protection.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS Chapter 3-42
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-239b

1

2 **Question:**3 *Reference:*

4 The EIS states: "Clearing will be modified in environmentally sensitive areas (e.g., river  
5 and stream crossings)" with a 58m right-of-way rather the standard 66m and "hand  
6 clearing with chain saws in environmentally sensitive sites..." (EIS Chapter 3-42)

7 *Request:*

8 b) Manitoba Hydro to indicate whether existing Manitoba Conservation the forest  
9 clearing standards being used.

10 **Response:**

11 Manitoba Hydro assumes that the intent of the question is to reference "the Forest  
12 Management Guidelines for Riparian Management Areas". Manitoba Hydro has adopted  
13 some of those guidelines in its Draft Environmental Protection Plan. However, Manitoba  
14 Hydro does not follow all the specific definitions in the Forest Management Guidelines  
15 for Riparian Management Areas as it was developed for forest management purposes  
16 not for right-of-way clearing.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-240

1

2 **Question:**3 *Reference:*

4 The EIS states: "Disposal of cleared vegetation typically involves a variety of options  
5 including piling and burning, mulching, collection and secondary use by local  
6 communities (e.g. firewood), or salvage and marketing of merchantable timber  
7 resources if feasible." (EIS Chapter 3-42)

8 *Preamble:*

9 In the sparsely populated northern portion of Manitoba it is unclear if there would be  
10 enough demand to make this community reuse option feasible.

11 *Request:*

12 Has Manitoba Hydro performed any studies on the feasibility of reuse by local  
13 communities of cleared vegetation? If so, can Manitoba hydro provide copies of these  
14 studies in both paper and electronic format?

15 **Response:**

16 Manitoba Hydro has not undertaken any feasibility studies of reuse by local communities  
17 of cleared vegetation. During community meetings, some communities have indicated  
18 that they would like to have access to timber. Any timber that will be available will be  
19 done on a case by case basis taking into account that the forestry company holding the  
20 Forest Management Licence has the right of first refusal on that timber.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-241a

1

2 **Question:**3 *Reference:*

4 In the EIS Chapter 3-45 footnote 16 refers to Manitoba Hydro's "Environmental  
5 Protection; Guidelines Construction, Operation and Decommissioning (Manitoba Hydro,  
6 2007)" and "Hazardous Material Management Handbook (Manitoba Hydro, 2003).

7 *Request:*

8 a) Manitoba Hydro to provide copies of the two aforementioned reports in both paper  
9 and electronic format.

10 **Response:**

11 With respect to Manitoba Hydro's "Environmental Protection Guidelines: Construction,  
12 Operation and Decommissioning" document: These guidelines were developed as a  
13 general reference document for Contractors performing work that may have  
14 environmental considerations. As stated in the EIS, this document is "one of several  
15 Manitoba Hydro documents which identify standards and protocols" . Where an  
16 environmental protection plan (EnvPP) is developed for a Manitoba Hydro project (as is  
17 the case with the Bipole III Transmission Project) the Guidelines are not issued. In  
18 these cases the EnvPP is provided as part of the tendering package to prospective  
19 contractors, and ultimately forms part of the contract specifications. The construction  
20 EnvPPs are under development and will not be finalized until receipt of the final licence  
21 in order to incorporate specific feedback and requirements from the regulators.

22 The Manitoba Hydro Hazardous Materials Handbook covers safe practices for  
23 managing hazardous materials in ways that protect the health and safety of

24 employees, the public, and the environment and is not intended for external  
25 audiences. The document is not intended for public use and contains a list of  
26 internal names and contact numbers. Accordingly, no copies are being provided.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 3-45 footnote 16
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-241b

1

2 **Question:**3 *Reference:*

4 In the EIS Chapter 3-45 footnote 16 refers to Manitoba Hydro's "Environmental  
5 Protection; Guidelines Construction, Operation and Decommissioning (Manitoba Hydro,  
6 2007)" and "Hazardous Material Management Handbook (Manitoba Hydro, 2003).

7 *Request:*

8 b) Does Manitoba Hydro post all such guidelines on its website?

9 **Response:**

10 Manitoba Hydro does not post the above mentioned guidelines and handbook on its  
11 external website. These documents provide guidance to Manitoba Hydro staff and  
12 contractors, and are not targeted for an external audience.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-242

1

2 **Question:**3 *Reference:*

4 "Potential borrow locations have not been specifically identified at this time. ... Any use  
5 of explosives during transmission line construction (e.g., in borrow pit operations,  
6 foundation installation, conductor splicing, etc.) will be made in accordance with all  
7 applicable legislation and regulations, including acquisition of permits and compliance  
8 with all conditions set by Manitoba Conservation." (EIS Chapter 3-46)

9 *Preamble:*

10 It is hard to assess the impacts of borrowing operations without knowing the exact  
11 locations.

12 *Request:*

13 Can Manitoba Hydro identify the potential borrow locations before the commencement  
14 of hearings?

15 **Response:**

16 Borrow material that is required for transmission line construction where possible is  
17 sourced from within the ROW. In some instances where suitable borrow material is not  
18 available within the ROW, Manitoba Hydro will obtain borrow material from local  
19 suppliers in active pits or obtain a permit for a new or already excavated borrow  
20 location.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-52
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-243

1

2 **Question:**3 *Reference:*

4 "For the operations and maintenance activity associated with the HVdc line and the 230  
5 kV northern collector lines, the average annual workforce requirement (average over the  
6 life expectancy of the project) is estimated to be 11.5 persons. ... two to three would be  
7 internal Manitoba Hydro staff and the remainder would be contractor staff. The  
8 breakdown of the total average would be roughly two patrollers, two linemen, 0.5  
9 helicopter pilots, and seven heavy equipment operators." (EIS 3-52).

10 Also quotes in Chapter 5 and Aboriginal Traditional Knowledge report on First Nation  
11 jobs

12 *Preamble:*

13 There are many concerns in regards to job creation for northern and/or Aboriginal and  
14 First Nations people.

15 *Request:*

16 Of these 11 to 12 positions for operation and maintenance of Bipole III, does Manitoba  
17 Hydro have targets as to make up of the workforce: a) local labour, and; b) of aboriginal  
18 descent (First Nations and/or Metis), c) existing Manitoba Hydro staff versus new hires?  
19 What procedures will be put in place to ensure individuals from affected communities  
20 will be hired ?

21 **Response:**

- 22 Hiring of the new positions will follow Manitoba Hydro's hiring practices. Manitoba  
23 Hydro strives to create a workforce that reflects the diversity of the population served.  
24 Contractor positions will also follow Manitoba Hydro hiring policies.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-244a

1

2 **Question:**

3 *Reference:*

4 According to the EIS Manitoba Hydro will use "...integrated vegetation management and  
 5 weed control approach ... Herbicide treatments are formulated to target only broad-  
 6 leafed plants (trees and weeds) leaving grasses unaffected. Foliar applications of  
 7 herbicides are made in the summer months only... Permits for pesticide use are obtained  
 8 on an annual basis. The process involves public notification as part of the formal permit  
 9 application to Manitoba Conservation Pesticide Approvals Branch. All herbicide  
 10 applications are completed and supervised by licensed applicators and in accordance  
 11 with conditions specified in the Pesticide Use Permit. Herbicide application rates are  
 12 established by Manitoba Hydro's Chief Forester in accordance with product label  
 13 instructions. ... Weed control on the rights-of-way is required for regulatory (i.e., The  
 14 Noxious Weed Act), operational and safety reasons. ..." (EIS 3-54).

15 *Preamble:*

16 The use of herbicides is something that has consistently been raised as an issue during  
 17 public open-houses.

18 *Requests:*

19 a) Provide a list of the types and volumes of herbicides that Manitoba Hydro intends to  
 20 use on an annual basis to maintain the Bipole III corridor.

21 **Response:**

22 Please see response provided for *CEC/MH-III-108*.

23 The tree control herbicides used at present are Garlon XRT, and Tordon 101.

24 The use of herbicide is conducted under the strict guidelines of the label and only  
25 Industrial approved selective herbicides are permitted. All herbicides used are applied in  
26 accordance with applicable provincial and federal laws and regulations, registered with  
27 the Pest Management Regulatory Agency (federally), and Manitoba Conservation and  
28 Water Stewardship– Environmental Approvals.

29 The volumes of herbicides that will be applied annually to the Bipole III corridor will be  
30 dependent upon a number of factors, including: method of application, the abundance,  
31 density and type of vegetation present on the right-of-way, presence of sensitive sites,  
32 and accessibility. For information related to the volumes of herbicide applied to the  
33 Bipole I and Bipole II corridors, please see response *CEC/MH-VI-244b*.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-244b

1

2 **Question:**3 *Reference:*

4 According to the EIS Manitoba Hydro will use "...integrated vegetation management and  
5 weed control approach ... Herbicide treatments are formulated to target only broad-  
6 leafed plants (trees and weeds) leaving grasses unaffected. Foliar applications of  
7 herbicides are made in the summer months only... Permits for pesticide use are obtained  
8 on an annual basis. The process involves public notification as part of the formal permit  
9 application to Manitoba Conservation Pesticide Approvals Branch. All herbicide  
10 applications are completed and supervised by licensed applicators and in accordance  
11 with conditions specified in the Pesticide Use Permit. Herbicide application rates are  
12 established by Manitoba Hydro's Chief Forester in accordance with product label  
13 instructions. ... Weed control on the rights-of-way is required for regulatory (i.e., The  
14 Noxious Weed Act), operational and safety reasons. ..." (EIS 3-54).

15 *Preamble:*

16 The use of herbicides is something that has consistently been raised as an issue during  
17 public open-houses.

18 *Requests:*

19 b) Provide a list of the types and volumes of herbicides used per annum over the past  
20 decade to maintain the Bipoles I & II corridor.

21 **Response:**

22 Manitoba Hydro has only recently in the last two years begun to apply herbicides on  
23 Bipoles I and II. Herbicide use is undertaken predominantly in the southern portion of  
24 the province due in part to the proximity of the lines to agricultural lands. Volumes for  
25 the three types of herbicides used for the year 2011 are as follows:

- 26 • Garlon Ultra – 100 Litres
- 27 • Garlon XRT – 480 Litres
- 28 • Tordon 101 – 555 Litres

29 Herbicide use in 2012 is ongoing and scheduled to be completed by mid August.

30 Volumes to date are as follows:

- 31 • Garlon XRT – 900 Litres
- 32 • Tordon 101 – 900 Litres

33 Manitoba Hydro is in the early stages of the herbicide program and anticipates similar  
34 volumes for the next few years. As the program progresses the required herbicide  
35 volumes are expected to decrease substantially.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-244c

1

2 **Question:**

3 *Reference:*

4 According to the EIS Manitoba Hydro will use "...integrated vegetation management and  
 5 weed control approach ... Herbicide treatments are formulated to target only broad-  
 6 leaved plants (trees and weeds) leaving grasses unaffected. Foliar applications of  
 7 herbicides are made in the summer months only... Permits for pesticide use are obtained  
 8 on an annual basis. The process involves public notification as part of the formal permit  
 9 application to Manitoba Conservation Pesticide Approvals Branch. All herbicide  
 10 applications are completed and supervised by licensed applicators and in accordance  
 11 with conditions specified in the Pesticide Use Permit. Herbicide application rates are  
 12 established by Manitoba Hydro's Chief Forester in accordance with product label  
 13 instructions. ... Weed control on the rights-of-way is required for regulatory (i.e., The  
 14 Noxious Weed Act), operational and safety reasons. ..." (EIS 3-54).

15 *Preamble:*

16 The use of herbicides is something that has consistently been raised as an issue during  
 17 public open-houses.

18 *Requests:*

19 c) Provide information as to Manitoba Hydro research and any demonstrations of use of:  
 20 biocide agents and other alternatives to keep transmission corridors clear.

21 **Response:**

22 Manitoba Hydro is not aware of any biocide agents that could be used for the control of  
23 woody plants and shrubs. However, Manitoba Hydro has an ongoing program that  
24 utilizes flea beetles to assist in stemming the spread of leafy spurge on Manitoba  
25 Hydro's ROW in western Manitoba. The use of biological controls of leafy spurge is being  
26 tested along rights-of-way. Flea beetles are proving successful control agents as the  
27 beetles feed on the plant's leaves, while their larvae burrow and feed on the roots,  
28 weakening or killing the plant. Regular visits to the experimental sites have shown that  
29 the beetle populations are increasing, and leafy spurge is becoming stressed, stunted  
30 and non-existent in some areas.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-245a

1

2 **Question:**3 *Reference:*

4 The Keewatinoow Converter Station is to be "...sited in proximity to the proposed site of  
5 the potential Conawapa Generating Station" (EIS 3-56).

6 *Preamble:*

7 The location of the proposed northern terminus shows how Bipole III is not solely a  
8 reliability project, and is one component of a much larger hydro development project..

9 *Requests:*

10 a) Did Manitoba Hydro consider a northern terminus near the proposed Keeyask  
11 Generation Station? If not, why not? If so, provide an overview of the deliberations and  
12 the rational for the final site location for the northern terminus converter station near  
13 the proposed Conawapa Dam.

14 **Response:**

15 The key criterion for siting the northern converter station is to maintain reasonable  
16 separation between the Bipole III converter and existing HVdc facilities. Both Conawapa  
17 and Keeyask provides similar separation.

18 In addition, proximity to proposed future generation provides benefits as it reduces  
19 potential infrastructure costs and transmission losses. Considering the size of proposed  
20 generation stations and the existing transmission infrastructure, the site close to the

- 21 larger potential Conawapa Generating Station site instead of a site at the Keeyask
- 22 Generating Station was chosen.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-56
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-245b

1

2 **Question:**

3 *Reference:*

4 The Keewatinoow Converter Station is to be "...sited in proximity to the proposed site of  
5 the potential Conawapa Generating Station" (EIS 3-56).

6 *Preamble:*

7 The location of the proposed northern terminus shows how Bipole III is not solely a  
8 reliability project, and is one component of a much larger hydro development project..

9 *Requests:*

10 b) Did Manitoba Hydro consider any other northern terminus options aside from the 10  
11 candidate sites shown on Map 3-6?

12 **Response:**

13 Manitoba Hydro explored other northern terminus options, including Keyask option and  
14 Long Spruce option.

15 The key criteria for siting the northern converter station is to maintain reasonable  
16 separation between the Bipole III converter and existing HVdc facilities. In addition,  
17 proximity to proposed future generation provides benefits as it reduces potential  
18 infrastructure costs and transmission losses.

19 Considering the above reliability criteria, the sizes of proposed generation stations and  
20 the existing transmission infrastructure, the site close to the potential Conawapa

- 21 Generating Station site instead of a site at the Keeyask Generating Station, or near Long
- 22 Spruce was chosen.
- 23 Please also refer to the responses *to CEC/MH-II-008a* and *CEC/MH-VI-305*.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-57
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-246

1

2 **Question:**

3 "The chosen station site was reviewed and discussed with representatives of Fox Lake  
4 Cree Nation in a number of meetings. Discussions continue with a view to identifying  
5 and addressing the effects on members of Fox Lake Cree Nation of the Bipole III  
6 Project" (EIS 3-57)

7 *Requests:*

8 a) Why did Manitoba Hydro only consider Fox Lake Cree Nation? Were other First  
9 Nations part of discussions regarding the location of the northern terminus?

10 **Response:**

11 The Northern terminus station (Keewatinoow) is located within Fox Lake Cree Nation  
12 Resource Management Area. In 2004, Manitoba Hydro signed an Impact Settlement  
13 Agreement (ISA) with Fox Lake Cree Nation to address the impacts of past Manitoba  
14 Hydro developments on the community. The agreement outlines a process to address  
15 the adverse effects of future developments, and includes specific provisions related to a  
16 consultation process for a new converter station or switchyard in the Fox Lake  
17 Traditional Territory.

18 Manitoba Hydro also provided presentations to TCN representatives outlining the  
19 selection process for both the northern converter station and ground electrode. This  
20 included discussions on the facilities operations and what the facilities would look like.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-64
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-247a

1

2 **Question:**

3 Reference: The Keewatinoow Converter Station will require a raw water supply, a water  
4 treatment/disinfection system, and potable water distribution throughout the site.  
5 Additionally, wastewater collection, treatment and disposal will be required. ... Water  
6 storage ... underground reservoirs or above-ground tanks. ... maximum consumption of  
7 treated water ... less than 10,000 litres per day. ... water treatment plant will consist  
8 mainly of process filter backwash and settling chamber sludge, and will be discharged to  
9 the sewage collection system for further treatment. Subsequent discharge to the Nelson  
10 River will be made in accordance with Manitoba Conservation guidelines. ... to meet the  
11 allowable concentrations under the Wastewater Systems Effluent Regulation, but  
12 currently this is not formally required as the volume of wastewater generated will be less  
13 than 10,000 L/day." (EIS 3-64)

14 *Requests:*

15 a) Even though the volume will be less than 10,000 litres per day, can Manitoba Hydro  
16 confirm they will adhere to the Wastewater Systems Effluent Regulation? Would  
17 Manitoba Hydro agree to the Wastewater Systems Effluent Regulation being written into  
18 the license for volumes under 10,000 litres per day?

19 **Response:**

20 Wastewater from the Keewatinoow Converter Station will be directed to a wastewater  
21 collection system, which will be treated to provincial requirements and standards. The  
22 decision regarding how to treat wastewater from the operation of the converter station

23 has not yet been finalized. The recently announced federal regulation referred to above,  
24 does not appear to apply to wastewater treatment for the Keewatinoow Converter  
25 Station. If the chosen system requires surface water discharge, Manitoba Hydro will  
26 adhere to all applicable legislation and regulations.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-64
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-247b

1

2 **Question:**

3 Reference: The Keewatinoow Converter Station will require a raw water supply, a water  
4 treatment/disinfection system, and potable water distribution throughout the site.  
5 Additionally, wastewater collection, treatment and disposal will be required. ... Water  
6 storage ... underground reservoirs or above-ground tanks. ... maximum consumption of  
7 treated water ... less than 10,000 litres per day. ... water treatment plant will consist  
8 mainly of process filter backwash and settling chamber sludge, and will be discharged to  
9 the sewage collection system for further treatment. Subsequent discharge to the Nelson  
10 River will be made in accordance with Manitoba Conservation guidelines. ... to meet the  
11 allowable concentrations under the Wastewater Systems Effluent Regulation, but  
12 currently this is not formally required as the volume of wastewater generated will be less  
13 than 10,000 L/day." (EIS 3-64)

14 *Requests:*

15 b) Does Manitoba Hydro intend to also follow the requirements of the new federal  
16 regulations for waste water treatment?

17 **Response:**

18 Please see response provided for *CEC/MH-VI-247a*.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-84 & EIS 3-69
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-248

1

2 **Question:**3 *Reference:*

4 "High voltage circuit breakers ... contain a hermetically sealed mixture of sulphur  
5 hexafluoride (SF<sub>6</sub>) and carbon tetrafluoride (CF<sub>4</sub>) or nitrogen (N<sub>2</sub>) gases as the  
6 insulating medium inside the breaker. Approximately 24 three-phase 230 kV circuit  
7 breakers will be required for the Keewatinoow ac switchyard. Each breaker will contain  
8 approximately 75 kg of insulating gas, comprised of approximately 50% SF<sub>6</sub> and 50%  
9 CF<sub>4</sub> or N<sub>2</sub>." (EIS 3-69)

10 "Switchgear is needed to control the flow of dc power within the dc switchyard. ...  
11 similiar in operation and appearance to ac circuit breakers ... use a hermetically sealed  
12 mixture of sulphur hexafluoride (SF<sub>6</sub>) and carbon tetrafluoride (CF<sub>4</sub>) or nitrogen (N<sub>2</sub>)  
13 gases as the insulating medium inside the switch. Approximately 13 high speed switches  
14 will be required for the dc switchyard. Combined, these switches will contain  
15 approximately 400 kg of SF<sub>6</sub> and 120 kg of CF<sub>4</sub> or N<sub>2</sub> gas." (EIS 3-84)

16 *Request:*

17 What does Manitoba Hydro calculate as the probability of leakages? Are their any  
18 examples in terminus settings for dc transmission where similar devices have failed,  
19 resulting in leakage?

20 **Response:**

21 Manitoba Hydro's conservative estimate of the probability of leakage of insulating gas  
22 from switchgear, that are planned to be incorporated into the Keewatinow converter  
23 station switchyard, is less than 1%.

<b>Date</b>	July 27 2012
<b>Reference</b>	Chapter 3
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-249a

1

2 **Question:**3 *References:*

4 Numerous of the devices will use insulating oil (eg. EIS 3-72 to78).

5 Reference: Primary containment ... for equipment containing greater than 5,000 litres of  
6 oil. ... containment will utilize a concrete, clay or synthetic membrane barrier, extending  
7 a minimum of 1.5 m beyond the edge of any the equipment. The majority of the  
8 primary containment facilities will be connected to the oil-water separator building using  
9 fast drain piping. Any exceptions will involve local containment ...Water collected in the  
10 oil containment system ... will undergo oil/water separation ... " (EIS – 3-144)

11 "The station service transformer will contain approximately 35,000 litres of insulating  
12 oil." (EIS 3-148).

13 "The transformers may be oil-filled, each containing approximately 2,200 litres of  
14 insulating oil. Indoor power centers ..., typically utilize dry type transformers which do  
15 not contain insulating oil. It is anticipated that up to four outdoor and eight indoor  
16 power centers will be required for Riel Converter Station." (EIS 3-150)

17 "Each converter transformer (see Figure 3.5-4) will contain approximately 115,000 litres  
18 of insulating oil. Due to the volume of insulating oil in each transformer, the design will  
19 incorporate primary oil containment (see Section 3.6.2.1)." (EIS – 3-150).

20 "Each filter bank will contain approximately 2,800 litres of insulating fluid within the filter  
21 capacitors." (EIS 3-154)

22 “Each synchronous condenser will ... contain approximately 14,000 U.S. gallons of  
 23 waterglycol mixture (approximately 53,000 litres). .... A typical hydrogen seal system will  
 24 contain 600 litres of oil.” (EIS 3-157 to 158)

25 “...The excitation transformer will contain approximately 500 litres of insulating oil.  
 26 ...Approximately 1,300 litres of battery acid will be contained within the battery banks.”  
 27 (EIS 3-158)

28 “The unit transformers are filled with insulating oil for electrical insulation and heat  
 29 transfer. Each will contain approximately 68,000 litres of insulating oil.” (EIS 3-159)

30 *Requests:*

31 a) Manitoba Hydro to provide a chart and explanation of these stated amounts of oil in  
 32 the identified kinds of transformers, with accessible information as to the different,  
 33 varying amounts of oil described.

