



ATCO Electric Ltd.

Bonnyville to Bourque Transmission Project

June 27, 2013



The Alberta Utilities Commission
Decision 2013-233: ATCO Electric Ltd.
Bonnyville to Bourque Transmission Project
Application No. 1608386
Proceeding ID No. 1855

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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) for a new 240-kilovolt (kV) transmission line near Bonnyville, Alberta, between the Bonnyville 700S substation and the new Bourque 970S substation. The application also seeks approval of related transmission equipment in both substations.

2. ATCO's application included a preferred west route and an alternate east route. It was ATCO's position in its application and at the hearing that the preferred west route was superior to the alternate east route having regard to a number of factors, including residential, agricultural and environmental impacts.

3. A number of interested parties who own or reside on land on or within 800 metres of the preferred west route objected to ATCO's application. Some of these persons represented themselves in the proceeding and participated either by filing a written submission with the Commission or providing a brief oral statement to the Commission at the hearing.

4. Some individuals and families who live on or near the preferred west route formed an intervener group called the "Red Route Coalition" or the "RRC". It was the position of the RRC that the alternate east route was superior to the preferred west route. The RRC fully participated in the hearing and was represented by Mr. Richard Secord of Ackroyd LLP. Members of the RRC included James and Phyllis Bartok, Robin Dubilowski, Mickey and Cindy Fagnan, Jeremy Fagnan, Jans and Ulla Hansen, Dwight and Shelley Homister, Barry and Renee Kalinski, John and Rose Kalinski, Lyndon Kalinski, James and Karen Karasiuk, John Krywiak, Ken and Lois McKinney, Edward and Shirley Persely, Forrest Persely, Debbie and Leonard Slipchuk, and Arthur and Petrina Tapscott.

5. There were also interveners who owned or resided on land on or within 800 metres of the alternate east route. Mr. Vic Findlater of the Lakeland Law Group represented Clay Braithwaite, Andy and MaryAnne Leroux and Stephen, Curtis and Rachelle Scott. These interveners participated in the proceeding by filing statements of intention to participate, giving direct evidence, cross-examining other parties and providing argument. Mr. Stephen Shandro also participated in the hearing and was represented by his son Mr. Andrew Shandro. Other individuals and families living on or near the alternate east route filed written submissions with the Commission in which they expressed their concerns about the alternate east route.

6. The following map shows the area encompassing the application including the preferred, alternate east and alternate south routes as well as the location of the Bonnyville 700S and Bourque 970S substations.

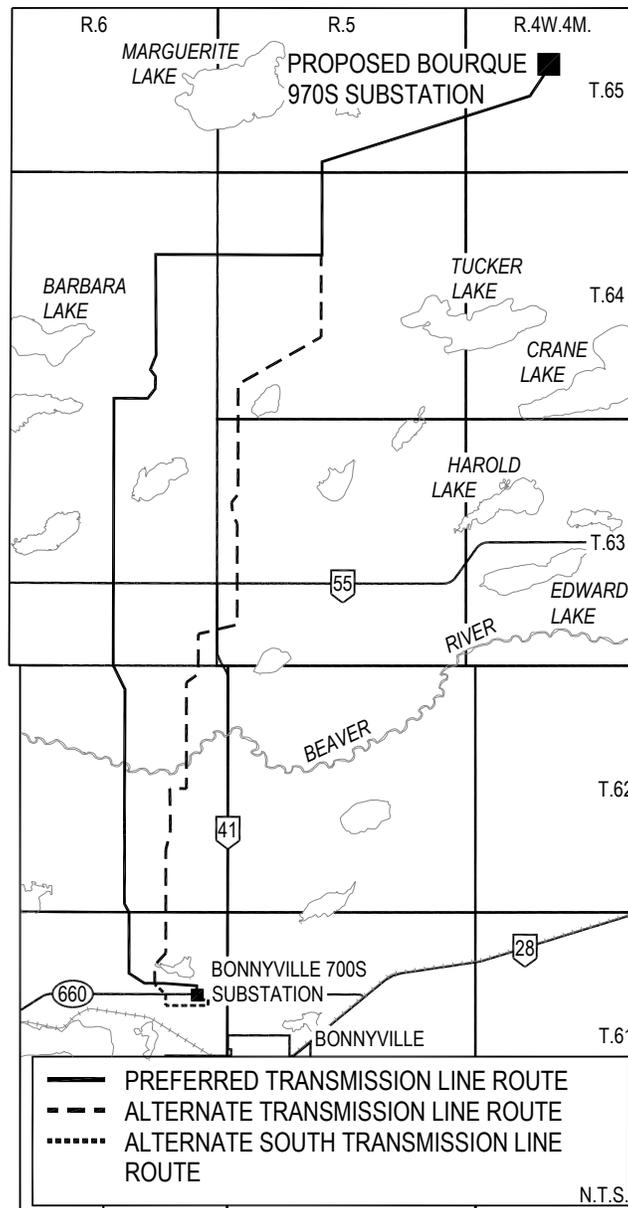


Figure 1 - Proposed transmission development

2 Background

2.1 The approval process for new transmission development in Alberta

7. Two approvals from the AUC are required to build new transmission facilities in Alberta: an approval of the need for expansion or enhancement to the Alberta Interconnected Electric System under Section 34 of the *Electric Utilities Act*, and an approval to construct and operate a transmission facility pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*.

8. The Alberta Electric System Operator (AESO), is responsible for preparing a needs identification document (NID) and filing an application for approval of the NID with the AUC. In this case, the AESO filed a need application for reinforcement of the transmission system in the central east area of Alberta which included the need for reinforcements in the Bonnyville area. The Commission held a hearing to consider that application and, on February 10, 2011, issued Decision [2011-048](#),¹ in which it approved the need for the requested upgrades.

9. A facility application is prepared by a transmission facility owner assigned by the AESO. The transmission facility owner (in this case ATCO) files the facility application with the AUC for consideration. In making a decision, the Commission must consider whether the 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.

10. The Commission recently described its approach to deciding applications for new transmission facilities in Decision [2011-436](#), in which it stated:

The Commission's past practice was to weigh the established benefits of a proposed upgrade, as reflected in a need approval, with the discrete impacts of the project proposed by the facility applicant. The Commission would then assess whether implementation of the applied-for project would address the previously approved need for the project while at the same time minimizing, or mitigating to an acceptable degree, the potential adverse impacts on Albertans, both on a province-wide basis, and for those Albertans who must bear the burden of having the infrastructure placed on or adjacent to their lands.²

2.2 The Bonnyville to Bourque application

11. ATCO filed its facility application for the Bonnyville to Bourque transmission project on April 27, 2012, registered as Application No. 1608386. ATCO filed amendments to the application on September 17, 2012, and March 6, 2013. The major components of the application were:

- Alterations to the existing Bonnyville 700S substation.
- Construction of approximately 47 to 54 kilometres of new 240-kV double-circuit transmission line, to be initially operated with one circuit energized at 144-kV. The proposed transmission line would connect Bonnyville 700S substation to Bourque 970S substation.
- Setting up temporary workspace areas and construction of permanent access trails along the proposed transmission line as set out in the application.
- Alterations of existing 144-kV transmission lines 7L24, 7L53 and 7L89 to facilitate connection of the proposed 240-kV transmission line.

12. Most of the amendments to the application were relatively minor. However, in the March 6, 2013 amendment, ATCO did propose a new alternate south route near the Bonnyville substation. The new alternate south route could be used regardless of whether the preferred west

¹ Decision 2011-048: Alberta Electric System Operator – Needs Identification Document Central East Region Transmission System Development, Application No. 1606218, Proceeding ID No. 645, February 10, 2011.

² AUC Decision 2011-436, paragraph 161.

route or the alternate east route was approved. A more detailed map of the alternate south route is shown in Section 10 of this decision.

13. The Commission issued a notice of application for the proceeding on January 2, 2012. A notice of hearing for this proceeding was issued on February 22, 2013, and was sent to registered parties by email, was mailed directly to approximately 800 land title holders who were within 800 metres of proposed transmission facilities rights-of-way for all route alternatives in the application. It was published on the AUC website as well as in the Bonnyville Nouvelle, the Edmonton Journal and the Edmonton Sun newspapers. On March 19, 2013, the Commission issued a notice of application amendments.

14. The Commission held information sessions on December 5, 2012, and February 5, 2013, in La Corey, Alberta.

15. The Commission held a public hearing to consider the Bonnyville to Bourque application in Bonnyville on April 22 to 24, 2013, before Commission Member Tudor Beattie, QC (Chair), Commission Member Neil Jamieson, P. Eng., and Acting Commission Member Gwen Day.

3 Issues

16. The Commission considers that the application and interventions raise the following issues:

- Are the preferred west and alternate east routes consistent with the need for transmission reinforcements in the Bonnyville area approved in Decision 2011-048?
- Does ATCO's public involvement and consultation program meet the requirements of AUC Rule 007: *Applications for Power Plants, Substations, Transmission Lines, and Industrial System Designations* (AUC Rule 007) and was it adequate in the circumstances?
- Is approval of either of the routes described in the application in the public interest and if so, which route is more in the public interest?

17. To address the third issue, the Commission compared the respective social, economic and environmental impacts of the two route alternatives proposed by ATCO. The comparators used in this analysis were consistent with those used in many previous decisions of the Commission and its predecessors. Specifically, the Commission considered each alternative from the following perspectives: property impacts, environmental impacts, health and safety, electrical impacts, and costs.

