



AUC

Alberta Utilities Commission

ATCO Electric Ltd.

St. Paul Transmission Project

December 20, 2013



The Alberta Utilities Commission
Decision 2013-446: ATCO Electric Ltd.
St. Paul Transmission Project
Application No. 1608654
Proceeding ID No. 2024

December 20, 2013

Published by

The Alberta Utilities Commission
Fifth Avenue Place, Fourth Floor, 425 First Street S.W.
Calgary, Alberta
T2P 3L8

Telephone: 403-592-8845
Fax: 403-592-4406

Website: www.auc.ab.ca

Contents

1	Introduction	1
2	Decision overview	3
3	Background	3
3.1	The process for new transmission development in Alberta.....	3
3.2	Central East Region Transmission System Development needs identification document approval.....	4
3.3	Overview of the facility application.....	5
3.4	Interventions.....	6
3.5	Notice of hearing.....	7
3.6	Hearing.....	8
4	The public interest	10
5	Issues	11
6	Public consultation	12
6.1	Views of ATCO Electric.....	12
6.2	Views of interveners.....	15
6.3	Commission findings.....	16
7	Preferred route versus alternative route	19
7.1	Routing considerations.....	19
7.1.1	Views of ATCO Electric.....	19
7.1.2	Views of interveners.....	23
7.1.3	Commission findings.....	23
7.2	Effects on property.....	24
7.2.1	Views of ATCO Electric.....	24
7.2.2	Views of interveners.....	28
7.2.3	Commission findings.....	31
7.3	Environmental considerations.....	33
7.3.1	Views of ATCO Electric.....	33
7.3.2	Views of interveners.....	38
7.3.3	Commission findings.....	41
7.4	Cost considerations.....	42
7.4.1	Views of ATCO Electric.....	42
7.4.2	Views of interveners.....	43
7.4.3	Commission findings.....	44
7.5	Social considerations.....	44
7.5.1	Views of ATCO Electric.....	44
7.5.2	Views of interveners.....	47
7.5.3	Commission findings.....	49
7.6	Temporary workspace areas and permanent access trails.....	50
7.6.1	Views of ATCO Electric.....	50
7.6.2	Views of interveners.....	51
7.6.3	Commission findings.....	52
8	Decision	52

Appendix A – Proceeding participants 55
Appendix B – Oral hearing – registered appearances..... 59
Appendix C – Abbreviations..... 60

List of tables

Table 1. TLG members 9
Table 2. RAFTR members 10

1 Introduction

1. In this decision, the Alberta Utilities Commission (AUC or the Commission) must decide whether to approve an application by ATCO Electric Ltd. (ATCO Electric) to build and operate a double-circuit transmission line and related electric facilities located near the town of St. Paul.

2. ATCO Electric's application, in part, proposed a new 144-kilovolt (kV) double-circuit transmission line, to be designated as 7L139/7L70, between the existing St. Paul 707S substation and a tap point on existing 144-kV transmission line 7L70. ATCO Electric proposed one preferred route and one alternative route. The lengths of the proposed route options were approximately 35.71 kilometres and 36.39 kilometres for the preferred and alternative routes, respectively.¹ Alterations to the existing St. Paul 707S substation and transmission line 7L70 were also proposed as part of the project.

3. A number of interested parties who own, reside on, or have an interest in land within 800 metres of the proposed route options for transmission line 7L139/7L70 or the St. Paul 707S substation participated in the proceeding. Landowners located on or near both routes and the substation participated in the proceeding.

4. A map showing an overview of the proposed facilities is shown in Figure 1 – St. Paul Transmission Project Proposed Route Map. A description of the transmission lines, including routing options, and related electric facilities applied for by ATCO Electric is set out in detail in subsequent sections of this decision.

¹ As a result of route amendments, the preferred route line length was adjusted from 35.74 kilometres to 35.71 kilometres during the hearing via an updated Table 10 filed as Exhibit 189.01.

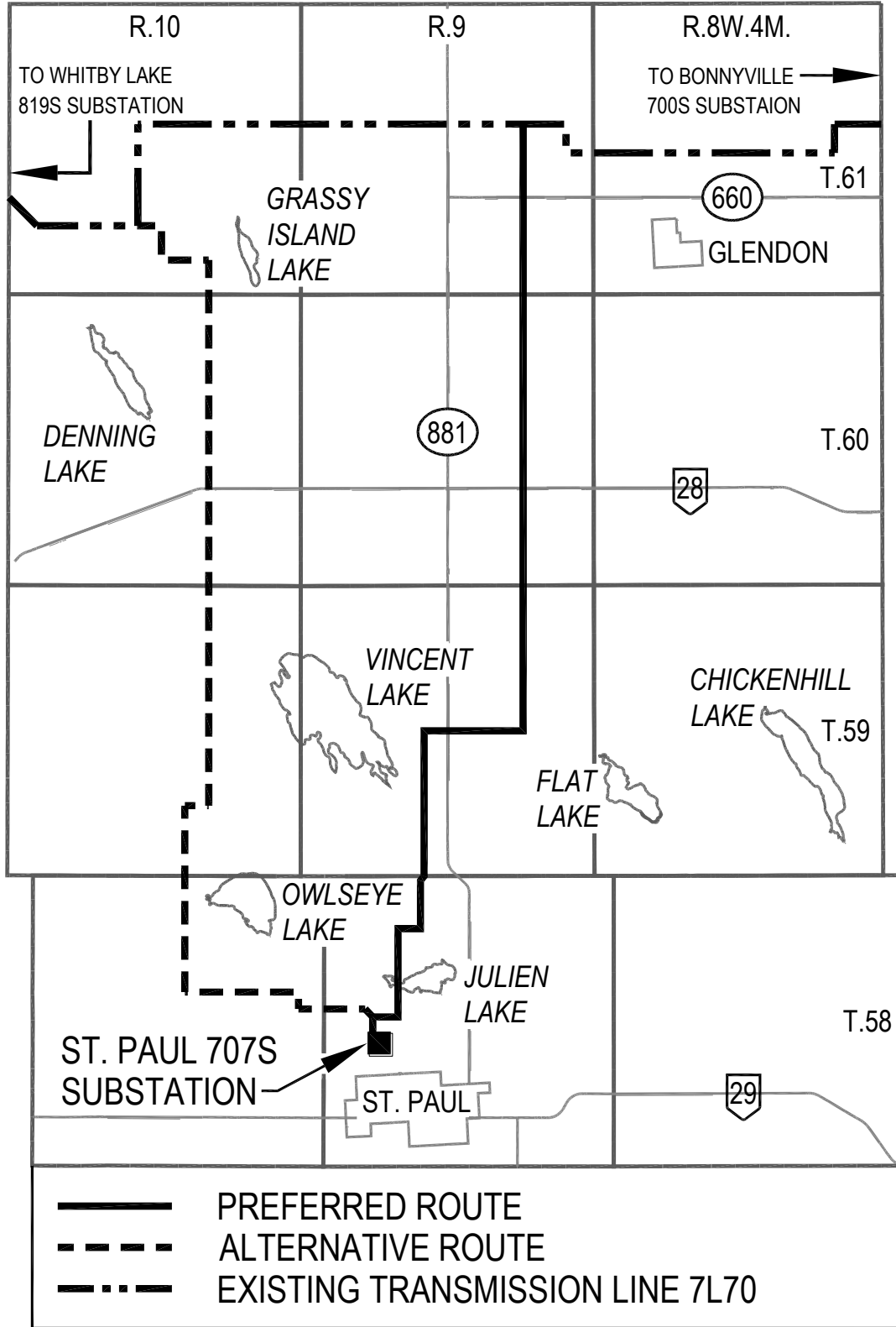


Figure 1 – St. Paul Transmission Project Proposed Route Map

2 Decision overview

5. In making its determinations for an application for transmission facilities, the Commission must consider all relevant factors, including the interests of the interveners and the interests of Albertans as a whole, to arrive at a decision which seeks to have the least overall adverse impact. As the Commission stated in Decision 2012-327:²

...the Commission does not weigh routing criteria individually. Rather it weighs all of the criteria together, and considers both the potential impact on individuals and on the larger community.³

6. In reaching the determinations set out in this decision, the Commission has considered all relevant materials comprising the record of this proceeding, including the evidence, argument, and reply argument provided by each party. Accordingly, references in this decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasoning relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record with respect to that matter.

7. The Commission finds that ATCO Electric's consultation and participant involvement program was consistent with the requirements of AUC Rule 007: *Applications for Power Plants, Substations, Transmission Lines, and Industrial System Designations* (AUC Rule 007). The Commission considers that adequate efforts were made by ATCO Electric to provide landowners and stakeholders with an opportunity to raise their concerns related to the project and the evidence before the Commission demonstrated that ATCO Electric was reasonably responsive to the concerns expressed.

8. Having considered the evidence submitted by the applicant and interveners, the Commission accepts that both the preferred and alternative transmission line routes are viable options. The criteria the Commission considered for each proposed route included routing considerations, effects on property, environmental effects, cost and social issues.

9. The Commission has determined, based on the criteria above, that the preferred route will result in a lower overall impact than the alternative route and on this basis approves the preferred route for the St. Paul Transmission Project, including the applied-for temporary workspace areas and permanent access trails. The Commission also approves the expansion and alteration of the St. Paul 707S substation and the two temporary bypass transmission lines.

3 Background

3.1 The process for new transmission development in Alberta

10. New transmission facilities that do not meet the definition of critical transmission infrastructure⁴ require two separate approvals from the AUC: an approval of the need for expansion or enhancement to the Alberta Interconnected Electric System pursuant to Section 34 of the *Electric Utilities Act*, and a permit to construct and licence to operate a transmission facility pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*.

² Decision 2012-327: AltaLink Management Ltd. – Western Alberta Transmission Line Project, Application No. 1607067, Proceeding ID No. 1045, December 6, 2012.

³ Decision 2012-327, paragraph 658.

⁴ *Electric Utilities Act*, Section 1(1)(f.1).

11. The Alberta Electric System Operator (AESO), in its capacity as the independent system operator established under the *Electric Utilities Act*, is responsible for preparing a needs identification document (NID) and filing an application for approval of the NID with the AUC pursuant to Section 34 of the *Electric Utilities Act*.

12. Facility applications are prepared by a transmission facility owner assigned by the AESO. In this case, ATCO Electric is the transmission facility owner in the service area around St. Paul. The transmission facility owner files the facility application with the Commission. The Commission may approve or deny the application or approve it subject to any terms or conditions it prescribes.

13. The Commission must consider whether a proposed transmission facility is in the public interest having regard to the social and economic effects of the transmission facilities and the effect of the transmission facilities on the environment in accordance with Section 17 of the *Alberta Utilities Commission Act*.

3.2 Central East Region Transmission System Development needs identification document approval

14. The AESO filed Application No. 1606218 on May 20, 2010, requesting approval of its NID for the Central East Region Transmission System Development (CETD). The AESO submitted that the need for the CETD is predominantly driven by load growth in the area and the need to connect future cogeneration and wind-powered generation. The AESO stated that the existing transmission system in the central east region is near its capacity and without any system upgrades, the present system would not be able to reliably supply projected load and connect proposed generation projects.⁵

15. The Commission held a public hearing for the CETD NID application on November 30, 2010 in Vermilion, Alberta. On February 10, 2011, the AESO's NID application was approved in Decision [2011-048](#)⁶ and NID Approval No. [U2011-57](#)⁷ was granted.

16. The AESO filed Application No. 1607984 on December 19, 2011, requesting approval of an amendment to NID Approval No. U2011-57, in the Willingdon/Watt Lake area. On March 27, 2013, the Commission approved the amendment in Decision [2013-123](#)⁸ and granted the AESO NID Approval No. [U2013-130](#).⁹ Stage 1, Section 1(b) of the NID approval states that the CETD project shall be comprised of:

⁵ Exhibit 1, Alberta Electric System Operator – Needs Identification Document Application: Central East Region Transmission System Development, Application No. 1606218, Proceeding ID No. 645, May 20, 2010.

⁶ Decision 2011-048: Alberta Electric System Operator – Needs Identification Document Application: Central East Region Transmission System Development, Application No. 1606218, Proceeding ID No. 645, February 10, 2011.

⁷ Needs Identification Document Approval No. U2011-57, Application No. 1606218, Proceeding ID No. 645, February 10, 2011.

⁸ Decision 2013-123: Alberta Electric System Operator – Central East Needs Document Amendment. ATCO Electric Ltd. – Watt Lake 956S Substation and Associated Transmission Lines Facility Application, Application No. 1607984, Proceeding ID No. 1632, March 27, 2013.

⁹ Needs Identification Document Approval No. U2013-130, Application No. 1607984, Proceeding ID No. 1632, March 27, 2013.

1. Bonnyville and St. Paul areas:
 - b) Convert the existing 72-kV St. Paul 707S substation (SE 17-58-9-W4) to 144-kV and connect it to the existing 144-kV transmission line 7L70 using an in-and-out configuration. Remove all 72-kV equipment at St. Paul 707S substation and install two 144/25-kV low-noise transformers at this site.

3.3 Overview of the facility application

17. ATCO Electric filed its facility application for the St. Paul Transmission Project (the project), registered as Application No. 1608654, on July 17, 2012. Subsequently, on April 11, June 14, October 10, and October 30, 2013, ATCO Electric filed four amendments to its facility application.¹⁰

18. The two major developments proposed are:

I. 144-kV transmission line 7L139/7L70:

- Construction of approximately 35 kilometres of a new double-circuit, 144-kV transmission line, to be designated as 7L139/7L70, between the existing St. Paul 707S substation and a tap point on the existing 144-kV transmission line 7L70.
- Alteration of the existing 144-kV transmission line 7L70, which currently connects the Whitby Lake 819S substation with the Bonnyville 700S substation, to allow the connection of the newly constructed transmission line and the St. Paul 707S substation.
- Designation of the portion of new and existing transmission line from the Whitby Lake 819S substation to the St. Paul 707S substation as 7L139, and designation of the portion of new and existing transmission line from the St. Paul 707S substation to the Bonnyville 700S substation as 7L70.
- Installation of a temporary single-circuit 144-kV transmission line to bypass a portion of 7L70 during construction.
- Installation of a temporary single-circuit 72-kV transmission line to bypass the St. Paul 707S substation during construction.

II. Expansion of and alterations to the St. Paul 707S substation:

- Addition of two 144/25-kV transformers, four 144-kV circuit breakers and one 46 metre telecommunications tower and associated communications equipment.
- Removal of three 72-kV transformers, three 25-kV voltage regulators and four 72-kV circuit breakers.
- Expansion of the substation fenced area by 26 metres to the west. The St. Paul 707S substation is located in the southwest quarter of Section 17, Township 58, Range 9, west of the Fourth Meridian (SW 17-58-9-W4).

¹⁰ Exhibits 95, 115, 151, and 161 respectively.

19. The first amendment to the facility application included a realignment along a common portion of the preferred and alternative routes and two realignments along the preferred route. ATCO Electric stated these route realignments were proposed in response to consultation feedback, in consideration of topographical features, and in order to meet setback requirements for planned County of St. Paul road developments on Range Road 95. The amendment also included a temporary bypass single-circuit 144-kV transmission line at the proposed preferred route connection point and a temporary bypass single-circuit 72-kV transmission line at the St. Paul 707S substation site which would temporarily alter existing 72-kV transmission lines 6L79 and 6L82.
20. The first amendment also included the temporary workspace areas and permanent access trails required for construction and maintenance of the preferred and alternative routes.
21. The second amendment proposed a realignment along the preferred route, the object of which was to reduce tree clearing requirements and consequently reduce impacts to cross-country ski trails.
22. The third amendment proposed two realignments along the alternative route and one realignment along the preferred route. ATCO Electric stated these route realignments were proposed to minimize agricultural impacts and to meet setbacks requested by the County of St. Paul to accommodate future road development. The amendment also included a temporary bypass single-circuit 144-kV transmission line at the proposed alternative route connection point.
23. The fourth amendment proposed a realignment along a portion of the preferred route in an effort to minimize agricultural impacts.

3.4 Interventions

24. The Commission issued a notice of application for the project on January 8, 2013, requesting anyone who wished to express their objections to, concerns about, or support of the application, to file a statement of intent to participate by February 4, 2013. The notice was published in the St. Paul Journal on January 15, 2013. The notice was mailed directly to all landowners, residents and other interested parties residing within 800 metres of the St. Paul 707S substation or the edge of the proposed transmission line rights-of-way for both the preferred and alternative routes. Among other things, the notice outlined a brief description of the proposed project and provided the date, time and location of the AUC information session, information on what to include in and how to file submissions, a brief description of the AUC decision making-process and contact details.
25. In response to the notice of application, the Commission received 26 statements of intent to participate from individuals, families and landowner groups.¹¹ Additionally, one party registered an objection prior to the issuance of the notice of application,¹² one party had a statement of intent to participate submitted on its behalf during the course of the hearing¹³ and the County of St. Paul registered in the proceeding to clarify it had no route selection

¹¹ This number of statements does not include multiple submissions from the same party and, because some group members filed individual statements while others did not, is not indicative of the number of persons who registered to participate in the hearing.

¹² Exhibit 52.01, Statement of Intent to Participate from Lakes Ranch Ltd., registered November 19, 2012

¹³ Exhibit 185.01, Statement of Intent to Participate from Ronald Cooknell, registered November 7, 2013.

preference.¹⁴ Six statements of intent to participate were withdrawn prior to the commencement of the hearing and three members of groups who had not filed individual statements of intent to participate withdrew from their groups.

26. Participants, including individuals and corporations, who may be directly and adversely affected by the Commission's decision on an application are entitled to participate in a public hearing. Such persons are said to have standing to participate in the process. Standing before the Commission is determined under subsection 9(2) of the *Alberta Utilities Commission Act*, which states:

9 (2) If it appears to the Commission that its decision or order on an application may directly and adversely affect the rights of a person, the Commission shall

- (a) give notice of the application in accordance with the Commission rules,
- (b) give the person a reasonable opportunity of learning the facts bearing on the application as presented to the Commission by the applicant and other parties to the application, and
- (c) hold a hearing.

27. On May 22, 2013, the Commission issued its ruling,¹⁵ which granted standing to those persons who had demonstrated that they had rights that may be directly and adversely affected by the Commission's decision on the facility application. Pursuant to subsection 9(2) of the *Alberta Utilities Commission Act*, the Commission held a hearing to consider the concerns of the registered parties with standing.

3.5 Notice of hearing

28. The Commission issued a notice of hearing and application amendments for the project on May 23, 2013,¹⁶ advising that a hearing on this application would be held in St. Paul, Alberta, commencing on August 27, 2013. The notice also stated that ATCO Electric had filed an amendment to the application on April 11, 2013, and provided details of the amendment. The notice was distributed and published by:

- mail or email directly to registered parties
- mail to registered land title holders within 800 metres of the proposed transmission facilities rights-of-way for whom updated contact information became available subsequent to the issuance of the notice of application
- publication in the St. Paul Journal on May 28, 2013
- publication on the AUC website

29. Subsequent to the issuance of the notice of hearing, the Residents for Alternative, Fair Transmission Reinforcement (RAFTR) and The Launch Group (TLG) filed adjournment requests. The RAFTR group and TLG requested revisions to the hearing schedule and filed a motion to adjourn the hearing because counsel and consultants were not available, and to also accommodate the needs of farmers in light of the harvest season. On June 19, 2013, in order to

¹⁴ Exhibit 92.01, Statement of Intent to Participate from County of St. Paul No. 19, registered March 27, 2013.