34 **Response:**

35 The amounts stated and shown below are estimates only, based on amounts for  
 36 similarly sized and rated equipment in use at existing Manitoba Hydro facilities. Exact  
 37 quantities of equipment and amounts of oil will not be known until completion of  
 38 detailed design for the converter stations.

39 Amounts are summarized in the Table 1 (Keewatinoow) and Table 2 (Riel) below.

40 Table 1: Keewatinoow Converter Station -Estimated Oil Amounts

Item	#	Amount (Each)	Amount (Total)
Station service transformers	3	35,000 L	105,000 L
Voltage transformers	70	100 L	7,000 L
Current transformers	126	200 L	25,200 L
ac harmonic filter capacitors	4,400	16 L	70,400 L
Power center transformers	8	2,200 L	17,600 L

Converter transformers	14	115,000 L	1,610,000 L
Valve group water glycol	4	14,000 L	56,000 L
dc filter banks	6	2,800 L	16,800 L

41

42 Table 2: Riel Converter Station – Estimated Oil Amounts

Item	#	Amount (Each)	Amount (Total)
Station service transformers	1	35,000L	35,000 L
Voltage transformers	60	100 L	6,000 L
Current transformers	114	200 L	22,800 L
ac harmonic filter capacitors	4	17,600 L	70,400 L
Power center transformers	8	2,200 L	17,600 L
Converter transformers	14	115,000 L	1,610,000 L
dc filter banks	6	2,800 L	16,800 L
Synchronous condenser lubricating oil	4	2,500 L	10, 000 L
Synchronous condenser hydrogen seal oil system	4	600 L	2,400 L
Synchronous condenser excitation transformer	12	1100 L	13,200 L
Synchronous condenser unit transformer	4	65,000 L	260,000 L

43

44 The following summarizes the basis for the estimated amounts stated:

- 45
- Station service transformer oil amount is based on the quantity for a similarly rated 230kV-12kV power transformer.
- 46
- Voltage transformer and current transformer oil amounts are based on typical quantities for 230kV apparatus.
- 47
- 48

- 49 • ac harmonic filter capacitor oil amount is based on the quantity of oil contained  
50 within similarly sized filter banks in Bipole I and Bipole II.
- 51 • Power center transformer oil amount is based on a typical quantity for a pad  
52 mounted transformer.
- 53 • Converter transformer oil amount is based on nameplate quantities for existing  
54 converter transformers in Bipole I and Bipole II.
- 55 • dc filter bank oil amount is based on the quantity of oil contained within similarly  
56 sized filters in Bipole I and Bipole II.
- 57 • Lubricating oil, hydrogen seal oil, excitation transformer oil, and unit transformer  
58 oil amounts are based on the quantities for similarly rated synchronous  
59 condensers at Dorsey Converter Station.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-249b

1

2 **Question:**

3 *References:*

4 Numerous of the devices will use insulating oil (eg. EIS 3-72 to78).

5 Reference: Primary containment ... for equipment containing greater than 5,000 litres of  
 6 oil. ... containment will utilize a concrete, clay or synthetic membrane barrier, extending  
 7 a minimum of 1.5 m beyond the edge of any the equipment. The majority of the  
 8 primary containment facilities will be connected to the oil-water separator building using  
 9 fast drain piping. Any exceptions will involve local containment ...Water collected in the  
 10 oil containment system ... will undergo oil/water separation ... " (EIS – 3-144)

11 "The station service transformer will contain approximately 35,000 litres of insulating  
 12 oil." (EIS 3-148).

13 "The transformers may be oil-filled, each containing approximately 2,200 litres of  
 14 insulating oil. Indoor power centers ..., typically utilize dry type transformers which do  
 15 not contain insulating oil. It is anticipated that up to four outdoor and eight indoor  
 16 power centers will be required for Riel Converter Station." (EIS 3-150)

17 "Each converter transformer (see Figure 3.5-4) will contain approximately 115,000 litres  
 18 of insulating oil. Due to the volume of insulating oil in each transformer, the design will  
 19 incorporate primary oil containment (see Section 3.6.2.1)." (EIS – 3-150).

20 "Each filter bank will contain approximately 2,800 litres of insulating fluid within the filter  
 21 capacitors." (EIS 3-154)

22 "Each synchronous condenser will ... contain approximately 14,000 U.S. gallons of  
23 waterglycol mixture (approximately 53,000 litres). .... A typical hydrogen seal system will  
24 contain 600 litres of oil." (EIS 3-157 to 158)

25 "...The excitation transformer will contain approximately 500 litres of insulating oil.  
26 ...Approximately 1,300 litres of battery acid will be contained within the battery banks."  
27 (EIS 3-158)

28 "The unit transformers are filled with insulating oil for electrical insulation and heat  
29 transfer. Each will contain approximately 68,000 litres of insulating oil." (EIS 3-159)

30 *Requests:*

31 b) What does Manitoba Hydro calculate as the probability of leakages? Are there any  
32 examples where similar devices and oil collection systems have failed?

33 **Response:**

34 As described in the previously provided response *CEC/MH-II-021* there is a low  
35 probability of leakage of insulating oil outside the device. Measures to mitigate this risk  
36 are also discussed in *CEC/MH-II-021*. Subsequent release of oil, outside of the oil  
37 containment systems that are described in Section 3.5.2.1 and 3.6.2.1 of the EIS, is  
38 considered to be very low.

39 Many steps are taken to reduce the risk of failure and releases. As such, inspection and  
40 monitoring, and regular maintenance are planned to reduce the risk of failure of the oil-  
41 containing devices. In addition, multiple levels of containment are put in place  
42 depending on the device, to deal with any oil leak or spill contingencies when they  
43 occur.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-250

1

2 **Question:**

3 Reference: "Bipole III will consist of two poles, one energized at +500 kV dc, and the  
4 other at -500 kV dc. ... Two conversion technologies are presently being considered for  
5 Bipole III: conventional line-commutated conversion (LCC) technology, and newer  
6 voltage-source converter (VSC) technology. Selection of the conversion technology is  
7 expected in late 2011." (EIS 3-80)

8 *Request:*

9 a) Has MH decided what type of conversion technology they intend to use (line  
10 commuted or voltage-source)? Manitoba Hydro to provide update in advance of CEC  
11 hearings.

12 **Response:**

13 No, Manitoba Hydro has not determined the type of conversion technology that will be  
14 used. The technology type will be determined during the procurement process, which is  
15 scheduled to occur after receipt of environmental approval.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-251a

1

2 **Question:**

3 Reference: "Keewatinoow Converter Station and supporting sites ... require ...15,000 to  
4 45,000 m<sup>3</sup> of concrete ... Studies are currently underway to confirm the feasibility of  
5 drawing on ground water for the supply of water for concrete production."

6 *Requests:*

7 a) How much water will concrete construction require?

8 **Response:**

9 The Keewatinoow Converter Station and supporting sites requires approximately 15,000  
10 to 45,000 m<sup>3</sup> of concrete. Based on these amounts, approximately 2.3 million to 6.8  
11 million litres of water will be required.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-251b

1

2 **Question:**

3 Reference: "Keewatinoow Converter Station and supporting sites ... require ...15,000 to  
4 45,000 m3 of concrete ... Studies are currently underway to confirm the feasibility of  
5 drawing on ground water for the supply of water for concrete production."

6 *Requests:*

7 b) Have these feasibility studies been completed? If so provide results. If not will studies  
8 be available before hearings?

9 **Response:**

10 The groundwater investigation undertaken confirmed that the aquifer can support the  
11 peak pumping demands. The feasibility studies will confirm that groundwater quality is  
12 suitable for concrete mix water. These studies are not anticipated to be completed prior  
13 to hearings.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-251c

1

2 **Question:**

3 Reference: "Keewatinoow Converter Station and supporting sites ... require ...15,000 to  
 4 45,000 m3 of concrete ... Studies are currently underway to confirm the feasibility of  
 5 drawing on ground water for the supply of water for concrete production."

6 *Requests:*

7 c) Can local groundwater meet the demand? What impacts, and total water use, has  
 8 Manitoba Hydro identified regarding the local aquifer over the life of the converter  
 9 station?

10 **Response:**

11 Local groundwater can meet the demand for concrete mix water requirements. It is  
 12 anticipated that approximately 2.3 million to 6.8 million litres of water is required for  
 13 concrete batching for construction of the Keewatinoow Converter Station and supporting  
 14 sites. The groundwater investigation undertaken confirmed that the aquifer can support  
 15 the peak pumping demands. The potential effects to aquifer quality and productivity are  
 16 outlined in Section 8.2.3.5 of the EIS.

17 Keewatinoow Converter Station - 2011 Fire Suppression Water Well Investigation Report  
 18 - Final Rev 0. Issued: January 2012. Prepared by: Kenton Thiessen, P.Eng. Approved by:  
 19 Jason Mann, P.Geo. KGS Group

- 20 Conawapa Generating Station - 1989 Winter Exploration Program - Pump Test Results.
- 21 Issued: June 1989. Issued by: M.H. Boase, P.Eng. Crippen Acres Ltd. and Wardrop
- 22 Engineering Inc.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-252

1

2 **Question:**3 *References:*

4 According to a 2001 study in *The Annual Review of Energy and the Environment* every  
5 tonne of concrete produced in North America creates 242 kg of Carbon emissions, and  
6 this does not include "...the CO2 emissions attributable to mobile equipment used for  
7 mining of raw material, used for transport of raw material and cement, and used on the  
8 plant site."

9 <http://arjournals.annualreviews.org/doi/abs/10.1146/annurev.energy.26.1.303>

10 (subscription required)

11 In his book *Heat*, George Monbiot argues, "It is probably fair to say that a tonne of  
12 cement produces about a tonne of carbon dioxide."

13 *Requests:*

14 Does the Pembina Institute GHG Report quantify emission attributable to cement use for  
15 Bi Pole III ? What studies does it rely on? Is it comparable to the study referred to  
16 above?

17 **Response:**

18 The Pembina Institute GHG Report quantifies the GHG emissions attributable to cement  
19 use for Bipole III for both the transmission and converter station components. During  
20 the construction phase of the Project, cement manufacture accounts for 2.4% of the  
21 total life cycle GHG emissions.

22 Data from the National Renewable Energy Laboratory: US Life-Cycle Inventory Database  
23 was accessed to determine the emission factor associated with cement production. In  
24 the case of cement manufacture, the US Life-Cycle Inventory Database relies on a 2006  
25 study by M. Marceau et al titled "Life Cycle Inventory of Portland Cement Manufacture".  
26 The cement production GHG emission factor that was used in the Bipole III life cycle  
27 assessment was 0.554 kg CO<sub>2</sub>eq / kg cement.

28 Other GHG emissions associated with concrete use (such as aggregate mining and  
29 transportation to project site) for the Project were accounted for separately.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-253

1

2 **Question:**3 *Reference:*

4 "In the event that the use of explosives is necessary (e.g., for excavation of rock or  
5 large boulders or for splicing and terminating electrical conductors), a magazine for  
6 storage of explosives will be located away from the work and camp areas, in accordance  
7 with provincial blasting regulations." (EIS 3-104).

8 *Request:*

9 Can Manitoba Hydro now indicate whether explosives will or will not be required?

10 **Response:**

11 Explosives will be used for certain aspects of the Project – i.e. excavation or splicing of  
12 conductors. In all instances, explosives will be handled, stored and used in accordance  
13 with the applicable provincial and federal regulations.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-254a

1

2 **Question:**

3 *Reference:*

4 "The existing rail spur at Limestone/Henday connects to the (Winnipeg-Churchill) ...will  
5 require some upgrading and maintenance, the extent of which is under ongoing review.

6 *Requests:*

7 a) Can Manitoba Hydro now indicate exactly what upgrades are require, including cost?

8 **Response:**

9 No, maintenance and upgrades are dependent on the converter station equipment  
10 design and delivery requirements, which are still forthcoming.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-254b

1

2 **Question:**3 *Reference:*

4 "The existing rail spur at Limestone/Henday connects to the (Winnipeg-Churchill) ...will  
5 require some upgrading and maintenance, the extent of which is under ongoing review."

6 *Requests:*

7 b) Who will pay for these upgrades, and is there a technical report or plan for the spur  
8 line upgrades?

9 **Response:**

10 Manitoba Hydro will pay for spur maintenance and/or upgrades if required. Condition  
11 assessment of the rail spur is still under ongoing review. A technical report and plan will  
12 not be available until completion of the review.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-255

1

2 **Question:**

3 *Reference:*

4 "The allocation of employment opportunities will generally be based on the hiring  
 5 preferences defined in the Burntwood Nelson Agreement (BNA) Manitoba Hydro may  
 6 also directly negotiate certain contracts or work packages with in-vicinity First Nations,  
 7 who would then have ability to hire their members directly for such work. The  
 8 Keewatinoow project work will be tightly scheduled."

9 *Request:*

10 Why the use of the adjective "generally?" BNA is a legal agreement. Either it is adhered  
 11 to, or MH is in breach of contract. How can you generally adhere to a contract? Explain  
 12 whether any hiring for Bi Pole III has occurred to date based on the BNA?

13 **Response:**

14 For the Keewatinoow Station the term 'generally' was used because, although, the bulk  
 15 of the workers are in-scope positions within the BNA, there are also employment  
 16 opportunities for the Project that exist through contractor management positions and  
 17 with Manitoba Hydro, which are exempt from it. Also, transmission line work will be  
 18 done under the Transmission Line Agreement.

19 To date, no hiring has occurred on the project under the BNA.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-119
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-256

1

2 Question:

3 *Reference:*

4 "Water will likely continue to be obtained from an existing on-site well, treated with  
5 approved water treatment equipment, and stored in approved potable water containers.  
6 Alternatively, potable water may be hauled in from Gillam and stored in approved  
7 potable water containers located at the camp." (EIS 3-119)

8 *Request:*

9 What well? Is the well large enough to sustain 500 people? Provide comparative  
10 information regarding the water supply for the existing work camp at the Keeyask work  
11 camp.

12 **Response:**

13 Water will likely be obtained from well B-291. The groundwater investigation and  
14 supplemental analysis undertaken confirmed that the aquifer can sustain a 600 person  
15 camp with an average flow of 2.0 L/s and peak demand of 14 L/s.

16 Please refer to environmental assessment documents that are available on the provincial  
17 public registry for questions regarding other projects.

18 Keeyask Generation Project:

19 <http://www.gov.mb.ca/conservation/eal/registries/5550keeyask/>

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-257

1

2 **Question:**3 *Reference:*

4 "Solid waste will be hauled to a licensed waste disposal site with adequate capacity,  
5 subject to approval by the facility owner and Manitoba Conservation. Food refuse that is  
6 not disposed of through the kitchen garburators and sewage system, as well as other  
7 wastes destined for the waste disposal site, will be stored temporarily in approved  
8 containers maintained in a secure location to prevent intrusion by wildlife. Requirements  
9 for storage and haulage may be minimized through the use of garbage compactors. A  
10 recycling and waste management plan will be developed in relation to camp operations.  
11 The plan will: provide for appropriate separation of waste streams; optimize recycling;  
12 and ensure proper disposal of all solid wastes."

13 *Request:*

14 Estimate total garbage production over work camp lifespan?

15 **Response:**

16 A waste stream study is in progress and is expected to be completed by December  
17 2012.

18 The Wuskwatim work camp generated approximately 8000 kg of solid waste / month /  
19 500 people. It is anticipated the waste generated at Keewatinoow work camp will be of  
20 a similar quantity.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-130
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-258

1

2 **Question:**3 *Reference:*

4 "Audible noise levels arising from station equipment operation will be subject to final  
5 design and equipment selection, but will comply with applicable provincial regulations  
6 and guidelines." (EIS 3-130)

7 *Request:*

8 What provincial guidelines are referenced above, and does Manitoba Hydro also include  
9 CCME and federal noise requirements?

10 **Response:**

11 The guideline referenced is "Guidelines for Sound Pollution" prepared by Environmental  
12 Management Division, Manitoba Environment 1992.

13 As of 2010, federal advice for environmental assessments regarding noise was as  
14 follows:

15 "Health Canada does not have noise guidelines or enforceable noise thresholds or  
16 standards. Responsible authorities (and/or provincial/territorial authorities) are  
17 encouraged to consult with provincial and municipal authorities to determine which  
18 standards or regulations exist for the location of the proposed project, as differences  
19 may exist in their respective approaches to limiting noise impacts." (Health Canada  
20 2010).

21 **Reference:**

22 Health Canada 2010. *Useful Information for Environmental Assessments*, Minister of

23 Health, Health Canada, Ottawa. 18 pp.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-131
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-259a

1

2 **Question:**3 *Reference:*

4 "The valve groups within the valve halls generate heat during operation. ... cooling  
5 system which circulates a de-ionized water-glycol solution through a system of manifolds  
6 and pipes. Although the probability of leaks in the system is low, the system is closely  
7 monitored to ensure proper operation." (EIS 3-131)

8 *Requests:*

9 a)What is the definition of "low probability" in relation to the quote above?

10 **Response:**

11 A low probability refers to an estimated probability of occurrence of 10% - 30%.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-131
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-259b

1

2 **Question:**3 *Reference:*

4 "The valve groups within the valve halls generate heat during operation. ... cooling  
5 system which circulates a de-ionized water-glycol solution through a system of manifolds  
6 and pipes. Although the probability of leaks in the system is low, the system is closely  
7 monitored to ensure proper operation." (EIS 3-131)

8 *Requests:*

9 b) Manitoba Hydro to provide information on any leak occurrences for other converter  
10 and substation elements in Hydro system.

11 **Response:**

12 Manitoba Hydro reports all reportable spills to the appropriate authorities. For more  
13 information on spill statistics, please see Manitoba Hydro's 2011-2012 Sustainable  
14 Development Report, which can be found on Manitoba Hydro's website at:  
15 [http://www.hydro.mb.ca/environment/publications/sdr\\_10\\_11.pdf](http://www.hydro.mb.ca/environment/publications/sdr_10_11.pdf).

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-260a

1

2 **Question:**3 *Reference:*

4 "The life span of converter station facilities is normally considered to be in the order of  
5 50 years. However, converter station facilities are not sited and designed with a view to  
6 decommissioning. As individual station components fail, replacement will normally be  
7 made with equivalent new equipment or facilities. ... facilities ... are considered to be  
8 effectively permanent. In the extremely unlikely event that the Keewatinoow Converter  
9 Station was to be decommissioned, ... subject to ...applicable regulatory requirements ...  
10 objective of any decommissioning plans would be to restore the station site to a  
11 condition consistent with the future intended use of that site." (EIS 3-177)

12 "At this time, there is no timetable for ultimate decommissioning of the Project. If  
13 project components were to be decommissioned, the earliest timeframe would be  
14 approximately 50 years from now. For this amount of time into the future it is not  
15 feasible to provide meaningful assessment of the likely decommissioning plans or their  
16 effects." (EIS 4-4)

17 *Requests:*

18 a) Does Manitoba Hydro have decommissioning standards for converter stations?

19 **Response:**

20 No.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-177
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-260b

1

2 **Question:**3 *Reference:*

4 "The life span of converter station facilities is normally considered to be in the order of  
5 50 years. However, converter station facilities are not sited and designed with a view to  
6 decommissioning. As individual station components fail, replacement will normally be  
7 made with equivalent new equipment or facilities. ... facilities ... are considered to be  
8 effectively permanent. In the extremely unlikely event that the Keewatinoow Converter  
9 Station was to be decommissioned, ... subject to ...applicable regulatory requirements ...  
10 objective of any decommissioning plans would be to restore the station site to a  
11 condition consistent with the future intended use of that site." (EIS 3-177)

12 "At this time, there is no timetable for ultimate decommissioning of the Project. If  
13 project components were to be decommissioned, the earliest timeframe would be  
14 approximately 50 years from now. For this amount of time into the future it is not  
15 feasible to provide meaningful assessment of the likely decommissioning plans or their  
16 effects." (EIS 4-4)

17 *Requests:*

18 b) Has Manitoba Hydro ever decommissioned a converter station ?

19 **Response:**

20 No.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-177
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-260c

1

2 **Question:**3 *Reference:*

4 "The life span of converter station facilities is normally considered to be in the order of  
5 50 years. However, converter station facilities are not sited and designed with a view to  
6 decommissioning. As individual station components fail, replacement will normally be  
7 made with equivalent new equipment or facilities. ... facilities ... are considered to be  
8 effectively permanent. In the extremely unlikely event that the Keewatinoow Converter  
9 Station was to be decommissioned, ... subject to ...applicable regulatory requirements ...  
10 objective of any decommissioning plans would be to restore the station site to a  
11 condition consistent with the future intended use of that site." (EIS 3-177)

12 "At this time, there is no timetable for ultimate decommissioning of the Project. If  
13 project components were to be decommissioned, the earliest timeframe would be  
14 approximately 50 years from now. For this amount of time into the future it is not  
15 feasible to provide meaningful assessment of the likely decommissioning plans or their  
16 effects." (EIS 4-4)

17 *Requests:*

18 c) How do decommissioning plans for generations stations fit with decommissioning  
19 standards for converter stations ?

20 **Response:**

21 As noted in the EIS on pages 3-177 and 3-178, Manitoba Hydro does not anticipate the  
22 need to decommission the converter stations, and intends to replace station components  
23 as needed during ongoing maintenance and refurbishment. Decommissioning plans for  
24 generating stations would differ from converter station decommissioning plans due to  
25 the different technical components, materials, future land use, site risks, and  
26 environmental setting of each.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-176; see also EIS 3-151
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-261

1

2 **Question:**3 *Reference:*

4 "The valve groups within the valve halls generate heat during operation. This heat must  
5 be dissipated quickly and efficiently in order to protect the critical electronic  
6 components.

7 The removal of heat is performed by a cooling system which circulates a de-ionized  
8 water-glycol solution through a system of manifolds and pipes. Although the probability  
9 of leaks in the system is low, the system is closely monitored to ensure proper  
10 operation." (EIS 3-176; see also EIS 3-151)

11 *Requests:*

12 a) How will valve halls be monitored? How will the rest of the system be monitored?

13 **Response:**

14 The operating condition and status of the cooling systems are monitored from the  
15 control room in the converter building. Qualified operators and maintenance personnel  
16 will also routinely inspect these systems, and correct any abnormal operating conditions  
17 or problems identified during inspection.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-176; see also EIS 3-151
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-262

1

2 **Question:**3 *Reference:*

4 "The valve groups within the valve halls generate heat during operation. This heat must  
5 be dissipated quickly and efficiently in order to protect the critical electronic  
6 components.