4 Are the preferred and alternate routes consistent with the need approval?

18. No parties in this proceeding argued that the facility application was not consistent with the transmission facilities described in the NID approval, Approval No. [U2011-57](#),³ for the transmission system development in the central east region of Alberta.

³ Needs Identification Document Approval No. U2011-57, Application No. 1606218, Proceeding ID No. 645, February 10, 2011.

19. The Central East NID approval included a new double-circuit 240-kV transmission line with one side strung, to be initially energized at 144-kV, from Bonnyville 700S substation to Bourque 970S substation.

20. In the Commission's view, the transmission facilities proposed in ATCO's application meet the need identified in Needs Identification Document Approval No. U2011-57 and also are consistent with the transmission facilities approved in that approval.

5 Public consultation

5.1 Views of ATCO

21. ATCO explained that its consultation program spanned two years and was initiated early in the project. ATCO stated that it provided stakeholders with access to qualified individuals, including planners and specialists, to respond to their concerns and noted that it communicated upwards of 20 times with certain individuals.

22. ATCO submitted that its consultation program refined the development of the applied-for routes and allowed it to consider and respond effectively to landowner input. ATCO noted in this respect that it specifically investigated a potentially far westerly route primarily through Crown lands in response to stakeholder input. It also noted that the south alternate option was developed in response to stakeholder concerns.

23. It was ATCO's position that it met and exceeded the Commission's public involvement and consultation requirements described in AUC Rule 007. ATCO noted in this respect that it consulted with all participants within 800 metres of the line. ATCO stated that it had made proactive efforts to promote broad understanding and acceptance of the route selection process and routing outcomes to reduce the potential for community conflict, divisiveness and opposition to the project.

24. One issue that arose in the proceeding with respect to the public consultation process was ATCO's practice of making early access and resolution payments. ATCO explained that it provided these payments to landowners on the preferred route who were willing to sign a right-of-way agreement. It stated that early access allows it to carry on-site investigations, including geotechnical and other activities to better assess the construction schedule. ATCO stated that this early information helps to reduce project cost and timing uncertainties. ATCO also emphasized that such payments promote resolution and avoid the need to obtain right-of-entry orders and to participate in compensation hearings before the Surface Rights Board.

25. ATCO submitted that it does not rely on the early access and resolution agreements in any way when calculating the level of objections to a proposed new transmission line. It stated that the comparative information about route choices provided in the application⁴ was generated in advance of the early access payments being offered to landowners. ATCO concluded that the early access payments do not influence its presentation of the level of opposition in terms of the number of concerns.

⁴ Exhibit 80.00, Attachment 1, page 27, Table 8.

5.2 Views of the interveners

26. The RRC members felt that ATCO's consultation process and responses to their inquiries were superficial and not designed to give an effective response to their concerns. For example, the Persely family expressed concern about ATCO's decision to survey both routes before approval by the AUC. They also expressed concern that ATCO's land agents put pressure on landowners to accept an early resolution and access payment. Mr. Krywiak expressed similar concerns about the early access payments and stated that ATCO has created animosity between neighbors and families.

27. Several members of the RRC referred to ATCO's early access payments as a "bribe". The RRC argued that the making of early access payments resulted in a reduction of objections on the preferred route. It argued that optimizing transmission costs requires the proper balance between the interests of landowners and the interests of ratepayers. It stated that the payment of potentially excessive early access payments is an example of ATCO making landowner-related decisions that can substantially increase the cost of transmission.

28. The RRC noted that a potential problem with the early access payments is that ATCO becomes invested in making sure that the Commission approves the preferred route. It stated that if the preferred route is not approved the responsibility for paying the early access payments could fall to ATCO's shareholders. The RRC concluded that the Commission should discourage the payment of early access payments especially when there is doubt as to which of the applied-for routes is superior.

29. The interveners represented by Mr. Findlater also expressed concern about the divisive effect the ATCO's application was having on the community. Mr. Stephen Scott noted that he owned land affected by both routes and observed that he probably knows 80 per cent of the people on each route. Mr. Curtis Scott also expressed concern about the consultation process. He noted that he and his father proposed several route alterations to ATCO to move the alternate east route closer to, or to the other side of their property line, but ATCO was unresponsive to their suggestions.

5.3 Commission findings

30. The Commission finds that ATCO's public involvement and consultation program was consistent with the requirements of AUC Rule 007 and adequate in the circumstances. The Commission recently commented on its public consultation requirements and expectations in Decision 2011-436:

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 intervenor concerns. This is not the fault of the applicant or the intervenor; 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 intervenors to understand the project and its implications for them, and to meaningfully convey to the applicant their legitimate concerns about the project.

31. In the Commission's view, ATCO's consultation program achieved the three goals of an effective consultation program described above. It is evident from the record that ATCO began its consultation program early in its application development process and that it provided potentially affected stakeholders with sufficient information to understand the project and its potential implications and sufficient opportunity to express concerns about the proposal.

32. The Commission is also satisfied that ATCO was reasonably responsive to the concerns expressed by stakeholders with respect to the proposed routes. The Commission observes that ATCO investigated the far westerly route proposed by landowners and also developed the south alternate route in response to landowners concerns. Further, the Commission also finds that the amendments to the application filed by ATCO were also in response to issues raised by intervenors. The Commission appreciates that ATCO attempted to reduce landowner concerns through these amendments. Having regard to the foregoing, the Commission finds that ATCO's consultation program helped shape the development of the two routes described in the application.

33. The Commission considered ATCO's practice of making early access payments in Decision 2012-303⁵ for the Eastern Alberta transmission line. In that decision, the Commission found as follows:

282. With respect to the offering of the ERA (early access and resolution agreement) payment, the Commission finds that the offering of a payment to landowners for the purpose of securing early access to their property and their forbearance from objecting to the EATL project was reasonable under these circumstances.

283. The Commission recognizes that offering the ERA payment to landowners on the preferred route segments only, could potentially create a situation where the landowners with objections and land parcels with objections metrics are rendered less reliable as an indicator of the acceptability of any given segment of the EATL project. This would depend on the timing of the offer and whether landowners had knowledge that the ERA payments would be offered only to landowners on the preferred route...

34. The Commission continues to be of the view that ATCO's practice of offering early access payments to landowners is a reasonable practice depending upon the timing of such payments. Regarding the impact of such payments on objection metrics, ATCO's evidence was that the comparative information about route choices provided in the application⁶ was generated in advance of the early access payments being offered to landowners. However, ATCO also confirmed that in the updated route comparison table it filed on March 15, 2013, the landowner

⁵ Decision 2012-303: ATCO Electric Ltd. – Eastern Alberta Transmission Line Project, Applications No. 1607153 and No. 1607736, Proceeding ID No. 1069, November 15, 2012.

⁶ Exhibit 80.00, Attachment 1, page 27, Table 8.

objection metric included objections made after some early access payments had been made to landowners on the preferred route. The following table compares the objection metrics before and after the payment of early access payments.

Table 1. Objections to proposed routes

	Objections within 800 metres		Right-of-way objections	
	Preferred	Alternate	Preferred	Alternate
Before early access payments	56	70	35	39
After early access payments	41	67	17	29
Percentage change	27%	5%	52%	25%

35. The above table shows that prior to any early access payments being made to landowners on the preferred route there were more objections to the alternative route than the preferred route in both objector categories. The table also suggests that the making of early access payments to landowners on the preferred route may have resulted in a significant drop in the number of objections to that route in both objector categories, especially when compared to the alternate route. Accordingly, the Commission considers that it must consider the objection metrics included in the revised route comparison table with caution as it is reasonable to conclude that the making of early access payments may have influenced the number of objections recorded for each route.

6 Effects on property

6.1 Views of ATCO

6.1.1 Residential effects

36. ATCO explained that an important factor in determining its preferred route was to consider impact on nearby residences. It included information about the proximity of residences to the routes it considered in its application. It later updated that information in response to an information request by the RRC. The following table⁷ summarizes ATCO's evidence with respect to proximity to residences:

Table 2. Residences in proximity to proposed routes

Route option	Preferred west route	Alternate east route
Nearest occupied residence	85 metres	131 metres
Residences within 150 metres of right-of-way	2	6
Residences between 150 - 400 metres of right-of-way	15	8
Residences between 400 - 800 metres of right-of-way	32	47 ⁸
Total number of landowner objections within 800 metres of right-of-way	41	67
Landowners and occupants on right-of-way with objections	17	29

37. ATCO submitted that it attempted to route along quarter or section lines, and along existing linear features and land-use boundaries. In some instances, ATCO stated that it was

⁷ Taken from Exhibit 146.02.

⁸ ATCO explained that this number includes only the first row of houses in La Corey.

unable to do this as a result of residences, oil and gas sites, wetlands or correction lines. ATCO indicated that the preferred route does a better job of following property boundaries.

38. ATCO submitted that visual impacts are subjective and difficult to quantify, but that it attempted to limit potential impacts by avoiding close proximity to residences, parks and protected areas. ATCO stated that it would work with landowners to reduce these impacts by adjusting the location of structures.