¹⁵ Exhibit 103.01.

¹⁶ Exhibit 104.01.

accommodate the availability of participants, the Commission issued a ruling¹⁷ rescheduling the hearing to November 5, 2013, and the process steps preceding the hearing.

30. On July 4, 2013, the Commission issued a revised notice of hearing and application amendment for the project,¹⁸ which advised that the date of the hearing had changed and that ATCO Electric had filed an amendment to the application on June 14, 2013, for a route realignment along the preferred route. The revised notice of hearing was distributed by mail or email directly to registered parties and published on the AUC website.

31. Prior to the hearing, TLG filed a letter requesting that the Commission attend the land parcels of the members of the group to view a number of unique topographical sites in order to assist the Commission members in their deliberations. On October 25, 2013, the Commission advised the parties that while it could not guarantee that it would be able to attend all parcels of all registered parties, it would conduct a view of the project area along both the preferred and alternative routes in accordance with Section 5 of AUC Rule 001: *Rules of Practice*.

3.6 Hearing

32. The hearing commenced on November 5, 2013, at the St. Paul Recreation Centre in St. Paul, Alberta before a Commission panel comprised of Panel Chair Anne Michaud, Commission Member Kay Holgate and Acting Commission Member Kate Coolidge. The hearing ended after the conclusion of oral arguments by all parties on November 7, 2013.

33. A list of all registered parties in this proceeding, including those who did not appear in person at the hearing, is provided in Appendix A to this decision report. All statements of intent to participate filed by registered parties were considered by the Commission in reaching its decision.

34. Several parties attended the public hearing in St. Paul and gave evidence. All registered interveners with standing along the preferred route who filed statements of intent to participate attended the hearing or had a representative attend on their behalf. A complete list of hearing participants is attached to this decision report in Appendix B. To assist readers of this decision, the Commission has included the following brief introduction to the landowners and residents who participated orally in the public hearing.

35. The Launch Group (TLG) is comprised of 14 families¹⁹ who are landowners along the proposed preferred route. Seven members of TLG, Ms. Mariejeanne Brousseau, Ms. Sharon Champagne, Mr. Wayne Cooknell, Ms. Diane Dargis, Mr. Terry Gadowski, Ms. Valerie Pratch, and Ms. Suzanne Pruneau, appeared at the hearing and gave evidence. Four members of TLG, Mr. Claude Brousseau, Ms. Ellen Cartier, Mr. Fernand Dargis, and Ms. Valerie Gadowski, appeared on the TLG panel, but did not testify at the hearing. The members of TLG and their respective land locations are listed in Table 1 below.

¹⁷ Exhibit 117.01.

¹⁸ Exhibit 123.01.

¹⁹ Members and land locations are as listed in TLG's evidence filed on September 9, 2013, as Exhibit 136. Subsequently, former TLG members David and May Noel and Gabriel Hebert withdrew their objections and are not listed in the above table or counted in group membership numbers. Further, former TLG member the Hutterian Brethren Church of Manville withdrew its objection prior to submission of TLG evidence.

Table 1. TLG members

Name(s)	Land location(s)
Brousseau, Claude and Mariejeanne	W ½ 22-59-9-W4
Cartier, Roger and Lloyd's Rentals (St. Paul) Ltd.	NW 29-58-9-W4
Champagne, Sharon	N ½ 9-59-9-W4
Cooknell, Wayne and Arlene	E ½ 29-58-9-W4
Dargis, Fernand and Diane	S ½ 23-60-9-W4
Gadowski, Valerie and Terry	SW 29-58-9-W4
Hebert, Rodrique and Hebert, Tanya	S ½ 11-61-9-W4, SW 2-60-9-W4
Pederson, Alan	N ½ 23-59-9-W4, SW 23-59-9-W4
Pratch, Aline	N ½ 20-58-9-W4
Pratch, Darren and Valerie	S ½ 20-58-9-W4
Pruneau, Suzanne	SW 29-58-9-W4
Reilly, Sue	NE 28-58-9-W4
Richardson, Darren and Sharon	SW 29-58-9-W4
VanBrabant, Jerico and Youry	SW 9-59-9-W4

36. Although not a member of TLG, Mr. Pierre Lamoureux appeared with the panel of TLG and gave evidence on behalf of the Lakeland Cross-Country Ski Club which uses land owned by a TLG member on the east half of 29-58-9-W4.

37. Ms. Gail Plante, Mr. Jacques Plante, Ms. Louise Plante, and Mr. Roger Plante (collectively the Plante family) appeared at the hearing and gave evidence. The Plante family lands are located in the vicinity of the St. Paul 707S substation and along both the preferred and alternative routes. The Plante family's two residences are located in NE 8-58-9-W4, however, the Plantes were particularly concerned with potential effects to their lands located in the south half of 18-58-9-W4.

38. The Residents for Alternative, Fair Transmission Reinforcement group (RAFTR) is comprised of 28 families²⁰ who are landowners along the proposed alternative route. Nine members of RAFTR, Ms. Coralee Beaulieu, Mr. Lyle Hovelkamp, Ms. Anita MacKinnon, Ms. Carmella Riske, Ms. Lillian Sparks, Ms. Diana Zellweger, Mr. Henry Zellweger, Mr. Paul Zellweger, and Ms. Ursula Zellweger, appeared at the hearing and gave evidence. Further, Mr. Mark Beaulieu and Ms. Laura Ostapovich appeared at the hearing and made a statement on behalf of Mr. Lawrence Ostapovich who did not testify at the hearing. Two family members of RAFTR members, A. Hovelkamp and Mr. James Riske, appeared on the RAFTR panel but did not give evidence. The members of the RAFTR group and their respective land locations are listed in Table 2 below.

²⁰ Members and land locations are as listed in RAFTR's evidence filed on September 9, 2013, as Exhibit 133. Subsequently, former RAFTR members John and Marie Labant, withdrew their objections and are not listed in the above table or counted in group membership numbers. Further, former RAFTR members AaronJoe Kiss, Vanessa Semeniuk, and Raymond Ayotte withdrew their objections or left the group prior to the submission of RAFTR evidence.

Table 2. RAFTR members

Name(s)	Land location(s)
Beaulieu, Mark and Coralee	NW 2-59-10-W4
Berlinguette, Michel	S ½ 34-58-10-W4, N ½ 27-58-10-W4, SW 3-59-10-W4
Brouseau, Joffre	SE 2-61-10-W4
Brousseau, Susanne and Martin	SE 35-59-10-W4
Christenson, Allan and Denise	NE 2-60-10-W4
Corbiere, Richard and Charlene	SE 35-60-10-W4
Dubeau, Real	NW 2-59-10-W4
Hovelkamp, Derek and Julie	SE 23-58-10-W4
Hovelkamp, Lyle	NE 14-58-10-W4
Labant, Eugene and Jodi	SW 27-58-10-W4
Labant, Victor	SW 28-58-10-W4
Labine, Charles and Leona	SE 27-58-10-W4
Lilje, Milton	W ½ 23-59-10-W4
Lilje, Neil	SE 22-59-10-W4
MackInnon, Anita	NE 2-59-10-W4
Michaud, Gerry	SE 23-60-10-W4, SE 35-60-10-W4
Muchka, Brian and Joanne	SE 24-58-10-W4
Ostapovich, Lawrence	NW 14-59-10-W4
Piquette, Cheryl and Fern	NW 11-59-10-W4
Platz, Ron and Cheryl	NW 18-58-9-W4
Riske, Carmella	SW 2-59-10-W4
Scales, Deanna	SW 14-60-10-W4
Sparks, Gary and Lillian	SE 14-59-10-W4
St Arnault, Aime and Yvonne	W ½ 13-58-10-W4
Swedgan, Elsie	NE 13-58-10-W4
Weinmeier, Almer	NE 15-60-10-W4
Zellweger, Harry and Ursula	SW 2-59-10-W4, NE 2-59-10-W4, S ½ 23-58-10-W4, SW 24-58-10-W4
Zellweger, Paul and Diana	NE 11-59-10-W4 NE 14-59-10-W4

4 The public interest

39. When considering an application to construct or operate a transmission facility, the Commission is required by Section 17 of the *Alberta Utilities Commission Act* to consider whether the proposed project is in the public interest, having regard to its social and economic effects, and the effects of the project on the environment. In interpreting the term “public interest”, the Commission is mindful of Decision 2009-028²¹ which states:

The Commission recognizes that there is no universal definition of what comprises the “public interest” and that its meaning cannot be derived from strictly objective measures. The Commission acknowledges that the ultimate determination of whether a particular

²¹ Decision 2009-028: AltaLink Management Ltd. Transmission Line from Pincher Creek to Lethbridge, Application No. 1521942, Proceeding ID No. 19, March 10, 2009.

project is in the “public interest” will largely be dictated by the circumstances of each transmission facility application.

In the Commission’s view, assessment of the public interest requires it to balance the benefits associated with upgrades to the transmission system with the associated impacts, having regard to the legislative framework for transmission development in Alberta. This exercise necessarily requires the Commission to weigh impacts that will be experienced on a provincial basis, such as improved system performance, reliability, and access with specific routing impacts upon those individuals or families that reside or own land along a proposed transmission route as well as other users of the land that may be affected. This approach is consistent with the EUB’s historical position that the public interest standard will generally be met by an activity that benefits the segment of the public to which the legislation is aimed, while at the same time minimizing, or mitigating to an acceptable degree, the potential adverse impacts on more discrete parts of the community.

...

When assessing whether AltaLink’s proposed route is in the public interest, the Commission must weigh the benefits described above with the site specific impacts that will be experienced by landowners and residents along the proposed route as well as others that may be impacted. The Commission understands that these impacts are real and may be significant. Transmission towers are large structures that may obscure scenery, impact agricultural operations, and may have an influence on land use and development plans. The Commission expects transmission facility owners to take all reasonable steps to avoid such impacts but acknowledges that despite the use of sound routing and planning practices such impacts are sometimes truly unavoidable given the nature of transmission lines. Where such impacts are truly unavoidable, the Commission expects that the Applicant would explore all reasonable steps to mitigate those impacts.²²

5 Issues

40. In the Commission’s view, the application and interventions raise the following issues:

- Does ATCO Electric’s participant involvement program meet the requirements of AUC Rule 007?
- Is approval of either the preferred or the alternative transmission line route described in the application in the public interest?

41. To address the second issue, the Commission compared the respective social, economic and environmental impacts of the two route alternatives proposed by ATCO Electric. The factors examined and compared in this analysis were consistent with those examined and compared in many previous decisions of the Commission and its predecessors. Specifically, the Commission considered each route from the following perspectives: routing considerations, effects on property, environmental effects, cost, and social issues.

²² Decision 2009-028, paragraphs 32, 33, and 35. The reference in this quote to the EUB is to the Alberta Energy and Utilities Board (predecessor to the AUC).

6 Public consultation

6.1 Views of ATCO Electric

42. ATCO Electric testified that it undertook an extensive and comprehensive consultation program in accordance with Section 7 and Appendix A of AUC Rule 007. ATCO Electric stated that the objective of its consultation program was to provide persons who may be affected by the project with project-specific information, and opportunities to voice their concerns and ask questions. ATCO Electric asserted that it undertook its consultation activities with a commitment to work with potentially impacted parties and resolve issues, where practicable.²³

43. ATCO Electric stated that its program actually exceeded the requirements set out in AUC Rule 007 because it not only notified parties within 800 metres of any route under consideration but endeavoured to consult with those parties as well.²⁴

44. ATCO Electric provided details of its consultation program in its participant involvement program description,²⁵ landowner consultation records for TLG,²⁶ and for RAFTR,²⁷ including the community meeting minutes between ATCO Electric and members of the RAFTR group, correspondence with Alberta Environment and Sustainable Resource Development (AESRD),²⁸ and updated consultation logs and reference materials for TLG, RAFTR and the Plante family.²⁹ ATCO Electric asserted that the consultation logs demonstrated a sequence of multiple rounds of consultation with increasingly detailed project information³⁰ and ongoing opportunities for consultation between ATCO Electric and landowners.³¹

45. In addition to the multiple rounds of consultation, ATCO Electric held an open house in St. Paul on March 16, 2011. ATCO Electric stated that open house invitations were included in the project notification packages and the event was advertised in the local newspaper, the St. Paul Journal, for three consecutive weeks. Subsequently, ATCO Electric hosted two landholder-requested group meetings in St. Paul (April 30, 2012 and October 11, 2012) and hosted a full-day project information session in St. Paul on June 19, 2013. ATCO Electric also stated that it distributed a special project update in November 2012 to respond to concerns about the need for the project and confusion about the regulatory process.³²

46. ATCO Electric developed four preliminary route options between the St. Paul 707S substation and existing transmission line 7L70. Following preliminary consultation, in response to feedback from landowners and further analysis of routing criteria, three of the four preliminary route options were rejected. The fourth preliminary route was slightly modified and became the proposed preferred route while one of the rejected routes was used to develop a fifth route which was proposed as the alternative route in the second round of consultations.³³ The alternative route was created in response to feedback from landowners and, while similar to the

²³ Exhibit 156.01, Rebuttal Evidence, page 16.

²⁴ Transcript, Volume 3, page 602.

²⁵ Exhibit 25, Participant Involvement Program – Attachment 3.

²⁶ Exhibit 128.02, Landowner Consultation Records for TLG.

²⁷ Exhibit 129.02, Landowner Consultation Records for the RAFTR.

²⁸ Exhibit 128.12, Correspondence with Alberta Sustainable Resource Development.

²⁹ Exhibit 156.06.

³⁰ Transcript, Volume 3, page 604.

³¹ Exhibit 156.01, Rebuttal Evidence, paragraph 55.

³² Exhibit 156.01, Rebuttal Evidence, paragraph 58.

³³ Exhibit 27, Application, paragraphs 46-49.

most western rejected preliminary route, had fewer objections and was further from the nearest occupied residence.³⁴

47. ATCO Electric stated that in July 2012, immediately prior to filing the application, it completed a comprehensive update of its project participant database by reviewing and updating land title data to identify changes in ownership or other new interests.³⁵

48. ATCO Electric specified that all feedback regarding the project was documented and reviewed by project team members during the planning process.³⁶ The information collected on forms was input into an electronic consultation tracking system. ATCO Electric testified that to ensure accuracy there were several stages of audits of the information in the system and as the project progressed further feedback from parties was captured and the system updated.³⁷

49. ATCO Electric asserted that interveners were concerned about consultation not because they had not been consulted, but because their positions regarding routing and compensation had not been accepted by ATCO Electric. ATCO Electric argued that it was responsive to landowner concerns as demonstrated by the various route modifications filed as amendments to the application.³⁸

50. ATCO Electric provided information on its consultation with parties regarding lands in the south half of SW 9-59-9-W4. ATCO Electric stated that it spoke with a representative of the owner of this land, 364665 Alberta Ltd., in March and June of 2012, and the owner did not provide any indication that the property was for sale. In October 2012, TLG members Jerico and Youry VanBrabant identified themselves to ATCO Electric as the new owners of this land. ATCO Electric stated that the land title certificate³⁹ shows that the land was purchased by the VanBrabants on August 27, 2012.

51. ATCO Electric testified that while the number of residences was current at the time of filing the application, subsequently the VanBrabants had constructed a new residence, another residence had been newly constructed, and a third residence, a mobile home, had been missed. ATCO Electric testified that once these residences were identified, it consulted with the residents and that the two new parties indicated they had no objections.⁴⁰

52. ATCO Electric gave testimony regarding consultation with the Plante family, particularly with respect to the lands directly west of the substation in SE 18-58-9-W4. Until March 2012, ATCO Electric consulted with the landowner of that particular land, Mr. Charron, and was not aware that the Plante family had purchased the property from Mr. Charron. As evidence of this, ATCO Electric submitted records from its consultation with Mr. Charron.⁴¹ The April 19, 2011 record showed that in the first round of consultation Mr. Charron indicated that no other owners

³⁴ Exhibit 27, Application, paragraph 52.

³⁵ Exhibit 156.01, Rebuttal Evidence, paragraph 98.

³⁶ Transcript, Volume 3, page 606.

³⁷ Transcript, Volume 2, pages 244 and 245.

³⁸ Transcript, Volume 3, page 603.

³⁹ Exhibit 156.01, Rebuttal Evidence, paragraph 98.

⁴⁰ Transcript, Volume 1, pages 137 and 138.

⁴¹ Exhibit 171.01 and Exhibit 172.01.

or interest holders needed to be contacted about the project. The March 7, 2012 record noted that the land was “currently being sold to Roger Plante”.⁴²

53. ATCO Electric argued that while the Plantes may not have been notified directly about the routing of the line until March 2012, they were aware of the project because of the lands they own located east of the substation. ATCO Electric stressed that the consultation process with the Plantes was effective because a potential east alignment out of the substation, one of the preliminary routes, was rejected in response to feedback it received from the Plantes in the first round of consultation.⁴³

54. ATCO Electric testified that during the first round of consultation, the mosaic maps presented to landowners were to make people aware of the locations of the line and to initiate discussions. Representatives that met with landowners were there to provide further details about the exact position of the route if it could not be determined from the mosaic maps. ATCO Electric testified that the specific routing of the transmission line on the west side of Range Road 95 was communicated to Mr. Charron during the first round of consultations in 2011 as evidenced on the consultation records. ATCO Electric also pointed out that the February 2012 project update sent to the Plantes included a map that showed the transmission line running along Range Road 95 and, while the level of detail did not indicate on which side of the road the transmission line was to be routed, it did not indicate that the transmission line would not be on the west side of the road.⁴⁴

55. In March 2012, when designs were finalized later in the process and coincident with the notification of the telecommunications tower, a map showing the routing of the transmission line on the west side of the road was sent to the Plantes.⁴⁵ ATCO Electric stated that the distribution of this project update was the kickoff to the second round of consultations.

56. The Plante lands were impacted by ATCO Electric’s first application amendment which realigned the transmission line route two metres further west on their land. ATCO Electric’s consultation logs indicate that the Plantes were mailed a letter and map notifying them of this amendment on March 19, 2013.⁴⁶

57. On April 4, 2013, Gail Plante, on behalf of Roger and Louise Plante, informed ATCO Electric that any future project discussions should go through their counsel, Mr. Darryl Carter, but that they should continue to receive mailed public notification documents. ATCO Electric explained that telephone calls made to the Plantes following their request not to be contacted were only for access to the land to do route surveys which, in its view, would benefit all parties involved with route decision-making.⁴⁷

58. ATCO Electric explained that the individual concerns expressed by any one stakeholder were weighed against the overall input received from everyone consulted on the project and balanced with the other factors ATCO Electric considers in its route-selection process.

⁴² Exhibit 172.01.

⁴³ Transcript, Volume 3, page 592. See also Transcript, Volume 2, page 303, lines 3-6 and page 304, lines 6-18.

⁴⁴ Transcript, Volume 1, page 58, lines 6-19.

⁴⁵ Transcript, Volume 1, pages 65-68.

⁴⁶ Exhibit 156.06, Rebuttal Evidence, Appendix 5, pdf pages 737 and 833-840.

⁴⁷ Exhibit 156.01, Rebuttal Evidence, paragraph 136.