7 The removal of heat is performed by a cooling system which circulates a de-ionized  
8 water-glycol solution through a system of manifolds and pipes. Although the probability  
9 of leaks in the system is low, the system is closely monitored to ensure proper  
10 operation." (EIS 3-176; see also EIS 3-151)

11 *Requests:*

12 b) What is meant (i.e what is the statistical significance) of "the probability of leaks in  
13 the system is low."

14 **Response:**

15 To clarify the statement noted in b) above, the low probability refers to the estimated  
16 probability (10% - 30%) of a leak occurring in the cooling system noted on page 3-175,  
17 as planned for the Bipole III project.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-164
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-263

1

2 **Question:**3 *Reference:*

4 "Material required for station construction (e.g., concrete and granular fill) will generally  
5 be obtained from local suppliers (providing specific material specifications can be met)  
6 and transported to the site. Construction clean-up will occur throughout all phases of  
7 construction." (EIS 3-164)

8 *Request:*

9 Has Manitoba Hydro investigated whether these material requirements can be obtained  
10 from local supplier? If so provide the results of those investigations.

11 **Response:**

12 At this time, detailed design has not progressed to determine quantity and material  
13 types. Upon further progression of design, Manitoba Hydro plans to investigate whether  
14 materials can be obtained from local suppliers.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-176
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-264

1

2 Question:

3 *References:*4 ***"Hydrogen***

5 All transportation, handling and storage of hydrogen for use in the synchronous  
6 condensers will comply with relevant regulations and guidelines."

7 ***"Carbon Dioxide***

8 All transportation, handling and storage of carbon dioxide for use in the synchronous  
9 condensers will comply with relevant regulations and guidelines." (EIS 3-176)

10 *Request:*

11 Which relevant regulations and guidelines are being referred to above for both hydrogen  
12 and carbon dioxide?

13 **Response:**

14 The legislation and guidelines referred to above include:

15 Transportation of Dangerous Goods Act, 1992, (1992, c.34) and the Transportation of  
16 Dangerous Goods Regulations SOR/2011-239.

17 The CSA standard for the selection of cylinders entitled "Selection and use of cylinders,  
18 spheres, tubes, and other containers for the transportation of dangerous goods, Class 2  
19 B340-08".

- 20 Manitoba Hydro also has a chemical storage document entitled "Chemical Storage"  
21 ([http://fa.hydro.mb.ca/csh/ppt/Documents/chemical\\_storage.pdf](http://fa.hydro.mb.ca/csh/ppt/Documents/chemical_storage.pdf)) which includes  
22 guidelines on storage of gases.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-178
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-265

1

2 **Question:**3 *Reference:*

4 "... proposed to be in-service by October 2017. To achieve this, construction will need to  
5 commence in the Fall of 2012 at the Keewatinoow site to provide construction power  
6 and enable related station work. ... Crown land reservations, easement agreements and  
7 any other project-related property arrangements, permits, etc. are targeted to be  
8 secured prior to construction commencement in the Fall of 2012, contingent upon  
9 license receipt. (EIS 3-178)

10 *Request:*

11 a) Given this schedule is no longer feasible and work for Keeyask and Conawapa  
12 continue to advance how will Manitoba Hydro handle the combined traffic congestion  
13 from these multiple projects?

14 **Response:**

15 As part of the mitigation measures within the Access Management Plans, Manitoba  
16 Hydro will be undertaking traffic monitoring. Any issues or concerns that are raised  
17 during the construction phase will be addressed in a case-by-case basis by the Project  
18 managers for the various Projects and adaptive management measures will be  
19 implemented.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 3-178
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-266

1

2 **Question:**

3 *Reference:*

4 "... proposed to be in-service by October 2017. To achieve this, construction will need to  
 5 commence in the Fall of 2012 at the Keewatinoow site to provide construction power  
 6 and enable related station work. ... Crown land reservations, easement agreements and  
 7 any other project-related property arrangements, permits, etc. are targeted to be  
 8 secured prior to construction commencement in the Fall of 2012, contingent upon  
 9 license receipt. (EIS 3-178)

10 *Request:*

11 b) Are crown land reservations, easement agreements and surveys publicly available?

12 **Response:**

13 Easement agreements and survey plans that have been registered with The Property  
 14 Registry are available to the public. They can be ordered for a fee (as set out in the  
 15 Manitoba Land Titles Fee Regulation) from either the Winnipeg Office or from the  
 16 Regional Office where they were originally registered. Any requests for crown land  
 17 reservations would have to be submitted directly to the Crown Lands and Property  
 18 Agency (CLPA) in Portage la Prairie Manitoba (Toll Free: 1-866-210-9589).

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 4-14
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-267

1

2 **Question:**3 *Reference:*

4 "The approach taken to understand the current groundwater regime in the Local Study  
5 Area involved the collection, review, and synthesis of available geological and  
6 hydrological information. No field activities were conducted. ..." (EIS 4-14)

7 *Preamble:*

8 Given that artesian wells and saline aquifers are known to exist in the area, and there is  
9 a dearth of comprehensive pre-existing information on northern geology and species, it  
10 would seem that groundwater studies would help assess risks and also determine the  
11 amount of water available for use during construction and operation.

12 *Request:*

13 Why were no field activities in relation to groundwater undertaken? What data or studies  
14 did Manitoba Hydro rely on for its EIS content re groundwater regime?

15 **Response:**

16 With regard to water use during construction and operation, groundwater will only be  
17 used at the proposed northern work camp and Keewatinoow Converter Station. Field  
18 activities were undertaken by KGS ACRES in relation to this proposed water withdrawal,  
19 providing site-specific testing information on aquifer yield and quality for the EIS. There  
20 is no plan for groundwater use elsewhere along the transmission line route. Accordingly,

21 no additional field activities were considered to be required for the assessment of  
22 potential environmental effects from groundwater use.

23 The Project components are generally land-based or surficial in nature and will not  
24 contact or interfere with the existing groundwater regime. For the tower foundations,  
25 the specific locations for these will be investigated during pre-construction (i.e.,  
26 geotechnical drilling). Information appropriate (i.e., of sufficient detail) for the EIS and  
27 for providing guidance to the pre-construction activities was available, and relied upon,  
28 from Manitoba Conservation and Water Stewardship (MCWS).

29 More specifically, the information relied upon consisted of:

- 30 • Bedrock aquifer information and maps for the entire preferred route, maps  
31 showing the occurrence of aquifers in the overburden along the route to just  
32 north of The Pas, and maps of flowing wells and springs (i.e., artesian  
33 groundwater conditions) excluding the most northern area of the preferred  
34 route; all provided by MCWS.
- 35 • MCWS's database of licensed wells within the study area.
- 36 • Borehole logs along the preferred route and surrounding areas from Manitoba  
37 Hydro.
- 38 • Aquifer Sensitivity Mapping developed by MCWS with additional detailed on  
39 ranking parameters and weighting scores by Kirch (1997).
- 40 • Hydrogeological information in the vicinity of the Riel Converter Station and  
41 Ground Electrode Site from Manitoba Hydro (1995), MMM Group (2011), the  
42 Province of Manitoba, NR Can, Manitoba National Resources and Rutulis (1990).
- 43 • Aboriginal and Traditional Knowledge information gathered by MMM Group and  
44 MB Hydro.
- 45 • Personal communications with knowledgeable persons within MCWS (e.g., R.  
46 Betcher pers. comm. 2011).

47 **Reference:**

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67 Subsurface Investigation Report. Volume 1 of 3. Report No. PSPD 95-3. File No.  
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71 Manitoba Hydro, Transmission, Licensing and Environmental Assessment  
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80 243–274.
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82 presented at 40th annual Canadian Water Resources Association.
- 83 Rutulis, M. 1984. Groundwater Resources in the MacDonald-Ritchot Planning District.  
84 Manitoba Natural Resources. Water Resources Branch, Winnipeg.
- 85 Rutulis, M. 1985. Springs in Southern Manitoba. Province of Manitoba Hydrogeological  
86 Section.
- 87 Rutulis, M. 1986. Aquifer Maps of Southern Manitoba. Map 2 of 2. Sand and Gravel  
88 Aquifers. Manitoba Natural Resources. Water Resources Branch, Winnipeg.
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90 Manitoba Natural Resources. Water Resources Branch, Winnipeg.
- 91 Simpson, F., McCabe, H.R. and Barchyn, D. 1987. Subsurface Disposal of Wastes in  
92 Manitoba – Part I: Current Status and Potential of Disposal of Fluid industrial  
93 Wastes in Manitoba. Manitoba Energy and Mines, Geological Services, Geological  
94 Paper GP83-1.
- 95 Stantec Consulting Ltd. 2009. Draft Report to Manitoba Hydro. Keeyask Generation  
96 Project Stage IV Studies. Physical Environment. Existing Environment.  
97 Groundwater Regime. Deliverable GN 9.3.1.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 4-15
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-268a

1

2 **Question:**

3 *Reference:*

4 "... an assessment of fish habitat was conducted for each water course occurring within  
 5 the Project area. Fish habitat quality was assessed for each water course within the  
 6 Local Study Area using aerial photographs, aerial video, Google Earth imagery, existing  
 7 published and unpublished information, and field studies." (EIS 4-15)

8 *Requests:*

9 a) Were field studies conducted for any water courses? And which water courses had  
 10 existing field studies available ?

11 **Response:**

12 As found in the Bipole III Aquatics Technical Report, field studies were conducted at 60  
 13 water courses; 56 on the HVdc Transmission Line right of way, one at the Keewatinoow  
 14 Converter Station site, two at the Construction Camp site, and one at the Northern  
 15 Ground Electrode site. The discrepancy in the number of site visits on the HVdc  
 16 Transmission Line presented in section 3.2 of the Technical Report (54) and that  
 17 presented here (56) is due to a counting error in the Technical Report. Existing field  
 18 study information was used in the assessment of 80 water courses; 63 on the HVdc  
 19 Transmission Line right of way, 12 on the Collector Lines right of way, one at the  
 20 Keewatinoow Converter Station site, two at the Construction Camp site, and two at the  
 21 Northern Ground Electrode Line site.

Bipole III Transmission Project

CEC/MH-VI-268a

<b>Component</b>	<b>Site ID</b>	<b>Water Course Name</b>	<b>Bipole III Field Studies</b>	<b>Existing Field Studies</b>
HVdc Transmission Line	10	Goose Creek		Y
HVdc Transmission Line	13	Nine Mile Creek		Y
HVdc Transmission Line	14	Nine Mile Creek		Y
HVdc Transmission Line	15	Nine Mile Creek		Y
HVdc Transmission Line	16	Nine Mile Creek		Y
HVdc Transmission Line	17	Nine Mile Creek		Y
HVdc Transmission Line	22	McMillan Creek	Y	Y
HVdc Transmission Line	27	Limestone River	Y	Y
HVdc Transmission Line	28	Limestone River	Y	Y
HVdc Transmission Line	33	Limestone River	Y	Y
HVdc Transmission Line	35	North Moswakot River	Y	
HVdc Transmission Line	48	Crying River	Y	
HVdc Transmission Line	50	Hunting River	Y	Y
HVdc Transmission Line	72	Odei River	Y	Y
HVdc Transmission Line	77	Burntwood River	Y	Y
HVdc Transmission Line	98	Partridge Crop Lake	Y	
HVdc Transmission Line	99	Partridge Crop Lake	Y	
HVdc Transmission Line	117	Unnamed Tributary of Wintering Lake	Y	
HVdc Transmission Line	118	Unnamed Tributary of Wintering Lake	Y	
HVdc Transmission Line	119	Unnamed Tributary of Gordon Brown Lake	Y	
HVdc Transmission Line	124	Patrick Creek	Y	
HVdc Transmission Line	125	Halfway River	Y	
HVdc Transmission Line	126	Halfway River	Y	
HVdc Transmission Line	145	Mitishto River	Y	
HVdc Transmission Line	146	Mitishto River	Y	
HVdc Transmission Line	147	Unnamed Tributary of Mitishto River	Y	
HVdc Transmission Line	150	Unnamed Tributary of Mitishto River	Y	
HVdc Transmission Line	154	Mitishto River	Y	
HVdc Transmission Line	158	Frog Creek	Y	Y
HVdc Transmission Line	177	Saskatchewan River	Y	Y
HVdc Transmission Line	187	Overflowing River	Y	Y
HVdc Transmission Line	189	Red Deer River	Y	Y
HVdc Transmission Line	199	Steeprock River	Y	Y
HVdc Transmission Line	213	Wawayanagan River	Y	
HVdc Transmission Line	220	Woody River	Y	Y
HVdc Transmission Line	221	Unnamed Tributary of the Woody River	Y	Y
HVdc Transmission Line	229	Swan River	Y	Y
HVdc Transmission Line	230	Kitzul Drain	Y	
HVdc Transmission Line	233	North Duck River	Y	Y

HVdc Transmission Line	237	Unnamed Tributary of North Pine River	Y	
HVdc Transmission Line	238	North Pine River	Y	Y
HVdc Transmission Line	239	North Pine River	Y	Y
HVdc Transmission Line	240	North Pine River	Y	Y
HVdc Transmission Line	241	South Pine River	Y	
HVdc Transmission Line	244	Garland River	Y	Y
HVdc Transmission Line	245	Backwater Channel of Garland River	Y	
HVdc Transmission Line	246	Backwater Channel of Garland River	Y	
HVdc Transmission Line	249	Wellburns Creek	Y	
HVdc Transmission Line	251	Mossy River	Y	Y
HVdc Transmission Line	257	German Creek	Y	Y
HVdc Transmission Line	262	Garrioch Creek		Y
HVdc Transmission Line	268	Whitemud River	Y	Y
HVdc Transmission Line	269	Squirrel Creek		Y
HVdc Transmission Line	273	Westbourne Drain	Y	
HVdc Transmission Line	276	Bagot Creek	Y	
HVdc Transmission Line	277	Rat Creek	Y	Y
HVdc Transmission Line	281	Assiniboine River	Y	Y
HVdc Transmission Line	285	11-A Drain		Y
HVdc Transmission Line	286	11-A Drain		Y
HVdc Transmission Line	287	11-A Drain		Y
HVdc Transmission Line	288	Unnamed Agricultural Drain		Y
HVdc Transmission Line	289	Parker Drain		Y
HVdc Transmission Line	290	Parker Drain		Y
HVdc Transmission Line	291	Garber Drain		Y
HVdc Transmission Line	292	Garber Drain		Y
HVdc Transmission Line	293	Unnamed Agricultural Drain		Y
HVdc Transmission Line	294	Unnamed Agricultural Drain		Y
HVdc Transmission Line	295	Manness Drain		Y
HVdc Transmission Line	296	Domain Drain		Y
HVdc Transmission Line	297	Unnamed Agricultural Drain		Y
HVdc Transmission Line	298	La Pointed Coulee		Y
HVdc Transmission Line	299	Red River	Y	Y
HVdc Transmission Line	301	Marsh River	Y	Y
HVdc Transmission Line	302	Rat River	Y	Y
HVdc Transmission Line	303	Unnamed Agricultural Drain		Y
HVdc Transmission Line	304	Tourond Creek	Y	Y
HVdc Transmission Line	305	Old South Lateral Drain		Y
HVdc Transmission Line	306	South Lateral Drain		Y
HVdc Transmission Line	307	Chorlitz Drain		Y
HVdc Transmission Line	308	Manning Canal	Y	Y
HVdc Transmission Line	309	Youville Drain		Y
HVdc Transmission Line	310	Seine River Diversion	Y	Y

HVdc Transmission Line	311	Seine River	Y	Y
HVdc Transmission Line	312	Unnamed Agricultural Drain		Y
HVdc Transmission Line	313	Unnamed Agricultural Drain		Y
HVdc Transmission Line	314	Fish Creek		Y
HVdc Transmission Line	317	Swede Drain		Y
Collector Lines	2	Goose Creek		Y
Collector Lines	9	Tiny Creek		Y
Collector Lines	18	Swift Creek		Y
Collector Lines	21	Beaver Creek		Y
Collector Lines	23	Sundance Creek		Y
Collector Lines	26	Raindance Creek		Y
Collector Lines	29	Limestone River		Y
Collector Lines	33	Nelson River		Y
Collector Lines	41	Wilson Creek		Y
Collector Lines	42	Wilson Creek		Y
Collector Lines	43	Wilson Creek		Y
Northern Ground Electrode Line	1	Tiny Creek		Y
Northern Ground Electrode Line	5	Swift Creek		Y
Construction Camp	CC1	Creek Fourteen	Y	Y
Construction Camp	CC2	Creek Fifteen		Y
Construction Camp	CC3	Unnamed Tributary of Nelson River	Y	
Construction Camp	CC4	Nelson River		Y
Keewatinoow Converter Station	NCS4-1	Unnamed Tributary of Nelson River	Y	
Keewatinoow Converter Station	NCS4-2	Goose Creek		Y
Northern Ground Electrode	NES6S1	Unnamed Tributary of Nelson River	Y	

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 4-15
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-268b

1

2 **Question:**3 *Reference:*

4 "... an assessment of fish habitat was conducted for each water course occurring within  
5 the Project area. Fish habitat quality was assessed for each water course within the  
6 Local Study Area using aerial photographs, aerial video, Google Earth imagery, existing  
7 published and unpublished information, and field studies." (EIS 4-15)

8 *Requests:*

9 b) What did the field studies entail? Which water courses?

10 **Response:**

11 A detailed description of the methods used in the field studies are available in the Bipole  
12 III Environmental Assessment Technical Report – Aquatic Environment (section 3.2).  
13 Methods used for field studies at water courses on the HVdc Transmission Line are  
14 available in section 3.2.1 of the Aquatic Environment Technical Report, and methods  
15 used at water courses are the Keewatinoow Converter Station site, the Northern Ground  
16 Electrode site and the Construction Camp site are available within section 3.2.2 of the  
17 Aquatic Environment Technical Report. Please see response provided for *CEC/MH-VI-*  
18 *268a.*

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 4-17
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-269

1

2 **Question:**3 *Reference:*

4 "...Manitoba Hydro has developed a draft internal corporate strategy that directs  
5 research and monitoring activities to address issues on the potential effects of  
6 transmission development on boreal woodland caribou." (EIS 4-17)

7 *Request:*

8 Manitoba Hydro to provide a copy of this "draft internal corporate strategy regarding  
9 potential effects of transmission development on boreal woodland caribou.

10 **Response:**

11 Manitoba Hydro's Boreal Woodland Caribou strategy for transmission lines is reflected in  
12 the Bipole III Caribou Technical Report that was filed in the EIS.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 4-18
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-270

1

2 **Question:**

3 *Reference:*

4 "A moderate sample effort was undertaken in habitats adjacent to the Local Study Area.  
 5 ... A number of bird surveys were conducted in the Project Study Area, including owl  
 6 surveys, raptor migration surveys, colonial waterbird surveys, water staging  
 7 reconnaissance surveys, and breeding bird surveys." (EIS 4-18)

8 *Request:*

9 Provide a list of the number, location, and types of different bird surveys undertaken,  
 10 with species identified, and mitigation approaches.

11 **Response:**

12 Tables 1 to 10 below outline the types of bird surveys, the number of sites surveyed,  
 13 and the species identified during each survey. A total of 5,569 plots were sampled in  
 14 2009 and 2010. Aerial transect surveys for colonial waterbirds and waterfowl are not  
 15 included in this total. A reference to the appropriate map series from the Bipole III Bird  
 16 Technical Report is also included to identify the location of each survey. Mitigation  
 17 approaches are described in Section 8.2.7.2, Chapter 8, Bipole III EIS, Section 5.2 of the  
 18 Bipole III Bird Technical Report, and have also been addressed in *CEC-MH-IV-135*.