39. ATCO submitted that, when its consultation records were reviewed,⁹ it was clear that there was greater landowner opposition to the alternative route. It noted that it received thirty-five (35) objections from landowners and occupants on or directly adjacent to the right-of-way for the preferred route, and thirty-nine (39) objections from landowners and occupants on or directly adjacent to the right-of-way for the alternate route. ATCO argued that the Commission's consideration of residential impacts should not be limited to considering the concerns of those who attended the hearing. It stated that one of the purposes of the Commission's consultation requirements is for that information to be considered by the Commission when making its decision on an application. ATCO stated that just because an application proceeds to a public hearing does not mean the Commission should ignore objections expressed in consultation but not repeated in a statement of intention to participate or at the hearing.

6.1.2 Agricultural effects

40. ATCO submitted that it attempted to minimize agricultural impacts by routing along quarter and section lines, existing linear features and changes in land use. ATCO submitted that where this was not possible, it generally placed the line a minimum of 50 metres into the field to allow farm equipment easier access around structures.

41. ATCO indicated that the impacts to cultivation are primarily around the structures.¹⁰ ATCO submitted that there would be 22 mid-field structures in cultivated land on the preferred route and 45 mid-field structures in cultivated land on the alternate route.

42. ATCO retained Serecon Valuations Inc. to assess the potential agricultural impacts of the transmission line. Serecon Valuations Inc. provided a report¹¹ that concluded that the agricultural impacts of the transmission line could be mitigated. ATCO added that landowners and occupants are compensated for the impacts of the transmission line through annual structure payments.

43. ATCO stated that access trails were selected in an attempt to minimize potential impacts and that the majority of the trails would not be permanently maintained and would be reclaimed following construction and would, therefore, not impact farming activities once construction is completed.

44. ATCO stated that its environmental protection plan incorporates a number of measures aimed at reducing the risk of spreading noxious weeds and clubroot. ATCO stated that it will work with landowners and local agricultural fieldmen to determine appropriate measures to mitigate the spread of noxious weeds and clubroot. ATCO indicated that it has incorporated best

⁹ Exhibit 79, Attachment 3, PDF page 72.

¹⁰ Transcript, Volume 1, page 95, lines 22 to 25.

¹¹ Exhibit 133.01, Agricultural Impact Assessment.

management practices that include a number of equipment cleaning practices designed to prevent the spread of noxious weeds and clubroot.

45. ATCO also retained Serecon Valuations Inc. to evaluate the potential impact to agricultural operations as a result of the removal of shelterbelts due to the transmission line. Serecon Valuations Inc. provided a report¹² that concluded that the removal of certain shelterbelts is not expected to have any substantial impacts on agricultural operations. ATCO submitted that it allows for re-vegetation using low shrubs to aid in reducing visual impact associated with removal of shelterbelts.

6.1.3 Property value and land access

46. ATCO submitted that it does not anticipate impacts to property value on bare agricultural land and stated that any potential property value impact to residences is diminished with distance.

47. Regarding the concerns expressed by some landowners that construction of the proposed line would make it easier for third parties to access their land for activities such as hunting and riding quads, ATCO submitted that it would work with landowners to develop measures such as gates, locks, visual screening and berms to mitigate unwanted access.

6.2 The Red Route Coalition

6.2.1 Residential effects

48. The Red Route Coalition submitted that three of the residences within 150 metres of the alternate route are located near an existing 144-kV transmission line. The RRC stated that the paralleling of existing disturbances is a well-established practice and minimizes the impacts of transmission lines. The RRC argued that because the alternate route is located on the far side of an existing transmission line from the residences, the impact to these residences would be reduced.

49. The RRC submitted that one of the residences along the alternate route that ATCO had included in its metrics as within 150 metres is uninhabited.

50. The RRC also argued that only one of the stakeholders with residences within 150 metres of the alternate route had registered in this proceeding and none of them had filed a statement of intent to participate or appeared before the Commission at the hearing. The RRC argued that this indicates a lesser degree of objection.

51. The RRC submitted that the number of residences within 200 to 400 metres of the transmission line is greater along the preferred route than the alternate route. The RRC acknowledged that the number of residences within 400 to 800 metres is greater along the alternate route, but contended that this should be given less weight than the residences within 200 to 400 metres.

52. The RRC submitted that there were very few written submissions or statements of intention to participate filed by landowners on the alternate east route. It further stated that of the few landowners on the alternate route who did file some form of submission, even fewer appeared in the hearing. The RRC also pointed out that not one intervener from the alternate east

¹² Exhibit 166.19, Agricultural Impacts Resulting from a Loss of Shelterbelts Due to a Transmission Line.

route filed any written evidence in the hearing. The RRC observed that while the alternate east route does have the most residences within 150 metres of a proposed line not one of the owners of those properties attended the hearing to express their concerns about the alternate route.

53. The Kalinskis, members of the RRC, indicated that their son had intended to build a house on their property, but had decided not to, partly because of the proposed transmission line.

6.2.2 Agricultural effects

54. The RRC expressed concerns about the impacts to agricultural operations from the preferred route. The RRC identified the difficulty of working around structures, the invasion of noxious weeds, and the loss of revenue due to these factors as their primary concerns.

55. The RRC disputed ATCO's totals for the number of structures in cropland on the two routes. The RRC instead submitted that there would be 26 towers located in cropland on the preferred route and 19 towers in cropland along the alternate route.

56. Shirley Persely and Forrest Persely, members of the Red Route Coalition, testified that they owned land on both the alternate and preferred route of the transmission line, but were only objecting to the preferred route as it would have the greatest effect on their farming operations.

57. The Perselys explained that they have been pedigreed seed growers since 1976. They explained that pedigreed seed is a genetically pure seed that is developed for improvement in disease resistances or quality of yield. They submitted that the process is "very regulated" such that they must have permission to grow the seed. They testified that there are strict regulations that include the need for isolation strips, land-use history and inspection of the fields by the Canadian Food Inspection Agency. The Perselys submitted that if they fail the inspection, they are only allowed to reapply once. If the second inspection is failed, the Perselys testified that they would not be able to sell the crop as pedigreed and would instead have to sell it at a much reduced price. They testified that the losses as a result of this would be approximately \$168,000 for the three quarter sections affected by the preferred route. The Perselys submitted that they are very careful with access to and the work that is done on their farmland. The Perselys added they pay higher input costs including paying royalties to grow the pedigreed seed and that if they lose their certification to sell the seed, they are not able to recover those higher input costs.

58. The Perselys testified about the procedures they take in order to ensure no weeds enter the field, which include pre-season burns and ensuring equipment is thoroughly cleaned. They submitted that in the event they fail the first inspection, they walk through the field in 20-foot passes and handpick any weeds they find.

59. The Perselys indicated that they have taken measures to remove any obstacles from the south half of Section 3, Township 62, Range 6, west of the Fourth Meridian including draining sloughs and leveling out hills to reduce overlap as much as possible and so that it is easy to see any weeds within the crop. The Perselys indicated that they have attempted to reduce obstacles on all of their fields, but the south half of Section 3, which is crossed by the preferred route, is where they have been able to reduce the amount of obstacles to almost zero.

60. Members of the RRC expressed concerns about the removal of trees and shelterbelts. They submitted that the shelterbelts provide windbreaks for their houses and yards. The shelterbelts also trap snow and subsequent moisture which makes the land more productive.

Members expressed that it should be the role of ATCO to replace these shelterbelts with low lying shrubs and bushes that it had indicated would be acceptable.

61. Mr. Dubilowski was not a member of the RRC. However, the lands he uses for his cattle operation are crossed by the preferred west route. Mr. Dubilowski submitted that he had an agreement with ATCO to replace the shelterbelt that runs along his property that his cattle use, but ATCO had rescinded this offer because they believed they had moved the transmission line so that it would not impact that treed area. Mr. Dubilowski expressed concern about the transmission line's impact to his cattle. He submitted that inadequate shelter from bad weather lowers an animal's resistance and that overcrowding can lead to bullying, fighting, discomfort or disturbed rest.

6.3 Alternate East Route Interveners

6.3.1 Residential effects

62. On behalf of his clients, Mr. Findlater argued that although the alternate route parallels an existing 144-kV transmission line for some of its length, they are two different types of lines and the proposed line would carry significantly more power.

63. Mr. Findlater submitted that the number of residences within 800 metres is greatest for the alternate route. Mr. Findlater's clients submitted that ATCO's metrics indicate this even though it only includes the street in La Corey that is closest to the transmission line. They suggested that this was about six blocks of people that would be 400 to 800 metres from the transmission line. Mr. Findlater noted that one of his clients asked to have the transmission line moved onto the property line but that ATCO would not do that because it would mean moving the transmission line closer to La Corey. These interveners argued that the alternate route would have a much greater impact on La Corey than the preferred route.

64. Mr. Findlater suggested that the alternate route "bobs and weaves" because there are so many residences that the route is forced to deviate from property lines in order to maintain a minimum distance from residences.

65. Mr. Findlater asserted, on behalf of his clients, that the Commission should give consideration to all the statements of intention to participate filed by stakeholders near or on the alternate east route despite the fact that some of these individuals did not attend the hearing. He noted that those submissions were made by unrepresented persons with the understanding that the Commission would take their submissions into account when making its decision.