59. ATCO Electric further argued that its inability to fully satisfy every landowner's expectations and eliminate all objections does not indicate a failure to carry out a comprehensive and complete consultation program.⁴⁸

60. ATCO Electric testified that consultation activities have been ongoing and will continue as the project moves forward. It made a commitment to work with the Gadowski family to find an alternative construction access if the preferred route were approved.⁴⁹ ATCO Electric also committed to ensure landowners are provided with further construction information, including logistics and scheduling, and that it will have experienced employees in the field as landowner construction liaisons.⁵⁰

6.2 Views of interveners

61. The RAFTR group argued that mail outs and telephone calls do not fulfill the purpose of consultation. The group equated the routing of the transmission line across its lands on the alternative route to expropriation and argued that landowners must have an opportunity to understand what is being proposed on their land. The group asserted that ATCO Electric had not provided any of the group members with individual ownership plans and consequently they were not able to establish whether impacts to their lands would be appropriately mitigated.⁵¹

62. Members of TLG, particularly Jerico and Youry VanBrabant, were concerned with the thoroughness of ATCO Electric's public consultation program. The VanBrabants purchased their property along the preferred route on August 27, 2012,⁵² at which time they stated they were not aware of the proposed transmission line development. They questioned ATCO Electric's due diligence when it came to pulling land titles to see if there were changes of ownership. They also claimed that ATCO Electric had failed to identify three residences on maps in the fall of 2012.

63. The Plante family asserted that the consultation from ATCO Electric was insufficient. The Plantes testified that in March 2012, ATCO Electric became aware that they had purchased land at SE 18-58-9-W4 from Mr. Charron and they "found out the power line was crossing Range Road 95 onto our 5.5 acres".⁵³

64. The Plantes submitted that they should have been contacted earlier. They explained that they had assumed the line would be on the east side of Range Road 95 because an existing transmission line runs on the east side of the road. The Plantes stated that ATCO Electric should have consulted with them personally on the routing of the line on the west side of the road and provided them with a detailed map instead of relying on landowners reading the project information mail out of March 2012, which they received in April 2012.⁵⁴

65. The Plantes asserted that the ATCO Electric representative they met with in March 2012 informed them he did not have any more information and would have to refer them to someone else. The Plantes added that they did not have any further consultation with ATCO Electric after that, but that there was an exchange of email correspondence between their counsel and counsel for ATCO Electric with respect to the Plantes' request to meet with ATCO Electric to discuss a

⁴⁸ Transcript, Volume 3, page 606.

⁴⁹ Transcript, Volume 3, page 718, lines 21-25.

⁵⁰ Transcript, Volume 1, page 28.

⁵¹ Transcript, Volume 3, pages 690 and 691.

⁵² Exhibit 156.01, Rebuttal Evidence, paragraph 98.

⁵³ Transcript, Volume 2, page 326.

⁵⁴ Transcript, Volume 2, page 324.

resolution. In that regard, the Plantes testified that they viewed the response their counsel obtained from ATCO Electric negatively because they perceived it to “shut the door” on them.⁵⁵

66. The Plantes also pointed out that the February 2011 project information package⁵⁶ mailed to them mistakenly stated that the existing St. Paul 707S substation would be extended to the east rather than the west.⁵⁷

6.3 Commission findings

67. The Commission finds that ATCO Electric’s consultation and participant involvement program was consistent with the requirements of AUC Rule 007 and adequate in the circumstances. The Commission commented on its public consultation requirements and expectations in Decision 2011-436⁵⁸ (the Heartland Decision):

283. The Commission also finds that the individual concerns raised by interveners do not necessarily mean that the applicants failed to meet the prescribed public consultation requirements provided in AUC Rule 007. To some degree, consultation is an extension and enhancement of the requirement to notify parties that may be directly and adversely affected by the Commission’s decision on an application. In the Commission’s view, effective consultation achieves three purposes. First, it allows parties to understand the nature of a proposed project. Second, it allows the applicant and the intervener to identify areas of concern. Third, it provides a reasonable opportunity for the parties to engage in meaningful dialogue and discussion with the goal of eliminating or mitigating to an acceptable degree the affected parties concerns about the project. If done well, a consultation program will improve the application and help to resolve disputes between the applicant and affected parties outside of the context of the hearing room.

284. The Commission acknowledges that even a very effective consultation program may not resolve all intervener concerns. This is not the fault of the applicant or the intervener; it merely reflects the fact that the parties do not agree. With this in mind, the Commission will consider a consultation program to be effective if it meets AUC Rule 007 requirements and has allowed interveners to understand the project and its implications for them, and to meaningfully convey to the applicant their legitimate concerns about the project.⁵⁹

68. It is evident from the record that ATCO Electric began its consultation program early in its application development process and included various stages of participant involvement which consisted of early discussions at the program initiation stage, public notification at open houses and multiple rounds of consultations. In addition, the record shows that ATCO Electric attempted to provide potentially affected stakeholders with sufficient information to understand the project and its potential implications and sufficient opportunity to express concerns about the proposed development.

69. The Commission considers that the contents of the participant involvement program, which includes a list of specific concerns raised by participants, the correspondence with AESRD, and consultation logs and reference materials for TLG, RAFTR and the Plantes reflect

⁵⁵ Transcript, Volume 2, page 319, lines 1-6.

⁵⁶ Exhibit 156.06, pdf page 749.

⁵⁷ Transcript, Volume 1, page 80, lines 9-17.

⁵⁸ Decision 2011-436, AltaLink Management Ltd. and EPCOR Distribution & Transmission Inc., Heartland Transmission Project, November 1, 2011.

⁵⁹ Decision 2011-436, paragraphs 283 and 284.

adequate efforts by ATCO Electric to provide landowners and stakeholders with an opportunity to raise their concerns relating to the preferred route, the alternative route and expansion of the substation. The evidence before the Commission demonstrates that ATCO Electric attempted to respond to landowner concerns.

70. The RAFTR group members testified that mail outs and telephone calls do not fulfill the purpose of consultation. In this regard, the Commission is cognizant of ATCO Electric's efforts to conduct meaningful consultation as evidenced by the minutes of the meeting⁶⁰ held between ATCO Electric and members of the RAFTR group. There were 24 attendees on behalf of the RAFTR group and eight attendees on behalf of ATCO Electric. The contents of those minutes, which summarize key concerns shared by the RAFTR group, individual concerns related to the project and ATCO Electric's responses, demonstrate that landowners did have an opportunity to raise and discuss their concerns on various aspects of the right-of-way planning process with a panel of ATCO Electric experts.

71. Although the Plantes testified that ATCO Electric's consultation efforts were insufficient, the Commission must consider what is on the record of the proceeding. ATCO Electric's consultation form for Mr. Dennis Charron, dated April 19, 2011, shows that ATCO Electric conducted a first round of consultation, which included a personal consultation on the preliminary route options with Mr. Charron, the property owner at that time. The consultation form signed by Mr. Charron shows boxes that are marked "no" next to the questions of whether there are occupied residences on the property or other owners or interest holders that should be contacted.

72. The Plantes had other land interests in the vicinity of this area, and the evidence shows that they received the initial project information package, including the proposed mosaic maps, in February 2011, and were consulted with in person in April 2011. Subsequently, in February 2012, the Plantes were sent the project update documents, which also included a proposed route mosaic.

73. The Plantes also questioned whether ATCO Electric discussed the location of the route on the west side of Range Road 95 with the previous owner of SE 18-58-9-W4. Mr. Charron's signed comment form of April 19, 2011, indicated he would object to "N/S route (A37-B34) through farmyard."⁶¹ This route (A37-B34) on the Preliminary Route Mosaic Map 2 is the segment of line exiting the St. Paul 707S substation and heading north. Mr. Charron's objection to this route going through his farmyard indicates that he was aware of the proposed route being on the west side of Range Road 95.

74. Also in evidence is the fact that a typographical error in the February 2011 project information package mistakenly provided that the existing St. Paul 707S substation would be expanding to the east rather than to the west. However, the subsequent February 2012 project update package mailed to landowners, including the Plantes, correctly stated that the planned expansion was to the west. The Commission is satisfied that this error was corrected and finds that because the expansion, whether east or west, remains within ATCO Electric's substation site boundary, this error did not render its consultation ineffective in this regard.

⁶⁰ Exhibit 129.03, ATCO Electric Responses to RAFTR Information Requests, Appendix 1 - Reference Materials, pdf page 36.

⁶¹ Exhibit 171.01, Comment form, April 19, 2011.

75. Based on the evidence on the record, it was not until March 2012 that ATCO Electric was informed of Mr. Charron's intention to sell his property to the Plantes.⁶² The Commission is satisfied that once ATCO Electric became aware of the Plantes' purchase, ATCO Electric initiated its consultation efforts with the Plantes with respect to the property located at SE 18-58-9-W4.

76. The Commission acknowledges the concern raised by the Plantes that a subsequent follow-up may not have been conducted in a timely manner. However, there is some indication⁶³ that communication was ongoing between ATCO Electric and Mr. Carter on behalf of the Plantes. Specifically, on June 6, 2013, counsel for ATCO Electric informed Mr. Carter that ATCO Electric would meet with the Plantes to discuss their concerns with the project. Although sensitive to the Plantes' testimony that they interpreted the contents of this email negatively, the Commission does not agree that the correspondence was intended to preclude further consultation.

77. While the Commission appreciates that the Plantes wanted to receive a detailed map showing the routing of the transmission line specific to their lands located across the road from the St. Paul 707S substation, the substation site map included in the March 9, 2012 project information mailer⁶⁴ clearly showed the proposed routing of the line. In these circumstances, it is not unreasonable to expect potentially affected parties to carefully read project information that is mailed to them.

78. The Commission has also taken into consideration the fact that ATCO Electric's consultation efforts will continue as the project moves forward and that it has committed to provide further construction information, including logistics and scheduling to landowners who may be impacted. The Commission expects that ATCO Electric will follow through with its commitment to work with the Gadowski family to address their concerns and find an alternative construction access if reasonably practicable.

79. The Commission finds that the efforts made by ATCO Electric to ensure that there were multiple avenues for landowners to obtain information or contact a person at ATCO Electric meet the requirements of AUC Rule 007.

80. It is also satisfied that ATCO Electric was reasonably responsive to the concerns expressed by stakeholders with respect to the proposed routes. ATCO Electric investigated four preliminary route options for this proposed project which were presented to stakeholders and subject to preliminary stages of consultation. Three route options were rejected as a result of consultation feedback and because of general routing constraints, while the fourth was modified slightly to become the preferred route. The alternative route was a new route created in response to feedback from landowners during consultation and was similar to the most western rejected preliminary route.

81. Having regard to the foregoing, the Commission finds that ATCO Electric's consultation and participant involvement program meets the regulatory requirements of AUC Rule 007.

⁶² Exhibit 172.01, Transcript, Volume 1, page 61 at lines 8-14.

⁶³ Exhibit 173.01, Email Correspondence between Bennett Jones LLP and Darryl Carter & Company.

⁶⁴ Exhibit 156.06, pdf page 782.

7 Preferred route versus alternative route

7.1 Routing considerations

82. ATCO Electric proposed a preferred and an alternative route for the St. Paul Transmission Project, but is seeking approval of only one route. Although both routes originate at the St. Paul 707S substation and terminate at the existing 144-kV transmission line 7L70, they have different connection points to the existing transmission line.

83. The preferred route exits west out of the existing St. Paul 707S substation and crosses Range Road 95 where it runs north for 600 metres. This first portion is the only common alignment between the preferred and alternative routes.

84. The preferred route then turns east for 800 metres to a slight offset from the centre of the section in 17-58-9-W4, where it turns and heads north for four kilometres. It then turns east for 800 metres in the southwest corner of SW 32-58-9-W4, before turning north for 1.6 kilometres. It turns east in the southwest corner of SW 4-59-9-W4 for 90 metres before turning north along the quarter-section line for 5.6 kilometres. It turns eastward at 21-59-9-W4 for 3.2 kilometres, before finally turning northward again at 23-59-9-W4, where it follows the quarter-section line for 18.4 kilometres before tapping into the existing 144-kV transmission line 7L70 in 14-61-9-W4. A temporary bypass will be constructed in the south portion of 23-61-9-W4.

85. As mentioned above, the alternative route also exits west out of the existing St. Paul 707S substation and crosses Range Road 95 where it runs north for 600 metres. The alternative route then turns northwest and travels cross-country for 200 metres before turning west for 2.25 kilometres paralleling the quarter-section line. At 13-58-10-W4, it deflects north for 800 metres before turning west along the section line for 3.2 kilometres. Between 22-58-10-W4 and 15-58-10-W4 it turns north for 7.2 kilometres. In the northwest of SE 10-59-10-W4 it turns east for 800 metres, then turns north again for 18 kilometres, then heads west for 1.6 kilometres along the quarter-section line. It heads north for 800 metres, then heads west for 800 metres before tapping into the existing 144-kV transmission line 7L70 to the east of Range Road 103 at NW 3-61-10-W4. A temporary bypass will be constructed in SE 9-61-10-W4 and SW 10-61-10-W4.

86. In the first amendment to its application,⁶⁵ ATCO Electric requested the inclusion of the temporary workspace areas and permanent access trails for the preferred and alternative routes. These areas and trails are discussed in Section 7.6 of this decision.

7.1.1 Views of ATCO Electric

87. In its application, ATCO Electric stated that the general criteria used in the transmission line routing process include the following:

- minimizing impacts with other land uses, such as residences, built-up areas, oil and gas facilities, and airstrips
- utilizing existing linear disturbances to minimize new disturbance and clearing, following existing power lines where practical

⁶⁵ Exhibit 95.01.

- following existing road rights-of-way, where practical, for access to reduce new clearing and to avoid impacts to the environment
- following quarter and section lines, wherever possible, to minimize impacts to agriculture
- keeping routes as straight as possible to reduce line length and costly corner structures
- minimizing length along environmentally sensitive areas, such as watercourses, recreation areas, parks, campgrounds and wildlife habitat
- minimizing length through wet areas and steep slopes for better access and to reduce environmental impacts
- ensuring all electrical system constraints and considerations are respected.⁶⁶

88. ATCO Electric submitted that its decision to select a route was based upon a balancing of all the metrics or criteria noted above. Mr. Smart, on behalf of ATCO Electric, stated that it tends to minimize proximity to residences and follow property boundaries as much as it can to minimize residential and agricultural impacts. He added that environmental considerations are also a key consideration.⁶⁷

89. The study area that ATCO Electric investigated is located in St. Paul County No. 19 and the Municipal District of Bonnyville No. 87. The study area was generally bounded on the west by Lower and Upper Mann Lake, to the east by Range Road 485, to the north by Township Road 614, and to the south by Highway 29.

90. ATCO Electric developed four north-south preliminary routes, focused on blind lines, quarter-section lines, and county-developed and undeveloped road allowances, in the study area between the St. Paul 707S substation and existing 144-kV transmission line 7L70. These preliminary routes were developed using information collected through field surveys, aerial surveys, and GIS-based analysis. ATCO Electric also considered six road allowance alignments, but rejected the potential alignments because of residential impacts.

91. ATCO Electric stated that its route development process included input received from stakeholders during consultation which was used to develop and select the preferred and alternative routes. The alternative route was developed following consultation on the preliminary routes and was a modification of the western-most preliminary route.⁶⁸

92. ATCO Electric submitted that the preferred route was selected as the preferred route among other preliminary routes considered because it was more acceptable to stakeholders and minimized impacts to residences. While ATCO Electric believes that the preferred route is the superior route, it is also prepared to construct the alternative route should it be approved. In his opening statement, Mr. Boven, on behalf of ATCO Electric, stated that both the preferred and alternative routes meet the public interest.⁶⁹

⁶⁶ Exhibit 26, Application, pages 15-16, paragraph 41.

⁶⁷ Transcript, Volume 2, page 246, lines 21-25 and page 247.

⁶⁸ For clarity regarding the number of routes, ATCO Electric developed four preliminary routes and following consultation developed a fifth route which would become the alternative route. ATCO Electric also initially analyzed the feasibility of six different routes along road allowances but these routes were deemed not viable so they were not presented to stakeholders as preliminary routes.

⁶⁹ Exhibit 166.01, page 3 and Transcript, Volume 1, page 32.

93. Mr. Boven stated that although both the preferred and alternative routes are feasible options, the preferred route is superior because it has fewer residences within 150 metres and within 400 metres, has fewer major turns, is shorter, has a lower project cost and a lower overall environmental impact.⁷⁰

94. In its application, ATCO Electric summarized key routing metrics used to evaluate the preferred and alternative routes, as well as the three rejected preliminary routes.⁷¹ At the hearing it provided an updated summary table of routing metrics for the preferred and alternative routes only.⁷²

95. ATCO Electric argued that the four route amendments were further signs of its responsiveness to address stakeholder concerns.⁷³

96. The closest occupied residence on the preferred route is approximately 60 metres from the right-of-way, whereas the closest occupied residence on the alternative route is approximately 100 metres from the right-of-way. The preferred route has fewer residences in proximity to the right-of-way than the alternative route for each of the distances measures. The preferred route has one compared to two residences within 100 to 150 metres of the right-of-way, six compared to 13 residences within 150 to 400 metres of the right-of-way, and 57 compared to 59 within 800 metres of the right-of-way.

97. ATCO Electric submitted that 16 of the 57 landowners with residences within 800 metres of the preferred route right-of-way were objecting, whereas 23 of the 59 landowners with residences within 800 metres of the alternative route right-of-way were objecting. The nearest residence with an objection on the preferred route is located 307 metres from the right-of-way, whereas the nearest residence with an objection on the alternative route was located 96 metres from the right-of-way.⁷⁴

98. The length of the transmission line is 35.71 kilometres for the preferred route and 36.39 kilometres for the alternative route. Both routes are sited primarily across private land.

99. The transmission line right-of-way contains 39.0 hectares of cultivated land for the preferred route and 22.3 hectares of cultivated land for the alternative route. There are also 17.0 hectares and 28.4 hectares of pasture land within the right-of-way of the preferred and alternative routes, respectively. ATCO Electric stated that its definition of pasture land came from the interpretation of pre-classified land types taken from satellite imagery and that pasture land does not require that farm animals be pastured on it.⁷⁵ According to ATCO Electric's application of routing criteria, routing on pasture land is more favourable than routing on cultivated land.⁷⁶

100. ATCO Electric stated that burying the transmission line would be prohibitively expensive and was rarely considered except in dense urban geography.⁷⁷ Mr. Martin added that maintenance

⁷⁰ Exhibit 166.01, page 5 and Transcript, Volume 1, page 34.

⁷¹ Exhibit 26, Page 23, Table 10 – Summary of 7L139/7L70 Route Options.

⁷² Exhibit 189.01, Undertaking 4 – Update to Table 10 from the facility application.

⁷³ Transcript, Volume 3, page 601.

⁷⁴ Exhibit 181.01, Undertaking 3.

⁷⁵ Exhibit 129.01, Information Request RAFTR-ATCO-19 and Transcript, Volume 1, pages 207 and 208.

⁷⁶ Exhibit 26, page 23, Table 10 – Summary of 7L139/7L70 Route Options.