19 Table 1 – 2009 Breeding Bird Survey

<b>Number of Plots Surveyed</b>		674	
<b>Map Reference</b>		Map Series 300	
<b>Species Detected</b>			
Alder Flycatcher	Cliff Swallow	Mallard	Snow Bunting
American Bittern	Common Goldeneye	Marbled Godwit	Song Sparrow
American Coot	Common Grackle	Marsh Wren	Sora
American Crow	Common Loon	Merlin	Spotted Sandpiper
American Goldfinch	Common Merganser	Mourning Dove	Sprague's Pipit
American Green-winged Teal	Common Nighthawk	Mourning Warbler	Spruce Grouse
American Kestrel	Common Raven	Nashville Warbler	Swainson's Hawk
American Redstart	Common Redpoll	Northern Harrier	Swainson's Thrush
American Robin	Common Snipe	Northern Hawk Owl	Swamp Sparrow
American Wigeon	Common Tern	Northern Parula	Tennessee Warbler
Bald Eagle	Common Yellowthroat	Northern Pintail	Three-toed Woodpecker
Baltimore Oriole	Connecticut Warbler	Northern Shoveler	Tree Swallow
Bank Swallow	Cooper's Hawk	Northern Waterthrush	Turkey Vulture
			Unidentified Dark-eyed Junco
Barn Swallow	Downy Woodpecker	Olive-sided Flycatcher	Junco
Barred Owl	Eastern Bluebird	Orange-crowned Warbler	Upland Sandpiper
Bay-breasted Warbler	Eastern Kingbird	Osprey	Veery
Belted Kingfisher	Eastern Phoebe	Ovenbird	Vesper Sparrow
Black Tern	Eastern Towhee	Philadelphia Vireo	Virginia Rail
Black-and-White Warbler	Eastern Wood-Pewee	Pied-billed Grebe	Warbling Vireo
Black-backed Woodpecker	European Starling	Pileated Woodpecker	Western Kingbird
Black-bellied Plover	Evening Grosbeak	Pine Grosbeak	Western Meadowlark
Black-billed Cuckoo	Fox Sparrow	Pine Siskin	Western Palm Warbler
Black-billed Magpie	Franklin's Gull	Pine Warbler	Western Wood-Pewee
Blackburnian Warbler	Gadwall	Purple Finch	Whip-poor-will
	Golden-crowned Kinglet	Red Crossbill	White-breasted Nuthatch
Black-capped Chickadee	Golden-winged Warbler	Red-breasted Nuthatch	White-crowned Sparrow
Black-throated Green Warbler	Grasshopper Sparrow	Red-eyed Vireo	White-throated Sparrow
Blue Jay	Gray Catbird	Redhead	White-winged Crossbill
Blue-headed Vireo	Gray Jay	Red-headed Woodpecker	Wild Turkey
Blue-winged Teal	Great Blue Heron	Red-necked Grebe	Willet
Blue-winged Warbler	Great Crested Flycatcher	Red-tailed Hawk	Willow Flycatcher
Bobolink	Great Horned Owl	Red-winged Blackbird	Wilson's Phalarope
Bonaparte's Gull	Greater Yellowlegs	Ring-billed Gull	Wilson's Warbler
Boreal Chickadee	Hairy Woodpecker	Ring-necked Duck	Winter Wren
Brewer's Blackbird	Harris's Sparrow	Rock Pigeon	Yellow Rail
Broad-winged Hawk	Hermit Thrush	Rose-breasted Grosbeak	Yellow Warbler
Brown Creeper	Horned Lark	Ruby-crowned Kinglet	Yellow-bellied Flycatcher
Brown Thrasher		Ruby-throated Hummingbird	Yellow-bellied Sapsucker
Brown-headed Cowbird	House Finch	Ruddy Duck	Yellow-headed Blackbird
Bufflehead	House Sparrow	Ruffed Grouse	Yellow-shafted Flicker
Canada Goose	House Wren	Rusty Blackbird	Yellow-throated Vireo
Canada Warbler	Killdeer	Sandhill Crane	
Cape May Warbler	Lark Sparrow	Savannah Sparrow	
Caspian Tern	Le Conte's Sparrow		

Cedar Waxwing	Least Flycatcher	Sedge Wren
Chestnut-collared		
Longspur	Lesser Scaup	Sharp-shinned Hawk
Chestnut-sided Warbler	Lesser Yellowlegs	Sharp-tailed Grouse
Chipping Sparrow	Lincoln's Sparrow	Sharp-tailed Sparrow
Clay-colored Sparrow	Magnolia Warbler	Short-eared Owl

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20

21 Table 2 – 2009 Rare Bird Survey

<b>Number of Plots Surveyed</b>	
	78
<b>Map Reference</b>	
	Map Series 300
<b>List of Species</b>	
Burrowing Owl	Red-headed Woodpecker
Canada Warbler	Rusty Blackbird
Common Nighthawk	Sprague's Pipit
Olive-sided Flycatcher	Whip-poor-will

22

23 Table 3 – 2009 Colonial Waterbird Survey

<b>Number of Plots Surveyed</b>	
	N/A
<b>Map Reference</b>	
	Map Series 700
<b>Species Detected</b>	
American White Pelican	Franklin's Gull
Bald Eagle	Great Blue Heron
Black-crowned Night-Heron	Herring Gull
Bonaparte's Gull	Mallard
Canvasback	Osprey
Caspian Tern	Ring-billed Gull
Common Merganser	Sandhill Crane
Common Tern	Trumpeter Swan
Double-crested Cormorant	Western Grebe

24

25 Table 4 – 2010 Breeding Bird Survey (Point Counts)

<b>Number of Plots Surveyed</b>		2,136	
<b>Map Reference</b>		Map Series 400	
<b>Species Detected</b>			
Alder Flycatcher	Canvasback	Killdeer	Rusty Blackbird
American Avocet	Cape May Warbler	Le Conte's Sparrow	Sandhill Crane
American Bittern	Cedar Waxwing	Least Bittern	Savannah Sparrow
American Coot	Chestnut-sided Warbler	Least Flycatcher	Scarlet Tanager
American Crow	Chipping Sparrow	Least Sandpiper	Sedge Wren
American Goldfinch	Clay-colored Sparrow	Lesser Scaup	Sharp-shinned Hawk
American Green-winged Teal	Common Goldeneye	Lesser Yellowlegs	Sharp-tailed Grouse
American Kestrel	Common Grackle	Lincoln's Sparrow	Short-billed Dowitcher
American Redstart	Common Loon	Magnolia Warbler	Solitary Sandpiper
American Robin	Common Merganser	Mallard	Song Sparrow
American White Pelican	Common Nighthawk	Marbled Godwit	Sora
American Wigeon	Common Raven	Marsh Wren	Spotted Sandpiper
American Woodcock	Common Redpoll	Merlin	Spruce Grouse
Arctic Tern	Common Tern	Mourning Dove	Swainson's Thrush
Bald Eagle	Common Yellowthroat	Mourning Warbler	Swamp Sparrow
Baltimore Oriole	Connecticut Warbler	Nashville Warbler	Tennessee Warbler
Bank Swallow	Double-crested Cormorant	Nelson's Sharp-tailed Sparrow	Three-toed Woodpecker
Barn Swallow	Downy Woodpecker	Northern Goshawk	Tree Swallow
Barred Owl	Eastern Bluebird	Northern Harrier	Unidentified Dark-eyed Junco
Bay-breasted Warbler	Eastern Kingbird	Northern Hawk Owl	Upland Sandpiper
Belted Kingfisher	Eastern Phoebe	Northern Shoveler	Veery
Black Tern	Eastern Towhee	Northern Waterthrush	Vesper Sparrow
Black-and-White Warbler	Eastern Wood-Pewee	Olive-sided Flycatcher	Virginia Rail
Black-backed Woodpecker	European Starling	Orange-crowned Warbler	Warbling Vireo
Black-billed Cuckoo	Evening Grosbeak	Ovenbird	Western Meadowlark
Black-billed Magpie	Fox Sparrow	Philadelphia Vireo	Western Palm Warbler
Blackburnian Warbler	Franklin's Gull	Pied-billed Grebe	Western Wood-Pewee
Black-capped Chickadee	Gadwall	Pileated Woodpecker	White-breasted Nuthatch
Blackpoll Warbler	Golden-crowned Kinglet	Pine Grosbeak	White-crowned Sparrow
Black-throated Green Warbler	Golden-winged Warbler	Pine Siskin	White-throated Sparrow
Blue Jay	Gray Catbird	Purple Finch	White-winged Crossbill
Blue-headed Vireo	Gray Jay	Purple Martin	Willet
Blue-winged Teal	Gray-cheeked Thrush	Red Crossbill	Willow Flycatcher
Bobolink	Great Blue Heron	Red-breasted Nuthatch	Wilson's Phalarope
Bohemian Waxwing	Great Crested Flycatcher	Red-eyed Vireo	Wilson's Snipe
Bonaparte's Gull	Great Horned Owl	Red-necked Grebe	Wilson's Warbler
Boreal Chickadee	Greater Yellowlegs	Red-tailed Hawk	Winter Wren
Brewer's Blackbird	Hairy Woodpecker	Red-winged Blackbird	Wood Duck
Broad-winged Hawk	Harris's Sparrow	Ring-billed Gull	Yellow Rail
Brown Creeper	Hermit Thrush	Ring-necked Duck	Yellow Warbler
Brown Thrasher	Herring Gull	Rock Pigeon	Yellow-bellied Flycatcher
Brown-headed Cowbird	Horned Grebe	Rose-breasted Grosbeak	Yellow-bellied Sapsucker
Bufflehead	House Sparrow	Ruby-crowned Kinglet	Yellow-headed Blackbird
Canada Goose	House Wren	Ruby-throated Hummingbird	Yellow-shafted Flicker
Canada Warbler	Hudsonian Godwit	Ruffed Grouse	Yellow-throated Vireo

27 Table 5 – 2010 Breeding Bird Surveys (Audio Recording Point Counts)

<b>Number of Plots Surveyed</b>		1,269	
<b>Map Reference</b>		Map Series 400	
<b>Species Detected</b>			
Alder Flycatcher	Chipping Sparrow	Lincoln's Sparrow	Sedge Wren
American Bittern	Clay-colored Sparrow	Magnolia Warbler	Sharp-shinned Hawk
American Coot	Cliff Swallow	Mallard	Snow Bunting
American Crow	Common Goldeneye	Marbled Godwit	Solitary Sandpiper
American Goldfinch	Common Grackle	Marsh Wren	Song Sparrow
American Green-winged Teal	Common Loon	Merlin	Sora
American Kestrel	Common Raven	Mourning Dove	Spotted Sandpiper
American Redstart	Common Redpoll	Mourning Warbler	Spruce Grouse
American Robin	Common Tern	Nashville Warbler	Swainson's Thrush
American Wigeon	Common Yellowthroat	Nelson's Sharp-tailed Sparrow	Swamp Sparrow
Arctic Tern	Connecticut Warbler	Northern Harrier	Tennessee Warbler
Baltimore Oriole	Downy Woodpecker	Northern Hawk Owl	Three-toed Woodpecker
Bank Swallow	Eastern Bluebird	Northern Parula	Tree Swallow
Barn Swallow	Eastern Kingbird	Northern Saw-whet Owl	Unidentified Dark-eyed Junco
Bay-breasted Warbler	Eastern Phoebe	Northern Shoveler	Veery
Belted Kingfisher	Eastern Towhee	Northern Waterthrush	Vesper Sparrow
Black Tern	Eastern Wood-Pewee	Olive-sided Flycatcher	Virginia Rail
Black-and-White Warbler	European Starling	Orange-crowned Warbler	Warbling Vireo
Black-backed Woodpecker	Evening Grosbeak	Ovenbird	Western Kingbird
Black-billed Cuckoo	Forster's Tern	Philadelphia Vireo	Western Meadowlark
Black-billed Magpie	Fox Sparrow	Pied-billed Grebe	Western Palm Warbler
Blackburnian Warbler	Franklin's Gull	Pileated Woodpecker	Western Tanager
Black-capped Chickadee	Gadwall	Pine Grosbeak	Western Wood-Pewee
Blackpoll Warbler	Golden-crowned Kinglet	Pine Siskin	White-breasted Nuthatch
Black-throated Green Warbler	Golden-winged Warbler	Purple Finch	White-crowned Sparrow
Blue Jay	Gray Catbird	Red Crossbill	White-throated Sparrow
Blue-headed Vireo	Gray Jay	Red-breasted Nuthatch	White-winged Crossbill
Blue-winged Teal	Gray-cheeked Thrush	Red-eyed Vireo	Willet
Bohemian Waxwing	Great Crested Flycatcher	Red-headed Woodpecker	Wilson's Snipe
Bonaparte's Gull	Great Horned Owl	Red-necked Grebe	Wilson's Warbler
Boreal Chickadee	Greater Yellowlegs	Red-tailed Hawk	Winter Wren
Brewer's Blackbird	Hairy Woodpecker	Red-winged Blackbird	Yellow Rail
Broad-winged Hawk	Hermit Thrush	Ring-billed Gull	Yellow Warbler
Brown Creeper	Herring Gull	Rose-breasted Grosbeak	Yellow-bellied Flycatcher
Brown-headed Cowbird	House Sparrow	Ruby-crowned Kinglet	Yellow-bellied Sapsucker
Canada Goose	House Wren	Ruby-throated Hummingbird	Yellow-headed Blackbird
Canada Warbler	Killdeer	Rusty Blackbird	Yellow-shafted Flicker
Cape May Warbler	Le Conte's Sparrow	Sandhill Crane	Yellow-throated Vireo
Cedar Waxwing	Least Flycatcher	Savannah Sparrow	
Chestnut-sided Warbler	Lesser Yellowlegs	Scarlet Tanager	

28

29 Table 6 – 2010 Rare Bird Surveys

<b>Number of Plots Surveyed</b>		209	
<b>Map Reference</b>		Map Series 400	
<b>Species Detected</b>			
American Avocet	Chipping Sparrow	Le Conte's Sparrow	Sandhill Crane
American Bittern	Common Goldeneye	Lesser Scaup	Savannah Sparrow
American Coot	Common Grackle	Lesser Yellowlegs	Sharp-shinned Hawk
American Crow	Common Raven	Mallard	Sharp-tailed Grouse
American Goldfinch	Cooper's Hawk	Marbled Godwit	Snow Bunting
American Green-winged Teal	Double-crested Cormorant	Mourning Dove	Song Sparrow
American Kestrel	Downy Woodpecker	Northern Harrier	Sora
American Redstart	Eastern Phoebe	Northern Pintail	Swamp Sparrow
American Robin	European Starling	Northern Shoveler	Tree Swallow
American Tree Sparrow	Evening Grosbeak	Pied-billed Grebe	Tundra Swan
American White Pelican	Franklin's Gull	Pileated Woodpecker	Turkey Vulture
American Woodcock	Gadwall	Pine Siskin	Unidentified Dark-eyed Junco
Bald Eagle	Grasshopper Sparrow	Purple Finch	Vesper Sparrow
Belted Kingfisher	Gray Partridge	Red-breasted Nuthatch	Western Meadowlark
Black-billed Magpie	Great Blue Heron	Redhead	White-breasted Nuthatch
Black-capped Chickadee	Great Crested Flycatcher	Red-necked Grebe	White-throated Sparrow
Blue Jay	Greater Yellowlegs	Red-tailed Hawk	Wild Turkey
Blue-winged Teal	Hairy Woodpecker	Red-winged Blackbird	Willet
Brewer's Blackbird	Hermit Thrush	Ring-billed Gull	Wilson's Snipe
Broad-winged Hawk	Herring Gull	Ring-necked Duck	Wilson's Warbler
Brown Creeper	Horned Grebe	Rock Pigeon	Wood Duck
Brown Thrasher	Horned Lark	Rough-legged Hawk	Yellow-bellied Sapsucker
Brown-headed Cowbird	House Sparrow	Ruby-crowned Kinglet	Yellow-headed Blackbird
Bufflehead	Killdeer	Ruffed Grouse	Yellow-shafted Flicker
Canada Goose	Lapland Longspur	Rusty Blackbird	

30

31 Table 7 – 2010 Colonial Waterbird Surveys

<b>Number of Plots Surveyed</b>		NA	
<b>Map Reference</b>		Map Series 700	
<b>Species Detected</b>			
American Bittern	Common Merganser	Mallard	Spotted Sandpiper
American Kestrel	Common Nighthawk	Northern Harrier	Turkey Vulture
American White Pelican	Common Tern	Osprey	Western Grebe
Bald Eagle	Franklin's Gull	Pileated Woodpecker	White-winged Scoter
Belted Kingfisher	Great Blue Heron	Red-necked Grebe	Yellow Rail
Black Tern	Great Gray Owl	Red-tailed Hawk	
Black-crowned Night-Heron	Great Horned Owl	Ring-billed Gull	
Bonaparte's Gull	Greater Scaup	Ring-necked Duck	
Canada Goose	Greater Yellowlegs	Rusty Blackbird	
Canvasback	Hooded Merganser	Sandhill Crane	
Common Loon	Lesser Yellowlegs	Sharp-tailed Grouse	

32

33 Table 8 – 2010 Waterfowl Surveys

<b>Number of Plots Surveyed</b>		NA	
<b>Map Reference</b>		Map Series 500	
<b>Species Detected</b>			
American Bittern	Cattle Egret	Lesser Scaup	Red-tailed Hawk
American Black Duck	Common Goldeneye	Lesser Yellowlegs	Ring-billed Gull
American Coot	Common Loon	Mallard	Ring-necked Duck
American Green-winged Teal	Common Merganser	Northern Goshawk	Rough-legged Hawk
American White Pelican	Common Tern	Northern Harrier	Ruddy Duck
American Wigeon	Double-crested Cormorant	Northern Hawk Owl	Sandhill Crane
Bald Eagle	Franklin's Gull	Northern Pintail	Sharp-tailed Grouse
Belted Kingfisher	Gadwall	Northern Shoveler	Snow Goose
Blue-winged Teal	Great Blue Heron	Osprey	Spruce Grouse
Bonaparte's Gull	Great Gray Owl	Pied-billed Grebe	Tundra Swan
Broad-winged Hawk	Greater Scaup	Pileated Woodpecker	Western Grebe
Bufflehead	Greater Yellowlegs	Red-breasted Merganser	Wild Turkey
Canada Goose	Herring Gull	Redhead	Wilson's Snipe
Canvasback	Hooded Merganser	Red-necked Grebe	

34

35 Table 9 – 2010 Raptor Migration Surveys

<b>Number of Plots Surveyed</b>		155	
<b>Map Reference</b>		Map Series 200	
<b>Species Detected</b>			
American Crow	Cooper's Hawk	Mallard	Ring-billed Gull
American Kestrel	Double-crested Cormorant	Merlin	Rough-legged Hawk
American Robin	Golden Eagle	Northern Goshawk	Sandhill Crane
American White Pelican	Great Blue Heron	Northern Harrier	Sharp-shinned Hawk
Bald Eagle	Greater White-fronted Goose	Northern Pintail	Snow Bunting
Canada Goose	Herring Gull	Red-breasted Merganser	Snow Goose
Common Goldeneye	Horned Lark	Red-tailed Hawk	Tundra Swan
Common Merganser	Killdeer	Red-winged Blackbird	Turkey Vulture

36

37 Table 10 – 2010 Nocturnal Owl Surveys

<b>Number of Plots Surveyed</b>		1048	
<b>Map Reference</b>		Map Series 700	
<b>Species Detected</b>			
Barred Owl	Long-eared Owl		
Boreal Owl	Northern Hawk Owl		
Eastern Screech-Owl	Northern Saw-whet Owl		
Great Gray Owl	Short-eared Owl		
Great Horned Owl			

38

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 4-24
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-271

1

2 **Question:**3 *Reference:*

4 "...an economic impact report was prepared for the Project which involved assessing the  
5 economic impacts of the construction and operations of the Project in terms of direct  
6 expenditures that would be made, and secondary impacts that would be expected from  
7 the direct expenditures. The economic modelling framework used for estimating these  
8 economic impacts is the Manitoba Bureau of Statistics' Input-Output model." (EIS 4-24)

9 *Request:*

10 Provide a copy of this economic impact report.

11 **Response:**

12 A copy of the Economic Impact Assessment Technical Report can be found on the CD  
13 that accompanied the EIS. The Report is available on the Manitoba Hydro website at:  
14 [http://www.hydro.mb.ca/projects/bipoleIII/eis/BPIII\\_Economic\\_Impact\\_Assessment\\_Technical\\_Report\\_November%202011.pdf](http://www.hydro.mb.ca/projects/bipoleIII/eis/BPIII_Economic_Impact_Assessment_Technical_Report_November%202011.pdf) and the Manitoba Conservation and Water  
15 Stewardship public registry:  
16 <http://www.gov.mb.ca/conservation/eal/registries/5433bipole/index.html>

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 4-26 EIS 4-27
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-272

1

2 **Question:**

3 *Reference:*

4 "Socio-economic baseline data including statistical data on population and  
 5 demographics, dwellings, education, labour force, income, and industry and  
 6 occupations, were collected..." (EIS 4-26)

7 In addition ... the information was also used to generate population projections for  
 8 communities near the Final Preferred Route. (EIS 4-27)

9 *Request:*

10 Where in the EIS or Technical Reports can this baseline and projected data be  
 11 accessed?

12 **Response:**

13 The socio-economic (SE) baseline data is contained in the Bipole III Transmission  
 14 Project Socio-Economic Baseline Data Technical Report filed with the EIS. The SE  
 15 Technical Report, Section 4, contains an overview of socio-economic baseline data on  
 16 population and demographics, dwellings, education, labour force, income, and industry  
 17 and occupations. Appendix A to the SE Technical Report includes population  
 18 projections, as well as further detail on socio-economic baseline data. Socio-economic  
 19 baseline data can also be found in the supplemental materials filed on July 31, 2012.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-1
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-273

1

2 **Question:**3 *Reference:*

4 "The overall purpose of the EACP is to provide the public, and particularly those who  
5 may be potentially affected by the Project, with meaningful opportunities to receive  
6 information on, and provide their input into, the SSEA for the project.."(EIS 5-1)

7 *Request:*

8 Were these opportunities provided equally to all stakeholders? What were the  
9 communications methods used and was the communication process evaluated and  
10 adjusted to address shortcomings?

11 **Response:**

12 All stakeholders had an equal opportunity to participate. Manitoba Hydro responded to  
13 all inquiries. Some stakeholders chose to make more use of the opportunities than  
14 others. For more information on communication methods used throughout different  
15 Rounds of the EACP please see the Environmental Assessment Public Consultation  
16 Technical Report.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-1
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-274

1

2 **Question:**3 *Reference:*

4 "Opportunities at various stages: This includes opportunities to provide inputs: (a) when  
5 issues are being initially identified, (b) when alternative routes/sites are being  
6 considered, (c) when initial effects assessments are reviewed and ways to mitigate or  
7 enhance identified effects are considered, (d) when the EIS has been filed with  
8 regulators for review and comment, and (e) when supplemental EIS information may be  
9 filed with regulatory authorities." (EIS 5-1)

10 *Preamble:*

11 If as indicated in the July 19, 2012 prehearing Manitoba Hydro intends to file some  
12 supplemental information (eg. supplemental caribou technical report) then based on the  
13 above description of the Environmental Assessment Consultation Process (EACP) it  
14 would seem that additional opportunities to provide input are required.

15 *Request:*

16 What further opportunities will be provided to the public, stakeholders, and affected  
17 communities to provide input with respect to supplemental EIS information?

18 **Response:**

19 Outside of the CEC process, Manitoba Hydro is not planning to solicit any further public  
20 input on supplemental materials provided.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-2
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-275

1

2 **Question:**3 *Reference:*

4 "Early stage activities focused on elected officials in First Nations, Northern Affairs  
5 Communities (NACs) and municipalities in the Project Study Area. To recognize and  
6 address the unique rights and interests of Aboriginal communities, potentially affected  
7 publics in the project study area were divided into Aboriginal and non-Aboriginal  
8 groupings." (EIS 5-2)

9 *Request:*

10 How were activities adjusted to address the Aboriginal and non-Aboriginal groupings?  
11 What about Metis communities?

12 **Response:**

13 Manitoba Hydro adjusted activities to best meet the needs of participants in the process.  
14 For example, in response to feedback from some communities during Round 1, open  
15 houses were held in First Nations and Northern Affairs communities. Leadership  
16 meetings were also offered, and held, in First Nations and Northern Affairs communities  
17 where requested. In recognition of the importance of Aboriginal Traditional Knowledge,  
18 Manitoba Hydro developed the ATK process to provide an opportunity where this  
19 important information could be shared with Manitoba Hydro. This process offered ATK  
20 workshops, and also, where requested, funding was provided for self directed studies.

21 For other communities, Manitoba Hydro undertook Regional Open Houses, and spoke  
22 with Municipal Councils throughout each round of the EACP. For Landowners potentially  
23 impacted by the Bipole III Transmission Project, Manitoba Hydro offered Landowner  
24 Information Centres to speak directly with potentially affected landowners.

