



AltaLink Management Ltd.

Wild Rose 1 and Wild Rose 2 Wind Energy Interconnection

March 21, 2012



The Alberta Utilities Commission

Decision 2012-074: AltaLink Management Ltd.

Wild Rose 1 and Wild Rose 2 Wind Energy Interconnection

Application No. 1606789

Proceeding ID No. 913

March 21, 2012

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1 Introduction

1. On October 29, 2010, the Alberta Electric System Operator (AESO) filed Application No. 1606722 with the Alberta Utilities Commission (AUC or the Commission) requesting approval of the needs identification document (NID) for the Wild Rose 1 and Wild Rose 2 Wind Energy Interconnection (the project) pursuant to Section 34 of the *Electric Utilities Act*.
2. On November 25, 2010, AltaLink Management Ltd. (AltaLink) filed Application No. 1606789 with the AUC requesting approval to construct and operate the facilities identified in the AESO's NID application pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*.
3. In accordance with Section 15.4 of the *Hydro and Electric Energy Act*, the AESO and AltaLink requested that the AESO's NID application be combined for consideration with AltaLink's facility application. The Commission combined the NID application and the facility application under Proceeding ID No. 913.
4. In reaching the determinations set out in this decision, the Commission has considered the complete record of the proceeding, including the submissions and statements of intention to participate provided by each party. 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 as it relates to that matter.

2 Background

5. The Commission issued a notice of applications on April 14, 2011, with a deadline to file a submission on or before May 13, 2011. Six parties filed submissions, by the deadline date or thereafter, in response to the notice of applications, but none of the submissions indicated concerns with the NID application.

2.1 AESO NID application

6. On May 25, 2011, the Commission received a letter from the AESO requesting approval of the NID application. In its request, the AESO noted that submissions were received from L&D Farms Ltd., Harry Hoffman, Eagle View Farms Ltd., and Coyote Coulee Farms Ltd. in response to the Commission's notice of applications. The AESO submitted that the objections expressed concern for the facility application filed by AltaLink as Application No. 1606789, and that it was clear that the submissions did not relate to the determination of the need for the project.

7. Three additional submissions (from Brock and Juanita Weisgerber, Edward Weisgerber and Don Kanewischer Holdings Ltd.) were received by the Commission after the notice of applications deadline date as well as after the filing of the AESO's letter.
8. On June 10, 2011, the Commission issued a ruling to the AESO. The Commission considered that no objection or concern had been raised by the interveners regarding the AESO's NID application and that, pursuant to Section 38(e) of the *Transmission Regulation*, no person had submitted that the AESO's assessment of the need for the project was technically deficient or contrary to the public interest. The Commission informed the AESO in the ruling that the NID application was approved. The AltaLink application remains to be considered by the Commission.
9. On June 24, 2011, the Commission issued Decision [2011-352](#)¹ and Approval No. [U2011-266](#)² approving the AESO's NID Application No. 1606722.

2.2 AltaLink facility application

10. The application is comprised of two geographically-distinct developments referred to as East Palliser North and East Palliser South. The East Palliser North portion travels approximately 77 kilometres from a substation northeast of Medicine Hat to substation south of McNeil. The East Palliser South portion travels approximately 36 kilometres in a more or less east-west direction between NaturEner's Wild Rose 1 547S substation on the east and the new Elkwater switching substation to the west, located approximately 35 kilometres to the southeast of Medicine Hat.
11. For East Palliser North, the application seeks approval to:
- Construct a single-circuit 240-kilovolt (kV) transmission line designated 1009L from Bowmanton 244S substation to the existing Cypress 562S substation.
 - Alter Bowmanton 244S substation by adding one 240-kV, 50-megavolt-ampere reactive (MVAR) reactor and three 240-kV circuit breakers.
 - Alter Cypress 562S substation by adding a 240-kV circuit breaker.
 - Alter a portion of existing transmission line 668L by upgrading structures and conductors on the existing rights-of-way.
12. For East Palliser South, the application seeks approval to:
- Construct Elkwater 264S switching substation consisting of nine 240-kV circuit breakers at the preferred location in the vicinity of the southwest corner of NE 12-10-5-W4M, or at the alternate location in NW 13-10-5-W4M.
 - Construct a single-circuit 240-kV transmission line designated as 978L from Elkwater 264S switching substation to the Wild Rose 1 547S substation.