⁷⁷ Exhibit 156.01, pages 13 and 14, paragraph 43 and Exhibit 129.04, Information Response RAFTR-ATCO-25.

of underground transmission lines can be environmentally damaging and that there are particular environmental sensitivities to having an underground cable near watercourses.⁷⁸ ATCO Electric did not propose to bury any portion of the transmission line.

101. ATCO Electric committed to burying a portion of an existing distribution line located on the west half of 33-58-9-W4 because of an alignment conflict and visual concerns from the resident located approximately 63 metres from the preferred route. ATCO Electric stated that burying the distribution line is more cost effective than understringing the proposed new transmission line and also mitigates the landowner's visual concerns.⁷⁹

102. ATCO Electric stated that a portion of the existing 72-kV transmission line right of-way was considered for routing but was rejected because of high residential density, road allowance setbacks, and clearance requirements. ATCO Electric noted that transmission line 6L82 will no longer be used as a transmission line but is planned to be put in service as a distribution line.⁸⁰ In response to questions from counsel for TLG, Mr. Smart stated that transmission line 6L82 was currently providing power to St. Paul, consequently system and operational constraints restricted ATCO Electric's ability to remove transmission line 6L82 and put the proposed new transmission line in its place. He added that the transmission line 6L82 right-of-way was not wide enough to accommodate the new transmission line.⁸¹

103. Mr. Smart stated that ATCO Electric did not consider a route paralleling the existing 72-kV transmission line 6L82 right-of-way beyond the first three quarter sections north of the St. Paul 707S substation because after that point there is a large number of residences in close proximity. Additional routing constraints included road allowance setbacks and clearance requirements. He noted that the 6L82 transmission line also heads east and would therefore add significant line length.⁸²

104. ATCO Electric also proposed an upgrade to the existing St. Paul 707S substation that would include removing the 72-kV infrastructure and replacing it with 144-kV infrastructure. The upgrade would require the expansion of the fenced area of the substation 26 metres to the west, but still within ATCO Electric's substation property boundary.

105. In response to questions from counsel regarding the Plantes' assumption that the transmission line near their property would be routed on the east side of Range Road 95 because an existing transmission line runs on the east side of the road, Mr. Smart stated that this was not a fair conclusion to reach. He pointed out that the preliminary routes went both east and west of Range Road 95, consequently an assumption could not be made either way.⁸³ ATCO Electric submitted that its decision to route along the west side of Range Road 95 was based on its evaluation of the alignment exiting the St. Paul 707S substation and on its conclusion that the alignment that best met the routing criteria is on the west side, considering the existing transmission line and residence on the east side of Range Road 95.⁸⁴

⁷⁸ Transcript Volume 2, pages 277 and 278.

⁷⁹ Exhibit 68.01, Information Response AUC-ATCO-16, Exhibit 98.01, Information Response AUC-ATCO-32 and Exhibit 129.01, Information Response RAFTR-ATCO-24.

⁸⁰ Exhibit 98.01, AUC-ATCO-34.

⁸¹ Transcript, Volume 1, pages 115-119.

⁸² Transcript, Volume 1, pages 125-129.

⁸³ Transcript. Volume 1, page 83, lines 8-14.

⁸⁴ Transcript. Volume 1, page 90, lines 6-25.

7.1.2 Views of interveners

106. RAFTR questioned ATCO Electric on burying the transmission line during the information request stage.⁸⁵ A number of interveners also spoke about routing the transmission line underground at the hearing. Mr. Beaulieu, who spoke on behalf of Mr. Ostapovich, stated that the transmission line should be buried to reduce effects on wildlife.⁸⁶ Mr. Cooknell stated that the transmission line should be buried because the extra cost could be divided up by many people over a long period of time and burying the line would reduce impacts on the community.⁸⁷ Ms. Pruneau stated that having the transmission line underground would be beneficial for environmental, health and esthetic reasons.⁸⁸ Ms. Zellweger expressed her preference for the line to be buried along the existing right-of-way, meaning the 72-kV transmission line 6L82, so that a new transmission line “isn’t pushed onto anybody”.⁸⁹

107. At the hearing, Ms. Beaulieu doubted the accuracy of ATCO Electric’s land classification. Ms. Beaulieu clarified that her land was made up of some pasture and some cropland, and was not all pasture as indicated by ATCO Electric.⁹⁰

108. Counsel for RAFTR argued that ATCO Electric’s definition of the term pasture could be applied broadly, to include someone’s yard, therefore it only indicated an alternative land use to cultivation and should not be used to determine a route preference.⁹¹

109. Counsel for TLG questioned ATCO Electric on its consideration of a route along the existing 72-kV transmission line 6L82 right-of-way. In particular, he questioned why ATCO Electric only considered paralleling the line for the first three quarter sections north of the St. Paul 707S substation.⁹²

110. The Plantes, who own land on the west side of Range Road 95 across from the St. Paul 707S substation, stated that they assumed that the transmission line would be routed on the east side of Range Road 95 because an existing transmission line runs on the east side of the road. The Plantes’ stated that they were not able to determine which side of the road the transmission line was proposed because of lack of detail on the maps provided by ATCO Electric.⁹³

7.1.3 Commission findings

111. The Commission finds that the general routing criteria applied by ATCO Electric were consistent with those applied in previous transmission line developments. It is also satisfied that ATCO Electric reasonably applied previously accepted routing principles in its assessment of the initial study area and its identification of route alternatives.

112. Although ATCO Electric’s definition of pasture is broad, it is a result of limitations of data available for high-level routing.

⁸⁵ Exhibit 127.02, Information Request RAFTR-ATCO-25. (For response see Exhibit 129.04).

⁸⁶ Transcript, Volume 1, page 511.

⁸⁷ Transcript, Volume 2, pages 369 and 370.

⁸⁸ Transcript, Volume 2, page 375 and 376.

⁸⁹ Transcript, Volume 3, page 529.

⁹⁰ Transcript, Volume 3, pages 518-520.

⁹¹ Transcript, Volume 3, page 695.

⁹² Transcript, Volume 1, pages 125-129.

⁹³ Transcript, Volume 2, pages 326 and 327.

113. The lengths of the preferred route and alternative route are very similar, with a difference of 0.68 kilometres. As such, the Commission finds that neither route is favoured over the other in this regard.

114. There are seven residences on the preferred route and 15 on the alternative route between 100 and 400 metres of the rights-of-way. Additionally, there are 57 residences on the preferred route and 59 on the alternative route within 800 metres of the rights-of-way. Therefore, the distribution of residences in proximity to the line slightly favours the selection of the preferred route.

115. Given the magnitude of the expected additional costs for an underground transmission line and the non-urban nature of the study area, it was reasonable for ATCO Electric to not propose an underground option in this proceeding.

116. Lastly, the Commission finds that ATCO Electric sufficiently demonstrated its rationale for not routing parallel to or in place of the existing 72-kV transmission line 6L82 because of system and space constraints.

7.2 Effects on property

117. The Commission received evidence and heard testimony on various potential effects of the proposed transmission lines on the property of landowners, leaseholders and residents. These potential effects include impacts on agricultural operations, weed control, the spread of noxious weeds and plant diseases, property value and future development.

7.2.1 Views of ATCO Electric

118. ATCO Electric stated that an important land use in the project area is agriculture and acknowledged that the project had the potential to impact this land use. ATCO Electric submitted that “it endeavors to route transmission lines, where reasonable, along the boundary of a field, running along quarter lines, or next to existing linear features where structures will have the least possible impact on farming operations.”⁹⁴

119. ATCO Electric retained Serecon Valuations, Inc. to prepare an agricultural impact assessment entitled *High Voltage Transmission Line Agricultural Impact Assessment*⁹⁵ (the Serecon agricultural impact report). The Serecon agricultural impact report evaluated the potential impacts a transmission line may have on agricultural operations during both the construction and operational phases of the project and outlined measures to mitigate these impacts.⁹⁶

120. ATCO Electric provided updated information at the hearing on agricultural lands crossed by the proposed transmission line. The total area of cultivated land crossed by the preferred route is 39.0 hectares, compared with 22.3 hectares on the alternative route. The total area of pasture land crossed by the preferred route is 17.0 hectares, compared with 28.4 hectares on the alternative route.⁹⁷

⁹⁴ Exhibit 156.01, Rebuttal Evidence, paragraph 12.

⁹⁵ Exhibit 110.01, pdf page 133-208.

⁹⁶ Exhibit 110.01, pdf pages 136 and 137.

⁹⁷ Exhibit 189.01, Undertaking 4.

121. ATCO Electric stated that when reasonable, construction activities are avoided during preferred fieldwork periods, such as seeding, harvesting, and cultivation.⁹⁸ ATCO Electric testified it will endeavour to construct during winter months when frozen-ground conditions will minimize construction impacts and, in the event of delays or unusually warm winter conditions, to utilize rig mats where appropriate.⁹⁹

122. ATCO Electric stated that it will repair any damage to fences or provide compensation for crop or fence damage associated with construction activities where applicable, adding that it pays annual compensation to address ongoing impacts arising from the placement of structures on agricultural land.¹⁰⁰

123. ATCO Electric addressed weed control concerns by stating that vegetation cover typically establishes under and immediately around structures which reduces or negates the need for weed control in their vicinity. It explained that annual compensation is intended, in part, to compensate landholders fully for their inconvenience and the cost of controlling weeds under the structures.¹⁰¹

124. To limit the risk of the spread of noxious weeds and clubroot, ATCO Electric stated that it had “adopted the best management practice identified under the Government of Alberta, Alberta Clubroot Management Plan and incorporated it into its Best Management Practice – Crop Disease Protection”.¹⁰² The details of this practice were submitted as Appendix N¹⁰³ to the environmental protection plan¹⁰⁴ filed on June 7, 2013. In accordance with its best management practice, ATCO Electric stated that it would “work with landowners and local Agricultural Fieldmen to determine appropriate measures to be employed by ATCO Electric to ensure that the risk of spread of noxious weeds and clubroot is appropriately mitigated”¹⁰⁵ and specified that its best management practice would apply to all construction and operational activities.¹⁰⁶ ATCO Electric noted that the equipment cleaning practices in its best management practice are also expected to address landowners’ other weed control concerns.¹⁰⁷

125. ATCO Electric stated it would adhere to, and implement, the organic farming mitigation measures identified in the Serecon agricultural impact report and is committed to working with landowners to develop vegetation control methods that are compatible with land use. ATCO Electric stated it would not apply herbicide without permission of the landowner.¹⁰⁸ ATCO Electric specified that it would ensure that chemicals used are acceptable for crops and vegetation found in close proximity,¹⁰⁹ and committed to using mechanical methods of right-of-way vegetation maintenance as opposed to chemical spraying or application where required in proximity to organic farming operations.¹¹⁰

⁹⁸ Exhibit 156.01, Rebuttal Evidence, paragraph 12.

⁹⁹ Transcript, Volume 3, page 612.

¹⁰⁰ Exhibit 91.01, Information Response AUC-ATCO_24(e)(ii).

¹⁰¹ Exhibit 25, Application, Attachment 3, paragraph 64.

¹⁰² Exhibit 156.01, Rebuttal Evidence, paragraph 15.

¹⁰³ Exhibit 110.01, pdf page 126.

¹⁰⁴ Exhibit 110.01, pdf page 30.

¹⁰⁵ Exhibit 156.01, Rebuttal Evidence, paragraph 16.

¹⁰⁶ Exhibit 156.01, Rebuttal Evidence, paragraph 19.

¹⁰⁷ Exhibit 156.01, Rebuttal Evidence, paragraph 18.

¹⁰⁸ Exhibit 156.01, Rebuttal Evidence, paragraph 88.

¹⁰⁹ Exhibit 156.01, Rebuttal Evidence, paragraph 88.

¹¹⁰ Exhibit 156.01, Rebuttal Evidence, paragraph 112.

126. With respect to the land owned and farmed by Darren and Valerie Pratch, ATCO Electric stated that ongoing consultation through each phase of construction will be undertaken with the Pratch family to ensure compliance with any organic certification of crops grown on their land in proximity to the proposed right-of-way.¹¹¹

127. ATCO Electric did not expect any harm or injuries to livestock within the project area during construction or operation of the transmission line. It explained that it intended to consult with landowners and utilize temporary fencing to segregate livestock during project construction. It also specifically stated, with respect to bison operations, that it had aligned its best practices to match the mitigation measures provided in the Serecon agricultural impact report.¹¹²

128. ATCO Electric stated that it was aware of potential effects of electric fields on honeybee populations; however, the predicted electric field for the proposed transmission line was below the level that would pose a concern.¹¹³ Nevertheless, ATCO Electric stated it will consult with the landowners and relocate honeybee hives as a mitigation measure, if required.¹¹⁴

129. ATCO Electric testified that one of the primary mitigation measures to minimize impacts on cultivated land is to route a transmission line along property boundaries. However, there are some locations along the proposed routes where this routing practice is not practical. ATCO Electric stated that in instances where ongoing impacts are unavoidable, it would compensate landowners through annual structure payments. The annual structure payment reflects the loss of time and efficiencies caused by having to farm around transmission structures, and includes allowances for overlap and reduced efficiencies of farming inputs and field operations. It also includes compensation for intangible matters, such as mitigation measures landowners may employ to reduce perceived risks, additional "wear-and-tear" and equipment setup time (e.g. GPS programming).¹¹⁵ ATCO Electric testified that the amount of compensation offered in association with annual structure payments is regularly tested by the Alberta Surface Rights Board and rates are adjusted on a periodic basis to be consistent with recent decisions rendered by that board.¹¹⁶

130. ATCO Electric recognized that along the proposed routes there are parcels of land that are farmed together as one (contiguously farmed). ATCO Electric stated that in those situations there is a higher level of impact because the boundary is not really a boundary at that point. Compensation for contiguously farmed land is based on a midfield transmission line alignment.¹¹⁷ Compensation rates differ between midfield and headland alignments.¹¹⁸

131. ATCO Electric provided an updated comparison of contiguously farmed pieces of land with objections on each route which stipulated that there are 15 pieces of land on the preferred route and 10 on the alternative route.¹¹⁹ ATCO Electric clarified that these numbers represent the number of individual quarter sections within the contiguously farmed pieces of land and that in a cross-cultivation scenario, there may be two or three quarter sections involved. Because

¹¹¹ Exhibit 156.01, Rebuttal Evidence, paragraph 92.

¹¹² Exhibit 156.01, Rebuttal Evidence, paragraph 23.

¹¹³ Exhibit 156.01, Rebuttal Evidence, paragraph 24.

¹¹⁴ Exhibit 156.01, Rebuttal Evidence, paragraph 102.

¹¹⁵ Exhibit 156.01, Rebuttal Evidence, paragraph 12.

¹¹⁶ Transcript, Volume 1, page 145.

¹¹⁷ Transcript, Volume 1, page 145.

¹¹⁸ Transcript, Volume 1, pages 147 and 148.

¹¹⁹ Exhibit 183.01, Undertaking Number 6.

cultivation scenarios can encompass multiple quarter sections, these numbers are equivalent to seven larger pieces of lands farmed contiguously on the preferred route and four larger pieces of land on the alternative route.¹²⁰

132. As stated in paragraph 99 of Section 7.1.1 above, ATCO Electric found routing on pasture lands more favourable than routing on cultivated land. ATCO Electric recognized that a greater portion of cultivated land is traversed by the preferred route, however, it asserted that it was confident that the mitigation measures that would be employed during construction and operation of the proposed transmission line would minimize the impacts to the largest extent reasonably possible and practical.¹²¹

133. ATCO Electric stated that staff dedicated to landowner relations would be available throughout construction and would ensure that commitments are fulfilled, and the impact of construction on landowners and residents is minimized.¹²²

134. ATCO Electric asserted that it anticipated minimal residual effects to land use following completion of construction, mitigation and remediation, and that compensation would be provided for any ongoing impacts to agricultural operations.¹²³

135. ATCO Electric stated that the transmission structures would not need guy wires, resulting in a relatively small structural footprint for each tower. The self-supporting corner structures would not utilize anchors. Consequently, ATCO Electric did not anticipate that these structures would cause any significant land-use impacts.¹²⁴

136. ATCO Electric stated that safety was a key concern raised by several interveners and that safety is a priority for it. It explained that the design of its overhead transmission lines complies with Canadian Standards Association Standard C22.3 and the *Alberta Electrical Utility Code* (Alberta Electric Code) and that operation of farm equipment around and under transmission lines is feasible.¹²⁵ The Alberta Electric Code requires the clearance for 144-kV lines to be a minimum of 6.2 metres.¹²⁶ ATCO Electric committed to “work with landowners to determine the most efficient location of structures where practicable to provide physical clearances that are safe across various types of access situations, allowing for agricultural patterns and topographical features.”¹²⁷

137. ATCO Electric explained that landowner liability and indemnity concerns are covered in its right-of-way agreements which contain a provision releasing landowners from liability arising from permitted use of the right-of-way, including the presence of farming equipment and livestock.¹²⁸

¹²⁰ Transcript, Volume 3, page 465.

¹²¹ Transcript, Volume 3, page 611.

¹²² Exhibit 91.01, Information Response AUC-ATCO_24(g).

¹²³ Exhibit 91.01, Information Response AUC-ATCO_24(g).

¹²⁴ Exhibit 156.01, Rebuttal Evidence, paragraphs 78 and 120.

¹²⁵ Exhibit 156.01, Rebuttal Evidence, paragraph 12.

¹²⁶ Exhibit 110.01, pdf page 143.

¹²⁷ Exhibit 156.01, Rebuttal Evidence, paragraph 12.

¹²⁸ Exhibit 128.01, Information Response TLG.ATCO-35 and Exhibit 156.01, Rebuttal Evidence, paragraph 14.

138. ATCO Electric added that it did not anticipate adverse impacts to property value from the project¹²⁹ and that any potential impact on property value for properties with a residence would diminish with increased distance from the transmission line.¹³⁰

139. At the hearing, ATCO Electric asserted that intervenor evidence on this issue consisted solely of landowner opinions. ATCO Electric argued that in Decision 2011-436¹³¹ (the Heartland Decision) the Commission stated that “where the nature of an issue is of scientific or technical nature, the Commission cannot accept opinion evidence from witnesses who are not experts in that field” and identified property valuation as an issue that required expertise in order to provide opinion evidence. ATCO Electric asserted that no expert evidence on the impact of transmission lines on property value was provided to the Commission in this proceeding.¹³²

140. ATCO Electric stated that it took into account concerns relating to potential future development raised by intervenors, but that it must consider existing and approved developments in order to determine appropriate routing.¹³³

141. Mr. Smart stated that the Plantes’ future subdivision plan, which was not concrete in terms of timing or certainty, was weighed by ATCO Electric and compared to the potential impacts of the transmission line on an existing residence north of the St. Paul 707S substation on the east of Range Road 95.¹³⁴ ATCO Electric stated that, first and foremost, it must have regard to existing development and that it did not agree with shifting the transmission line route from an undeveloped subdivision without a residence onto a developed subdivision with an existing residence.¹³⁵

142. Addressing the ability to access and excavate gravel on the Cooknell land at NE 29-58-9-W4, ATCO Electric pointed out during cross examination that the proposed transmission line right-of-way was not on the northeast quarter of Section 29, consequently, there would be no impact on extracting gravel.¹³⁶

7.2.2 Views of intervenors

143. TLG and the RAFTR group raised concerns with respect to effects on livestock, particularly bison and cattle herds, from disruptions during construction of the transmission line, contact with transmission line structures, and the use of chemicals for weed control around poles and along roadways.¹³⁷

144. Both groups stated their concern with respect to impacts on honeybee hives. The RAFTR group members Real and Tanya Dubeau have honeybee hives that Mark and Coralee Beaulieu allow to be located on their property in the northwest corner of 2-59-10-W4. TLG member

¹²⁹ Exhibit 25, Application, Attachment 3, paragraph 56.