25 Manitoba Hydro notified the MMF throughout each round of the EACP and met with  
26 them at their request. Manitoba Hydro also provided funding to the MMF undertake a  
27 self-directed study, which can be found as an Appendix to the Bipole III EIS.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-4
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-276

1

2 **Question:**

3 *Reference:*

4 "Round 3 activities... focused on presenting a comparison of the alternative routes for  
 5 the Bipole III line, and receiving input on these alternatives to assist in identifying a  
 6 preliminary preferred route for the line." (EIS 5-4)

7 *Request:*

8 Provide description of the main factors in choosing the preferred corridor route.

9 **Response:**

10 The route selection process is described in detail in Chapter 7 of the EIS. Description of  
 11 the factors used in route selection are described in Appendix 7a of Chapter 7 of the EIS.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-8
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-277a

1

2 **Question:**3 *Reference:*

4 "With the identification of the preliminary preferred route for the Bipole III line, the  
5 focus shifted to incorporated cities, towns, and villages, First Nations leadership, and  
6 NAC councils within 25 km (15.5 mile) of the preliminary preferred route, and to those  
7 RMs that the route traversed." (EIS 5-8)

8 *Requests:*

9 a) In regards to the 50 km zone along the preferred corridor, for first nations did hydro  
10 simply consider 25 km from reserve lands, or did they base it within 25 km of the First  
11 Nation's traditional territory?

12 **Response:**

13 Manitoba Hydro did not limit engagement with First Nations to a restriction governed by  
14 a limit of 25 km from reserve lands nor was engagement based on a limitation founded  
15 on a 25 km distance from what a First Nation might define as its "traditional territory".

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-8
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-277b

1

2 **Question:**

3 *Reference:*

4 "With the identification of the preliminary preferred route for the Bipole III line, the  
 5 focus shifted to incorporated cities, towns, and villages, First Nations leadership, and  
 6 NAC councils within 25 km (15.5 mile) of the preliminary preferred route, and to those  
 7 RMs that the route traversed." (EIS 5-8)

8 *Requests:*

9 b) Given the reference to a focus on RMs that the Bi Pole III route traversed, was a  
 10 similar focus in place for First Nations whose traditional lands that the Bi Pole III route  
 11 traversed?

12 **Response:**

13 Traditional Lands were not considered as a determining factor for engaging First  
 14 Nations.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-8 & EIS 5-36
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-278a

1

2 **Question:**3 *References:*

4 "Each of the four rounds of consultation included meetings in both the Aboriginal and  
5 non-Aboriginal communities. ... Invitations to meet with stakeholders became more  
6 narrowly focused as the SSEA [Site Selection and Environmental Assessment] process  
7 progressed through the four rounds of the EACP. However, all interested parties were  
8 presented with the project information even if they were not potentially affected by the  
9 project..." (EIS 5-8)

10 "...Throughout the EACP:

11 · 244 meetings were held;

12 · 137 Regional and Community Open Houses were held, with 510 comment sheets  
13 completed;14 · 42 Landowner Information Centres/Meetings were held with 319 Landowner  
15 Information Centre forms (Round 4 and Ground Electrode) completed;16 · Over 200 phone calls were answered on the project phone line; and · Over 140  
17 emails/letters were received." (EIS 5-36)18 *Requests:*19 a) "What was the response rate to invitations sent out by Manitoba Hydro, or it's  
20 consultants? In other words: how many invitations, if any, were sent out for each

21 meeting and how many people showed up to each meeting? Aside from invitations,  
22 what other methods of public notices were used?

23 **Response:**

24 Notification Processes undertaken for the Environmental Assessment Consultation  
25 Program (EACP) are outlined in detail in Section 7.0 and Figure 3.0 of the Environmental  
26 Assessment Consultation Program Technical Report.

27 Figure 12.0 and Figure 13.0, of the same report, denotes attendance for both  
28 Community and Regional Open Houses throughout each Round of the EACP.

29 Manitoba Hydro used a variety of different methods including postcard mailings,  
30 newspaper advertising, radio advertising, direct mailings and notification to local councils  
31 and cannot determine specific response rates.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-8 & EIS 5-36
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-278b

1

2 **Question:**3 *References:*

4 "Each of the four rounds of consultation included meetings in both the Aboriginal and  
5 non-Aboriginal communities. ... Invitations to meet with stakeholders became more  
6 narrowly focused as the SSEA [Site Selection and Environmental Assessment] process  
7 progressed through the four rounds of the EACP. However, all interested parties were  
8 presented with the project information even if they were not potentially affected by the  
9 project..." (EIS 5-8)

10 "...Throughout the EACP:

11 · 244 meetings were held;

12 · 137 Regional and Community Open Houses were held, with 510 comment sheets  
13 completed;14 · 42 Landowner Information Centres/Meetings were held with 319 Landowner  
15 Information Centre forms (Round 4 and Ground Electrode) completed;

16 · Over 200 phone calls were answered on the project phone line; and

17 · Over 140 emails/letters were received." (EIS 5-36)

18 *Requests:*

19 b) If the response rate were low, were communication methods evaluated and altered  
20 before moving onto the next round?

21 **Response:**

22 Manitoba Hydro did not track response rates. The EACP plan denotes adaptive process  
23 as one of its principles. Communication methods were improved throughout each Round  
24 of the EACP. Manitoba Hydro used a variety of methods to notify the public of Manitoba  
25 Hydro's activities for the Project. Manitoba Hydro utilized local newspaper and radio  
26 placements to advertise regional open houses. Manitoba Hydro also utilized posters,  
27 postal code mail outs, and direct notification letters to notify the public of opportunities  
28 to comment on the Project as the preferred line location became more refined.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-8 & EIS 5-36
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-278c

1

2 **Question:**3 *References:*

4 "Each of the four rounds of consultation included meetings in both the Aboriginal and  
5 non-Aboriginal communities. ... Invitations to meet with stakeholders became more  
6 narrowly focused as the SSEA [Site Selection and Environmental Assessment] process  
7 progressed through the four rounds of the EACP. However, all interested parties were  
8 presented with the project information even if they were not potentially affected by the  
9 project..." (EIS 5-8)

10 "...Throughout the EACP:

11 · 244 meetings were held;

12 · 137 Regional and Community Open Houses were held, with 510 comment sheets  
13 completed;14 · 42 Landowner Information Centres/Meetings were held with 319 Landowner  
15 Information Centre forms (Round 4 and Ground Electrode) completed;

16 · Over 200 phone calls were answered on the project phone line; and

17 · Over 140 emails/letters were received." (EIS 5-36)

18 *Requests:*

19 c) Manitoba Hydro to explain why references to consultations are present in the EACP  
20 bulletins, and EIS text when as proponent for this project Manitoba Hydro does not hold  
21 any responsibility for the obligation to consult with Aboriginal Peoples.

22 **Response:**

23 Manitoba Hydro used the term "consultation" to indicate a process for engagement and  
24 review of the Bipole III Transmission Project. The term is used within the context of  
25 seeking input from the public, stakeholders, and Aboriginal peoples, specific to the  
26 needs of the environmental assessment process and not to be interpreted as  
27 "consultation" within the meaning of Section 35 of the Canadian Constitution. For the  
28 Bipole III Transmission Project the responsibility to consult with Aboriginal Peoples  
29 regarding their Constitutional Rights is with the Province of Manitoba.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-10
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-279

1

2 **Question:**

3 "...between the end of Round 3 (alternative routes) and the beginning of Round 4  
4 (preliminary preferred route) it was thought that landowners and other stakeholders  
5 would benefit from a location map of the preliminary preferred route. Accordingly,  
6 localized topographic maps (1:50,000 scale) were sent as a part of the information  
7 packages." (EIS 5-10)

8 *Request:*

9 Manitoba Hydro to provide these 1:50,000 topographic maps to all CEC participants, in  
10 both digital and paper format.

11 **Response:**

12 Maps were sent to individual landowners in relation to the land owned. An index map  
13 was also provided to each landowner. See material provided for *CEC/MH-VI-280*

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-12
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-280

1

2 **Question:**

3 "The Landowner Map Booklet consisted of 130 individual maps with orthographic  
4 imagery, topographic imagery, and recent flyover imagery within 4.0 km (2.5 miles) on  
5 either side of the route." (EIS 5-12)

6 *Request:*

7 Manitoba Hydro to provide copies of the "Landowner Map Booklet" in electronic and  
8 paper format.

9 **Response:**

10 Sixteen printed copies have been provided to the CEC. One electronic version has also  
11 been provided for distribution by the CEC.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-13
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-281

1

2 **Question:**

3 "Key Person Interviews (KPIs) were conducted with stakeholder representatives in  
4 conjunction with Round 4 of the EACP. A total of 53 KPIs were conducted with 83  
5 participants from RMs, towns, and villages, as well as trappers and industry  
6 representatives." (EIS 5-13)

7

8 *Request:*

9 Manitoba Hydro to provide the demographic breakdown of these KPIs– was there equal  
10 representation from various stakeholder groups?

11 **Response:**

12 This was not an exercise that required a demographic breakdown and so none was  
13 done. The age, gender, and racial profile of persons participating in the KPIs was not  
14 collected because it was not relevant to Manitoba Hydro whether the representative of a  
15 stakeholder, such as OmniTrax, was male or female, what his or her age was and what  
16 his or her ethnic background was.

17 Manitoba Hydro identified and met with numerous stakeholders throughout Rounds 1-3  
18 of the EACP and conducted the Key Person Interviews ("KPIs") constituting a "Key  
19 Person Interview Program" during Round 4. The persons interviewed were identified  
20 through contact from all rounds of the EACP and were invited to the interviews as a  
21 representative of their organization, council or service sector. These Key Person  
22 Interview Program participants represented a diverse cross-section of stakeholders  
23 including municipal councils, education, recreation, industry, health services,

24 transportation, emergency services and trapping. The KPIs supplemented Manitoba  
25 Hydro's ongoing information meetings with other organizations, and industry sectors.

26 (Please note: This "Key Person Interview Program" was focused on non-Aboriginal  
27 stakeholders. It was conducted more or less simultaneously with the ATK process with  
28 Aboriginal communities. Manitoba Hydro understands that those First Nations who chose  
29 to conduct self-directed ATK studies and the MMF interviewed individuals as part of  
30 those processes. Such interviews could generally be described as KPIs, but Manitoba  
31 Hydro did not conduct the interviews nor set the parameters for selecting who would be  
32 interviewed. In addition, KPIs of Aboriginal persons living in communities that did not  
33 conduct self-directed studies were done under the supervision of a consultant, Northern  
34 Lights Heritage Services Inc., for the Bipole III Transmission Project).

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-14
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-282

1

2 **Question:**

3 "From the outset of the Bipole III planning process, Manitoba Hydro identified  
4 meaningful engagement with Aboriginal communities and incorporation of Aboriginal  
5 perspectives, including Aboriginal Traditional Knowledge (ATK), as important  
6 components of the Bipole III project planning and SSEA [Site Selection and  
7 Environmental Assessment] process.

8 ...

9 Given the unique rights, interests and perspectives of Aboriginal peoples as well as the  
10 logistical challenges associated with travel and engagement activities in more isolated  
11 communities, the potentially affected publics in the Bipole III project study area were  
12 split between Aboriginal and non-Aboriginal stakeholders. The EACPs for Aboriginal and  
13 non-Aboriginal stakeholders were carried out separately, but activities were coordinated  
14 over the same timeframe and stakeholder engagement activities were tracked in the  
15 same way. The Aboriginal-specific process included First Nations and NACs."

16 (EIS 5-14)

17

18 *Request:*

19 Was travel support provided to open houses for First Nations who may have restricted  
20 access due to lack of transportation? Or was an open house held in each affected  
21 community?

22 **Response:**

23 Leadership meetings and/or community open houses were held in each First Nation and  
24 Northern Affairs community in the Project Study Area.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-20 to 5-21
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-283

1

2 **Question:**

3 "...Extensive information was provided about the three herds of caribou hunted by FLCN  
 4 [Fox Lake Cree Nation] members: woodland, barren ground, and Pen Island. It was  
 5 noted that, in the past, there were a lot more caribou observed in the area. More  
 6 recently, following the construction of the Conawapa road, FLCN [Fox Lake Cree Nation]  
 7 members have observed that local caribou movement has shifted. Concerns regarding  
 8 the potential impact of the Keewatinoow Converter Station on caribou were expressed  
 9 as the preferred site is to be located in an area caribou are known to occupy.

10 ... Fox Lake has noted changes in the quality of certain fish species and a decline in  
 11 moose populations since the start of hydroelectric development in the area. With  
 12 regards to potential impacts on goose populations, the report identifies concerns that  
 13 the Keewatinoow Converter Station will displace geese from the area. The importance of  
 14 these resources as a healthy food source is noted." (EIS 5-20 to 5-21)

15 *Request:*

16 What mitigation steps has Manitoba Hydro identified to address these Fox Lake First  
 17 Nation concerns?

18 **Response:**

19 Manitoba Hydro representatives have met with Fox Lake Cree Nation representatives to  
 20 present the Environmental Protection Plan. Manitoba Hydro is working to schedule a  
 21 follow-up meeting to discuss FLCN's concerns as well as review the Draft Environmental

- 22 Protection Plan including specific mitigation measures for the Bipole III Transmission
- 23 Project.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-22
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-284

1

2 **Question:**

3 "... The objective of Long Plain First Nation's (LPFN) study was to document their  
4 community's traditional and current land use within the Project Study Area and their  
5 concerns regarding the Project... A total of 125 interviews were conducted, all following  
6 the same interview guide." (EIS 5-22)

7

8 *Request:*

9 What specific mitigation steps has Manitoba Hydro identified to address these Long  
10 Plains First Nation concerns?

11 **Response:**

12 Manitoba Hydro is offering to meet with communities to review the Draft Environmental  
13 Protection Plan including specific mitigation measures for the Bipole III Transmission  
14 Project.

15 In addition, Manitoba Hydro met with Chief and Council from LPFN on May 22, 2012 and  
16 is working to schedule a follow-up meeting to discuss LPFN's concerns.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-285a

1

2 **Question:**

3 In Opaskwayak Cree Nation[OCN]'s report it is noted that: "... The Elk Zone has recently  
 4 been disturbed by the Wuskwatim Transmission Line, a disturbance which resource  
 5 users and Elders linked to a decline in marten and fisher population in the area. Within  
 6 this context, the report identifies a concern that the Project might further impact this  
 7 area as well as marten and fisher populations."

8

9 *Requests:*

10 a) What corroboration has Manitoba Hydro undertaken, and what mitigation measures  
 11 are identified regarding these cumulative environmental effects?

12 **Response:**

13 Manitoba Hydro recognizes that marten and fisher are a valued furbearing species for  
 14 OCN. Manitoba Hydro is committed to working with trappers during construction and  
 15 operation of the Project regarding mitigation and monitoring of these species in the  
 16 vicinity of the Project. Manitoba Hydro initiated a pilot project to assess the effects of  
 17 furbearer trapping success near and away from the Wuskwatim transmission line, and  
 18 will continue with similar trapper participation for the Bipole III Transmission Project.

19

20 Manitoba Hydro has requested a meeting to review the Draft Environmental Protection  
 21 Plan with OCN; however, a meeting has not yet taken place. The intent of these  
 22 meetings is to review the mitigation and monitoring plans Manitoba Hydro intends to put

- 23 into place, and to discuss with communities the specific mitigation and monitoring  
24 activities that relate to the concerns raised by communities.
- 25 Also see response *CEC/MH-II-019a*.

<b>ate</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-285b

1

2 **Question:**

3 In Opaskwayak Cree Nation[OCN]'s report it is noted that: "... The Elk Zone has recently  
4 been disturbed by the Wuskwatim Transmission Line, a disturbance which resource  
5 users and Elders linked to a decline in marten and fisher population in the area. Within  
6 this context, the report identifies a concern that the Project might further impact this  
7 area as well as marten and fisher populations."

8 b) Manitoba Hydro to provide baseline data in the region collected regarding these  
9 species as part of the Wuskwatim environmental effects assessment?

10 **Response:**

11 Biophysical baseline studies that were undertaken for Wuskwatim environmental effects  
12 assessment primarily consisted of undertaking track surveys to determine the absence  
13 or presence of furbearers in the area. There is very little literature or studies undertaken  
14 that can provide a quantitative assessment of population dynamics of furbearers such as  
15 marten and fisher, especially related to the construction and operation of a transmission  
16 line. Manitoba Hydro conducted a pilot project under the Wuskwatim Transmission  
17 Project monitoring program to evaluate trapper success both in areas in close proximity  
18 to and away from transmission line construction (Manitoba Hydro 2012). The pilot  
19 project involved structured trials with comparable trapping effort in close proximity to  
20 and away from the transmission line. Trapper participation was a major component of  
21 the pilot project. Based on the results of this pilot project, trapping success was not  
22 affected by the Wuskwatim transmission line and that new right-of-ways may provide  
23 additional trapping opportunities for trappers (based on their views and observations  
24 from the pilot project).

25 **References:**

26 Manitoba Hydro. 2012. Transmission Lines and Traplines: A Pilot Project. Winnipeg, MB.

27 A technical report prepared by Eagle Vision Resources and Joro Consultants Inc.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-285c

1

2 **Question:**

3 In Opaskwayak Cree Nation[OCN]'s report it is noted that: "... The Elk Zone has recently  
4 been disturbed by the Wuskwatim Transmission Line, a disturbance which resource  
5 users and Elders linked to a decline in marten and fisher population in the area. Within  
6 this context, the report identifies a concern that the Project might further impact this  
7 area as well as marten and fisher populations."

8 c) Has Manitoba conducted further wildlife studies in the area?

9 **Response:**10 Please see response provided for *CEC/MH-VI-285b*.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-286

1

2 **Question:**

3 "The extent of industrial land use, including forestry and mining activities as well as  
4 Manitoba Hydro development, was noted as a source of apprehension for the OCN  
5 trappers. Trappers have observed changes resulting from these activities, such as a  
6 decrease in animal populations, an increase in outsider access to areas used by OCN,  
7 and the contamination of food sources."

8

9 *Request:*

10 Manitoba Hydro to provide information about cumulative impacts on species trapped in  
11 the OCN traditional use areas.

12 **Response:**

13 As indicated in the OCN Aboriginal Ecological Knowledge report, species that OCN  
14 typically harvest include fishers and martens. The predicted residual and cumulative  
15 effects on the furbearing VEC species (marten, beaver, wolverine) is provided in Chapter  
16 8, Section 8.2.6.3, pages 8-105 to 8-199 and Chapter 9, Section 9.3.2.1, pages 9-16 to  
17 9-17 of the Bipole III EIS and Section 8.2, pages 152 to 154 of the Bipole III Mammal  
18 Technical Report Predicted effects are anticipated to be minimal (for beaver and  
19 wolverine) to moderate (for marten), restricted to the Project's footprint, and overall  
20 not significant or irreversible for all three of these VEC species.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-27
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-287

1

2 **Question:**

3 The OCN report concludes with a number of recommendations on socio-economic  
4 considerations:

- 5 • “Ensure that OCN’s AEK is considered in Manitoba Hydro’s Bipole III  
6 Environmental Impact Statement and associated mitigation measures;
- 7 • Conduct a longitudinal biophysical study to evaluate potential environmental  
8 impacts;
- 9 • Compensate for impacts on the Elk Zone and for any adverse effects that cannot  
10 be mitigated;
- 11 • Establish mitigation measures to address the disturbance of subsistence use  
12 practices in the named areas;
- 13 • Develop environmental protection plans in partnership with OCN;
- 14 • Conduct monitoring and maintenance in partnership with OCN;
- 15 • Allocate timber generated as a result of clearing the right-of-way to OCN;
- 16 • Wherever possible, discourage the burning of forest related debris;
- 17 • Consider the negotiation of Impact Benefit Agreements and Purchase of Services  
18 Agreement between the successful contractor and OCN;
- 19 • Ensure that 10%, of the workforce within OCN lands and is comprised of OCN  
20 members; and
- 21 • Provide training and certification relevant to transmission line site development,  
22 installation and monitoring.” (EIS 5-27)

23 *Request:*

24 Has Manitoba Hydro followed through on these recommendations?

25 **Response:**

26 Manitoba Hydro has reviewed and considered the recommendations from OCN's AEK  
27 report. Until Manitoba Hydro has had the opportunity to review the recommendations,  
28 which are not already addressed by Manitoba Hydro, directly with the community,  
29 Manitoba Hydro is not prepared to share its specific responses to the recommendations  
30 publicly.

31 Manitoba Hydro has requested a meeting to review the Draft Environmental Protection  
32 Plan with OCN; however, a meeting has not yet taken place. The intent of these  
33 meetings is to review with communities the mitigation and monitoring plans Manitoba  
34 Hydro intends to put into place, and to discuss with communities the specific mitigation  
35 and monitoring activities that relate to the concerns and recommendations raised by  
36 communities.

37 A letter regarding disturbance compensation for the Bipole III Transmission Project was  
38 sent on June 15, 2012 to the representative for the Elk Trap Line Area (Elk Zone); it is  
39 anticipated that meetings regarding this matter will take place in the near future.

40 Manitoba Hydro has a Trappers Notification and Compensation Policy that compensates  
41 trappers for disturbances while clearing and constructing transmission lines greater than  
42 115kV in capacity. The Elk Zone registered trap line was provided disturbance  
43 compensation for the Wuskwatim Transmission Project and is eligible for disturbance  
44 compensation for the Bipole III Transmission Project.

45 Any timber that will be available will be done on a case by case basis taking into account  
46 that the forestry company holding the FML has the right of first refusal on that timber. If  
47 the timber company relinquishes their rights to the wood, the timber may be available  
48 for the contractor or local communities. Timber that is not used by the contractor or  
49 local communities, will be disposed of on-site by cut, pile and burn methods.

50 With respect to transmission line work, Manitoba Hydro will be offering pre-project  
51 heavy equipment operator training in conjunction with the International Operating

- 52 Engineers Union in several locations in the Province in addition to any training that
- 53 Contractors may offer.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-28
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-288

1

2 **Question:**

3 “[Swan Lake First Nation] SLFN had at the time the report was submitted to Manitoba  
4 Hydro [July 2011] SLFN developed the following recommendations:

- 5 • That the Round Plain Site be left undisturbed;
- 6 • That SLFN undertake research regarding the Indian Garden Site and initiate  
7 further discussions regarding this land with the federal government;
- 8 • Should a licence be granted for the project, that Manitoba Hydro allow for a  
9 SLFN monitor to be on-site for construction activities occurring between NW 35-  
10 9-9W1 to SW 26-9-9W1 to NE 8-9-8W1 east to SE 15-9-8W1;
- 11 • That a formal protocol be established and agreed to regarding the enforcement  
12 of the regulations under the Heritage Resources Act prior to construction; and
- 13 • That Manitoba Hydro continues to work with SLFN to address the community’s  
14 concerns with the Project.” (EIS 5-28)

15

16 *Request:*

17 Has Manitoba Hydro followed through on these recommendations?

18 **Response:**

19 Manitoba Hydro continues discussions with Swan Lake First Nation in an effort to  
20 address the community’s concerns and discuss their recommendations related to the  
21 Bipole III Transmission Project. Manitoba Hydro is not prepared to share its specific  
22 responses to the recommendations publicly at this current time.