66. Mr. Shandro indicated that the transmission line would cross an area where he intended to build a house. He stated that there is an abandoned house in the location that he had previously lived in, but the area has been planned and developed with fruit trees and a water well, as it was always his intention to rebuild in this location. Mr. Shandro stated that ATCO had indicated a structure would be located in the middle of these fruit trees and would be removing trees in the natural growth wooded area around the future home site that acts as a wind shelter for the yard.

67. Mr. Shandro also indicated that there is a subdivided acreage in NW 36-62-6-W4M, that has not yet been developed, and that he would be unable to develop if the alternate route was approved.

68. Mr. and Ms. Knudsen indicated that the alternate route would be in close proximity to an acreage that they are developing.

6.3.2 Agricultural effects

69. Mr. Findlater argued, on behalf of his clients, that while the Perselys and the Kalinskis have chosen to combine fields to create a larger field, in the event that the properties are sold, they are still individual properties. He submitted that the alternate route has more instances where it traverses through the middle of individual quarter sections which would have a larger impact.

70. Mr. Stephen Scott also expressed concerns as to how the transmission tower structures will interfere with his grain farming and cattle operations.

71. Mr. Shandro expressed concerns with impacts to farming as the alternate route would travel through the middle of his quarter sections rather than along the quarter line. Mr. Shandro indicated that the area the alternate route is proposed in NW 36-62-6-W4M is susceptible to erosion and provided evidence to show the erosion impacts from a municipal drainage ditch. Mr. Shandro indicated that some of his equipment is 100 feet wide and that there would not be sufficient space between the structures and fence lines, or other boundaries.

6.4 Commission findings

72. While the Commission recognizes that the choice of either route will impact those who live and work on or near each respective route, it is of the view that there are greater property impacts associated with the alternate route when compared to the preferred route, especially from the perspective of agricultural impacts.

73. The RRC urged the Commission to take into account the lack of formal participation in the hearing of the six closest residences along the alternate route when considering residential impacts. The RRC seemed to suggest that their non-participation implied that these residents and landowners had no concern about the alternate route. The Commission cannot agree with that proposition. First, it observes that none of the residents within 150 metres of either route participated in the hearing. Second, it notes that the majority (five of eight) of these residents/landowners objected to the route closest to them during their consultation with ATCO. In the Commission's view, a person's choice to participate or not participate in a proceeding is just one of many factors that the Commission may consider when assessing the route alternatives before it.

74. Notwithstanding the lack of formal participation of the inhabitants of the closest residences to the proposed transmission lines, the Commission accepts that those residences that are located closest to the line will potentially be subject to the greatest impact. The Commission also finds that the residential impacts of a transmission line decrease as you move away from it.

75. The preferred route has fewer residences within 150 metres when compared to the alternative (two versus six) and fewer residences within 800 metres (49 versus 61), but has more residences between 150 and 400 metres than the alternate (15 versus eight). The preferred route also had fewer objections from landowners and occupants on the right-of-way and landowners within 800 metres of the right-of-way when compared to the alternate route prior to ATCO making any early access payments. Having regard to these metrics which reflect the potential for

residential impact, the Commission considers that the approval of the preferred route is slightly favoured.

76. From an agricultural perspective, the Commission finds the preferred route to be somewhat superior to the alternate route because it follows quarter and section lines for a greater distance and has fewer mid-field structures. The Commission recognizes that this still results in some agricultural disruptions, especially when quarter sections are farmed together as a single parcel. However, the Commission is satisfied that, generally, transmission lines routed along property boundaries create fewer farming impediments than those routed midfield.

77. The Commission further finds that routing the transmission line along property boundaries is a well-established principle in routing that may also help to reduce the impacts to future development. As was stated in Commission Decision 2012-303:

680. The Commission finds that ATCO Electric's decision to route preferentially along property boundaries is reasonable and is in accordance with Alberta Environment and Sustainable Resource Development R&R/11-03, *Environmental Protection Guidelines for Transmission Lines*.¹³

78. The Commission acknowledges the concerns expressed by the Perselys and others about the potential for the introduction of weeds by ATCO during construction or maintenance. Further, the Commission recognizes that the Persely's pedigreed seed operation is dependent upon adherence to strict practices and protocols and understands their reluctance to allow any third party onto their land that could jeopardize their operation. The Commission notes in this respect Mr. Persely's testimony that some oil and gas operators on his farmlands were difficult to deal with from a weed perspective whereas the major oil and gas operator in the area was very responsive to his concerns. Mr. Persely stated that this operator is always respectful, maintains its leases constantly and cleans their machinery before entering his fields.

79. Appendix N to ATCO's Environmental Protection Plan¹⁴ describes three levels of equipment cleaning that ATCO can undertake to prevent the spread of noxious weeds. The three levels are:

- Level 1 – Mechanical Cleaning: Physical removal of dust, soil and plant materials (scraping off mud, sweeping or blowing off dirt).
- Level 2 – Washing: Physical removal of soil including hot water or steam cleaning.
- Level 3 – Disinfecting: refers to a "bio-security mode". This requires physical removal of soils including hot water/steam cleaning followed by disinfectant, typically one to two per cent bleach (misting, (keeping moist) for 15 minutes).

80. The Commission expects ATCO to work with the Perselys and other area farmers and the local agricultural fieldman to determine the level of cleaning that will be appropriate before entering the farms they will be operating on. Further, the Commission expects that ATCO will conduct all of its construction and operations on private agricultural lands in the same respectful manner that the major oil and gas operator described by Mr. Persely does.

¹³ Decision 2012-303, Eastern Alberta Transmission Line, page 137.

¹⁴ Exhibit 166.18, pages 94 to 97.

7 Environment

7.1 Views of ATCO

7.1.1 Environmental assessment and environmental evaluation report

81. ATCO Electric Ltd. (ATCO) retained EBA Engineering Consultants Ltd. (EBA) to prepare an environmental evaluation report for the project. The environmental evaluation report described the environmental setting of the project area including land use, wetlands and waterbodies, terrain and soils, vegetation, and wildlife and wildlife habitat; discussed the potential effects of the project on these environmental components; and identified mitigation measures that would mitigate the potential adverse effects of the project on these components. The environmental evaluation report was based on desktop environmental data and stated that field surveys will be completed for the proposed routes 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.

82. The environmental evaluation report stated that the project has the potential to impact the environment, particularly wildlife species and wildlife habitat. 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 for both the preferred and alternate routes. The report also concluded that the preferred route had several advantages over the alternate route from a biodiversity perspective,¹⁵ including crossing through a smaller area of key wildlife biodiversity zones and crossing one less mapped and coded watercourse.

83. The results of the environmental field surveys completed by EBA in 2012 and 2013 resulted in updates to the original assessment statements made by EBA in their environmental evaluation report. EBA no longer rates the effects of the project on wildlife as "low" in magnitude and has increased this rating to "moderate" in magnitude.

7.1.2 Supplemental environmental field surveys

84. EBA's environmental evaluation report was supplemented by additional environmental field survey results summary reports that it filed in the proceeding. The supplemental environmental field survey reports identified a large number of additional mitigation measures recommended for the project.

85. The *2012/2013 Aerial Stick Nest Survey* report¹⁶ concluded that the preferred route would potentially impact less stick nesting species than the alternate route. The report recommended that pre-disturbance nest surveys be conducted along the right-of-way to confirm nest status, that stick nests found within the right-of-way be avoided or the nest moved, and that Alberta Environment and Sustainable Resource Development be consulted prior to moving of any nests. At the hearing, ATCO indicated that, prior to construction, it will conduct nest sweeps in areas that require tree clearing to determine if any active nests are present.¹⁷

¹⁵ Biophysical – means of characterizing land based upon its physical and biological components. From *Natural Regions and Subregions of Alberta*. 2006. Natural Regions Committee. Compiled by D.J. Downing and W.W. Pettapiece. Pub # T/852, ISBN: 0-7785-4572-5 (printed), ISBN: 0-7785-4573-3 (online).

¹⁶ Exhibit 166.21.

¹⁷ ATCO Information Response #19.

86. The *2012 Lek Survey* report¹⁸ describes an active sharp-tailed grouse lek being discovered within 60 metres of the preferred route right-of-way. EBA recommended that consultation with Alberta Environment and Sustainable Resource Development occur if the preferred route is chosen given its proximity to the lek site. The report also made a number of other recommendations regarding the lek in the event that the preferred route was chosen.

87. At the hearing, ATCO stated that it has discussed potential mitigation steps for the lek with Alberta Environment and Sustainable Resource Development.¹⁹ ATCO stated that it agreed with Alberta Environment and Sustainable Resource Development on a mitigation strategy that involves maximizing the span of the line over the lek to locate structures as far away as possible from it. ATCO also agreed with Alberta Environment and Sustainable Resource Development to construct the line in the lek area during winter, and to monitor the lek for activity prior to and during construction.

88. The *2012 Wetland and Watercourse Assessment Results* report²⁰ verifies, identifies, and describes the characteristics of wetlands and watercourses that are being crossed by the preferred and alternate routes. The report states that 108 wetlands and seven watercourses were identified along the preferred route right-of-way, while 46 wetlands and seven watercourses were identified along the alternate route.

89. The *2012 Wetland and Watercourse Assessment Results* report makes several recommendations including conducting no work between the high water mark of watercourses, avoiding wetlands wherever possible, and providing wetland compensation where avoidance is not possible. The report concluded that, with implementation of mitigation measures and providing wetlands compensation, the impacts of the project on wetlands and watercourses are rated as low in magnitude and not significant for both routes.