¹³⁰ Exhibit 156.01, Rebuttal Evidence, paragraph 39.

¹³¹ Decision 2011-436, AltaLink Management Ltd. and EPCOR Distribution & Transmission Inc., Heartland Transmission Project, November 1, 2011.

¹³² Transcript, Volume 3, page 613.

¹³³ Exhibit 25, Application, Attachment 3, paragraph 47.

¹³⁴ Transcript, Volume 1, page 96.

¹³⁵ Transcript, Volume 3, pages 594 and 595.

¹³⁶ Transcript, Volume 2, page 399, lines 18-25 and page 400, lines 1-2.

¹³⁷ Exhibit 128.01, Information Responses TLG-ATCO-31 to TLG-ATCO-34.

Mr. Cooknell testified that there are honey bee hives on his property that are within 100 metres of the proposed preferred route.¹³⁸

145. TLG members expressed concerns about the impact to farming operations, particularly with regard to equipment operation around transmission structures. At the hearing, members of TLG stated they were concerned about the added time, effort and costs involved in farming and maneuvering equipment around transmission structures and the additional need for weed control around the towers.

146. Both groups stated they were concerned about the safety of individuals using the lands around the transmission line.

147. TLG and the RAFTR group stated that construction of the proposed transmission line could introduce noxious weeds and crop diseases, such as clubroot, to the St. Paul area. They were also concerned that chemical weed control could result in the loss of organic operator status. The potential impacts to organic farming were of particular concern to Eugene and Jodi Labant, Victor Labant and Darren and Valerie Pratch.

148. Mr. and Mrs. Pratch explained that they presently plant a specialty crop called *Rhodiola rosea* L. Site selection for growing *Rhodiola rosea* requires land without aggressive perennial weeds, invasive spreading weeds, or annual weeds with prolific seed production. The land should be free of any use of chemicals in order to not jeopardize organic status.¹³⁹ Mrs. Pratch testified that they intend to obtain organic status, but have not yet done so.¹⁴⁰

149. Both groups raised concerns with respect to impacts on cultivated fields and, more specifically, the bisection of quarter sections of land that are farmed contiguously.

150. TLG argued that, compared to cultivated land, pasture land used for grazing is less impacted by barriers such as fences. TLG asserted that transmission line structures are barriers that would impair the cultivation of their lands. TLG contended that there was a disproportionate agricultural impact on landowners on the preferred route over landowners on the alternative route because there were more contiguously farmed quarter sections of land with objections on the preferred route.¹⁴¹ TLG argued that the area of cultivated land on the preferred route favoured approval of the alternative route.

151. TLG also argued that the RAFTR group had not provided evidence that its members farmed contiguous parcels of cultivated land.¹⁴²

152. In argument, counsel for the RAFTR group stated that not all members of the RAFTR group appeared on the witness panel at the hearing and that the group's evidence submission¹⁴³ indicated that members of the group owned large portions of land used for farming and agricultural pursuits.¹⁴⁴

¹³⁸ Transcript, Volume 2, page 368, lines 17-24.

¹³⁹ Transcript, Volume 2, page 351, lines 1-14.

¹⁴⁰ Transcript, Volume 2, page 410, line 25 and page 411, lines 1-2.

¹⁴¹ Transcript, Volume 3, pages 651 and 652.

¹⁴² Transcript, Volume 3, page 652.

¹⁴³ Exhibit 133.01.

¹⁴⁴ Transcript, Volume 3, page 706, lines 11-25.

153. The RAFTR group also argued that the comparison of the area of cultivated land to pasture land along the two proposed routes should not be used to determine a route preference given that ATCO Electric's definition of pasture land is any land that is not crop land or open water.¹⁴⁵

154. TLG asserted that ATCO Electric did not provide any evidence to back up its claims that potential losses of farm revenue are minimized and accounted for in its compensation program; and that the best evidence before the Commission on the possible impact of the line on cultivated land came from the members of TLG.¹⁴⁶

155. Both groups and the Plantes raised concerns about the potential negative impact the proposed transmission line would have on property values and future development plans.

156. TLG member Diane Dargis testified that a local realtor told her that the transmission line would devalue their land by 30 per cent. Ms. Dargis asserted that they would face financial hardship because they had purchased their land to fund their retirement and if the preferred route were approved, a third of their land base would be devalued.¹⁴⁷ She was also concerned that should the preferred route bisect their two quarter sections, future land use and property development would be limited. Ms. Dargis argued that the visual impact of the transmission line alone would limit the future possibility of selling their land as an acreage.

157. Mr. and Ms. Pratch, TLG members, stated that they were deeply concerned about extensive studies on the decrease in property value due to the installation of transmission lines and asserted that because one quarter section of their land already had two power lines along the perimeter, adding a third line would make the property even less appealing.¹⁴⁸ Ms. Pratch testified that they had future plans for the property to be a homestead for their children.¹⁴⁹

158. Ms. Pratch also stated that their land along the preferred route was prime agricultural land and that installation of a transmission line at this time could limit next-generation agricultural land use. She asserted that even though ATCO Electric would pay to compensate for the location of the line during the present time, this did not compensate for future agricultural development which could occur on the land.¹⁵⁰

159. Ms. Pratch testified that they had plans to build a residence to provide housing for their foreign workers on their property at NE 20-58-9-W4. She asserted that the only suitable location for housing on that piece of land is the flat area in the very northeast corner which would be 50 metres from the proposed preferred route.¹⁵¹

160. TLG member Mr. Terry Gadowski asserted that when a property's sole use is residential with recreational influences, its vulnerability to price impacts from the intrusion of a transmission line increases.¹⁵²

¹⁴⁵ Transcript, Volume 3, page 695, lines 14-25.

¹⁴⁶ Transcript, Volume 3, page 640.

¹⁴⁷ Transcript, Volume 2, page 384.

¹⁴⁸ Exhibit 136.01, pdf page 108.

¹⁴⁹ Transcript, Volume 2, page 353.

¹⁵⁰ Transcript, Volume 2, page 353.

¹⁵¹ Exhibit 136.01, pdf page 107 and Transcript, Volume 2, page 413.

¹⁵² Transcript, Volume 2, page 345.

161. Mr. Wayne Cooknell, a TLG member, expressed his concern that the proposed transmission line right-of-way along the west side of NE 29-58-9-W4 would prevent him and the Pruneaus from being able to access and excavate gravel on their property in the future, which could result in a financial loss.

162. Carmella Riske, a RAFTR member, stated that she was a joint owner of the land at SW 2-59-10-W4 and though there is currently no residence on the property, her family had future plans to build a home on the three-acre parcel in the southwest corner of the section. Ms. Riske asserted that if the proposed alternative route were built, the subdivided acreage would be rendered useless and their dream would be destroyed because the home would be less than 100 feet from the line.¹⁵³

163. Ms. Beaulieu, also a member of the RAFTR group, testified that one of the factors in their decision to purchase their land was the potential for the future development of a bed and breakfast.

164. The Plantes expressed concern about the effect of the transmission line on property value as it related to their future development plans. The Plantes explained that the previous owner of SE 18-58-9-W4 had removed fencing and cleaned up a portion of the property that was subdivided into a 5.5-acre parcel of land.¹⁵⁴ They considered this to be a prime acreage given that it is only 1.5 kilometres from the main street of St. Paul and town water and sewer are only 100 metres away from the property. When they purchased the property, they had planned to sell the acreage to decrease the principal on the loan. They stated that the proposed routing of the line on the west side of Range Road 95 would result in tree removal and the construction of corner structures on the acreage. They felt this would result in high visibility of both the line and existing substation from the acreage, diminish the property value, and result in financial hardship for them since they would not be able to sell the acreage property.

7.2.3 Commission findings

165. The potential property effects addressed by parties were impacts on agricultural operations, weed control, the spread of noxious weeds and plant diseases, property value and future development.

166. The Commission finds that ATCO Electric's practice of routing transmission lines along the boundary of fields, along quarter lines, or near existing linear disturbances is an appropriate mitigation measure to reduce the impact on farming operations. The Commission accepts that agricultural impacts of farming or ranching around structures can be minimized by the mitigation measures outlined in the Serecon agricultural impact report and where impacts are unavoidable, loss of efficiencies may be addressed through annual compensation payments. The Commission is satisfied that with the application of the proposed mitigation measures outlined in the Serecon agricultural impact report and other mitigation measures provided by ATCO Electric, the agricultural impacts of the proposed transmission line will be adequately addressed.

167. Given that there is a greater area of cultivated lands within the right-of-way of the preferred route, the agricultural impacts may be slightly higher on the preferred route. However, because the proposed measures are expected to mitigate agricultural concerns, the Commission does not consider that this factor favours one route over the other.

¹⁵³ Exhibit 138.02, pdf page 2.

¹⁵⁴ Transcript, Volume 2, page 328, lines 20-22.

168. The Commission recognizes landowner concerns regarding weed control and the potential introduction of noxious weeds and soil-borne diseases, such as clubroot. However, the Commission expects that ATCO Electric's best management practice combined with the measures outlined in the Serecon agricultural impact report and the environmental protection plan will mitigate such impacts and expects ATCO Electric to adhere to the recommendations outlined therein.

169. In evaluating the potential effect of the proposed transmission line on property value, the Commission is cognizant of the need to differentiate between expert opinion evidence and lay witness evidence. The Commission explained this in the Heartland Decision, which stated:

85. For the most part, the lay witnesses at the Heartland hearing testified about how the Heartland project may affect them, their families and in some cases, their businesses. For example, the Commission heard evidence from a number of farmers regarding how approval of the project on their lands might affect their farming operations. While this evidence included opinion evidence, that evidence was relevant and necessary for the Commission to hear to be able to accurately assess how approval of the proposed transmission line might affect those operations. Accordingly, the Commission accepted as relevant the opinion evidence of many lay witnesses in coming to its decision on the application.

86. However, a number of lay witnesses also provided opinion evidence on issues or matters of a scientific or technical nature. Where the nature of an issue is of scientific or technical nature, the Commission cannot accept opinion evidence from witnesses who are not experts in that field.

87. For example, many lay witnesses expressed concern about property devaluation. In their evidence, some witnesses provided an opinion on how much value their properties would lose if the proposed project was approved. Property valuation is a complex and technical issue that requires specialized knowledge and expertise, and several expert witnesses appeared at the hearing to address this issue. While the Commission can take into account the fact that the lay witnesses were concerned about losing value on their property and the fact that these concerns caused them stress, it could not give any weight to their opinion evidence on how much value their property may lose unless they were able to establish that they possessed the skill, knowledge and experience necessary to establish themselves as an expert. In such a case, the value and weight of that evidence would have to be considered in light of the independence of the source of the information and the opinion itself, as discussed below.¹⁵⁵

170. Members of TLG and the RAFTR group as well as the Plantes were concerned with the transmission line's potential impact on the value of their property. In this proceeding, no expert evidence was filed with respect to this issue and the evidence given was brief and in the nature of a personal opinion. There was no evidence on the record of this proceeding to allow the Commission to determine whether there may be a negative effect on the value of lands on or near the proposed transmission line routes.

171. Plans for future development by interveners are in the concept stage and the intention to develop is not evidenced by any formal plans, designs, permits or approvals. To add to the uncertainty, plans for future development may change depending on the economy or a change of circumstances for the potential developer. To consider any of these contemplated development

¹⁵⁵ Decision 2011-436, paragraphs 85-87.

projects at this time would be speculative. The Commission accepts ATCO Electric's assertion that it must balance any plans for future development with important considerations of what is actually approved at that time or in fact under development.¹⁵⁶ There was no evidence on the record of this proceeding to refute ATCO Electric's assertion that it had not received plans or regulatory permits evidencing development from any of the interveners.

172. Having considered the various potential effects on property discussed above, the Commission finds that there is no distinguishing factor that would favor the selection of one route over the other.

7.3 Environmental considerations

173. ATCO Electric, TLG and the RAFTR group submitted expert opinion evidence on the various environmental considerations of the proposed routes and the proposed mitigation measures.

7.3.1 Views of ATCO Electric

174. ATCO Electric retained EBA Engineering Consultants Ltd. (EBA) to perform an environmental evaluation of the project and prepare a report (the EBA report).¹⁵⁷ The EBA report described the environmental setting of the project area including wetlands and waterbodies, terrain and soils, vegetation, and wildlife components; discussed the potential effects of the project on these environmental components; and identified measures¹⁵⁸ that would mitigate the potential adverse effects of the project on these components. The EBA report was based on desktop data and stated that field surveys would be completed at a later date to supplement the desktop data, verify the accuracy of the report's impact predictions, and develop additional mitigation measures to be included in the project's environmental protection plan.

175. The EBA report acknowledged that the project has the potential to impact wildlife species of management concern and species at risk. However, it concluded that, with the implementation of the identified mitigation measures, the impacts of the project on each of the environmental components assessed were rated as low in magnitude and not significant. The report also concluded that the preferred route has several advantages over the alternative route from a biodiversity perspective, including crossing a lower percentage of forested and pasture areas, and using a higher amount of industrial areas.

176. The EBA report identified 59 protective notations (PNTs)¹⁵⁹ within the project area, of which two PNTs are located within the alternative route right-of-way and two PNTs are crossed by the preferred route right-of-way.¹⁶⁰ To mitigate potential effects on PNTs, ATCO Electric stated that all disturbances will be restricted to the extent required to allow for safe construction and operation of the project. Specifically, grading will be limited to the amount required to allow for access and safe operation of all equipment and vehicles; vehicular traffic and equipment will

¹⁵⁶ Exhibit 156.01, Rebuttal Evidence, paragraph 67.

¹⁵⁷ Exhibit 27, Application – Attachment 2, Environmental Evaluation Report, June 2012.

¹⁵⁸ These environmental protection measures are described in further detail in the Environmental Protection Plan for the Central East Transmission Development submitted as Attachment 2 to Exhibit 110.01 on June 4, 2013.

¹⁵⁹ Protective Notations (PNTs), usually called reservations, are placed by public agencies in consultation with the public land manager. They identify land and resources that are managed to achieve particular land use or conservation objectives. (Described as such in ATCO Electric's Environmental Protection Plan: Exhibit 27, pdf page 15, Section 2.17.)

¹⁶⁰ Exhibit 27, Application, Attachment 3 - Environmental Evaluation Report, pdf page 22, Section 4.3.8.

be limited to use within the approved right-of-way and specified temporary workspaces; and construction equipment will enter right-of-way lands in a clean condition to limit the potential for introduction of weeds or diseases.¹⁶¹

177. The EBA report identified certain mapped and coded watercourses within the project area under the *Alberta Code of Practice – St. Paul Management Area* (Alberta Environment 2006) including the Dog Rump Creek and Yelling Creek. Additionally, the EBA report identified additional watercourses and waterbodies not mapped or coded under the *Alberta Code of Practice* within the project area, including the Columbine Creek, Grassy Island Lake and Julien Lake.¹⁶² ATCO Electric proposed a number of mitigation measures that it will utilize, depending on specific site conditions, to mitigate potential impacts to wetlands, waterbodies, and watercourses.¹⁶³

178. EBA's environmental evaluation was supplemented by additional environmental field survey reports which recommended additional mitigation measures for the project.

179. ATCO Electric stated that the project is located within the Boreal Forest Natural Region and Central and Dry Mixedwood Natural Subregions of Alberta and native grassland is not likely to establish as a climax community type¹⁶⁴ in these subregions. While many areas along the routes have been cleared of trees and seeded to herbaceous cover, these areas are typically dominated by introduced forage species and consequently, do not constitute native prairie. EBA completed vegetation field surveys along the preferred and alternative routes in 2012 and 2013.¹⁶⁵ ATCO Electric stated that, based on the vegetation surveys conducted on land to which it had access, there were no areas of native prairie or native grasslands identified.¹⁶⁶

180. In response to questions from TLG's counsel relating to the Pederson property, ATCO Electric was not able to verify from the photos¹⁶⁷ filed as evidence whether this land constituted native grassland. Nevertheless, Mr. Martin directed TLG's counsel to Section 7.4 of the environmental evaluation plan which indicated that construction of a transmission line involves some vegetation removal which could potentially result in loss of native plant communities.¹⁶⁸ In the event that native grasslands are identified, ATCO Electric submitted that there are specific mitigation measures intended to reduce potential impacts to native plant communities outlined in Section 7.5 of its environmental evaluation plan.¹⁶⁹ Mr. Smart testified that one of those mitigation measures is to utilize existing disturbances such as trails or roads.¹⁷⁰

¹⁶¹ Exhibit 27, Application, Attachment 3 - Environmental Evaluation Report, pdf page 24, Section 4.7.2.

¹⁶² Exhibit 27, Application, Attachment 3 - Environmental Evaluation Report, pdf pages 25-26, Section 5.3.1.

¹⁶³ Exhibit 27, Application, Attachment 3 - Environmental Evaluation Report, pdf pages 28-29, Section 5.7.

¹⁶⁴ A climax community is a biological association of flora and fauna which has attained an equilibrium condition arising through the development of vegetation and fauna in an area over time. (Source: <http://www.eoearth.org/view/article/171226/>)

¹⁶⁵ Exhibit 152.02, Technical Memo – 2012/2013 Vegetation Survey Results (Vegetation Survey Report).

¹⁶⁶ Transcript, Volume 1 page 176, lines 15-23.

¹⁶⁷ Exhibit 168.02, page 1.

¹⁶⁸ Transcript, Volume 1, page 182, lines 13 and 14 and Exhibit 27, Environmental Evaluation Report, pdf page 41, Section 7.4.

¹⁶⁹ Transcript, Volume 1, page 183, lines 6-8 and Exhibit 27, Environmental Evaluation Report, pdf page 41, sections 7.4 and 7.5.

¹⁷⁰ Transcript, Volume 1, page 183, lines 20-25 and page 184, lines 1-5.

He added that the proposed access trail alignment on the Pederson property generally follows an existing trail or disturbance on the property.¹⁷¹

181. Both spring and summer rare plant surveys were completed as part of the vegetation surveys. No rare or listed plant species of concern were observed during the field surveys on either route. The preferred route crosses much less native vegetation cover than the alternative route (7,977 metres versus 14,326 metres). EBA's Vegetation Survey Report concluded that the adverse impacts of the project on native vegetation were predicted to be less with the selection of the preferred route.

182. ATCO Electric stated that the total area of required tree removal in the right-of-way for the preferred route was 1.6 hectares versus 6.2 hectares on the alternative route. At the hearing, Mr. Smart testified that there were significantly more treed areas on the alternative route, requiring more tree removal than on the preferred route.¹⁷²

183. EBA completed wetland and watercourse surveys¹⁷³ along the preferred and alternative routes in 2012. EBA identified 96 wetlands along the preferred route, and 112 wetlands along the alternative route. Eight wetlands are crossed for a distance of at least 150 metres¹⁷⁴ by the preferred route, while 12 wetlands are crossed for a distance of at least 150 metres by the alternative route. At the hearing, ATCO Electric stated that, regardless of which wetland metric¹⁷⁵ is examined, they all favour the preferred route to the alternative route. EBA predicted that the potential adverse effects of the project on wetlands and watercourses will be less with the selection of the preferred route.