23 Manitoba Hydro is offering to meet with communities to review the Draft Environmental  
24 Protection Plan for the Bipole III Transmission Project. The intent of these meetings is  
25 to review with communities the mitigation and monitoring plans Manitoba Hydro intends  
26 to put into place, and to discuss with communities the specific mitigation and monitoring  
27 activities that relate to the concerns raised by communities. Meetings are planned with  
28 Swan Lake First Nation.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-29
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-289

1

2 **Question:**

3 "Subsequent to Swan Lake's Traditional Knowledge report and upon request from the  
 4 community, Manitoba Hydro provided funding for Swan Lake to complete additional  
 5 botanical and archaeological work within the study area, in areas of concern to the  
 6 community. ... The report proposed the following recommendations:

- 7 • Consider adjustments to the Bipole III route;
- 8 • Once the final route is chosen, conduct detailed site surveys prior to disturbance  
 9 to allow for additional mitigation measures;
- 10 • Adjust the placement of towers to minimize any negative impacts;
- 11 • Conduct construction activities in the wintertime; and
- 12 • Avoid using herbicides in areas where there are rare species and/or where  
 13 community members harvest medicinal plants." (EIS 5-29)

14

15 *Request:*

16 Has Manitoba Hydro acted on these recommendations?

17 **Response:**

18 Manitoba Hydro continues discussions with Swan Lake First Nation in an effort to  
 19 address the community's concerns and discuss their recommendations related to the  
 20 Bipole III Transmission Project. Manitoba Hydro is not prepared to share its specific  
 21 responses to the recommendations publicly at this current time.

22 Manitoba Hydro is offering to meet with communities to review the Draft Environmental  
 23 Protection Plan for the Bipole III Transmission Project. The intent of these meetings is

24 to review with communities the mitigation and monitoring plans Manitoba Hydro intends  
25 to put into place, and to discuss with communities the specific mitigation and monitoring  
26 activities that relate to the concerns raised by communities. Manitoba Hydro intends to  
27 meet with Swan Lake First Nation.

28 Manitoba Hydro has offered to provide a presentation on the tower siting process to  
29 SLFN to allow the opportunity for the community to ask questions and share their  
30 concerns regarding the tower placement.

31 Construction schedules have flexibility in terms of having the capacity to deal with  
32 unexpected events. Given that, construction activities are planned to be undertaken  
33 during the winter when the potential environmental impacts are lessened. The main risk  
34 to the schedule would be inclement weather conditions that would delay construction  
35 activities. The amount of spring and summer work is as of yet undetermined and  
36 depends on location. All activities will follow the construction phase EnvPP, which  
37 outlines the appropriate mitigation measures for ensuring environmental protection.

38 Manitoba Hydro would consider non-chemical vegetation management in clearly  
39 identified sensitive sites.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-33 to 5-34
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-290

1

2 **Question:**

3 "The report concluded by identifying the following conditions associated with TCN's  
4 [Tataskweyak Cree Nation] continued support of the Project:

5 • Conduct negotiations with the goal of reaching an agreement regarding compensation  
6 for potential project impacts on the collective rights and interests of TCN;  
7 • Conduct negotiations and reach an agreement regarding business, training and  
8 employment opportunities associated with the construction, operation and maintenance  
9 of the project;

10 • Participate in and contribute to Manitoba Hydro's Environmental Impact

11 Statement; and

12 • Conduct a consultation process regarding the Keewatinoow converter station and  
13 electrode site." (EIS 5-33 to 5-34)

14

15 *Request:*

16 Has Manitoba Hydro followed through on these recommendations?

17 **Response:**

18 Manitoba Hydro has had a number of meetings with TCN to discuss the above subjects;  
19 an agreement has not yet been reached with TCN on these topics.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-35
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-291

1

2 **Question:**

3 "Manitoba Hydro has implemented a "Trappers Notification/Compensation Policy" to  
4 guide its interactions with trappers and provide a framework for compensation for  
5 project-related impacts on trapping activities...." (EIS 5-35)

6

7 *Request:*

8 Provide a copy of the "Trappers Notification/Compensation Policy"

9 **Response:**

10 Please see the response provided to *CEC/MH-II-019b* provided in IR Response Package  
11 #3 submitted on June 7, 2012.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-35 to 5-36
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-292

1

2 **Question:**

3 "In the case of Bipole III, the implementation of this [Trappers  
4 Notification/Compensation] Policy will include discussions with some 120 individual  
5 registered trappers, four Open Trapping Zones, and 12 Manitoba Local Fur Councils.  
6 Manitoba Hydro is aiming to have agreements in place with trappers in the vicinity of the  
7 project, in order to compensate them for the potential commercial losses associated with  
8 project construction, prior to the start of construction." (EIS 5-35 to 5-36)

9

10 *Request:*

11 Manitoba Hydro to provide an update on the status of these negotiations. How many of  
12 the registered trappers and fur councils has Manitoba Hydro had discussions with? How  
13 many compensation agreements with trappers in the vicinity of the project have been  
14 concluded?

15 **Response:**

16 Discussions with Registered Trap Line holders are ongoing. The following outlines the  
17 steps that have been taken in this process to date.

18

- 19 • A Bipole III presentation has been made to the Manitoba Trappers Association  
20 regarding Manitoba Hydro's Trapper Notification and Compensation Policy.
- 21 • Manitoba Hydro has sent out 61 letters to individual trappers between the  
22 Summerberry & Limestone RTL Districts requesting to meet to discuss Manitoba  
23 Hydro's Trapper Notification and Compensation Policy. All remaining 'Open Area'  
24 trappers south of the Summerberry RTL District will also be receiving letters from

25 Manitoba Hydro regarding the Trappers Notification and Compensation Policy.  
26 Manitoba Hydro has to date spoken directly with 22 trappers along the Bipole III  
27 route regarding the letters that they have received.

- 28 • Zone Directors for all trapping areas have been provided an update on the Bipole  
29 III Transmission Project and on Manitoba Hydro's Trapper Notification and  
30 Compensation Policy.
- 31 • Manitoba Hydro has met with the Tataskweyak Cree Nation's fur council to  
32 discuss Manitoba Hydro's Trapper Notification and Compensation Policy.  
33 Manitoba Hydro intends to meet with the remaining active fur councils along the  
34 Bipole III route in the near future. No compensation agreements for individual  
35 trappers have been concluded at this time.

<b>Date</b>	July 27 2012
<b>Reference</b>	5-42 to 5-44
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-293

1

2 **Question:**

3 As noted in the EIS (5-42 to 5-44) comments regarding the benefits of the Bipole III  
4 project to local communities were received during the Environmental Assessment  
5 Consultation Process. Suggestions include reduced power rates for communities, and/or  
6 community co-ownership and sustaining revenue rather than one-time compensatory  
7 payments. These suggestions were rejected by Manitoba Hydro.

8

9 *Requests:*

- 10 a) Manitoba Hydro to comment further on why these options were rejected.  
11 b) Did Manitoba Hydro advise the Manitoba government about the benefits options  
12 being identified by local communities?

13 **Response:**

- 14 a) Sharing ownership of transmission lines and converters stations would require  
15 amendments to *The Manitoba Hydro Act* and Manitoba Hydro is not prepared to  
16 support such amendments. Shared ownership of assets that do not, in and of  
17 themselves, generate revenue would not be desirable, nor would the complexities of  
18 managing and operating those complex assets be made less complicated if  
19 ownership was shared with persons inexperienced in such operations.

20 Any changes in rates must be approved by The Public Utilities Board (Manitoba).  
21 However, Manitoba Hydro cannot provide reduced power rates for communities. The  
22 *Manitoba Hydro Act* in section 39(1) stipulates that “[t]he prices payable for power  
23 supplied by the corporation shall be such as to return to it in full the cost to the

24 corporation, of supplying the power" including operating expenses, interest and debt  
25 service costs, working capital, and reserves.

26 In section 39(2.1), The *Manitoba Hydro Act* states that "[t]he rates charged for power  
27 supplied to a class of grid customers within the province shall be the same throughout  
28 the province". Read together, Manitoba Hydro has a clear obligation to fully recover its  
29 costs to supply power and in doing so, it must charge equalized rates to each class of  
30 customers.

31 The one-time compensatory payment to landowners provides owners with immediate  
32 compensation and reduces administrative time and cost and hence was deemed the  
33 most appropriate form of compensation.

34 b) Manitoba Conservation and Water Stewardship was provided with a copy of the EIS  
35 which included comments referred to above identified by local communities.  
36 However, as Manitoba Hydro was not interested in these two options, no further  
37 steps were taken to discuss them with the provincial government.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-44
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-294

1

2 **Question:**

3 *Reference:* see EIS 5-44

4

5 *Request:*

6 Provide a copy of Manitoba Hydro's "Northern Purchasing Policy"

7 **Response:**

8 Please see the attached file *CEC/MH-VI-294(2)*.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 5-49
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-295

1

2 **Question:**

3 "Manitoba Hydro monitors property values in the vicinity of its facilities, and based on  
4 research conducted to date has determined that property values will not be significantly  
5 affected." (EIS 5-49)

6

7 *Request:*

8 Provide the research and data which confirm that hydro facilities do not affect property  
9 values.

10 **Response:**

11 Manitoba Hydro has and continues to conduct studies on the effect of transmission lines  
12 on property value. Specific to agricultural land, Manitoba Hydro commissioned a study  
13 titled "The Economic Impact of Encumbering Overhead Transmission Line Rights-Of-Way  
14 On Agricultural Property Values" (C.R. Stenhouse no.1 c.1 Manitoba Hydro Library). This  
15 study concluded "...they do not appear to affect land values...". This conclusion is  
16 consistent with the "Dorsey St. Vital 230kV Transmission Line Project - Property Value  
17 Monitoring Program - Birds Hill and Lister Rapids" with regard to residential properties.  
18 Please see attachments *CEC/MH-VI-295(2)*, *CEC/MH-VI-295(3)* and *CEC/MH-VI-295(4)*

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 6-71
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-296

1

2 **Question:**

3 "As the location of the AC collector lines and construction power line ROWs were not  
4 finalized until the winter of 2011, field assessments for these components were not  
5 completed and pre-construction surveys for species of conservation concern will be  
6 conducted for these ROWs." (EIS 6-71)

7 *Requests:*

8 a) Have the field assessments for the components referenced above been undertaken  
9 since winter 2011? Are results available to be added to the EIS? If not, when will the  
10 field assessments be done and available?

11 b) Have pre construction surveys of species of conservation concern been undertaken?  
12 If not when will these surveys be done?

13 c) Manitoba Hydro to provide its definition for species of conservation concern, and  
14 criteria for identification of these species.

15 d) Does Manitoba Hydro include Manitoba Conservation ranking system for species, plus  
16 COSEWIC and SARA listing systems?

17 **Response:**

18 a) and b) Field assessments/surveys for species of conservation concern for the AC  
19 collector lines, construction power line, other northern project components (i.e.,  
20 Keewatinoow converter station, construction power station, ground electrode, camp,  
21 work area), borrow sources and material placement areas were completed in the

22 summer of 2012. The results will be available in a vegetation report that will be  
23 submitted to Manitoba Hydro in the Fall of 2012 and incorporated into the Final EnvPP.

24 c) Manitoba Hydro uses the following definition. The term “species of conservation  
25 concern” includes species that are rare, disjunct, or at risk throughout their range in  
26 Manitoba and require further research (Manitoba Conservation). Species that are listed  
27 under the Manitoba *Endangered Species Act* (MBESA), or have special designation by  
28 the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the  
29 *Species at Risk Act* (SARA) are included under this term.

30 The Manitoba Conservation Data Centre (MBCDC) ranks species on the basis of their  
31 global (G) and provincial (S) status according to a standardized procedure used by all  
32 Conservation Data Centres and Natural Heritage Programs. These ranks are used to  
33 determine species protection and are assigned a numeric rank ranging from 1 (very  
34 rare) to 5 (demonstrably secure) for each species (Manitoba Conservation).

35 Proclaimed in 1990, MBESA was enacted to ensure the protection and survival of  
36 endangered and threatened species in the province; enable the reintroduction of  
37 extirpated species into the province; and designate species as endangered, threatened,  
38 extinct or extirpated (Manitoba Conservation).

39 The Committee on the Status of Endangered Wildlife in Canada is a national listing of  
40 species at risk. Species are listed in the following categories: extinct, extirpated,  
41 endangered, threatened and special concern. Proclaimed in 2003, the national *Species*  
42 *at Risk Act* provides legal protection to species and the conservation of their biological  
43 diversity. The purposes of the Act are to prevent species from becoming extirpated or  
44 extinct, to provide for the recovery of endangered or threatened species, and encourage  
45 the management of other species to prevent them from becoming at risk (Committee On  
46 the Status of Endangered Wildlife In Canada).

47 d) The MBCDC ranking system, and the MBESA, COSEWIC, and SARA conservation  
48 status categories are included in the Bipole III Terrestrial Ecosystems and Vegetation  
49 Technical Report.

50 **References:**

51 Manitoba Conservation. Data Centre Database. Available online at:

52 <http://www.gov.mb.ca/conservation/cdc/consranks.html>. Accessed 2012.

53 Committee On the Status of Endangered Wildlife In Canada. Available online at:

54 <http://www.cosewic.gc.ca/>. Accessed 2010.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 6-73
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-297

1

2 **Question:**

3 "As a result of this [southern ground electrode] site being identified and selected in the  
4 winter of 2010, a field assessment at this site was not completed and therefore a  
5 preconstruction survey for species of conservation concern will be conducted for the  
6 southern ground electrode site." (EIS 6-73)

7

8 *Requests:*

- 9 a) Have the field assessments (species of conservation concern) for the components  
10 referenced above been done? Manitoba to provide reports.
- 11 b) Will these species of conservation concern field assessments for the southern ground  
12 electrode area incorporate traditional knowledge ?
- 13 c) What is the size of the southern ground electrode site area that will be assessed  
14 regarding species?

15 **Response:**

16 It has been determined that the southern ground electrode will be constructed on land  
17 that is used for cultivated crop production. Therefore a field assessment for species of  
18 conservation concern is not required.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 6-78
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-298

1

2 **Question:**

3 "Wolverine are currently listed as a species of Special Concern in Manitoba and are listed  
4 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), with  
5 population considered stable to increasing (COSEWIC 2003)." (EIS 6-78)

6

7 *Requests:*

8 a) Has Manitoba Hydro conducted any more recent studies (post-2003), or is it using  
9 more recent studies (post-2003), which demonstrate wolverine population in Manitoba is  
10 in fact "stable to increasing?"

11 b) Did Manitoba Hydro review the scientific literature regarding the steady loss of  
12 wolverine populations in North America and Canada before concluding that wolverines  
13 would not be impacted by Bi Pole III?

14 **Response:**

15 a) Manitoba Hydro has conducted sightings and track observations for wolverine while  
16 performing multispecies surveys within the Project Study Area. Slough (2007) outlines  
17 that wolverine range recoveries and population increases have been recorded in  
18 Manitoba. Additionally, the Manitoba Trapping Guide (2011/2012) outlines that  
19 wolverine "have made a remarkable comeback in the last few decades" (Manitoba  
20 Conservation, 2011, pg 2). Scientific literature specifically reviewing the status of  
21 wolverine in Manitoba since COSEWIC's report in 2003 is limited.

22 The management and conservation of wolverines is Manitoba Conservation and Water  
23 Stewardship's responsibility.

24 b) Yes. The conclusions reached concerning the residual and cumulative effects of the  
25 Project on wolverines were based on the review of scientific literature and its application  
26 to the Project Study Area.

27 **References:**

28 Manitoba Conservation. 2011-2012 Trapping Guide. Pg. 2. Available at  
29 [http://www.manitobatrappers.com/documents/Trappers\\_Guide.pdf](http://www.manitobatrappers.com/documents/Trappers_Guide.pdf). Accessed  
30 August 1<sup>st</sup> 2012.

31 Slough, B. G. 2007. Status of the wolverine *Gulo gulo* in Canada. *Wildlife Biology*.  
32 2003(2) :74–82.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 6-79
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-299

1

2 **Question:**

3 "This population [the Beverly-Qamanirjuaq caribou herd] is considered to be in major  
4 decline [and]... there is potential for this population to be present during the  
5 construction or operation of the Bipole III line and Project infrastructure in northern  
6 Manitoba." (EIS 6-79)

7

8 *Requests:*

- 9 a) How will Manitoba Hydro mitigate risk to these herds during construction and  
10 operation of Bi Pole III?
- 11 b) Did Manitoba Hydro make a presentation and discuss risks to these herds with the  
12 five jurisdiction co management board for these herds?

13 **Response:**

14 a) Mitigation measures for the Beverly-Qamanirjuaq caribou herd are outlined in the  
15 Bipole III EIS, Section 8.2.6.4, on page 8-92. Overall potential effects of the Project to  
16 these herds of caribou are deemed not significant. The Bipole III project is on the  
17 extreme southern fringe and outside the normal winter range of the Qamanirjuaq  
18 barren-ground caribou herd. As a result, caribou from this herd are not anticipated to  
19 occur in the Project Study Area annually. Any mitigation that will be required will be  
20 done so in consultation with Manitoba Conservation and Water Stewardship (MCWS).

21 b) Manitoba Hydro did not make a presentation to the Beverly and Qamanirjuaq Caribou  
22 Management Board. Manitoba Hydro is working collaboratively with the MCWS on

- 23 caribou research in the province and would expect the MCWS representative to the
- 24 Board to inform or advise as needed.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 6-136
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-300

1

2 **Question:**

3 "In all cases, development plans provide that utilities should be permitted in any land  
 4 use designation subject to requirements in a municipal zoning by-law and should be  
 5 developed in a manner to minimize any incompatibility with neighbouring land uses. As  
 6 a Crown Corporation, Manitoba Hydro is not formally subject to municipal land use and  
 7 development controls, but generally adheres to them in developing new facilities." (EIS  
 8 6-136)

9

10 *Request:*

11 Manitoba Hydro to provide listing of the crown land uses, designation, policies and  
 12 regulations, which the corporation is subject to.

13 **Response:**

14 Appendix 1A of Chapter 1 of the EIS is a list of the legislation applicable to the Bipole III  
 15 Transmission Project. Crown land presently designated as Provincial Parks, Wildlife  
 16 Management Areas or that is covered by the Protected Areas Initiatives and is located  
 17 within the Bipole III Study Area has been identified in the EIS already. Where Bipole III  
 18 facilities are to be built on Crown Land, Manitoba Hydro anticipates that it will acquire  
 19 easements from the Crown and it applied for those easements in 2011. In addition,  
 20 Manitoba Hydro anticipates applying for permits to construct on Crown Land and to  
 21 extract material from borrow area sites that are located on Crown Land pursuant to the  
 22 relevant statutes that are identified in the foregoing Appendix 1A.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-301

1

2 **Question:**

3 "...As of 2009-10, there were 49 organic producers, processors and handlers registered  
4 with Organic Producers Association of Manitoba (OPAM) that are in the Project Study  
5 Area"

6

7 *Preamble:*

8 There are many certification bodies and/or standards (for eg. see  
9 <http://www.gov.mb.ca/agriculture/organic/org01s01.html>). Some producers also use  
10 organic methods, but may not be certified. This means that many more organic  
11 producers in Manitoba may not be registered with OPAM but may use another  
12 body/standard (eg.FoodLocal+)?

13

14 *Requests:*

15 a) Did Manitoba Hydro account for organic producers who certify with another non  
16 OPAM organization?

17 b) Did Manitoba Hydro consider non-certified organic producers in Manitoba?

18 **Response:**

19 During Round 4 of the Environmental Assessment Consultation Program, Manitoba  
20 Hydro met with landowners within a half mile of the Preliminary Preferred Route. During  
21 these discussions with Landowners they were asked whether their agricultural  
22 operations were considered organic. Manitoba Hydro considered OPAM as a stakeholder

- 23 and met with them during the EACP but individual discussions with landowners  
24 accounted for producers who may not be registered with OPAM.
- 25 A copy of the Landowner Information Centre Form, which was a method for how they  
26 could identify as an organic producer, is provided as *CEC/MH-VI-301(2)*.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 7-19
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-302

1

2 **Question:**

3 "Manitoba Hydro contacted the two owners of three properties that would need to be  
4 purchased for [Riel Converter Station ground electrode] site development. Property  
5 purchases for the site seem to be feasible." (EIS 7-19)

6

7 *Request:*

8 Have the property purchases been completed?

9 **Response:**

10 Manitoba Hydro is undertaking discussion with the property owners regarding the  
11 purchase of the properties.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 7-20
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-303

1

2 **Question:**

3 "The preferred route [for the southern ground electrode] and any responses from local  
4 landowners adjacent to the preferred route will be provided to Manitoba Conservation in  
5 December 2011" (EIS 7-20)

6

7 *Request:*

8 Provide the responses from local landowners, or indicate where in the EIS these  
9 responses from local landowners are found?

10 **Response:**

11 The responses were provided in the Supplemental Filing made to Manitoba Conservation  
12 and Water Stewardship (MCWS) in February 2012. This can be found on the Manitoba  
13 Hydro website at:

14 [http://www.hydro.mb.ca/projects/bipoleIII/eis\\_additional\\_information.shtml](http://www.hydro.mb.ca/projects/bipoleIII/eis_additional_information.shtml)

15 and the Public Registry maintained by MCWS at:

16 <http://www.gov.mb.ca/conservation/eal/registries/5433bipole/index.html>

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 7-25
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-304

1

2 **Question:**

3 "Incorporation of the findings of the ATK process into the selection of the preferred  
4 route was complicated as the process took place at different points in the Project  
5 planning process." (EIS 7-25)

6

7 *Request:*

8 Please elaborate further. Was the ATK process over 5 years? Did it bridge stages of  
9 public 'consultation'?

10 **Response:**

11 The ATK process took place from 2009 to 2012. Manitoba Hydro sent letters to 49 First  
12 Nation and Northern Affairs communities identified in the study area on May 26, 2009  
13 inviting them to participate in the Aboriginal Traditional Knowledge (ATK) process for  
14 the Bipole III Transmission Project. Between October 2009 and November 2010, 19  
15 First Nation and Northern Affairs Communities participated in workshops as part of the  
16 Bipole III Project ATK Study. The workshops were held concurrently with Rounds 3 and  
17 4 of the public consultation process. Seven self-directed Traditional Knowledge studies  
18 were carried out independently; some of these studies overlapped with Rounds 3 and 4  
19 of the Public Consultation process, others overlapped with Round 4. An eighth self-  
20 directed study was initiated following the submission of the EIS and is currently  
21 underway.