7.1.3 Beaver River crossing

90. With regard to the Beaver River crossing, ATCO emphasized during the hearing that the preferred route avoids locating a structure in the Beaver River valley by placing structures back from the top of the river valley and spanning the transmission line clear over the valley. ATCO submitted that this would minimize disturbance of trees and other vegetation.²¹ For the alternate route, ATCO stated that it will have to build a structure within the river valley adjacent to the river bed and create a new clearing in the valley to accommodate the transmission line's right-of-way.

7.1.4 Operation of the transmission line and birds, environmentally significant areas, waterfowl and wetlands

91. ATCO stated that it would install bird markers along spans of the transmission line located near areas of high-collision risk. ATCO stated that it would comply with Ducks Unlimited Canada's recommended bird mitigation for the span of the transmission line

¹⁸ Exhibit 154.05.

¹⁹ Transcript, Volume 2, pages 276 to 279.

²⁰ Exhibit 154.08.

²¹ Transcript, Volume 1, pages 109 to 111, Transcript Volume 2, pages 282 to 284, Transcript, Volume 3, pages 595 to 597, 607 to 608, 636 and 644.

crossing the Beaver River and along any spans located within 150 metres of an open water wetland larger than four hectares.^{22 23}

92. ATCO stated that it will incorporate into the post-construction reclamation assessment a review of the effectiveness of the bird mitigation for a period of at least two years following construction.²⁴ This post-construction assessment will include monitoring for dead birds around spans of the transmission line containing bird markers and around Class IV and Class V wetlands, and developing additional mitigation measures if warranted.

93. ATCO stated in its reply evidence and during the hearing, that it will monitor certain portions of the transmission line for bird casualties for two years following construction if the preferred route is approved.²⁵ If significant bird mortalities are observed during the post-construction monitoring, ATCO stated that it will develop additional mitigation strategies in consultation with Alberta Environment and Sustainable Resource Development.

94. ATCO filed a supplementary technical report prepared by EBA on the relative impact on environmentally significant areas (ESAs) for the preferred and alternate routes (the ESA report).²⁶

95. The ESA report discussed the differences between EBA's environmental evaluation report and an environmental report filed by the RRC (the Wallis report). The ESA report concluded that the preferred route has fewer stick nests and owl sightings, fewer areas of listed historic resources, fewer watercourse crossings, crosses less key wildlife biodiversity zones, and does not traverse a Ducks Unlimited project, and therefore remains a better choice from an environmental perspective than the alternate route.

96. With regard to ESAs, ATCO asserted that it did not consider simple proximity to an ESA as the most accurate indicator of the project's impact to an ESA.²⁷ ATCO reasoned that the main reason for designating ESAs in the project area was to protect the associated waterbody and its adjacent shoreline habitat. ATCO concluded that the ESAs were not conceived as buffer zones for waterfowl or wildlife. Furthermore, ATCO submitted that it is not appropriate of the interveners to ask the Commission to apply the Ducks Unlimited recommended 1.6-kilometre setback to water bodies that are not listed as of concern to Ducks Unlimited, such as many of the ESAs in the project area identified by the interveners.

97. With regard to the number of wetlands intersected by the preferred and alternate routes, ATCO suggested that Alberta Environment and Sustainable Resource Development and Ducks Unlimited were more concerned with avoiding larger wetlands than with just the number of wetlands intersected by the project.²⁸

²² Transcript, Volume 3, page 509.

²³ Exhibit 166.16, Reply Evidence, April 16, 2013.

²⁴ Exhibit 86.11, Information Response # 22 c).

²⁵ Transcript, Volume 3, page 509.

²⁶ Exhibit 166.16, Reply Evidence, Attachment 6, April 11, 2013.

²⁷ Transcript, Volume 1, pages 177 to 178, Transcript, Volume 3, pages 589 to 590 and 633 to 634.

²⁸ Transcript, Volume 3, page 619.

7.1.5 Environmental protection plan

98. ATCO provided a preliminary Environmental Protection Plan, dated March 28, 2013, that was submitted as part of its reply evidence document. The environmental protection plan describes proven environmental protection measures that are most likely to be used during construction of the project to avoid or reduce environmental effects. The environmental protection plan is written in construction specification format, and contains both measures to be addressed by ATCO as well as measures to be implemented by its contractor.

99. In ATCO's opening statement document for the public hearing, ATCO stated that its environmental planners have worked with EBA to further develop the environmental protection plan, and that ATCO is confident that the environmental protection plan will facilitate construction of the project with minimal impact to the environment.

7.2 Views of the RRC

7.2.1 Environmental assessment and Wallis environmental evidence report

100. The Red Route Coalition retained Mr. Cliff Wallis of Cottonwood Consultants Ltd. to prepare an environmental evidence report for the project (the Wallis report). The Wallis report focused on ESAs, priority migratory bird habitat and other natural wildlife habitat in the project area. The Wallis report identifies Forsyth Lake (part of ESA 503), Moose Lake (part of ESA 499), and Osborne Lake (part of ESA 519) as priority migratory bird habitats in the area, important for several species of waterfowl and other birds.

101. The Wallis report employed different environmental metrics and methodology than ATCO's expert, EBA, to measure the biodiversity attributes of the preferred and alternate routes. In particular, the Wallis report placed a heavy weighting on how distant the routes are from the boundaries of ESAs and wetlands containing migratory bird habitat. In comparison, EBA's environmental evaluation report focused on the avoidance of these ESAs.

102. The Wallis report argued that because ATCO did not complete any wildlife, wetlands, vegetation and soils field surveys before EBA prepared its environmental evaluation report, it was impossible to fully evaluate the environmental merits of the preferred and alternate routes. The Wallis report concluded that the alternate route is superior to the preferred route from a biodiversity perspective alone because the preferred route intersects more wetlands, is located closer to several ESAs and priority migratory bird habitats, and intersects more native habitat.

103. Mr. Wallis criticized EBA for using its stick nest count as one of the main environmental metrics to compare the preferred route to the alternate route.²⁹ Mr. Wallis pointed out that nests could have been missed during the aerial survey, that the active or inactive status of many of the nests found during the survey is currently unknown, and that there are no Alberta Environment and Sustainable Resource Development recommended setbacks for most of the bird species that are likely using these nests, such as magpies and crows.

104. With regard to environmental metrics in general Mr. Wallis stated that there are many biodiversity metrics favouring the alternate route over the preferred route, with the key ones

²⁹ Transcript, Volume 2, pages 397 to 398.

being proximity to ESAs and priority migratory bird habitat, intersection with wetlands, and the Beaver River crossing.³⁰

7.2.2 Beaver River crossing

105. The RRC contended that the alternate route presents a more favourable Beaver River crossing location than the preferred route. The RRC submitted that the preferred route parallels less existing linear disturbance than the alternate as it approaches the Beaver River crossing location. They also observed that the preferred route crosses more intact native vegetation than the alternate and that the preferred route requires the construction of 670 metres of access trails for the Beaver River crossing location. The RRC noted that no additional access trails are required for the alternate route.

7.2.3 Operation of the transmission line and birds, environmentally significant areas, waterfowl and wetlands

106. The RRC argued that the proximity of the routes to important wetlands/waterfowl areas is the issue and submitted that, of the 17 ESAs in the area of the routes, four of them favour selection of the preferred route, nine of them favour selection of the alternate route, and four of them favour neither route.

107. Mr. Wallis, on behalf of the RRC, emphasized that Forsyth Lake, which is approximately 2,500 metres from the preferred route, is a highly ranked waterbody for waterfowl in the Beaver River Plain, is ranked as nationally important for migratory birds in Alberta, and is nationally important for staging ducks and breeding colonial water birds, specifically Franklin's gull.³¹

108. With regard to the ESAs and waterfowl habitat, Mr. Wallis indicated that Ducks Unlimited has identified two lakes in the project area, Barbara Lake (part of ESA 519) and Moose Lake (part of ESA 499), as important waterfowl molting and staging areas in Alberta.³² Mr. Wallis pointed out that Ducks Unlimited does not confine their recommended wetland setback distance to 1.6 kilometres, but instead highly recommends that power lines not be erected within 1.6 kilometres or more of these sites to avoid high rates of collision.

109. Regarding ESAs and waterfowl habitat, Mr. Wallis argued that ground disturbance of shoreline habitat of the ESA wetlands is not the main issue. The main issue is collisions risk due to waterfowl local movements. Mr. Wallis stated that the local feeding movements for many of the water bird species in the project area, such as the sandhill crane, would be less than five kilometres from a waterbody shoreline.

110. The RRC argued that one of the metrics devised by ATCO, the number of wetlands longer than 300 metres metric crossed by the routes, is less valuable than other metrics like intersection with wetlands and proximity to migratory bird habitat.³³

111. Mr. Wallis, on behalf of the RRC, suggested that there are ten metrics that are of greatest applicability for comparing the preferred route to the alternate route. These metrics include proximity to ESAs, proximity to priority migratory bird habitats, Beaver River crossing,

³⁰ Transcript, Volume 2, pages 399 and 404.

³¹ Transcript, Volume 2, page 400.

³² Transcript, Volume 2, pages 391 to 397.