184. EBA conducted four rounds of waterbird surveys in September and October 2013.¹⁷⁶ The surveys confirmed that the study area contains suitable wetland and open water habitat for breeding and migrating waterbirds. EBA's 2013 Waterfowl and Waterbird Survey Report concluded that in order to minimize the project's adverse effects on breeding and migratory waterbirds, the preferred route may be the preferred choice over the alternative route. The report recommended that construction of the project in wetland areas be avoided between mid-March and mid-November and that bird marking devices be used to reduce the risk of bird collisions.¹⁷⁷

185. Because not all birds flying within the study area would be at risk of colliding with a transmission line, EBA calculated a species-line encounter (SLE) value¹⁷⁸ that assessed the potential for a given bird species to have a negative interaction with the proposed routes as part

¹⁷¹ Transcript, Volume 1, page 184, lines 3-5.

¹⁷² Exhibit 189.01, Undertaking Number 4.

¹⁷³ Exhibit 128.11, Technical Memo – 2012 Wetland and Watercourse Assessment Results (Wetland Assessment), pdf page 51.

¹⁷⁴ 150 metres represents the maximum span distance between two transmission line structures that will maintain proper clearance of the conductor to the water surface for this project.

¹⁷⁵ Wetland metrics: 1) wetlands longer than the maximum spanning distance, 2) area of wetlands within 100, 800, or 1600 metres of the route, or 3) number of wetlands.

¹⁷⁶ Exhibit 156.04, Technical Memo – 2013 Waterfowl and Waterbird Survey (Waterfowl Survey Report) and Exhibit 169.01, Technical Memo – 2013 Waterfowl and Waterbird Survey – Update (Updated Waterfowl Survey Report).

¹⁷⁷ Exhibit 156.04, Technical Memo – 2013 Waterfowl and Waterbird Survey (Waterfowl Survey Report), page 8.

¹⁷⁸ The SLE value was defined as the proportion of birds that crossed the transmission line alignment at a height of 25 metres or less.

of the waterbird survey. The SLE value was 0.118 birds per minute of survey time for the preferred route and 0.183 birds per minute of survey time for the alternative route.¹⁷⁹

186. EBA completed stick nest surveys for birds in 2012 and 2013.¹⁸⁰ For the preferred route, 42 stick nests were observed within 1,000 metres of the centreline versus 51 for the alternative route. Of these stick nests, 16 were observed within 200 metres of the preferred route and 31 were observed within 200 metres of the alternative route. Stick nesting bird species with provincially- recommended restricted activity dates and setback distances were not detected during the surveys.

187. EBA completed amphibian surveys in 2013.¹⁸¹ The surveys targeted Canadian Toads, which are designated as “May be at Risk” under the General Status of Alberta Wild Species and have a provincial year-round 100-metre minimum setback from all disturbances. Two Canadian Toads were detected along the alternative route but outside the 100 metre buffer distance from the proposed rights-of-way, while one Canadian Toad was detected within 100 metres of the proposed rights-of-way of the preferred route. The Amphibian Survey Report stated that there is more available wetland habitat for Canadian Toads within 100 metres of the alternative route than within 100 metres of the preferred route.

188. Because access to some privately owned lands along the routes was not obtained prior to the vegetation field surveys, EBA’s Vegetation Survey Report recommends that prior to construction, supplemental vegetation surveys be conducted on lands where access could not be obtained.¹⁸² Mr. Smart testified that mitigation measures outlined in the environmental protection plan are quite comprehensive and will likely be sufficient to address additional features, if new features are discovered, on lands upon which ATCO Electric was denied prior access.¹⁸³ In addition, if the need arises ATCO Electric will look into alternative mitigation options.

189. ATCO Electric stated that it would conduct additional pre-construction surveys along the selected route if approved by the Commission.¹⁸⁴

190. ATCO Electric committed that upon completion of the pre-disturbance assessments, all of the approved route that traverses native vegetation will have been surveyed.¹⁸⁵

191. ATCO Electric submitted that it will complete a pre-construction nest sweep survey prior to the start of construction if construction is scheduled to occur within the restricted bird breeding period (March 15 to August 31).¹⁸⁶

192. ATCO Electric stated that if the application is approved by December 2013 transmission line construction would commence upon ground freeze-up to take advantage of the 2013-2014 winter construction season. However, land acquisition is one of the variables that may impact the

¹⁷⁹ Exhibit 169.01, page 1.

¹⁸⁰ Exhibit 128.11, Technical Memo – 2012/2013 Stick Nests Surveys (Nests Survey), pdf pages 2-17.

¹⁸¹ Exhibit 128.11, Technical Memo – 2013 Amphibian Survey (Amphibian Survey Report), pdf pages 18-50.

¹⁸² Exhibit 152.02, Technical Memo – 2012/2013 Vegetation Survey Results (Vegetation Survey), page 11.

¹⁸³ Transcript, Volume 2, page 268, lines 3-13.

¹⁸⁴ Transcript, Volume 2, page 271, lines 5-7.

¹⁸⁵ Exhibit 68.01, Information Response IR AUC-ATCO-25(b).

¹⁸⁶ Exhibit 68.01, Information Response AUC-ATCO-25(e) and Exhibit 110.01, Attachment 2 - Final Environmental Protection Plan for the Central East Transmission Development, sections 4.2 and 6.2.

schedule of the project. ATCO Electric submitted that the winter construction schedule would meet waterfowl breeding season restrictions.¹⁸⁷

193. ATCO Electric submitted that it intends to minimize clearing activities within 100 metres of a wetland or other waterbody.¹⁸⁸ This would be accomplished by constructing during the winter months and maximizing the distance between transmission poles in these areas. If construction is required within 100 metres of a wetland or other waterbody with suitable amphibian habitat, it will consult with Alberta Environment and Sustainable Resource Development (AESRD) prior to construction to determine appropriate mitigation measures such as completing amphibian surveys.

194. ATCO Electric submitted that because some wetlands along the routes are too large to span, it will submit a *Water Act* application to AESRD to address the impacts to those wetlands.¹⁸⁹

195. To mitigate the impacts of the project on birds, ATCO Electric added that it will avoid wetland and riparian areas where possible and will place two types of bird markers/diverters along shield wires in the vicinity of permanent wetlands, riparian areas and other locations with high concentrations of bird use that intersect with the transmission line right-of-way.¹⁹⁰ During construction and post-construction, ATCO Electric, in consultation with AESRD, will have an environmental monitoring program to review the success of these bird flight diverting mitigations and address any issues that may arise in the future. During the hearing, ATCO Electric also stated that it will continue its ongoing consultation with AESRD and Ducks Unlimited Canada to identify and implement alternative mitigation options if the post-construction monitoring program shows unacceptable rates of bird mortalities. It will also implement an avian protection plan for the project.¹⁹¹

196. ATCO Electric submitted that it will construct and maintain the proposed transmission facilities in adherence to Alberta Environment's R&R/11-03, *Environmental Protection Guidelines for Transmission Lines*.¹⁹²

197. ATCO Electric noted that all the environmental experts who testified agreed that the preferred route has less of an overall environmental impact than the alternative route.

198. ATCO Electric concluded that the preferred route is the more favourable route from an environmental perspective for various reasons, including:

- the total number and area of wetlands is higher on the alternative route
- the alternative route crosses more woodlands and forested areas
- the alternative route is longer therefore ultimately more land is impacted
- waterfowl surveys indicate there will be a higher impact to waterfowl and waterbirds on the alternative route

¹⁸⁷ Transcript, Volume 2, pages 275 and 276.

¹⁸⁸ Exhibit 68.01, Information Response AUC-ATCO-25(h).

¹⁸⁹ Transcript, Volume 2, page 252, lines 15-21 and Exhibit 110.01, Environmental Protection Plan for the Central East Transmission Development, Attachment 2, Section 4.17.

¹⁹⁰ Exhibit 68.01, Information Response IR AUC-ATCO-28(a) and(b).

¹⁹¹ Exhibit 110.01, Environmental Protection Plan for the Central East Transmission Development, Attachment 2, pdf page 118.

¹⁹² Exhibit 26, paragraph 72.

7.3.2 Views of interveners

199. Members of TLG expressed concerns about the effects of the project on wildlife and wildlife habitat. Specifically, TLG members expressed concerns about the effects of the proposed transmission line on riparian habitat, grassland and wildlife on their properties. They also spoke about the impact of the project on Julien Lake and the waterfowl that use this lake during the spring and fall migration seasons. Several members of TLG were concerned about the impact of the project on migratory birds and species at risk.

200. Mr. Cliff Wallis of Cottonwood Consultants Ltd. was retained by TLG to provide an assessment of the application, and to address any biodiversity concerns related to lands along the preferred and alternative routes. Mr. Wallis submitted evidence (the Wallis report)¹⁹³ and provided testimony at the hearing.

201. Mr. Wallis provided a summary of, and testified on, the biodiversity issues he believed were the most relevant to the project. For each issue, he indicated whether a preference for one, both or neither route was shown and the strength of that preference. In relation to proximity to important wetlands and environmentally significant areas or lakes with protective notations or priority migratory bird habitats, Mr. Wallis did not see a preference for either route.¹⁹⁴ There are a few more hectares of protective notations intersected on the preferred route, which weakly favours the alternative route.¹⁹⁵ Mr. Wallis agreed with other experts that there is more wetland intersected by the alternative route than the preferred route and identified this as a “stronger element favoring the preferred route.”¹⁹⁶ However, there are more watercourses intersected by the preferred route than the alternative route, weakly favoring the alternative route.¹⁹⁷ Mr. Wallis asserted that a stronger parameter to take into consideration is the length of wooded habitat intersected, which is greater on the alternative route and favours the preferred route.¹⁹⁸ He testified that the amount of additional access in native habitat and other biodiversity considerations such as amphibians, owls and stick nest species were weak metrics.¹⁹⁹

202. The Wallis report highlighted that there are two areas of important wooded habitat north of Julien Lake and on the Pederson property on the preferred route. However, this does not change the fact that over twice the length of the alternative route intersects with wooded areas, therefore favoring the preferred route.²⁰⁰

203. At the hearing, Mr. Wallis stated that there is a cluster of protective notations for waterfowl protection around Julien Lake,²⁰¹ and that the preferred route is not sufficiently far from Julien Lake to constitute a mitigation in and of itself.²⁰² However, Mr. Wallis noted that there are equal numbers of PNTs on each route.²⁰³

¹⁹³ Exhibit 131.01, Evidence of Cliff Wallis on Behalf of The Launch Group, September 2013.

¹⁹⁴ Transcript, Volume 2, page 441, lines 21-24.

¹⁹⁵ Transcript, Volume 2, page 422, lines 2-5.

¹⁹⁶ Transcript, Volume 2, page 422, lines 6-10.

¹⁹⁷ Transcript, Volume 2, page 422, lines 11-14.

¹⁹⁸ Transcript, Volume 2, page 422, lines 15-18.

¹⁹⁹ Transcript, Volume 2, page 422, lines 19-25.

²⁰⁰ Exhibit 131.01, Evidence of Cliff Wallis on Behalf of The Launch Group, September 2013, page 12.

²⁰¹ Transcript, Volume 2, page 425, lines 8-13.

²⁰² Transcript, Volume 2 and page 446, lines 11-16.

²⁰³ Exhibit 131.01, Evidence of Cliff Wallis on Behalf of The Launch Group, September 2013, page 12.

204. The Wallis report summarized some of the unique characteristics of the preferred and alternative routes, stating:

When evaluating the Preferred East and Alternate West Routes from a biodiversity perspective, the Preferred route intersects some diverse, excellent condition forest north of Julien Lake and crosses or is in closer proximity to two locally or regionally significant wetlands (Julien Lake and Vincent Lake) while the Alternate West Route intersects a greater length of wetland and wooded habitat and is in closer proximity to two other locally significant wetlands (Grassy Island Lake and Owlseye Lake). Additional access intersects slightly more native habitat on the Preferred route than the Alternate West Route.²⁰⁴

205. The Wallis report recommended that the focus of efforts should be to avoid wetlands that are productive for waterfowl and to understand local and regional movements of waterfowl so that appropriate mitigation can be implemented.²⁰⁵

206. The Wallis report concluded that “[w]hile there are differences between the Preferred East and Alternative routes, both routes should be considered viable and pose no significant elevated risk to biodiversity overall.”²⁰⁶ The report identified localized areas of concern for older mixedwood forest and productive wetlands in the region. However, it stated that detailed route planning, timing restrictions and other mitigation measures proposed by ATCO Electric could mitigate most of the impacts associated with those concerns. The report concluded that the biodiversity issues associated with the alternative route are slightly greater than those of the preferred route, due to the greater amounts of wetland and wooded habitat intersected by the alternative route.

207. At the hearing, TLG argued that the application is incomplete due to a lack of environmental field surveys and studies conducted by ATCO Electric prior to submitting the application to the Commission, resulting in field surveys being conducted too late in the application process.²⁰⁷ TLG recommended that the application be denied to allow for the completion of supplemental environmental studies and for the Commission to have the full evidence before it to evaluate the project’s environmental impacts on both routes.²⁰⁸ TLG also asserted that the environmental metrics for the two routes do not produce a clear winner.²⁰⁹

208. Mr. Wallis and Mr. Wershler were both critical of ATCO Electric’s environmental evaluation report because it relied on desktop data and did not include at least some environmental field surveys/studies on the preferred and alternative routes. Mr. Wallis submitted that this practice makes the Commission’s task of evaluating which route is preferable from a biophysical perspective more difficult.²¹⁰ However, Mr. Wallis acknowledged that in this proceeding, although more information could have been obtained, it was unlikely that additional data gathered would have changed the determination of which route was preferred from an environmental perspective.²¹¹

²⁰⁴ Exhibit 131.01, Evidence of Cliff Wallis on Behalf of The Launch Group, September 2013, page 1.

²⁰⁵ Exhibit 131.01, Evidence of Cliff Wallis on Behalf of The Launch Group, September 2013, page 15.

²⁰⁶ Exhibit 131.01, Evidence of Cliff Wallis on Behalf of The Launch Group, September 2013, page 1.

²⁰⁷ Transcript, Volume 3, page 664, lines 9-12 and page 668, lines 3-16.

²⁰⁸ Transcript, Volume 3, page 669, lines 8-15.

²⁰⁹ Transcript, Volume 3, page 686, lines 15-16.

²¹⁰ Transcript, Volume 2, page 448, lines 5-14.

²¹¹ Transcript, Volume 2, page 450, lines 3-13.

209. Members of the RAFTR group expressed concerns about the effects of the project on wildlife and wildlife habitat generally, and had specific concerns about the impact of the project on geese that use the Owlseye Lake area. The RAFTR group argued that no evidence was presented by members of TLG on the importance of Julien Lake.²¹²

210. Several members of the RAFTR group expressed concerns about the impact of the project on wildlife that inhabit their property. Mr. Ostapovich submitted that he has kept his quarter section in its natural state instead of cultivating or haying it in order to protect and enjoy the wildlife that use his property and that the wetlands on his property have Crown land PNTs registered on them for the protection of waterfowl nesting and production habitat.²¹³

211. Mr. Cleve Wershler, of Sweetgrass Consultants Ltd., was retained by the RAFTR group to provide an assessment of biodiversity, wetland and environmental significance concerns related to the project. Mr. Wershler submitted evidence (the Wershler report)²¹⁴ and also provided testimony at the hearing.

212. Among other things, the Wershler report identified two additional miscellaneous designated areas along the alternative route and highlighted that more than 50 per cent of the alternative route lies within the North American Waterfowl Management Plan priority area compared to none of the preferred route. The report also indicated that certain wetlands were not adequately accounted for, and provided a summary of additional mitigation measures identified by Ducks Unlimited Canada to reduce bird mortality.

213. The Wershler report also described specific siting concerns pertaining to properties along the alternative route that would be adversely affected by the project, and sites where members of the RAFTR group have improved wildlife and wetland habitat through stewardship activities.²¹⁵ Mr. Wershler testified on the significance of Owlseye Lake as a productive lake that serves as a traditional fall staging habitat for geese and also connects to other aquatic systems, including wetlands.²¹⁶ Mr. Wershler also testified that “[g]iven the uncertainty and the placement of permanent structures, the locations and areas of woodland clearing for all purposes, and the lack of recognition of the significance of connected aquatic habitats, including adjacent woodlands, it should not be concluded that impacts to wetlands, watercourses, and woodlands will be insignificant.”²¹⁷

214. Mr. Wershler concluded that “[w]hile both routes present environmental conflicts for the proposed transmission line, it is my professional opinion that the Preferred route is less problematic.”²¹⁸

215. At the hearing, the RAFTR group submitted that all the environmental experts who testified agreed that Owlseye Lake contains key staging habitat for geese and that even Mr. Wallis testified that it should be considered a regionally significant environmental area.²¹⁹

²¹² Transcript, Volume 3, page 700, lines 20-24.

²¹³ Exhibit 138.10: RAFTR Written Evidence, Tab 10, PDF page 19 – Letter addressed to Mr. Lawrence Ostapovich from Alberta Sustainable Resource Development, Lands Division, dated January 19, 2007.

²¹⁴ Exhibit 138.24, Evidence of Cleve Wershler on behalf of the RAFTR group, September 2013.

²¹⁵ Exhibit 138.24, Evidence of Cleve Wershler on behalf of the RAFTR group, September 2013, pages 8-12.

²¹⁶ Transcript, Volume 3, page 559, lines 11-23.

²¹⁷ Transcript, Volume 3, pages 559-560.

²¹⁸ Exhibit 138.24, Evidence of Cleve Wershler on behalf of the RAFTR group, September 2013, page 13.

7.3.3 Commission findings

216. In light of the evidence received and the testimony from expert witnesses on potential environmental impacts of the project and the mitigation measures proposed by ATCO Electric, the Commission is satisfied that both the preferred and alternative routes are viable options from a biodiversity perspective.

217. The Commission finds that the environmental evaluation,²²⁰ the *Environmental Protection Plan for the Central East Transmission Development*²²¹ and the field surveys conducted by EBA on behalf of ATCO Electric, are sufficient for the proposed project, and address the anticipated environmental impacts and mitigation measures for those impacts. The Commission accepts ATCO Electric's representations in the application and related evidence that it will implement these mitigation measures,²²² and that it will continue to consult with AESRD in respect of certain matters such as its environmental monitoring program.²²³

218. The Commission expects that with diligent application of the proposed mitigation and monitoring measures put forward by ATCO Electric, the environmental effects from the construction and operation of the proposed transmission line will be adequately mitigated.

219. The Commission has considered the conclusions of Mr. Martin, on behalf of ATCO Electric, Mr. Wallis, on behalf of TLG and Mr. Wershler, on behalf of the RAFTR group, that the environmental impacts and biodiversity issues are more pronounced, to varying degrees, on the alternative route than on the preferred route.

220. The Commission finds that although both routes may present environmental challenges, the preferred route will result in less overall environmental impact. In addition to crossing fewer wetland areas, the preferred route crosses less native vegetation cover, less woodlands and forested areas and has a smaller area of tree removal. Additionally, the preferred route is sited further away from the North American Waterfowl Management Plan Target Area.