22 Manitoba Hydro is offering to meet with First Nations, Northern Affairs Communities and  
23 the MMF as part of the Environmental Protection Plan process to discuss sensitive sites

- 24 identified during the ATK process and any additional unidentified sensitive sites, as well  
25 as any relevant mitigation measures.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 7-26
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-305

1

2 **Question:**

3 "All three routes originate at the proposed site of the Keewatinoow Converter Station,  
 4 and then proceed southwest, south and then southeast to the Riel Converter Station  
 5 site, east of the City of Winnipeg." (EIS 7-26)

6

7 *Request:*

8 Were any other terminus points considered? Eg. why not start at the site of Keeyask  
 9 given it is slated for development first? Eg. why not place the Riel Converter station in  
 10 the central or western portion of the province to minimize additional length, while also  
 11 being able to connect into the southern 230Kv grid?

12 **Response:**

13 The site selection process, including the other terminus points considered, can be found  
 14 in Section 3.5.1.1 of the Bipole III EIS.

15 The key criterion for siting the northern converter station is to maintain reasonable  
 16 separation between the Bipole III converter and existing HVdc facilities. Both Conawapa  
 17 and Keeyask provide similar separation.

18 In addition, proximity to proposed future generation provides benefits as it reduces  
 19 potential infrastructure costs and transmission losses. Considering the size of proposed  
 20 generation stations and the existing transmission infrastructure, the site close to larger  
 21 proposed Conawapa Generating Station site instead of a site at the Keeyask Generating  
 22 Station was chosen.

23 The Riel substation site was identified in the 1970s as the preferred location for the next  
24 HVdc converter station after Dorsey. The Riel location is optimal in terms of transmission  
25 requirements and it also improves system security. The Riel Sectionalization Project,  
26 which established the Riel 500 kV-230 kV Station has been previously approved and is  
27 currently under construction.

28 One main factor considered in selecting the Riel site selection was the need for a second  
29 major point of power injection, remote from Dorsey, to serve the major load center of  
30 Winnipeg. As the site for the future 2000 MW Bipole III converter, the Riel site is ideally  
31 suited for this purpose as it is located adjacent to a major transmission corridor along  
32 the north and east periphery of Winnipeg, facilitating connection of the future Bipole III  
33 converter station into transmission lines connecting other stations along the corridor that  
34 serve the Winnipeg area load. If the Bipole III southern converter was sited away from  
35 the Riel site then several more transmission lines would have to be extended from the  
36 new alternative converter station site to existing load serving stations on Winnipeg  
37 periphery transmission corridor to carry the 2000 MW of converter power to load,  
38 resulting in further costs and additional new transmission line corridors.

39 A second factor in selecting the Riel site location was to provide a separate termination  
40 for the Dorsey-Forbes 500kV transmission line, maintaining access to existing import  
41 capability if Dorsey is lost. The Riel site is adjacent to the Dorsey to Forbes 500 kV line  
42 with carries most of the power imported by Manitoba Hydro.

43 Therefore terminating the HVdc line at the already existent Riel station near the load  
44 center is the preferred option.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 7-30
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-306

1

2 **Question:**

3 "Subsequent to Round 3 ...first step was the formation of a multidisciplinary committee  
4 to develop a process for Preliminary Preferred Route (PPR) selection. A committee of  
5 discipline specialists was formed in January 2010 to review public, stakeholder, and  
6 Aboriginal input ..." (EIS 7-30)

7

8 *Request:*

9 Who is on this Committee of discipline specialists? Is there a record of their  
10 recommendations?

11 **Response:**

12 The committee specialists were led by a group facilitator and included representation  
13 from the following categories;

- 14 • Project management;
- 15 • Biophysical components;
- 16 • Socio-economic components;
- 17 • Land use components;
- 18 • Aboriginal engagement;
- 19 • Public consultation; and
- 20 • Technical components.

21 The process is outlined in Appendix 7a to Chapter 7 of the EIS. All commentary from  
22 specialists is noted in "Segment Comments" and "Selection summary" sections of the  
23 Route Selection Matrix (EIS Chapter 7 Appendix 7a).

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 9-3
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-307

1

2 **Question:**

3 "Manitoba Hydro was a proponent for a number of past/existing projects included in  
4 Table 9.2-1. Where relevant, this allows for coordination of mitigation and monitoring  
5 measures to help ensure any cumulative effects resulting from these projects are  
6 identified and addressed. For example, mitigation, monitoring and follow up measures  
7 have been identified for the Wuskwatim generation/transmission and Riel Reliability  
8 Improvement Initiative projects as part of the planning and development of each of  
9 those projects." (EIS 9-3)

10

11 Requests:

12 a) Since MB Hydro has been involved with many past and future projects – does  
13 Manitoba maintain cumulative effects information with respect to its past and future  
14 projects? Please provide.

15 b) Manitoba Hydro to provide information about the cumulative combined effects from  
16 Bi Pole III and other Hydro projects.

17 **Response:**

18 a) Cumulative effects information has been provided in regulatory submissions for  
19 various Manitoba Hydro environmental assessment submissions for new projects,  
20 including the Bipole III Transmission Project. As reviewed in such submissions, Manitoba  
21 Hydro also carries out various monitoring programs that in effect collect information that  
22 can be used to assess actual effects of specific projects and/or mitigation measures, the  
23 overall status of various environmental components and VECs, and as inputs to future

24 cumulative effects assessments. Overall, such information has been collected for many  
25 different reasons over the course of hydroelectric development in Manitoba and at  
26 different geographical scales, and it would not be feasible to develop a comprehensive  
27 list of all such information, let alone to provide all such information.

28 To assist in understanding the scope of what is referenced above, examples of  
29 information that has been collected are as follows:

- 30 • Individual projects (both by Manitoba Hydro and otherwise) subject to the  
31 *Canadian Environmental Assessment Act* (Canada) have included a cumulative  
32 effects assessment as well as proposed ongoing monitoring and follow up  
33 programs. This typically reviews the residual adverse effects of the proposed  
34 project on selected Valued Environmental Components (VECs) that have the  
35 potential to act in concert with the effects of other past, existing or potential  
36 future projects or human activities. Examples of past projects that have  
37 considered cumulative effects include the Wuskwatim GS EIS and Wuskwatim  
38 Transmission EIS; Slave Falls Tramway Conversion project EIS; Keeyask EIS.  
39 As part of the Wuskwatim project, long term monitoring will take place to verify  
40 predictions of environmental effects made in the EIS.
- 41 • Manitoba Hydro has and will continue to update and provide descriptions of the  
42 state of knowledge about larger overall regional project effects for historical  
43 projects as has occurred re: Water Power Act (Manitoba) licence finalizations for  
44 Churchill River Diversion and Lake Winnipeg Regulations and Limestone GS  
45 monitoring program summary (20+ years of pre and post construction  
46 monitoring).
- 47 • Manitoba and Manitoba Hydro's joint "Coordinated Aquatic Monitoring Program"  
48 (CAMP) provides long term, system wide, aquatic ecosystem health monitoring  
49 information that will contribute over time to a better understanding of the  
50 impacts of operating Manitoba Hydro's system.

51

52 b) As noted in Chapter 9, Table 9.2-1 and Table 9.2-2, the cumulative effects  
53 assessment has considered past/existing, and future Manitoba Hydro projects that are

54 expected to overlap spatially and temporally with the Bipole III Project. The tables  
55 indicated above list the past and future projects considered, and the revised table  
56 provided in response *CEC/MH-VI-226* indicates on a subcomponent level where the  
57 residual adverse effects of the Bipole III Transmission Project are expected to act  
58 cumulatively with the effects of these past/existing and future Manitoba Hydro projects.  
59 The potential cumulative effects of these projects are summarized in Chapter 9 of the  
60 EIS.

61

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 9-5
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-308

1

2 **Question:**

3 "[Table 9.2-1]...corridors may result in habitat disruption and fragmentation effects;  
 4 contribute to direct mortality of VEC individuals and increased access to adjacent areas  
 5 by recreational users; Existing corridors are considered where relevant as part of the  
 6 existing environment (Chapter 6) and in the effects assessment in Chapter 8 and are not  
 7 considered further in Chapter 9." (EIS 9-5)

8

9 *Request:*

10 Existing linear features in the environment can have a large impact on migratory animals  
 11 such as woodland caribou-. Explain why Manitoba Hydro why existing corridors part of  
 12 the 'existing environment' when these corridors have potential cumulative effects?

13 **Response:**

14 The existing environment took into account what is currently on the landscape in  
 15 relation to the effects on the selected VECs. These existing corridors were in fact  
 16 considered in the cumulative effects assessment for boreal woodland caribou due to this  
 17 VECs importance as a listed species, federally and provincially, as well as its known  
 18 habitat requirements. The cumulative effects assessment for boreal woodland caribou  
 19 followed Environment Canada's model in determining the level of disturbance for those  
 20 ranges intersected by Bipole III. The assessment can be found in the Supplemental  
 21 Caribou Technical Report submitted to the Clean Environment Commission and Manitoba  
 22 Conservation and Water Stewardship in August 2012.

23 [http://www.hydro.mb.ca/projects/bipoleIII/BPIII\\_CaribouSupplementalReport\\_August20](http://www.hydro.mb.ca/projects/bipoleIII/BPIII_CaribouSupplementalReport_August2012.pdf)  
 24 [12.pdf](http://www.hydro.mb.ca/projects/bipoleIII/BPIII_CaribouSupplementalReport_August2012.pdf)

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 9-9
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-309

1

2 **Question:**

3 “[Table 9.2-1] Construction activities associated with PR 280 may be viewed as an  
4 induced action as a result of ongoing and proposed hydroelectric developments along  
5 the Nelson River. Provincial Road construction activities (i.e., crushing and stockpiling,  
6 rock cuts and spot grading) were to have commenced in late 2010 with a completion  
7 date of late 2011. Related improvements would be confined within the existing roadway  
8 profile; Effects expected to be beneficial rather than adverse.” (EIS 9-9)

9

10 *References:*

- 11 a) Would there be a need for this road if Hydro development was not in the area?  
12 b) How are effects assessed: when a project may have positive socio-economic impact  
13 but negative biophysical impact?  
14 c) What is the licensing and permitting process for PR 280?

15

16 **Response:**

17 Based on the references stated in the preamble to this question it is assumed the  
18 question pertains to the cumulative effects assessment, and specifically Chapter 9 of the  
19 EIS.

20 Chapter 9, Table 9.2-2 of the EIS identifies future projects and activities occurring within  
21 the Project Study Area that may have residual adverse effects that would overlap with  
22 the residual adverse effects of the Project. In instances where this occurs, the identified  
23 project is addressed further in the cumulative effects assessment. Upgrade activities on

24 PR 280, although occurring within the Project Study Area, do not overlap temporally  
25 with the Bipole III Transmission Project, and therefore PR 280 is not included in the CEA  
26 for the Project.

27 Chapter 4 describes the assessment approach and documents VECs selected for each  
28 biophysical or socio-economic subcomponent. Project effects were then assessed for  
29 each biophysical and socio-economic VEC individually. Any determination that there is a  
30 residual beneficial impact on a socio-economic VEC does not inform the assessment of a  
31 separate biophysical VEC.

32 Note that with respect to question a), it is the responsibility of MIT to determine the  
33 need for roads in the Province. Provincial Road 280 serves uses other than Hydro  
34 development (for example the communities of Split Lake and Bird).

35 With respect to the upgrades to PR280, MIT and Manitoba Hydro identified 45 locations  
36 between PR 391 and the north access road (KM 177) that required improvements. The  
37 upgrades, which include widening and curve shaving (Keeyask Generating Station  
38 Environmental Impact Statement Page 4-91), are intended to meet a standard that will  
39 improve safety and accommodate increased traffic.

40 As PR280 is an asset of MIT, they are responsible for obtaining all permits and  
41 necessary licences for the upgrades to PR 280.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-310

1

2 **Question:**

3 On what basis has Manitoba Hydro defined adverse effects as being 'negligible' and  
4 'potentially non-negligible'? (Eg. Sensitive subcomponents of the environment such as  
5 groundwater can be affected by almost every project component yet are considered to  
6 have negligible cumulative effects.) Manitoba Hydro to provide its methodology for  
7 assessment of environmental effects, with applications to project components and  
8 subcomponents

9 **Response:**

10 The methodology for assessment of environmental effects, including the basis for  
11 defining adverse effects as being "negligible", is described in detail in Chapter 4 of the  
12 EIS (Assessment Approach). The application of this approach by environmental  
13 subcomponent for each VEC is addressed in detail in Chapter 8 of the EIS  
14 (Environmental Assessment).

15 "Negligible" is defined in Chapter 4, Section 4.2.10 to apply where "no measurable  
16 change" is expected for a VEC due to the Project. Negligible effects regarding the  
17 direction or nature of an effect are determined where there is no measurable  
18 incremental change in existing baseline conditions expected for a VEC due to effects of  
19 the Project. This definition provides for scenarios where the Project may be expected to  
20 have some incremental residual effects on a VEC, but such incremental effects are not  
21 expected to be measureable and therefore are not to be considered further in the  
22 environmental assessment. Negligible effects were considered in the Project's  
23 environmental assessment to be equivalent to no residual effect.

24 With regard to the cumulative effects assessment, determinations of “negligible  
25 cumulative effects” were made in the context of identifying or screening at a high level  
26 one of three possible outcomes regarding the coincidence of Project effects on VECs for  
27 each environmental sub-component and the effects of each other project considered on  
28 the VECs for each environmental sub-component. Chapter 9 only considered VECs  
29 determined in Chapter 8 to have an expected non-negligible adverse effect from the  
30 Project. The three possible outcomes examined for these VECs in the high level CEA  
31 screening were as follows for each environmental sub-component and each past,  
32 existing or future project included in the CEA<sup>1</sup>:

- 33 • **No adverse cumulative effects**, i.e., environmental sub-component VECs are  
34 not expected to receive any added residual adverse effects from the Project as a  
35 result of overlaps with spatial and temporal effects of the other identified  
36 project(s); or
- 37 • **Negligible cumulative environmental effects (beyond assessment**  
38 **discussed in Chapter 8)**, i.e., beyond the assessment discussed in Chapter 8  
39 (which included full consideration of effects of past and current projects), no  
40 measurable change in the overall assessment of incremental effects of the  
41 Project on the VECs in an environmental sub-component is expected after  
42 consideration of coincidence of Project effects with the effects of the other  
43 identified project(s); or
- 44 • **Potentially non-negligible cumulative effects**, i.e., this identifies  
45 environmental sub-components with at least some VECs having residual adverse  
46 effects of the Project (as assessed in Chapter 8) that overlap with the effects of  
47 the identified other project to the extent that there may potentially be  
48 measureable cumulative effects resulting from the Project that require  
49 assessment.

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<sup>1</sup> As indicated in response to *CEC/MH-VI-226* there is an errata in Table 9.3-2 and Table 9.3-3 – the symbols for No Adverse Cumulative Effects and Negligible Cumulative Effects (beyond assessment discussed in Chapter 8) are reversed in the legend and consequently do not correspond with the coincidence of effects indicated on the table. Corrected tables are attached to *CEC/MH-VI-226*.

50 In summary, the high level screening identifies, separately for biophysical and socio-  
51 economic environmental sub-components, where there is considered to be potential for  
52 measurable change for one or more VECs when the residual adverse effects of the  
53 Project are considered together with the effects of other past, existing or future  
54 projects.

55 To elaborate, Section 9.3.2 of the EIS indicates that for some biophysical VECs, residual  
56 effects of the Project are "site specific" (i.e., limited to the immediate right of way or  
57 Project footprint) and as such the only real prospect of a related cumulative biophysical  
58 effect would occur where there is a further development on or adjacent to the rights of  
59 way for the HVdc transmission line, 230 kV ac northern collector lines, the northern  
60 converter station or ground electrode site and line. Consequently, cumulative effects on  
61 certain VECs beyond what was considered in Chapter 8 were expected either not to  
62 occur or to be negligible. As noted in Chapter 9, this assessment applies to the  
63 following biophysical environmental sub-components and VECs: Soils and Terrain (soil  
64 productivity and terrain stability); Groundwater (aquifer productivity<sup>2</sup>); Terrestrial  
65 Ecosystems and Vegetation (plant species and communities of conservation concern;  
66 native grasslands/ prairie areas) and Mammals and Habitat (effects primarily related to  
67 construction and operation of Keewatinoow Converter Station, borrow sites and ground  
68 electrode and line as they related to American Marten, Beaver, Wolverine, Moose, Wood  
69 Frog, and Northern Leopard Frog).

#### 70 **Example - Assessment of Groundwater VECs**

71 The assessment of groundwater (groundwater quality and aquifer productivity) provides  
72 an illustrative example.

73 Chapter 8 of the EIS notes with regard to groundwater quality, for all phases of the  
74 Project, the implementation of appropriate mitigation should preclude any residual  
75 effects on groundwater. Section 8.2.3.5 does note that an unintended groundwater  
76 discharge to the surface could result in a residual effect which would be negative in

---

<sup>2</sup> Note there were no residual adverse effects on groundwater quality and this VEC was not addressed in the CEA.

77 direction and could impact both the surface and subsurface environments. However, as  
78 described in Chapter 4 (Assessment Approach) pursuant to guidelines and best practice,  
79 the environmental assessment and cumulative effects assessment focuses on likely  
80 adverse effects of the Project and does not consider effects that are unlikely. As such  
81 there are not considered to be any likely residual adverse effects of the Project on  
82 groundwater quality and this VEC is not considered further in the cumulative effects  
83 assessment.

84 Chapter 8 and Chapter 9 further note that the non-negligible residual adverse effects  
85 from the Project (i.e., non-negligible effects remaining or predicted to remain after  
86 mitigation measures have been applied) on groundwater, relate only to aquifer  
87 productivity (specifically effects related to groundwater withdrawal). Such effects are  
88 focused on Keewatinoow and are considered not to be significant due to the  
89 determination that they would be small in magnitude, project site/ footprint in extent  
90 and medium term in duration for both construction and operation phases of the Project.  
91 As indicated in Section 8.2.3.4 there are no other potential users within the radius of the  
92 drawdown cone and temporary reduction of the aquifer productivity should not have any  
93 effect on the existing aquatic environment in the surrounding area. There are no  
94 mitigation activities required for the drawdown of groundwater at the camp due to  
95 reversibility of the effect and absence of impact to the surficial environment or other  
96 aquifer users. During operation the drawdown will be minimal (with 40 people on site)  
97 and the effect is considered reversible and not significant.

98 Given the narrow spatial extent of the effect on aquifer productivity the only future  
99 projects that may have effects that overlap spatially and temporally with the Project  
100 effects for this VEC would be Conawapa and Keewatinoow Wastewater treatment.  
101 Given the minimal residual effect from the Project and reversible nature of the effect,  
102 cumulative effects in this regard for the purpose of the Chapter 9 assessment are  
103 expected to be negligible. Conawapa, when and if it proceeds, would also be subject to  
104 its own assessment and would need to consider effects of Bipole III as part of the  
105 existing environment.

**106 Further Explanations**

107 Chapter 8 provides the full analysis by VEC of the assessment of environmental effects  
108 with applications to Project components and sub-components. As noted, this analysis  
109 includes the assessment of likely incremental residual effects of the Project in the  
110 context of all other identified past and current projects and human activities.

111 The high level analysis in Chapter 9 sets out the basic screening as reviewed above in  
112 the two summary tables (Tables 9.3-1 and 9.3-2).

- 113 • The text for biophysical sub-components in Section 9.3.2 addresses separately  
114 the material differences for CEA between Site Specific residual effects, Local  
115 Study Area residual effects primarily related to the HVdc Transmission Line,  
116 Project Study Area residual effects related to boreal caribou, and related to  
117 coastal and barren ground caribou.
- 118 • The text for the socio-economic subcomponents in Section 9.3.3 notes that  
119 certain socio-economic residual adverse effects are limited to the Project/Site  
120 Footprint or the Local Study Area where the only prospect for cumulative socio-  
121 economic effects would occur where there is a further development on or  
122 adjacent to the ROW or in the Local Study Area. As such for these VECs  
123 cumulative effects were expected not to occur or remain minimal (with no  
124 material change in assessment from Chapter 8). Section 9.3.3 then addresses  
125 differences for CEA in the Project Study Area between construction phase non-  
126 negligible adverse cumulative effects potential versus the much more limited  
127 operation phase non-negligible adverse cumulative effects potential.

128 Further explanations regarding the assessment approach will be provided in response to  
129 *CEC/MH-VI-347(a), (b) and (c)*.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 9-18
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-311

1

2 **Question:**

3 "The SSEA process provided an opportunity for avoiding the majority of potential effects  
 4 through the selection of the Final Preferred Route away from a number of boreal  
 5 woodland caribou core winter and summer ranges, and where possible the HVdc  
 6 transmission and ac collector lines were routed in proximity to existing linear features to  
 7 reduce expected effects of additional fragmentation." (EIS 9-18)

8 *Preamble:*

9 Caribou ranges include calving area, not just winter and summer ranges.

10

11 *Requests:*

12 a) Why does the EIS leave out these elements of the woodland caribou and potential  
 13 effects on them? Manitoba Hydro to explain potential effects on winter, summer, and  
 14 calving areas.

15 b) Maps provided for the preferred route show considerable woodland caribou areas  
 16 affected. Manitoba Hydro to provide analysis and mapping to show the potential effects  
 17 on woodland caribou from each of the three Bi Pole III route options.

18 c) Manitoba Hydro to provide information as to the specialists, authorities, and recent  
 19 scientific sources used to determine the preferred route in relation to woodland caribou  
 20 herd areas and ranges.

21 d) Manitoba Hydro to provide its analysis of the Manitoba Government identification and  
 22 assessment of level of risk for these woodland caribou herds before and after Bi Pole III.

23 e) Did Manitoba Hydro use historic research and data to choose this preferred route with  
24 respect to potential effects on woodland caribou?

25 f) Manitoba Hydro to provide its mitigation plan for woodland caribou and its plan to  
26 fulfill the requirements of the Manitoba Endangered Species Act listing of woodland  
27 caribou.