³³ Transcript, Volume 2, pages 451 to 452 .

sensitive species habitat features, and presence of rare plants. Mr. Wallis observed that some of these metrics were not included in the various environmental metrics tables in ATCO's environmental evaluation report. The RRC submitted that the metrics selected by Mr. Wallis for inclusion in his Biodiversity Concerns table suggest that the alternate route is a superior choice to the preferred route from a biodiversity perspective, with eight of the ten metrics favouring the alternate route.

112. With regard to ATCO's proposed mitigation measures for bird collisions, Mr. Wallis suggested that ATCO's proposed mitigation measures, such as bird markers, are probably not extensive enough, and further field surveys would help better understand local bird movements and where additional bird markers should be installed.³⁴

7.3 Views of the Alternate East Route Interveners

113. Mr. Findlater, on behalf of his clients, argued that the environmental impacts on the alternate and the preferred route are not significantly different from one another. However, he stated that there are a number of wetlands in closer proximity to the alternate route that have been identified by Ducks Unlimited and that Ducks Unlimited has put resources into these wetlands.

114. Mr. Findlater also stated that, with regard to the Beaver River crossing, the preferred route was designed such that the transmission line could have a clear span across the valley without impacting the valley itself. He submitted that the alternate route was not a case of simply travelling down the cut line as indicated by the RRC, but would require additional clearing and structures within the valley which would result in a greater impact than the preferred.

7.4 Commission findings

115. The Commission has concluded that both routes have inherent environmental impacts that are similar in scope and nature. The Commission is also satisfied that the environmental effects associated with the preferred and alternate route can be mitigated to an acceptable degree. In the Commission's view, neither route is clearly superior from the perspective of environmental effects, however the Commission concludes that the preferred route will have slightly less impact on the environment than the alternate route.

116. While the Commission recognizes that the alternate route intersects fewer wetlands, and does not encroach on sensitive species habitat features, it is of the view that the preferred route is superior to it from an environmental impact and biodiversity perspective. In comparison to the alternate route, the preferred route will cause less native vegetation disturbance at its Beaver River crossing location, it crosses fewer large wetlands and thus has less direct disturbance to wetlands from building structures, and crosses less key wildlife biodiversity zones. Although the preferred route is closer to sensitive species habitats for certain rare plants and to the identified sharp-tail grouse lek, both ATCO and the RRC agreed that the effects of the proposed transmission line on these features can be effectively mitigated by the measures proposed by ATCO.

117. The Commission is satisfied that bird mortality due to collisions can be mitigated to a reasonable degree regardless of the route chosen by taking measures such as the use of bird markers at high collision areas and through wider conductor separation. The Commission also

³⁴ Transcript Volume 2, pages 453 to 454.

expects ATCO to continue to consult with the Fish and Wildlife Division of Alberta Environment and Sustainable Resource Development and with Ducks Unlimited with respect to the completion of post-construction bird mortality monitoring surveys and any additional mitigation measures.

118. The Commission expects that ATCO will comply with all restricted activity periods, implement sufficient mitigation measures to ensure the protection of wildlife and rare plants prescribed under the *Wildlife Act* and maintain the Fish and Wildlife Division recommended setback distances for specified wildlife, plants, and their associated habitat during project construction. The Commission also expects ATCO to work with the Fish and Wildlife Division to mitigate any impacts in the event that the final location of a structure does not meet the recommended setback.

119. The Commission finds that winter construction is a reasonable mitigation measure in environmentally sensitive areas, particularly to minimize effects on bird nesting, amphibians, native vegetation, and soil compaction and rutting. However, the Commission recognizes that ATCO may not be able to complete all construction during winter months on frozen soil. The Commission recommends that ATCO use its best efforts to schedule construction during frozen conditions and implement additional mitigation measures specifically addressing vegetation, soil erosion and compaction, and wildlife habitat impacts for construction during summer months.

120. The Commission notes that ATCO has prepared a preliminary environmental protection plan and has proposed the implementation of many mitigation measures for environmental impacts. The Commission accepts ATCO's representations in the application and related evidence that it will implement those mitigation measures in good faith and to the extent practical. The Commission expects that, following the completion of remaining pre-disturbance environmental surveys and prior to construction, ATCO shall finalize the development of the environmental protection plan and provide the final version to the construction contractor.

121. The Commission expects that ATCO shall finalize the development of, and implement as needed, additional environmental protection plans to minimize adverse effects and to ensure prompt and successful reclamation after construction. ATCO is directed to pay particular attention to ensure adequate plans are in place to address issues that may arise regarding areas of challenging soil conditions such as areas subject to soil compaction or soil horizon admixing. ATCO shall regularly monitor reclamation progress throughout the project area and implement additional reclamation measures where soil issues such as soil rutting or admixing has occurred.

122. Overall, the Commission expects that with the diligent application of the proposed mitigation and monitoring measures put forward by ATCO, the environmental effects from construction and operation of the proposed transmission line on the preferred route would be adequately mitigated.

8 Health and safety

8.1 Views of ATCO

8.1.1 Electric and magnetic fields (EMF)

123. ATCO, in its application, included an expert report, titled “*Summary of Current Research on Extremely Low Frequency Electric and Magnetic Fields and Health*”³⁵, on the health impacts of electric and magnetic fields, prepared by Exponent Inc.

124. ATCO also filed EMF modelling results for the proposed transmission line prepared by Midgard Consulting Inc. (Midgard). This report predicted electric and magnetic field, audible noise and radio frequency interference levels at various distances for three different circuit configurations:

- double-circuit 240-kV lattice structure with one side strung, energized at 144 kV
- double-circuit 240-kV lattice structure with one side strung, energized at 240 kV
- double-circuit 240-kV lattice structure with two sides strung, both energized at 240 kV

125. Midgard’s EMF modelling results showed that the expected electric and magnetic field levels for the proposed transmission line under all of the studied cases would be well below the public exposure guidelines at the edge of the right-of-way.

126. Mr. Christopher Oakley of Midgard, confirmed that the calculation in Midgard’s EMF modelling results represented the worst-case values for the double-circuit 240-kV configuration by using ABC:ABC phasing. Mr. Oakley testified that if the phasing is reversed to ABC:CBA, greater cancellation of fields will occur and he estimated that the magnetic field approximately 200 metres from the proposed transmission line would be approximately 0.048 milligauss for the double-circuit option.³⁶

127. ATCO stated that it adopted the current conclusions and recommendations of Health Canada, the World Health Organization (WHO) and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) with respect to EMF associated with transmission lines.

128. ICNIRP’s recommended exposure limits for magnetic and electric fields for the general public are 2,000 milligauss and five kilovolts per metre, respectively. Its recommended exposure limits for magnetic and electric fields for an occupational (worker) are 10,000 milligauss and 8.3 kilovolts per metre.

129. ATCO pointed out that Health Canada does not consider guidelines for the Canadian public necessary because the scientific evidence is not strong enough to conclude that exposures cause health problems for the public.³⁷

130. With respect to Mrs. Slipchuk’s concerns about EMF, Mr. Oakley testified that the levels of EMF will be very low, and are actually lower than her existing exposure levels when walking

³⁵ Exhibit 18, *Summary of Current Research on Extremely Low Frequency Electric and Magnetic Fields and Health*.

³⁶ Transcript, Volume 2, page 272.

³⁷ Health Canada “It’s Your Health” – January 2010.

around in her house. Dr. Bailey also indicated that the EMF levels would be so low that it would be considered as common place. Concerning working too close to the transmission line, Dr. Bailey argued that people come close to various sources of EMF throughout the day.

8.1.2 Noise sensitivity

131. Midgard also reviewed potential noise that may be generated by the proposed 240-kV transmission line. Midgard's analysis³⁸ indicated that the audible noise that may be generated by transmission line corona discharge is greatest under heavy rain conditions. Its analytic results demonstrated that the audible noise directly under conductors of the proposed transmission line under worst-case rainfall (one inch per hour) would be lower than the normal sound level for a library [approximately 35 dB(A)], even after the second circuit is strung and both circuits are energized at 240 kV. In fair weather conditions, it is not expected that corona-generated noise would be audible either on or off the right-of-way.

8.1.3 Induced voltage

132. To minimize induced voltages, ATCO confirmed that it would ground the metal fences, buildings and structures, where necessary. ATCO stated that minimum separation required between transmission facilities and buildings would be in accordance with the *Safety Codes Act* and regulations.

133. With respect to the Hansen's concerns on electrical effects to their barbed wire fence, ATCO submitted that the proposed transmission line would not traverse nor run adjacent to any lands owned by the Hansens, with the exception of temporary work space, and there are no expected impacts to their barbed wire fence.

8.2 Views of the interveners

8.2.1 Electric and magnetic fields

134. Several interveners expressed general concerns about the health effects of the electric and magnetic fields associated with the proposed transmission line. These interveners were concerned that the proposed transmission line could create a hazard to their health, their neighbours, their animals and plants.

135. Leonard and Debbie Slipchuk reside on SW 3-63-6 W4M. Mrs. Slipchuk expressed concerns on the EMF to be generated by the proposed transmission line, approximately 292 metres from her residence. She submitted that they also have some grain and wood piles and granaries close to the transmission line and she would have to work with them all year round.

136. Mr. Kalinski was concerned with the EMF effect of the proposed transmission line on his and his family's health. He used his neighbour as an example, whose house was close to an existing transmission line and who is suffering from cancer.