221. Although the Commission does not consider the total number of wetlands documented and crossed by either route to be determinative in selecting a route, it nevertheless views this as an important consideration in determining which route will have less overall environmental impact.

222. ATCO Electric has committed to avoid wetlands to the greatest extent feasible and where impacts are unavoidable, to provide wetland compensation according to the *Provincial Wetland Restoration/Compensation Guide* (AESRD 2007).²²⁴ The Commission expects ATCO Electric to honour those commitments.

223. ATCO Electric stressed the importance of conducting construction in the winter months or during frozen-ground conditions in order to minimize overall environmental effects.²²⁵ The Commission finds that winter construction is a reasonable mitigation measure in environmentally

²¹⁹ Transcript, Volume 3, page 697, lines 11-15.

²²⁰ Exhibit 27, Application – Attachment 2, Environmental Evaluation, June 2012.

²²¹ Exhibit 110.01, Attachment 2 – Environmental Protection Plan for the Central East Transmission Development, June 4, 2013, pdf page 30.

²²² Exhibit 166.01, ATCO Electric's Opening Statement, pdf page 5, November 4, 2013.

²²³ Exhibit 156.01, Rebuttal Evidence, page 10, paragraph 29.

²²⁴ Exhibit 128.11, Wetland Assessment, page 9, Section 6.4.

²²⁵ Transcript, Volume 2, lines 13-18.

sensitive areas, particularly to minimize effects on bird nesting, amphibians, native vegetation, and soil compaction and rutting. However, the Commission recognizes that ATCO Electric may not be able to complete all construction during winter months on frozen soil and consequently recommends that it use its best efforts to schedule construction during frozen conditions and implement additional mitigation measures to specifically address vegetation, soil erosion and compaction, and wildlife habitat impacts for construction during summer months.

224. ATCO Electric and interveners provided evidence and testimony relating to the potential for avian mortality resulting from birds colliding with the transmission lines, the potential for avian collision avoidance and the potential for habitat loss or permanent alteration once the transmission line is constructed. The Commission considers that ATCO Electric's planned use of bird flight diverters will mitigate the risk of bird collisions with transmission structures, particularly around wetlands. The Commission expects ATCO Electric to continue to consult with AESRD during and post construction to review the success of its bird flight diversion strategies and where such strategies are not proven to be effective, to consider alternative mitigation measures. It also expects ATCO Electric to continue to consult with the Fish and Wildlife Division, Sustainable Resource Development, to conduct pre-disturbance environmental assessments, in order to avoid protected wildlife habitat and mitigate adverse effects to wildlife and wildlife habitat, as described in the application.

225. The Commission finds that although both routes are viable options from an environmental perspective, the preferred route will result in less overall environmental impact. Therefore, the environmental considerations slightly favour the selection of the preferred route.

7.4 Cost considerations

226. The Commission heard evidence regarding the economic considerations associated with the St. Paul Transmission Project.

7.4.1 Views of ATCO Electric

227. ATCO Electric provided an initial project cost estimate of \$32.47 million with \$14.99 million attributed to transmission line material and labour costs for the preferred route. In response to an information request from the Commission, ATCO Electric provided an initial cost estimate of \$15.45 million for transmission line material and labour for the alternative route. The resulting project cost estimate was \$33.06 million.²²⁶ The entire cost of the project was designated as system cost.

228. ATCO Electric attributed the additional cost for the alternative route to the need for more major turns than the preferred route, which would require additional deadend structures and may require additional caisson foundations.²²⁷

229. In each of the four amendments, ATCO Electric stated that the cost of the amendment would not materially affect the originally proposed cost estimates.

230. In response to an information request from TLG, ATCO Electric advised parties that the cost estimate for the project had been revised. To calculate the revised material and labour costs, ATCO Electric stated that it used actual material costs incurred for the project and completed a

²²⁶ Exhibit 68.01, Information Response, AUC-ATCO-8.

²²⁷ Exhibit 68.01, Information Response, AUC-ATCO-8.

detailed cost comparison against projects of similar scope with recent construction contractor rates.²²⁸ ATCO Electric filed a project change proposal form with the AESO requesting approval for these expected expenditures above the estimates given in the initial proposal to provide service. The AESO approved the project change proposal on August 9, 2013.

231. At the hearing Mr. Boven clarified that the cost estimates for the transmission line material and labour had increased to approximately \$19.7 million and \$20.3 million for the preferred and alternative routes respectively.²²⁹

232. Mr. Boven explained that the transmission line cost estimates provided in the information response to TLG were incorrect because they included costs for the “Whitby Lake projects” because the AESO had originally requested a proposal for both projects combined. The Commission asked ATCO Electric to undertake to provide an updated project cost estimate specific to the St. Paul Transmission Project. On November 7, 2013, ATCO Electric provided an updated cost estimate of \$50.30 million for the project with \$19.7 million attributed to transmission line material and labour costs for the preferred route.²³⁰

233. At the hearing, counsel for the Plante family asked ATCO Electric if routing the segment of the transmission line common to both routes along the west side of Range Road 95 as proposed, instead of the east side of the road, increased the cost of the transmission line. Mr. Smart stated that it could have resulted in extremely minimal additional costs associated only with the short length of conductor needed to span the width of the road. Cost estimates for a route on the east side of Range Road 95 were not provided.

234. In response to information requests from both TLG and the RAFTR group on burying portions of the transmission line, ATCO Electric explained that the cost of underground installation for a double-circuit 144-kV transmission line is prohibitively expensive. At the hearing, Mr. Boven stated that ATCO Electric had no specific studies on 144-kV transmission lines, but based on studies for higher voltage lines, the cost per kilometre of underground cable was generally in the order of five to six times the cost of above-ground cable.²³¹

7.4.2 Views of interveners

235. TLG argued that the difference in cost between the two routes was very small compared to the values usually put before the Commission²³² and therefore was one of the route metrics that did “not produce a clear winner”²³³ between the two routes.

236. The RAFTR group argued that there would be additional costs along the alternative route that it felt ATCO Electric had not captured in its estimate, including costs for tree-clearing, warning or deterrent technologies and construction costs along the route given its greater density of steeped slopes and a higher instance of wetlands to cross.²³⁴

²²⁸ Exhibit 128.01: Information Response, TLG.ATCO-07.

²²⁹ Transcript, Volume 1, page 19, lines 20-24.

²³⁰ Exhibit 184.01, Response to Undertaking Number 7 at Volume 2, pages 290 and 291, of the Transcript.

²³¹ Transcript, Volume 2, page 277.

²³² Transcript, Volume 3, pages 662 and 663.

²³³ Transcript, Volume 3, page 686.

²³⁴ Exhibit 133.01: Evidence, paragraph 69 .

7.4.3 Commission findings

237. The difference in cost between the preferred and alternative routes is not significant given the overall cost of the project and the tolerance range of the estimates. Consequently, the Commission considers that neither route is favoured in terms of cost.

7.5 Social considerations

238. The Commission heard evidence regarding the potential social impacts of the proposed transmission facilities on landowners and residents. These matters include visual impacts, the impacts of tree clearing, the potential health impacts of electric and magnetic fields (EMF), electrical effects, safety, and audible noise.

7.5.1 Views of ATCO Electric

239. ATCO Electric stated that a number of interveners expressed concern about visual and aesthetic impacts associated with the transmission line. In the application, ATCO Electric stated that visual impacts were considered during route planning, but that some of the impacts are subjective, difficult to quantify, and vary between stakeholders. Where practical, ATCO Electric attempted to limit potential visual impacts by avoiding close proximity to residences, parks and protected areas.²³⁵

240. ATCO Electric committed to work with affected landholders during the line design and construction stages, including consultation on structure placement, to reduce the visibility of specific structures from residential viewpoints where practical. Concerns with the specific location of structures will be taken into account as ATCO Electric has some flexibility to site structures such that landowner concerns may be addressed.²³⁶

241. ATCO Electric produced photographic simulations of the proposed transmission line in order to show the visual impact of the proposed line at 200, 400, 600 and 800 metres. These renderings were provided to the landowners who requested them and distributed at a full-day information session in St. Paul on June 19, 2013.²³⁷ Corrected versions of the renderings were provided in ATCO Electric's rebuttal evidence because a wood pole single-circuit line was incorrectly shown on the original version.²³⁸

242. Mr. Smart testified that as part of its routing methodology, ATCO Electric attempted to minimize potential impacts that might occur, and that impacts, including visual ones, diminish with distance from the transmission line.²³⁹

243. Where reasonable, ATCO Electric endeavored through route alignment and selection to avoid clearing tree lines that landowners value for windbreak or visual screening, and that it will seek to minimize any tree clearing to that which is necessary for construction and safe operation of the project.

244. ATCO Electric stated that a Vegetation Control Easement (VCE) is an additional easement outside of the standard 18 metre right-of-way that may be required to remove

²³⁵ Exhibit 26, page 35, paragraph 95.

²³⁶ Exhibit 26, page 35, paragraph 96.

²³⁷ Exhibit 156.01, paragraph 58.

²³⁸ Exhibit 156.05, Rebuttal Evidence, Appendix 4.

²³⁹ Transcript, Volume 1, pages 151 and 152.

vegetation that could interfere with the safe and reliable operation of the transmission facilities.²⁴⁰ ATCO Electric stated that VCE requirements are identified first through estimates during acquisition and second through legal survey of lands along a route to determine what, if any, additional tree clearing may be required.

245. ATCO Electric submitted a table that described the maximum height of trees that are permitted to grow within set distances from the centreline of a 144-kV transmission line.²⁴¹

246. ATCO Electric stated that selective VCE assessments were completed for two specific locations on the preferred route. The first location was 29-58-9-W4, which is owned by the Cartiers, Cooknells, Gadowskis, Pruneaus, and Richardsons and used by the Lakeland Cross Country Ski Club. The second location was the south 80 acres of SW 9-59-9-W4, where the VanBrabant family is located. The VCE assessments determined the overstory of ‘danger trees’ that would require removal due to tree height, while leaving the understory in place.

247. ATCO Electric committed to working with affected landowners to determine potential mitigative measures for tree removal while maintaining the safe construction and operation of the proposed transmission line.²⁴² Mr. Smart testified that “danger trees” are trees that exceed the safe limits of approach adjacent to the right-of-way and could fall onto the conductor, thereby impacting the potential reliability of the facility.²⁴³ Mr. Smart clarified that clearing is selective and only trees that exceed the values in the table would be removed as opposed to removal of all trees.²⁴⁴

248. ATCO Electric submitted a map showing the location of Lakeland Cross-Country Ski Club trails on the east half of 29-58-9-W4.²⁴⁵ The map identified areas of potential vegetation control along the proposed preferred route with the exception of the route realignment in the north half of NE 29-58-9-W4 submitted in June 2013 as part of the second application amendment.²⁴⁶

249. The updated route metric comparison table²⁴⁷ submitted by ATCO Electric indicated that the total area of required tree removal in the right-of-way for the preferred route is 1.6 hectares versus 6.2 hectares on the alternative route. At the hearing, Mr. Smart agreed that there are significantly more treed areas on the alternative route, consequently more tree removal would be required compared to the preferred route.

250. ATCO Electric stated that a number of interveners expressed concern about the potential effects on human health from EMF produced by the transmission line. ATCO Electric stated that alternating-current transmission lines are a source of extremely low-frequency EMF and that these fields are at the highest levels under the line, but decrease dramatically with distance. ATCO Electric adopted the conclusions of Health Canada, the World Health Organization and the International Commission on Non-Ionizing Radiation Protection, and submitted that the

²⁴⁰ Exhibit 128.01, Information Response TLG.ATCO-27.

²⁴¹ Exhibit 36, Typical Tree Clearing Chart for 144 kV Transmission Lines.

²⁴² Exhibit 128.01, Information Response TLG-ATCO-27.

²⁴³ Transcript, Volume 1, page 157.

²⁴⁴ Transcript, Volume 2, page 295.

²⁴⁵ Exhibit 178.01.

²⁴⁶ Exhibit 115.01.

²⁴⁷ Exhibit 189.01, Undertaking Number 4.

weight of the scientific evidence does not support a cause and effect relationship between general health symptoms and exposure to EMF in animals or humans.²⁴⁸

251. ATCO Electric stated that the International Commission on Non-Ionizing Radiation Protection guidelines for magnetic field exposure are 2,000 milligauss (mG) for the public and 10,000 mG for occupational workers.²⁴⁹ The expected magnetic field strength directly under the centreline, based on average expected loading, is approximately 35.25 mG or 35.89 mG if there are nearby distribution lines. At a distance of 50 metres from the centreline, the magnetic field strength is expected to be approximately 0.96 mG or 0.97 mG if there are nearby distribution lines.²⁵⁰

252. For electric field strength, the International Commission on Non-Ionizing Radiation Protection recommends a public exposure guideline of 4.2 kilovolts per metre (kV/m) and an occupational exposure of 8.3 kV/m. The expected electric field strength directly under the centreline, based on average expected loading, is approximately 3.977 kV/m or 4.012 kV/m if there are nearby distribution lines. At 50 metres from the centreline the expected electric field strength is approximately 0.043 kV/m or 0.046 kV/m if there are nearby distribution lines.²⁵¹

253. ATCO Electric submitted that the EMF levels for the proposed transmission line would be well below the public exposure guidelines at the edge of the right-of-way.

254. ATCO Electric filed a Health Canada publication which stated that at present, there are no Canadian government guidelines for exposure to extremely low frequency EMF because the scientific evidence is not strong enough to conclude that exposure causes adverse health impacts. The Health Canada publication also stated that people “do not need to take action regarding daily exposures to electric and magnetic fields at extremely low frequencies. There is no conclusive evidence of any harm caused by exposures at levels found in Canadian homes and schools, including those located just outside the boundaries of power line corridors.”²⁵²

255. ATCO Electric stated that a number of interveners expressed concern about impacts to the operation of their electronic devices, such as global positioning systems and interference with household electronics. ATCO Electric designs its transmission lines to meet all Canadian and Alberta electrical codes with respect to communications interference. ATCO Electric does not anticipate any impacts to electronic devices as a result of the proposed transmission line. However, in the event that any impacts do occur, ATCO Electric is committed to working with an affected party to resolve the issue.²⁵³

256. ATCO Electric stated that the minimum clearance required between all transmission facilities and buildings would be in accordance with regulations and the *Safety Codes Act*. It stated that the minimum mid-span conductor clearance was 6.2 metres, but that it varied by location. In response to questions from TLG, ATCO Electric indicated that under high loading

²⁴⁸ Exhibit 26, pages 32 and 33, paragraphs 77-84.

²⁴⁹ Exhibit 26, page 32, paragraph 80.

²⁵⁰ Exhibit 68.01, Attachment 2 – Memorandum regarding St. Paul Transmission Project Corona and Field Effects Analysis and Exhibit 98.01, Attachment 1 – Memorandum regarding St. Paul Transmission Project – Information Response AUC-ATCO-31.

²⁵¹ Exhibit 68.01, Attachment 2 – Memorandum regarding St. Paul Transmission Project Corona and Field Effects Analysis and Exhibit 98.01, Attachment 1 – Memorandum regarding St. Paul Transmission Project – Information Response AUC-ATCO-31.

²⁵² Exhibit 46, Attachment 11, EMF Information brochures, pdf pages 5-7.

²⁵³ Exhibit 156.01, Rebuttal Evidence, page 15, paragraphs 49 and 50.

and summer conditions, the minimum ground clearance expected for the proposed transmission line is 7.21 metres.²⁵⁴ ATCO Electric stated that it endeavors to work with landowners to determine the most efficient location of structures where practicable to provide physical clearances that are safe across various types of access situations, allowing for agricultural patterns and topographical features.²⁵⁵

257. In response to questions from TLG, ATCO Electric stated that in general, landowners are not liable for accidental damage to the transmission structures arising from permitted uses of the right-of-way, including the presence of farming equipment and livestock.²⁵⁶

258. ATCO Electric submitted a noise impact assessment for the St. Paul 707S substation, which indicated²⁵⁷ that the cumulative sound level at the closest and most impacted receptor was predicted to be below the permissible sound levels outlined in AUC Rule 012: *Noise Control* (AUC Rule 012). It noted that noise levels are anticipated to increase temporarily during construction²⁵⁸ and it also made predictions for the transmission line noise, indicating that in fair weather conditions, the noise would be barely audible on the right-of-way and that during rainfall, the noise would be less than that of the rain.²⁵⁹

7.5.2 Views of interveners

259. Intervenors on the preferred and alternative routes raised concerns regarding visual impacts caused by the transmission line. The impacts were generally related to structure placement or related to the loss of trees or vegetation.

260. At the hearing, a number of intervenors testified about how the visual impacts would affect them and their families personally. Ms. Beaulieu testified that she was concerned that the transmission lines would change the visual esthetic from rural to industrial.²⁶⁰ Ms. Dargis testified that she was concerned that the visual impact of the transmission line would impact a possible future sale.²⁶¹ Ms. Champagne testified that she was concerned that she would lose a row of lodgepole pines that had been planted by her son.²⁶²

261. Ms. Plante testified that her family would be impacted by the substation moving closer and the loss of trees which act as a visual barrier.²⁶³ Counsel for the Plantes argued that if ATCO Electric wanted to reduce visual impacts it would not clear the Plantes' trees or route the transmission line on their land.²⁶⁴

262. Mr. Gadowski testified that brush clearing would eliminate approximately three of the existing eight miles of nature trails on his family's property.²⁶⁵

²⁵⁴ Exhibit 128.01, Information Response TLG.ATCO-04.

²⁵⁵ Exhibit 156.01, Rebuttal Evidence, page 4, paragraph 12.

²⁵⁶ Exhibit 128.01, Information Response TLG.ATCO-35.

²⁵⁷ Exhibit 98.01, Attachment 2.

²⁵⁸ Exhibit 26, Application, paragraph 73.

²⁵⁹ Exhibit 68.01, pdf page 45.

²⁶⁰ Transcript, Volume 3, page 524.

²⁶¹ Transcript, Volume 2, page 383.

²⁶² Transcript, Volume 2, page 362.

²⁶³ Transcript, Volume 2, pages 332 and 333.

²⁶⁴ Transcript, Volume 3, page 630, lines 20-25.

²⁶⁵ Transcript, Volume 2, page 344.

263. Stemming from concern about tree clearing on the Zellwegers' and Sparks' properties in particular, counsel for the RAFTR group questioned ATCO Electric on how much tree clearing would be required on the alternative route and was informed that that level of detailed study was not completed for the alternative route.²⁶⁶ Counsel for the RAFTR group argued that the Commission must consider the VCE when making a decision on routing because an approval and the issuance of a licence would impact the VCE and that RAFTR group members did not know how much tree clearing would occur if the alternative route were selected.²⁶⁷

264. ATCO Electric testified that as a result of the second route amendment, the entire right of-way and associated facilities will no longer be on the Cooknell property. However, a VCE is required on the Cooknell property to conduct selective removal of vegetation that exceeds a given height (referred to as "danger trees").²⁶⁸ The Lakeland Cross-Country Ski Club, which uses trails on the Cooknell land, submitted that it was concerned that the preferred route would reduce tree cover along the northern and western perimeter of the Cooknell lands. The ski club stated that the elimination of trees would take away the scenic view of the trails and result in snow drifts and the loss of three to five kilometres of ski trails.²⁶⁹

265. Many interveners on the preferred and alternative routes submitted concerns regarding EMF in their written statements. At the hearing, Ms. Pruneau expressed concern relating to EMF given the proximity of her residence to the transmission line.²⁷⁰

266. No intervener submitted evidence regarding EMF, asked information requests on ATCO Electric's EMF information, or questioned Dr. Mezei, ATCO Electric's EMF expert, at the hearing.