28 **Response:**

29 a) Potential effects on calving areas were examined and are reported in the Bipole III  
30 Caribou Technical Report (Sections 3.4, 3.5, and 4.5). The Final Preferred Route (FPR)  
31 avoids known calving areas and potential critical caribou calving habitat, and has  
32 minimal impacts on core winter use areas. A revised analysis of potential effects on  
33 winter summer and calving areas has been updated in the Bipole III Supplemental  
34 Caribou Technical Report.

35 b) As part of the route selection process all route options were evaluated based on  
36 available caribou data. See Appendix 7A: Preliminary Preferred Route Selection Process,  
37 7A-3 and Tables 7A-1 and Table 7A-2 for maps and assessments of the potential route  
38 segments.

39 c) The monitoring and research methods used for the Bipole III SSEA were peer  
40 reviewed using outside caribou experts from across Canada. See Scurrah and Schindler  
41 (2012). Based on the collective advice from the experts, the overall approach to the EIS  
42 was to first focus on pre-construction monitoring to select a FPR that avoided the  
43 majority of critical habitat within the Project Study, and to the extent possible, take  
44 advantage of existing linear and anthropogenic disturbance. Throughout the SSEA  
45 process, alternate routes were discussed with Manitoba Conservation and Water  
46 Stewardship (MCWS) and information incorporated into the final FPR selection.

47 For a list of peer-reviewed literature/scientific sources, please see Section 11.0  
48 (References) of the Bipole III Caribou Technical Report, and Bipole III Caribou  
49 Supplemental Report for all personal communications and scientific literature reviewed.

50 d) The Province of Manitoba is the responsible authority for the identification and  
51 assessment of risk for boreal woodland caribou in the province.

52 e) Manitoba Hydro used available historical and current information as described in the  
53 Bipole III Caribou Technical Report.

54 f) The mitigation plan for boreal woodland caribou related to the Bipole III Transmission  
55 Project will be developed in consultation with MCWS and will incorporate the terms and  
56 conditions of the *Environment Act* licence when issued. MCWS has the authority for the  
57 implementation and enforcement of the *Manitoba Endangered Species Act*. MCWS will  
58 make the determination through the regulatory process as to whether or not Manitoba  
59 Hydro has, to the satisfaction of the Minister, developed appropriate measures that will  
60 reduce the impact to boreal woodland caribou and its habitat as a result of the Project.

61 **References:**

62 Scurrah, F. E., and D. W. Schindler. 2012. Towards a Manitoba Hydro boreal woodland  
63 caribou strategy: Outcomes from Manitoba Hydro boreal woodland caribou  
64 workshop. *Rangifer* 115–124.

<b>Date</b>	July 27 2012
<b>Reference</b>	EIS 9-19
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-312

1

2 **Question:**

3 *Reference:*

4 "With implementation of mitigation measures as described in Chapter 8, the Project is  
 5 not anticipated to have significant residual effects on boreal woodland caribou." (EIS 9-  
 6 19)

7 *Requests:*

8 a) Is Manitoba Hydro aware of any hydro project in Canada where adaptive  
 9 management was applied and caribou herd sustainability was improved? What types of  
 10 measures were implemented – what is the success rate?

11 b) Manitoba Hydro to confirm that its use of reference to the species includes woodland  
 12 caribou range areas, habitat, calving areas, primary food sources, etc?

13 **Response:**

14 a) To date, adaptive management associated with hydro developments or related  
 15 infrastructure on boreal woodland caribou population has yet to be incorporated into  
 16 management strategies of other hydro-electric companies in Canada. Manitoba Hydro is  
 17 unique and is leading initiative in boreal woodland caribou management through use of  
 18 adaptive management, and will continue to work with Manitoba Conservation and Water  
 19 Stewardship on caribou research.

20 b) The studies undertaken on boreal woodland caribou in relation to Bipole III have  
 21 incorporated caribou range areas, habitat, calving areas, and primary food sources.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-313

1

2 **Question:**

3 Map 6-14 "Forest Fires History Within Project Study Area" shows forest fires starting in  
4 1928.

5 *Requests:*

6 a) Was Manitoba Hydro able to obtain any forest fire data that pre-dated that pre-dated  
7 1928?

8 b) Did Manitoba Hydro use Manitoba government historic data, or obtain satellite data  
9 for this map?

10 **Response:**

11 The fire history data comes directly from Manitoba Conservation and Water Stewardship  
12 who are responsible for the management of the forest resources. The fire history data  
13 was as up-to-date as possible at the time of the assessment. There is no documented  
14 spatial data predating 1928.

<b>Date</b>	July 27 2012
<b>Reference</b>	Forestry Technical Report
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-314

1

2 **Question:**3 *Reference:*

4 November 2011 "Forestry Technical Report" states "Ancillary data, including fire history,  
5 forest harvest, renewal and access development that have taken place since the  
6 effective inventory date have been acquired from Manitoba Conservation, Forestry  
7 Branch and the forest industry, and used to update the FRI (Forest Resource Inventory).

8 *Requests:*

9 a) Provide the ancillary data (including fire history, forest harvest, etc.) referred to  
10 above. Manitoba Hydro could map existing tenure, previous and current mining, forestry  
11 operations etc in the project area for the preferred route.

12 b) Did Manitoba Hydro take forestry and mining information into account when choosing  
13 the preferred corridor?

14 c) Please indicate whether Manitoba Hydro was using the public FRI, or non public data  
15 and information.

16 **Response:**

17 a) Ancillary data was collected from the Forestry Branch, Louisiana Pacific Canada  
18 Ltd. and Tolko Industries Ltd to update the original FRI data. While the updated  
19 analysis may be useful to other parties, Manitoba Hydro will consult with data  
20 providers on the potential for data-sharing.

- 21 b) Manitoba Hydro did take forestry and mining considerations into account when  
22 choosing the preferred route.
- 23 c) Manitoba Hydro used the Manitoba Provincial FRI and records from the Forest  
24 Management License Holders for the assessment. The Provincial FRI was  
25 updated to reflect the most current conditions at the time of the assessment.

<b>Date</b>	July 27 2012
<b>Reference</b>	Mammals Tech Report, p. xiii
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-315

1

2 **Question:**3 *References:*

4 "Additional unpublished information, specifically aerial moose surveys, was provided for  
5 use in this report by Manitoba Conservation. This report has (sic.) includes data  
6 gathered up to March 31, 2011." (Mammals Tech Report, p. xiii)

7 *Requests:*

8 a) What did Manitoba Hydro conclude from the moose surveys?

9 b) In light of the specific actions taken by the Manitoba government to close the moose  
10 hunt through significant portions of the regions where Bi Pole III would be built, what  
11 mitigation steps will Manitoba Hydro take, and were these mitigation steps arrived at  
12 through discussion with Manitoba Conservation?

13 c) Did Manitoba Hydro use historic information as to location, size and numbers of  
14 moose in moose ranges through the study area, project area and preferred route in  
15 coming to its conclusions?

16 **Response:**

17 a) Manitoba Hydro did not draw any conclusions from the aerial moose survey  
18 information provided by Manitoba Conservation and Water Stewardship (MCWS). The  
19 aerial survey information assisted in the route selection and environmental assessment  
20 process by identifying areas of concern related to moose.

21 b) MCWS is the regulating body for managing hunting activities and harvest levels and is  
22 in the process of developing moose management plans and hunting strategies with  
23 stakeholders and rights based hunters for those GHAs that have been closed to hunting.  
24 Manitoba Hydro is currently discussing mitigation and monitoring strategies related to  
25 the Project with MCWS for those areas and these will be incorporated in to the Project's  
26 EPP and Access Management Plan.

27 c) Manitoba Hydro used available historical and current information. All data and  
28 literature utilized in the assessment on moose is described in the Bipole III Mammals  
29 Technical Report.

<b>Date</b>	July 27 2012
<b>Reference</b>	8 – 368
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-316

1

2 **Question:**3 *Reference:*

4 The 8 – 2 map legend includes ‘ predicted habitat ’ for Moose. The listing of figures  
5 references this is as being page 8 – 368. There appears to be no such page. No context  
6 is provided in the Maps for this habitat. Manitoba Hydro is limiting public map  
7 information so that predicted Moose habitat is show only in the preferred corridor. No  
8 previous, or historic moose habitat is provided.

9 *Request:*

10 Manitoba Hydro to provide map and explanation of moose habitat in the project study  
11 area, also, with clear indication of the range area of a single moose.

12 **Response:**

13 Map 8-2 is found in the Map Series directly below the EIS Chapter 8, as provided on the  
14 Manitoba Hydro website: <http://www.hydro.mb.ca/projects/bipoleIII/eis.shtml>. In  
15 printed versions the maps follow the text of Chapter 8 and are identified by Map number  
16 and are not paginated.

17 Given the variability of range area use that exists for individual moose, the effects  
18 assessment provided through the EIS focused on available moose habitat and  
19 minimizing the effects the Project had on it.

<b>Date</b>	July 27 2012
<b>Reference</b>	Map 8-1
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-317

1

2 **Question:**3 *Reference:*

4 The legend on Map 8-1 "Woodland Caribou" has a series of Range Extent coloured  
5 blocks, which are also used on the map.

6 *Request:*

7 Are these the names of woodland caribou herds? If so, why is the information missing?

8 **Response:**

9 The names provided on Map 8-1 for Range Extent correspond to those caribou  
10 evaluation ranges being referred to in the text of the EIS. Throughout the EIS boreal  
11 woodland caribou are referred to by evaluation ranges as opposed to herds.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-318

1

2 **Question:**3 *Reference:*

4 The table consistently indicates habitat loss from the ROW for a several groups of birds.

5 The Local Study Area is listed as the geographic extent for each group of birds.

6 *Requests:*7 a) Manitoba Hydro to provide its methodology for arriving at consistent notation that  
8 potential environmental effects to these groups of birds are not significant.9 b) Manitoba Hydro to indicate what its environmental effects rating was for these same  
10 groups of birds in the whole project area and in the other corridor options – in order to  
11 complete the information provided.12 c) Manitoba Hydro to indicate whether its methodology arrives at a Not Significant  
13 assessment because the local study area is small.14 **Response:**15 a) The methodology for evaluating the significance of adverse environmental effects is  
16 provided in the EIS in Chapter 4, Section 4.2.10. The significance approach framework  
17 adopted for the SSEA was guided by *Determining Whether a Project is likely to*  
18 *cause Significant Adverse Environmental Effects: A Reference Guide for the*  
19 *Canadian Environmental Assessment Act*. (CEAA 1994). Significance was understood  
20 to be a determination or conclusion about whether adverse environmental effects  
21 are likely to be significant taking into account the implementation of appropriate

22 mitigation measures. The significance of the residual environmental effects of the  
23 proposed Project was evaluated using eight specified factors that included direction,  
24 magnitude, duration and geographic extent.

25 **Reference:**

26 Canadian Environmental Assessment Agency. 1994. *Determining Whether a Project*  
27 *is likely to cause Significant Adverse Environmental Effects: A Reference Guide for*  
28 *the Canadian Environmental Assessment Act*. Prepared by the Federal Environmental  
29 Review Office. Hull, QC.

30 b) The effects ratings for different groups of birds were variable throughout the whole  
31 study area or as compared amongst alternative routes. For example, routes which  
32 passed through Important Bird Areas were considered to have higher potential effects  
33 on bird populations and were therefore avoided where possible. Chapter 7 outlines the  
34 Identification and Evaluation of Alternative Routes and Sites, where the routes are  
35 assigned a rating based on the potential effects for all bird VEC and not by individual  
36 VEC. This allowed for the selection of a route which minimized the effects of the project  
37 on all bird populations.

38 c) A not significant assessment is concluded because:

- 39
- 40 • The physical loss and change of habitat in the transmission line right-of-way, and  
41 supporting infrastructure is small compared to the local study area or negligible  
42 compared to the regional study area;
  - 43 • The potential loss of habitat effectiveness is negligible to small compared to the  
44 regional study area. Short-term construction and operational periods occur  
45 mainly outside sensitive periods (i.e., nesting season). Further mitigation is  
46 proposed if there is overlap (also see *CEC/MH-VI-324b*). Of the bird species  
47 VEC's measured, only a few local individuals could potentially be affected by  
48 mortality (e.g., changes in predation, parasitism or bird-wire collisions) resulting  
49 from the Bipole III Transmission Project, as compared to large regional bird  
populations.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-319

1

2 **Question:**

3 Please provide an explanation regarding the criteria for determining the feasibility of  
4 mitigation measures.

5 a) Please provide an explanation regarding the criteria for determining the feasibility of  
6 mitigation measures.

7 b) Please provide information about the approach to be used if mitigation is deemed  
8 infeasible and the implications of infeasibility with respect to VECs.

9 **Response:**

10 Mitigation measures are evaluated for feasibility based on numerous criteria such as  
11 access, location, cost, technical, and safety. Mitigation measures are prescribed and  
12 assessed on a site by site basis due to variations in the above criteria.

13 Manitoba Hydro uses an adaptive management approach to mitigation where necessary.

14 If a particular mitigation measure is found to be ineffective in reducing a potential  
15 effect, alternative measures would be developed, implemented and monitored.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-320

1

2 **Question:**

3 For areas affected by the project, please provide quantitative data regarding the amount  
4 of existing access in relation to that which would be provided by project facilities

5 **Response:**

6 The proposed Bipole III Final Preferred Route (FPR) and associated Project components  
7 intersect numerous existing linear features including highways, provincial and municipal  
8 roads, road allowances, forestry roads, existing transmission lines, cut lines and  
9 seasonal trails. The review of these features indicates there are numerous opportunities  
10 for access to the proposed right-of-way (ROW). North of Mafeking, 37 existing roads,  
11 trails, and other linear features have been identified for use as potential access from  
12 major roads with a combined approximate length of 443 km.

13 South of Mafeking, the proposed FPR regularly intersects with highways, provincial and  
14 municipal roads and road allowances. It is anticipated that the development of new  
15 access will be minimized.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-321

1

2 **Question:**

3 Because plants obtained locally are likely to be genetically adapted to the local area,  
 4 please comment on the feasibility of using locally grown native vegetation for sites that  
 5 require re-vegetation.

6 **Response:**

7 It is recommended that native vegetation adapted to the region be used for re-  
 8 vegetation or reclamation of disturbed sites as a result of the project. Plant species  
 9 found naturally within a region are assumed to have a good probability of success when  
 10 used for re-vegetation on the normal range of sites. Native species provide long-lived,  
 11 low maintenance ground cover in a wide range of environments (Ducks Unlimited  
 12 Canada). Literature on suitability of adapted native plants including plant descriptions,  
 13 growth habit, adaptation and tolerances, and reclamation uses are available to assist  
 14 with re-vegetation of disturbed sites (e.g., BrettYoung, Interlake Forage Seeds). Locally  
 15 grown plants are preferred for re-vegetation as these species may be more genetically  
 16 adapted to the region and increase survival and success of the reclamation stock.  
 17 Locally grown plants also help to maintain the genetic integrity of the species that are  
 18 used to re-establish vegetation on a disturbed site.

19

20 **References:**

21 BrettYoung. Available online at:

22 [www.brettyoung.ca](http://www.brettyoung.ca)

- 23 Ducks Unlimited Canada. Available online at:  
24 <http://www.ducks.ca/conservation/programs/nativeplants/index.html> .  
25  
26 Interlake Forage Seeds Ltd. Available online at:  
27 [www.interlakeforageseeds.com](http://www.interlakeforageseeds.com)

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-322a

1

2 **Question:**

3 Please indicate if ground searches in suitable areas will be conducted to identify plant  
4 species and communities of conservation concern in areas that would be affected by the  
5 project.

6 **Response:**

7 Ground searches have been conducted within the local study area and project footprint  
8 in areas where plant species and communities of conservation concern are likely to  
9 occur. Pre-construction surveys in suitable areas will be conducted to identify plant  
10 species and communities of conservation concern in areas that would be affected by the  
11 project. Section 7.8 of the Terrestrial Ecosystems and Vegetation Technical Report  
12 recommends pre-construction surveys be conducted in areas likely to contain plants of  
13 concern along the portions of the preferred route that were adjusted and finalized after  
14 the 2010 field season, as well as for project components not assessed in 2010 as a  
15 result of the timing of their identification. A pre-construction assessment for the small  
16 white lady's-slipper (*Cypripedium candidum*) in the southern portion of the preferred  
17 route is also recommended. As flowering for this plant species occurs in early spring,  
18 assessments for this plant along the preferred route were limited as the route selection  
19 was not confirmed. This species is listed as endangered and is protected under the  
20 Manitoba *Endangered Species Act* and the Federal *Species at Risk Act*.

21 Pre-construction rare plant surveys have been conducted in 2012 for the northern  
22 project components. A rare plant report for the northern project components that  
23 includes rare plant locations and mitigation will be provided to Manitoba Hydro in the fall

24 of 2012. Where construction is to occur on non-frozen ground, Environmental Inspectors  
25 and Monitors will be continuously assessing the project footprint for plant species and  
26 communities of concern, if found, appropriate mitigation will be implemented.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-322b

1

2 **Question:**

3 Although most construction will be undertaken in winter to reduce impacts to  
4 vegetation, factors such as the type and amount of cover provided by adjacent plants  
5 and plant communities, and the hydrological regime affect the viability of plants and  
6 plant communities. Please provide information regarding how these factors will be  
7 managed to preserve any identified sites with species and communities of conservation  
8 concern.

9 **Response:**

10 A change in vegetation cover and hydrological regime has the potential to affect the  
11 viability of species of concern. To address this issue, setbacks and buffers will be  
12 implemented for species of concern at tower foundation sites and access trails, and  
13 during clearing and construction, and maintenance activities. Appendix G Table 1 in the  
14 Bipole III Transmission Project Draft Environmental Protection Plan identifies setbacks  
15 (no work allowed) and buffers (winter work allowed with retained vegetation) under  
16 non-frozen and frozen ground conditions.

17 For known species of concern located in the area of wetlands, the hydrological regime  
18 will be maintained to protect the viability of species of concern through mitigation  
19 measures identified in the Bipole III Transmission Project Draft Environmental Protection  
20 Plan. Environmental protection measures for clearing, draining, rights-of-way, stream  
21 crossings, transmission towers, water bodies and wetlands are provided in Tables 4, 6,  
22 19, 20, 21, 28 and 29 respectively. Appendix G Table 1 identifies setbacks in wetlands  
23 under non-frozen and frozen ground conditions.

- 24 The retention of shrubs and understory vegetation will minimize the effects of cover
- 25 removal and hydrological regime changes.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-323a

1

2 **Question:**

3 Please provide information about the potential for the transmission ROW and other  
 4 facilities to alienate habitats for smaller wildlife species, such as marten, and the  
 5 potential impacts to wildlife populations.

6 **Response:**

7 Review of literature and potential effects of transmission line ROWs regarding habitat  
 8 fragmentation and species movement relative to disturbed areas was included in the  
 9 effects assessment for the Bipole III EIS. The potential effects of the transmission line  
 10 ROW on VEC species, three of which could be considered as relatively smaller wildlife  
 11 species (marten, beaver and wolverine) in the Project Study Area, are provided in  
 12 Chapter 8, 8.2.6.4, pages 8-105 to 8-127 of the Bipole III EIS.

13 The Bipole III Mammals Technical Report also outlines potential effects of the  
 14 transmission ROW and other facilities on smaller mammals (such as marten and beaver)  
 15 in Sections 5.1.1., 5.1.2, and 5.5. and Section 3.1 of the Bipole III Fragmentation  
 16 Technical Report.. Additionally, *Transmission Lines and Traplines: A Pilot Project* outlines  
 17 the findings of a pilot project examining the movement of smaller mammal species pre  
 18 and post transmission line and ROW construction. This pilot project concluded that while  
 19 smaller mammal species (e.g. marten) moved away from areas of disturbance during  
 20 the construction phase of the Wuskwatim Transmission Project, they returned to the  
 21 area once construction ceased.

22 Finally, please see *CEC/MH-II-010a*, *CEC/MH-II-010b* and *CEC/MH-II-010c* for additional  
23 information regarding potential effects of transmission line facilities and ROWs on  
24 smaller mammal species such as marten.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-323b

1

2 **Question:**

3 Please assess the potential for ROWs to affect wildlife movements and the potential  
4 implications of such effects. For example, larger animals, such as caribou, moose, and  
5 wolves, may tend to follow the ROW, whereas smaller animals may be reluctant to cross  
6 it.

7 **Response:**

8 Please see response provided for *CEC/MH-VI-323a*. Potential influence of ROWs on VEC  
9 species movements, including smaller VEC species such as marten and beaver, were  
10 taken into consideration through Chapter 8 (Effects Assessment and Mitigation) of the  
11 Bipole III EIS. Additional information can be found in the Bipole III Mammals Technical  
12 Report, Bipole III Caribou Technical Report and the Bipole III Supplemental Caribou  
13 Technical Report. Please refer to *CEC/MH-II-010a*, *CEC/MH-II-010b* and *CEC/MH-II-010c*  
14 for more information.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-324a

1

2 **Question:**

3 Please provide information about the amount of spring and summer work likely to  
4 occur adjacent to wetlands.

5 **Response:**

6 The amount of spring and summer work is as yet undetermined and depends on  
7 location. Currently construction work for the transmission line is predominantly planned  
8 for winter and frozen ground conditions. However, in areas south of The Pas there may  
9 be spring/summer transmission line construction, which will depend on schedule and  
10 resources. At that time of southern construction all activities will follow the construction  
11 phase EnvPP which outlines the appropriate mitigation measures for ensuring  
12 environmental protection.

<b>Date</b>	July 27 2012
<b>Reference</b>	CEC Information Request #6
<b>Source</b>	CEC Information Request #6
<b>Question</b>	CEC/MH-VI-324b

1

2 **Question:**

3 Please discuss the implications of such work to upland-nesting waterbirds, and discuss  
4 how adverse effects will be mitigated.

5 **Response:**

6 Potential effects, mitigation measures and residual adverse effects for birds, including  
7 waterfowl, are described in detail in Section 8.2.7., Chapter 8, Bipole III EIS, the  
8 Environmental Protection Plan (Chapter 11 - Environmental Protection, Follow-up and  
9 Monitoring, and Attachment 11-1 Draft Environmental Protection Plan, Bipole III EIS)  
10 and in Section 5.2 of the Birds Technical Report. Specific mitigation measures for  
11 upland-nesting waterbirds include setback distances and timing windows for  
12 construction activities during the breeding season, which will be adhered to.