8.2.2 Noise sensitivity

137. Mrs. Slipchuk expressed concerns about the noise to be generated by the proposed transmission line, approximately 292 metres from her residence, because she has a sensitivity to sounds of different frequencies which may cause grand mal seizures. She submitted that they

³⁸ Exhibit 78, Memorandum, Bonnyville to Bourque EMF Analysis.

also have some grain and wood piles and granaries close to the transmission line and she would have to work with them all year around.

138. Stephen Scott, who owns land along the alternate route indicated at the hearing that he is concerned about the noise that the proposed 240-kV transmission line may cause and he is very susceptible to low frequencies. He stated that he had previously suffered from the noise effects of a high-voltage line that travelled along his property. He submitted that a decibel reading would not necessarily reflect what a person has to live with under the lines if they are susceptible to low frequencies.

8.2.3 Induced voltage

139. Jens and Ulla Hansen are concerned about electrical effects of the proposed 240-kV transmission line on their health, the health of their livestock and their barbed wire fence and farm equipment.

140. Mr. John Krywiak submitted that he was considering building a metal barn to provide shelter for his cattle but was concerned about the potential safety issues of housing livestock in a metal structure near the transmission line.

8.3 Commission findings

8.3.1 Electric and magnetic fields

141. While some interveners expressed general concerns about EMF, no intervener filed evidence in the form of an expert report to support these general concerns. ATCO, on the other hand included an expert report³⁹ regarding the health effects associated with EMF as well as information on the subject produced by Health Canada in 2010.

142. The conclusion of the expert report was as follows:

An extensive body of scientific research has developed over the past three decades that addresses the topic of extremely low frequency (ELF) electric and magnetic fields (EMF) and possible health effects.

143. Numerous national and international scientific agencies have reviewed this extensive body of research, e.g., the World Health Organization (WHO), the International Agency for Research on Cancer (IARC), the National Institute of Environmental Health Sciences (NIEHS), the Health Protection Agency of Great Britain (HPA), and the Federal-Provincial-Territorial Radiation Protection Committee of Canada (FPTRPC). The most comprehensive, recent review of the scientific evidence, “*Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields*,” was published in 2007. This review was conducted by an international panel of scientists organized by the WHO as part of its International EMF Program to assess the scientific evidence on ELF EMF in the frequency range from 0 to 300 gigahertz (GHz). This group assessed research on ELF EMF published through approximately 2005 and concluded that there is no established relationship between ELF EMF exposure at levels commonly found in everyday environments and adverse health effects. Subsequent weight-of-evidence reviews by scientific agencies and recent epidemiology and laboratory research by numerous scientists conducted since 2005 do not provide evidence to alter the WHO’s major conclusions.

³⁹ Exhibit 18, *Summary of Current Research on Extremely Low Frequency Electric and Magnetic Fields and Health*.

144. The expert report observed that several studies have measured personal exposure to magnetic fields. These studies generally concluded that the average exposure to magnetic fields is approximately one milligauss.

145. The Midgard report estimated the magnetic fields for three line configurations (single side strung, 144 kV, single side strung 240 kV and double side strung 240 kV. Midgard confirmed that the estimates for double side strung were for the worst case scenario (ABC:ABC spacing) and stated that with effective phasing (ABC:CBA) it could reduce the magnetic field at 200 metres by a factor of 10 from 0.47 milligauss to 0.048 milligauss.

Table 3. Estimated magnetic field strengths

Distance (metres)	Magnetic field at 144 kV (mG)	Magnetic field at 240 kV SSS ⁴⁰ (mG)	Magnetic field at 240 kV DSS ⁴¹ (mG) with ABC/ABC spacing
100	1.07	1.03	1.85
150	0.47	0.45	0.83
200	0.26	0.25	0.47
400	0.06	0.06	0.12
600	0.03	0.03	0.05

146. The Commission finds that the proposed transmission line will produce magnetic fields, even at the closest residences at levels that are comparable to existing background levels.

147. Given the amount and quality of research that has been conducted thus far on ELF EMF, the opinion of scientific organizations is strong that there is not a cause-and-effect relationship between ELF EMF and long-term health effects.

148. Given the expected magnetic field levels, the Commission finds that the evidence before it does not support a conclusion that there will be health effects associated with the EMF produced by the proposed transmission line.

149. The Commission expects that ATCO will continue to be committed to providing information about EMF to concerned stakeholders and, if requested, will provide landowners adjoining the transmission line with individual EMF consultations.

150. The Commission also finds that the other electrical effects created by the transmission line can be mitigated and holds ATCO to its commitment that effective mitigation measures will be implemented where these effects are encountered.

8.3.2 Noise sensitivity

151. The Commission acknowledges the interveners' concerns regarding the potential noise impacts. However, the Commission finds that Midgard's analysis regarding corona-generated noise to be reasonable and credible. This evidence was not challenged. Therefore, the Commission accepts that the proposed transmission line and substation meet the requirements of AUC Rule 012: *Noise Control* (AUC Rule 012) based on the evidence submitted by ATCO.

152. The Commission accepts ATCO's commitment that it will perform a comprehensive sound level survey at the nearest residence prior to construction and, if the permissible sound

⁴⁰ Single side strung.

⁴¹ Double side strung.

level of 45 dB is exceeded, it will implement mitigation measures to reduce noise levels below the permissible sound level. As ATCO confirmed, the Commission expects that ATCO will fully abide by AUC Rule 012 and ensure that its facilities meet the appropriate calculated permissible sound level having regard to the existing ambient noise level.

8.3.3 Induced voltage

153. The Commission is of the view that induced voltages could occur on either route. As induced voltage issues can be effectively mitigated, the Commission does not consider that this issue favours the choice of either the preferred or alternate routes.

154. While the Commission recognizes that the proposed transmission line may induce voltage in ungrounded objects in the vicinity of the proposed line, the Commission is satisfied that ATCO has an induced voltage mitigation plan in place to address these concerns. In the Commission's view, ATCO's induced voltage mitigation plan is reasonable and consistent with standard practice in Alberta.

9 Route cost comparison

9.1 Views of the interveners

155. ATCO submitted that the cost of the preferred route would be approximately \$56.3 million and the cost of the alternate route would be approximately \$53.9 million. This is based on the assumption that the preferred south connection option is approved. Discussion of the two south connection routes and their costs is found later on in this decision. ATCO submitted that the cost differential between the preferred and the alternate is approximately \$2.4 million, which is low considering the overall cost of the project.

156. The RRC submitted that the costs of the two routes favour the selection of the alternate route as it is less expensive.

157. Mr. Findlater argued, on behalf of his clients, that the cost of the routes is a factor that the Commission should give less consideration to. He indicated that the Commission should give priority to health and safety and to the concerns of individuals, especially around property impacts, and to balance those concerns against impacts to the environment.

9.2 Commission findings

158. The Commission finds that the difference in cost between the preferred and alternate routes is not significant given the overall cost of the project.

10 Alternative south route option

10.1 Introduction/background

159. Through ongoing consultation, ATCO stated that it became aware of an additional route option; the alternative south route to address routing concerns indicated by the area residents and directly affected landowners. The alternative south route alignment, shown in Figure 2, routes around the south side of Bonnyville 700S substation before joining the preferred west

route/alternative east route at node A3A, to reduce proximity to the residence in SE 26-61-6-W4M.

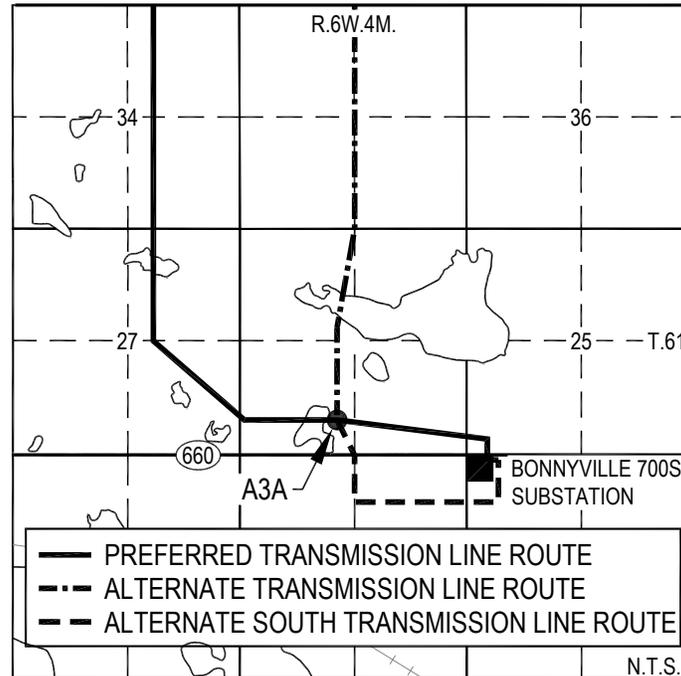


Figure 2 - Proposed south routes

10.2 Views of ATCO

160. ATCO responded in its rebuttal evidence filed with the Commission on April 16, 2013, that ATCO had engaged in an extensive consultation with the Fagnan family to better understand their concerns. As a result, the preferred west and alternative east routes were modified to create greater separation from their residence. ATCO stated that the location of structures for the two proposed routes are not located between their residence and workshop and would not impede access through the field between these two locations. ATCO also did not believe that the proposed transmission line would restrict any of the recreational activities indicated by the Fagnan family. ATCO stated that the preferred route would be 350 metres from the Fagnan's residence and 130 metres from the Fagnan's shop.