267. During the hearing, Ms. Dargis stated that pole placement would cause her family to have to spray for weeds by hand which was a health concern.²⁷¹

268. Ms. MacKinnon testified that there are health impacts associated with the proposal of the transmission line due to stress and emotional turmoil that has "taken years off their life."²⁷² She also stated the proposed project was divisive for the community.

269. Landowners, including Ms. Dargis²⁷³ and Ms. Brousseau²⁷⁴ stated that there are safety concerns that arise from routing a transmission line on cultivated land due to risk of collisions between farm machinery and transmission structures. Mr. Cooknell was not certain that he would be able to maintain access to his property or drive under the transmission line.²⁷⁵

270. TLG asked questions of ATCO Electric regarding landowner liability related to damage to poles and equipment caused by livestock such as horses and bison or injury to workers on

²⁶⁶ Transcript, Volume 1, pages 208-211.

²⁶⁷ Transcript, Volume 3, pages 692 and 693.

²⁶⁸ Transcript, Volume 1, pages 157-159.

²⁶⁹ Exhibit 140.01, Written submission of Lakeland Cross-Country Ski Club.

²⁷⁰ Transcript, Volume 2, page 376 and 377.

²⁷¹ Transcript, Volume 2, page 381.

²⁷² Transcript, Volume 3, pages 488 and 489.

²⁷³ Transcript, Volume 2, pages 381 and 382.

²⁷⁴ Transcript, Volume 2, page 388.

²⁷⁵ Transcript, Volume 2, pages 401 and 402.

their property.²⁷⁶ Ms. Champagne testified she had concerns regarding liability issues with the transmission structures.²⁷⁷

271. In their written submission, the Plantes stated that the already apparent noise from the St. Paul 707S substation would increase as a result of the proposed substation expansion.²⁷⁸

272. Ms. Ostapovich testified that her family had concerns that the construction noise would disturb ducks and geese near her father's land and that the noise from the transmission line would disturb waterfowl in the area.²⁷⁹

7.5.3 Commission findings

273. The Commission will consider each of the social considerations identified in paragraph 238 above: visual impacts, the impacts of tree clearing, the potential health impacts of electric and magnetic fields (EMF), electrical effects, safety and audible noise.

274. The Commission acknowledges that changes to a viewscape may be an unwanted impact caused by transmission lines, however, visual impacts are subjective and generally diminish with distance. As such, the visual impact, if any, may be correlated to the number of transmission lines in line of sight and the distance from the transmission line. The Commission expects ATCO Electric to consult with landowners to attempt to minimize, where practicable, the visual impact from their residences through the placement of structures along the right-of-way.

275. The Commission finds that ATCO Electric's tree clearing outside of the 18 metre right of-way²⁸⁰ is required for safe and reliable operation of the transmission line and is satisfied that tree removal will be based on height and distance to the centreline as opposed to what some interveners referred to as clear cutting. The Commission expects ATCO Electric to follow through with its commitment to work with affected landowners to determine potential mitigation measures for tree removal. It also finds that the amount of tree clearing required favours the selection of the preferred route.

276. The Commission accepts ATCO Electric's evidence that the expected EMF levels for the proposed transmission line will be well below the public exposure guidelines at the edge of the right-of-way. Given the expected EMF levels, the Commission finds that the evidence before it does not support a conclusion that there will be adverse health effects associated with the EMF produced by the proposed transmission line.

277. In light of the fact that there was no evidence to the contrary, the Commission accepts ATCO Electric's assertion that it does not anticipate impacts on electronic devices from the proposed transmission line. In the event that such effects are encountered, the Commission expects ATCO Electric to follow through with its commitment to work with impacted landowners.

278. The Commission finds that safety issues relating to potential collisions with transmission structures can be mitigated by finalizing structure locations in consultation with landowners.

²⁷⁶ Exhibit 114.01, Information Request TLG-ATCO-35.

²⁷⁷ Transcript, Volume 2, page 362, lines 14 and 15.

²⁷⁸ Exhibit 130.01, page 2.

²⁷⁹ Transcript, Volume 3, pages 506 and 507.

²⁸⁰ Nine metres of right-of-way on either side of the centreline.

279. The Commission finds that based on evidence submitted by ATCO Electric, the proposed facilities, including the St. Paul 707S substation meet the noise requirements of AUC Rule 012. The Commission considers the Plantes' concern regarding noise levels speculative because there is no residence on their property next to the substation.

280. The Commission finds that although the amount of tree clearing required favours the selection of the preferred route, the other potential social impacts identified above apply to both routes and do not favour one route over the other.

7.6 Temporary workspace areas and permanent access trails

281. In the first amendment,²⁸¹ ATCO Electric requested the inclusion of the temporary workspace areas and permanent access trails for the preferred route and alternative route.

7.6.1 Views of ATCO Electric

282. Portions of the workspace areas and access trails applied for are located outside the 18 metre right-of-way required for the actual transmission line. The workspace areas are proposed for tower assembly and conductor stringing activities during construction of the transmission line. ATCO Electric stated that the permanent access trails are required for the construction, operation and maintenance of the proposed 7L139/7L70 transmission line.

283. ATCO Electric applied for temporary workspace areas and permanent access trails to be included in the project because, in the event that access to these areas cannot be obtained through negotiation with the landowner, ATCO Electric will seek right-of-entry orders from the Surface Rights Board.

284. In the first amendment, ATCO Electric stated that the permanent access trails were identified in areas where travel along the proposed right-of-way was not suitable due to soil characteristics, presence of wetlands, or other environmental factors. ATCO Electric's primary objective of trail selection was to utilize existing developed third party access, and in most cases, to utilize existing trails or clearings to reduce the overall project footprint.²⁸²

285. ATCO Electric stated that access trails and workspaces are not typically developed to the standard of a proper access road, such as being constructed with gravel. Subsequent to construction of the facilities, ATCO Electric's access to the right-of-way is periodic and typically associated with inspection programs and maintenance operations. ATCO Electric does not anticipate temporary workspaces or permanent access trails leading to unwanted access to lands by the public because changes to current land use are not anticipated beyond the construction phase of the project.²⁸³

286. In the first amendment, ATCO Electric requested approval of the temporary workspace areas listed in tables 1 and 3 for the preferred and alternative routes, respectively, and the permanent access trails in the locations listed in tables 2 and 4 for the preferred and alternative routes, respectively. Maps of the permanent access trails and temporary workspaces,²⁸⁴ and typical right-of-way footprint and temporary workspace drawings²⁸⁵ were included in the first

²⁸¹ Exhibit 95.01.

²⁸² Exhibit 95.01, page 2, paragraph 7.

²⁸³ Exhibit 156.01, pages 23 and 24, paragraph 81.

²⁸⁴ Exhibit 95.01, Attachment 1, pdf pages 15-29.

²⁸⁵ Exhibit 95.01, Attachment 2, pdf pages 30-34.

amendment. Tables 1 and 3 for temporary workspaces on the preferred and alternative routes, were subsequently corrected in an information request response that ATCO Electric filed on May 15, 2013.²⁸⁶ Subsequent route realignments in the second, third and fourth amendments contained localized changes to the temporary workspaces related to each route realignment.

287. ATCO Electric gave an undertaking during the hearing which stated that the total length of permanent access trails was 19.4 kilometres for the preferred route and 19.0 kilometres for the alternative route.²⁸⁷

288. ATCO Electric stated that it believed it had developed an access trail that would not impact the Gadowski family memorial garden, located on their relatives', the Cartiers' land. The proposed access trail is routed along existing disturbances and along a portion of a third-party lease. Although this third-party lease was identified at the hearing as an oil and gas lease, neither ATCO Electric nor the Gadowski family could confirm whether the well is active.²⁸⁸ ATCO Electric committed to work with the Gadowskis to find alternative construction access should the existing third-party access be unsuitable.²⁸⁹

7.6.2 Views of interveners

289. Intervenors on the preferred and alternative routes raised concerns over unwanted access to their lands caused by the permanent access trails as well as visual impacts that may be caused by tree clearing along the access trails or temporary workspaces.

290. Mr. Gadowski testified that the ambience of their memorial garden would be negatively affected by the access trail as well as the power line because of the trucks and heavy equipment that would use the trail. Mr. Gadowski requested the Commission to direct ATCO Electric to find another access.²⁹⁰ Mr. Gadowski stated that the existing well-site lease on their land had no access or operations that they were aware of.²⁹¹

291. Counsel for TLG questioned ATCO Electric on the impact that the permanent access trail would have on Mr. Pederson's property, particularly with regard to impact to grassland.²⁹² ATCO Electric compared its proposed trail routing on the Pederson property²⁹³ with a GIS detail photo of the Pederson property²⁹⁴ and explained that the permanent access trail generally follows an existing trail.

292. The Cooknells will not have facilities or right-of-way on their land, but ATCO Electric proposed temporary workspaces along the northern section line of NE 29-58-9-W4 where there are breaks in the trees.²⁹⁵

²⁸⁶ Exhibit 101.01, Information Response AUC-ATCO-37.

²⁸⁷ Exhibit 174.01, Undertaking Number 2 – Tabulation of length of access trails.

²⁸⁸ Transcript, Volume 2, page 283 lines 21-25 and page 284 line 1.

²⁸⁹ Transcript, Volume 3, page 718 lines 22-25 and page 719 lines 1-6.

²⁹⁰ Transcript Volume 2, pages 343 and 344.

²⁹¹ Transcript Volume 2, page 410, lines 4-8.

²⁹² Transcript, Volume 1, pages 181-184.

²⁹³ Exhibit 95.01, Attachment 2, pdf page 19.

²⁹⁴ Exhibit 168.02, TLG Aid to cross for ATCO panel, Photo 3, GIS Detail of Pederson Property.

²⁹⁵ Exhibit 115.01, Map AC-07f.

7.6.3 Commission findings

293. The Commission finds that the lands for temporary workspace areas and permanent access trails, as identified by ATCO Electric, fall within the definition of transmission line, pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*.

294. The Commission finds that utilization of existing developed third-party access or existing access trails minimizes the potential disturbances or impacts to land. As stated above in paragraph 288, ATCO Electric has committed to work with the Gadowski family in an effort to address their concerns.

295. The Commission finds that the lengths of the permanent access trails for the preferred and alternative routes are similar in length and as such do not weigh in favour of either route.

8 Decision

296. None of the parties in this proceeding argued that ATCO Electric's facility application was inconsistent with the transmission facilities described in the NID approved by the Commission. The Commission finds that the transmission facilities proposed in ATCO Electric's application meet the need identified in Stage 1, Section 1(b) of NID Approval No. U2013-130.

297. After careful consideration of the record of the proceeding and for the reasons set out above, the Commission finds that the approval of the project is in the public interest having regard to the social and economic effects of the project and its effects on the environment.

298. The Commission finds that approval of the preferred route for transmission line 7L139/7L70 is in the public interest.

299. The Commission approves the facility application pursuant to sections 14, 15, 19 and 21 of the *Hydro and Electric Energy Act*, and grants ATCO Electric the following approvals:

- Permit and Licence No. U2013-641 to alter transmission line 7L70, construct a new portion of line 7L70 along the preferred route and operate line 7L70, including the temporary workspace areas and permanent access trails, as set out in Appendix 1.
- Permit and Licence No. U2013-642 to construct and operate transmission line 7L139, along the preferred route, including the temporary workspace areas and permanent access trails, as set out in Appendix 2.
- Permit and Licence No. U2013-643 to alter and operate the St. Paul 707S substation as set out in Appendix 3.
- Permit and Licence No. U2013-646 to construct and operate a temporary bypass 144-kV transmission line, to be designated 7L70TEMP, as set out in Appendix 4.
- Permit and Licence No. U2013-647 to construct and operate a temporary bypass 72-kV transmission line, to be designated 6L82/6L79TEMP, as set out in Appendix 5.

300. Because the lands for temporary workspace areas and permanent access trails, as identified by ATCO Electric, fall within the definition of transmission line, pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission grants ATCO Electric's request and will specify the temporary workspace areas and permanent access trails needed for purposes of the transmission line in the permits and licences to be issued.

301. The permits and licences granted to ATCO Electric will be distributed separately.

Dated on December 20, 2013.

The Alberta Utilities Commission

(original signed by)

Anne Michaud
Panel Chair

(original signed by)

Kay Holgate
Commission Member

(original signed by)

Kate Coolidge
Acting Commission Member

Appendix A – Proceeding participants

Name of party or organization (abbreviation) Counsel or representative	Group (if applicable)
ATCO Electric Ltd. Munro, S. Williams, B.	
Beaulieu, Mark and Coralee Bishop, D.	RAFTR
Berlinguette, Michel Bishop, D.	RAFTR
Berlinguette, Norm	
Brousseau, Joffre	RAFTR
Brousseau, Claude and Mariejeanne Secord, R.	TLG
Brousseau, Martin and Susanne	RAFTR
Cartier, Roger (Lloyd's Rentals (St. Paul) Ltd.) Secord, R.	TLG
Champagne, Sharon Secord, R.	TLG
Christenson, Allan and Denise	RAFTR
Cooknell, Ronald	
Cooknell, Wayne and Arlene Secord, R.	TLG
Corbiere, Richard and Charlene	RAFTR
Dargis, Fernand and Diane Secord, R.	TLG
Dubeau, Real	RAFTR
Gadowski, Terry and Valerie Secord, R.	TLG
Hebert, Gabriel Secord, R.	TLG
Hebert, Rodrigue and Tanya Secord, R.	TLG
Hovelkamp, Derek and Julie Bishop, D.	RAFTR
Hovelkamp, Lyle Bishop, D.	RAFTR

Name of party or organization (abbreviation) Counsel or representative	Group (if applicable)
Hutterian Brethren Church of Manville Secord, R.	TLG
Kiss, AaronJoe Bishop, D.	RAFTR
Labant, John and Marie Bishop, D.	RAFTR
Labant, Eugene and Jodi Bishop, D.	RAFTR
Labant, Victor Bishop, D.	RAFTR
Labine, Charles and Leona Bishop, D.	RAFTR
Lakeland Cross-Country Ski Club Padlesky, D.	
Lakes Ranch Ltd. Stohtert, W.	
Lilje, Milton Bishop, D.	RAFTR
Lilje, Neil Bishop, D.	RAFTR
Mackinnon, Anita Bishop, D.	RAFTR
Mahe, Patricia	
Michaud, Gerry Bishop, D.	RAFTR
Muchka, Brian and Joanne Bishop, D.	RAFTR
Noel, David & May Secord, R.	TLG
Noel, Lewis Lamoureux, P.	
Ostapovich, Lawrence Bishop, D.	RAFTR
Pederson, Alan Secord, R.	TLG
Piquette, Bishop, D.	RAFTR
Plante, Roger and Louise Carter, D.	
Plante, Jacques and Gail Carter, D.	

Name of party or organization (abbreviation) Counsel or representative	Group (if applicable)
Platz, Ron and Cheryl Bishop, D.	RAFTR
Poser, Lothar & Valencia	
Pratch, Aline Secord, R.	TLG
Pratch, Darren & Valerie Secord, R.	TLG
Pruneau, Suzanne Secord, R.	TLG
Reilly, Sue Secord, R.	TLG
Richardson, Darren and Sharon Secord, R.	TLG
Riske, Carmella Bishop, D.	RAFTR
Robertson, Daniel and Cheryl	
Robertson, Gerald and Genevieve	
Scales, Deanna Bishop, D.	RAFTR
Semeniuk, Vanessa Bishop, D.	RAFTR
Sparks, Gary and Lillian Bishop, D.	RAFTR
St. Arnault, Aime and Yvonne Bishop, D.	RAFTR
Swedgan, Elsie Bishop, D.	RAFTR
VanBrabant, Jerico and Youry Secord, R.	TLG
Weinmeier, Almer Bishop, D.	RAFTR
Zellweger, Harry and Ursula Bishop, D.	RAFTR
Zellweger, Paul and Diana Bishop, D.	RAFTR

The Alberta Utilities Commission

Commission Panel

Anne Michaud, Panel Chair
Kay Holgate, Commission Member
Kate Coolidge, Acting Commission Member

Commission Staff

Ali, M. (Commission counsel)
Glover, D.
Scotton, G.
Wilde, T.

Appendix B – Oral hearing – registered appearances

Name of party, organization or group (abbreviation) Counsel or representative	Witnesses
ATCO Electric Ltd. (ATCO Electric) Munro, S. Williams, B.	Doll, G. Martin, S. Smart, R. Boven, R. Beverly, J. Mezei, Dr. G. Oakley, C. Kupper, A.
Residents for Alternative, Fair Transmission Reinforcement (RAFTR) Bishop, D.	Gadowski, T. and V. Pratch, V. Cartier, E. Champagne, S. Cooknell, W. Pruneau, S. Dargis, F. and D. Brousseau, C. and M. Wershler, C.
The Launch Group (TLG) Secord, R. McDougall, I.	Zellweger, P. and D. Riske, C. Riske, J. Zellweger, H. and U. Mackinnon, A. Hovelkamp, L. Hovelkamp, A. Sparks, L. Ostapovich, L. Beaulieu, M. and C. Wallis, C.
Plante family Carter, D.	Plante, J. and G. Plante, R. and L.
Lakeland Cross-Country Ski Club	Lamoureux, P.

Appendix C – Abbreviations

Abbreviation	Name in full
##-##-##-W4	Section ##, Township ##, Range ##, west of the Fourth Meridian
AESO	Alberta Electric System Operator
AESRD	Alberta Environment and Sustainable Resource Development
Alberta Electric Code	<i>Alberta Electrical Utility Code</i>
ATCO Electric	ATCO Electric Ltd.
AUC	Alberta Utilities Commission
AUC Rule 001	AUC Rule 001: <i>Rules of Practice</i>
AUC Rule 007	AUC Rule 007: <i>Applications for Power Plants, Substations, Transmission Lines, and Industrial System Designations</i>
AUC Rule 012	AUC Rule 012: <i>Noise Control</i>
CETD	Central East Region Transmission System Development
Commission	Alberta Utilities Commission
EBA	EBA Engineering Consultants Ltd.
EMF	electric and magnetic field or electromagnetic field
Heartland Decision	Decision 2011-436, AltaLink Management Ltd. and EPCOR Distribution & Transmission Inc., Heartland Transmission Project, November 1, 2011
kV	kilovolt
kV/m	kilovolts per metre
mG	milligauss
NID	needs identification document
pdf page	page number in Adobe Acrobat file
PNT	protective notation
RAFTR	Residents for Alternative, Fair Transmission Reinforcement
Serecon	Serecon Valuations Inc.
Serecon agricultural impact report	High Voltage Transmission Line Agricultural Impact Assessment by Serecon Valuations Inc.
SLE	species-line encounter
TLG	The Launch Group
VCE	vegetation control easement
Wallis report	evidence of Cliff Wallis, P. Biol
Wershler report	evidence of Cleve Wershler, P. Biol