161. In addition, ATCO amended its application and proposed the alternative south connection option, in part, due to concerns expressed by the Fagnan family.

162. ATCO stated that the alternate south route had greater support than the common portion of the preferred west and alternative east routes between Bonnyville 700S substation and node A3A, from the directly affected and directly adjacent landowners and was deemed to be a viable alternative when also considering overall environmental and social impacts, although it is estimated to have a higher cost of construction (approximately \$3.8 million).

10.3 Views of the interveners

163. Mickey and Cindy Fagnan, who have six children, are members of the RRC. The Fagnan's live northwest of the Bonnyville substation and Mr. Fagnan operates a business, a

custom cabinetry operation on the same quarter section. The Fagnans are particularly concerned because the preferred route would cross between their home and their business.

164. The Fagnan's explained that the SE 26-61-6-W4M, SW 26-61-6-W4M, and NW 26-61-6-W4M, are owned by Cindy Fagnan's parents, John and Rose Kalinski. The Fagnans stated that they use the land for recreational purposes, accessing their shop and teaching their children how to operate equipment. They said that their land is an integral part of family life and do not wish to see a transmission line interfere with it. The Fagnans told the Commission that they are active participants in bird watching and photography, and the property on which their home is built was given to them by Mrs. Fagnan's parents as a wedding present. They gave evidence that they home-school their children on the property.

165. The Fagnan and Kalinski families indicated at the hearing and in their submissions that they are in support of the alternate south route, and are not in favour of the preferred west route.

166. Mr. Ed Marchildon, who owns land located directly west of Bonnyville 700S substation, filed a submission on February 12, 2013, in which he suggested the alternative south option for the proposed transmission line. He stated in his submission that his company, Reda Investment Inc. is prepared to allow construction of the alternative south option, which would eliminate a close proximity of the proposed transmission line to the Fagnan's home. On April 12, 2013, Mr. Marchildon withdrew his submission and indicated that he had no objection to the project, but that he strongly supports the south alternative option.

11 Commission's route choice

167. Having regard to the foregoing the Commission concludes that approval of the preferred route is in the public interest. From the perspective of residential impacts, the preferred route has fewer residences within 150 metres and was subject to fewer objections from landowners and occupants on the right-of-way and within 800 metres of the right-of-way when ATCO made its original route selection. Similarly, the Commission is satisfied that the preferred route will have less impact than the alternate route from an agricultural perspective because it has significantly fewer mid-field structures. Further, the Commission finds that the preferred route is better from the environmental perspective in that the Beaver River crossing for that route will have less impact to surrounding terrain, crosses fewer large waterbodies and crosses less key wildlife biodiversity zones. In the Commission's view, these positive attributes of the preferred route outweigh its additional cost of \$2.4 million, which is not significant given the overall cost of the project.

168. While the Commission recognizes that there are residential, agricultural and environmental impacts associated with the preferred route, it is satisfied that ATCO has demonstrated that those impacts can be minimized or mitigated to an acceptable degree.

169. Regarding the south connection routes, the Commission appreciates that ATCO has amended its preferred route to further increase the distance between the Fagnan's residence and the preferred route to a distance of approximately 350 metres. While the Fagnan's shop is within 150 metres of the preferred route, the Commission recognizes that it is already in close proximity to the existing Bonnyville 700S substation and an existing 144-kV transmission line that connects to the substation. The Commission also recognizes ATCO's statement that no structures would be located between the Fagnan's residence and shop and that there will be no

impediments to access or limitations on the recreational activities described by the Fagnans. The Fagnan's and Kalinski's largest concerns seemed to be related to EMF and health impacts, which the Commission discussed in Section 8 of this decision and found that the evidence before it did not support a conclusion that there will be health effects associated with the EMF produced by the proposed transmission line given its distance to the Fagnan residence and workshop.

170. The Commission finds that the two south connection routes are similar in terms of environmental impacts and that the areas where the two routes differ are cost and landowner acceptance. In this instance, the Commission finds that a greater level of landowner acceptance does not justify the additional \$3.8 million cost for the alternative route and is not in the public interest. The Commission rejects the alternative south route option as not being in the public interest.

12 Associated facilities

171. In addition to the transmission line from Bonnyville 700S substation to Bourque 970S substation, ATCO also applied for alterations to Bonnyville 700S substation, Bourque 970S substation, transmission lines 7L24 and 7L89, and for a temporary bypass of transmission line 7L53.

172. The Commission has reviewed the application and finds that there are no technical, routing, environmental or noise concerns associated with these associated facilities. The Commission further finds that the associated facilities are consistent with the need approved in Needs Identification Document Approval No. U2011-57, or are necessary alterations to accommodate the proposed facilities.

173. Based on the foregoing, the Commission considers the application to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

13 Decision

174. Pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants ATCO the approval set out in Appendix 1 – Alter Bonnyville 700S Substation – Permit and Licence No. U2013-246 – June 27, 2013 (Appendix 1 will be distributed separately).

175. Pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants ATCO the approval set out in Appendix 2 – Alter Bourque 970S Substation – Permit and Licence No. U2013-247 – June 27, 2013 (Appendix 2 will be distributed separately).

176. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants ATCO the approval set out in Appendix 3 – New Transmission Line 7L146 – Permit and Licence No. U2013-248 – June 27, 2013 (Appendix 3 will be distributed separately).

177. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants ATCO the approval set out in Appendix 4 – Alter

Transmission Line 7L24 – Permit and Licence No. U2013-249 – June 27, 2013 (Appendix 4 will be distributed separately).

178. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants ATCO the approval set out in Appendix 5 – Alter Transmission Line 7L89 – Permit and Licence No. U2013-250 – June 27, 2013 (Appendix 5 will be distributed separately).

179. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants ATCO the approval set out in Appendix 6 – Temporary Bypass of Transmission Line 7L53 – Permit and Licence No. U2013-251 – June 27, 2013 (Appendix 6 will be distributed separately).

Dated on June 27, 2013.

The Alberta Utilities Commission

(original signed by)

Tudor Beattie, QC
Panel Chair

(original signed by)

Neil Jamieson
Commission Member

(original signed by)

Gwen Day
Acting Commission Member

Appendix A – Proceeding participants

Name of organization (abbreviation) counsel or representative
J. and P. Bartok R. Secord
C. Braithwaite V. Findlater
D. Bremault
C. Bremault
Cenovus FCCL Ltd.
M. Dubilowski
R. and S. Dubilowski
M., C. and J. Fagnan R. Secord
K. and S. Hamilton
J. and U. Hansen R. Secord
D. and S. Homister R. Secord
Imperial Oil Resources
B. and R. Kalinski R. Secord
J. and R. Kalinski R. Secord
L. Kalinski R. Secord

Name of organization (abbreviation) counsel or representative
J. and K. Karasiuk R. Secord
S. Kine
T. and L. Knudsen
V. and T. Kolody
S. Kornelson
J. Krywiak R. Secord
A. & M.A. Leroux V. Findlater
J. Malishewski
E. Marchildon (Reda Investments Inc.)
K. and L. McKinney R. Secord
E. and S. Persely R. Secord
F. Persely R. Secord
R. Pietrskowski
C. and R. Scott V. Findlater
S. Scott V. Findlater
S. Shandro A. Shandro

Name of organization (abbreviation) counsel or representative
D. and L. Slipchuk R. Secord
P. Tapscott R. Secord
Zone II Regional Council

The Alberta Utilities Commission
Commission Panel Tudor Beattie, QC, Panel Chair Neil Jamieson, Commission Member Gwen Day, Acting Commission Member
Commission Staff J.P. Mousseau (Commission Counsel) Tom Chan Annie Chen Trevor Richards Geoff Scotton

Appendix B – Oral hearing – registered appearances

Name of organization (abbreviation) counsel or representative	Witnesses
ATCO Electric Ltd. S. Munro B. Williams	G. Doll S. Martin R. Smart P. Van den Camp J. Beverly W. Bailey C. Oakley A. Kupper
M. Dubilowski	M. Dubilowski
Findlater Group V. Findlater	C. Braithwaite C. Scott R. Scott S. Scott
Red Route Coalition R. Secord I. McDougall	M. Fagnan C. Fagnan J. Kalinski S. Persely F. Persely M. Persely D. Slipchuk J. Krywiak D. Homister S. Homister T. Tapscott L. McKinney J. Slipchuk C. Wallis
S. Shandro A. Secord	A. Shandro

Appendix C – Abbreviations

Abbreviation	Name in full
ATCO	ATCO Electric Ltd.
AUC	Alberta Utilities Commission
AUC Rule 007	<i>AUC Rule 007: Applications for Power Plants, Substations, Transmission Lines, and Industrial System Designations</i>
AUC Rule 012	<i>AUC Rule 012: Noise Control</i>
EBA	EBA Engineering Consultants Ltd
ELF	Extremely low frequency
EMF	Electric and magnetic fields
ESA	Environmentally significant area
IARC	International Agency for Research on Cancer
ICNIRP	International Commission on Non-Ionizing Radiation Protection
kV	Kilovolt
Midgard	Midgard Consulting Inc.
mG	Milliguass
NID	Needs identification document
RRC	Red Route Coalition
WHO	World Health Organization