¹ Decision 2011-352: Alberta Electric System Operator - Wild Rose 1 and Wild Rose 2 Wind Energy Interconnection Needs Identification Document, Application No. 1606722, Proceeding ID No. 913, August 25, 2011.

² Needs Identification Document Approval No. U2011-266, Application No. 1606722, Proceeding ID No. 913, August 25, 2011.

- Construct a single-circuit 240-kV transmission line designated as 1076L from Elkwater 264S switching substation to NaturEner Energy Canada Ltd.'s (NaturEner) proposed Eagle Butte 274S substation.
- Alter proposed 240-kV transmission lines 964L and 983L and renumber the portion of the transmission lines from Elkwater 264S switching station to Bowmanton 244S substation as 1073L and 1074L.

13. AltaLink proposed to use H-frame wood structures for the proposed 240-kV transmission lines. A 40-metre wide right-of-way would be required for each of the proposed 240-kV transmission lines. Additional rights-of-way would be required at site-specific locations such as deflections and corners. The above ground height of the 240-kV structures for the project would be up to 24 metres.³

14. A notice of hearing was issued on July 6, 2011, setting a hearing date of September 27, 2011. The Commission's staff held a public information session on Thursday, July 21, 2011, at the Medicine Hat Lodge to explain the application process, how to participate, how a hearing is conducted and the intervener funding process administered by the Commission.

15. The Commission received requests over the summer of 2011 from a number of interveners to adjourn the hearing date. Although the Commission initially denied these requests, on August 22, 2011, it adjourned the hearing because expert witnesses for an intervener were not available.⁴ At the same time, the Commission directed that a pre-hearing meeting take place on the cancelled hearing date, September 27, 2011, in order to clarify and narrow issues and determine whether any outstanding objections could be resolved.

16. On September 15, 2011, Trevor Clark registered his intention to participate in the proceeding and filed a submission with his concerns to the application. Prior to the pre-hearing conference, Eagle View Farms Ltd., Don Kanewischer Holdings Ltd., L&D Farms Ltd. and Coyote Coulee Farms Ltd. separately withdrew their objections to the application.

17. On September 23, 2011, AltaLink filed an amendment to the application to alter the alignment of the proposed preferred route for the East Palliser North 240-kV transmission line 1009L in four locations. The Commission deems September 23, 2011, as the completion date for the application.

18. On September 27, 2011, the Commission held the pre-hearing conference in Medicine Hat. Trevor Clark and Randall Rath attended the pre-hearing conference. Mr. Rath had not filed a submission with the Commission prior to the pre-hearing conference and registered his intention to participate in the proceeding at the pre-hearing conference. Mr. Clark removed his objection at the pre-hearing conference after discussions with AltaLink. Another pre-hearing meeting was held on October 3, 2011, in Calgary, so that Mr. Hoffman could attend.

19. On November 10, 2011, the Commission issued a revised notice of hearing setting a hearing date of December 7, 2011, in Medicine Hat.

³ Exhibit 0008.00, Application, Table 3-1, page 23, November 25, 2010.

⁴ Exhibit 129.01, Letter Ruling from Commission, dated August 22, 2011.

20. On November 25, 2011, AltaLink filed another amendment to its application to alter the alignment of the proposed route for the East Palliser South 240-kV transmission line 978L as a result of AltaLink's ongoing efforts to resolve issues with stakeholders.
21. A public hearing was held on December 7, 2011, in Medicine Hat before Mr. Willie Grieve, QC, Chair.
22. Following the close of the hearing, the Commission directed AltaLink to provide certain information about the ownership of lands and its contact with the owners of these lands in connection with two potential alignments of the transmission line on the south leg of the East Palliser Transmission project.⁵
23. AltaLink responded to the direction and submissions were also received by Randall Rath.⁶ A further direction for clarification was issued by the Commission and submissions from AltaLink and Mr. Rath were filed.⁷ These submissions are specifically considered by the Commission in Section 8.4 (Impacts to land use), of this decision.
24. The Commission deems February 9, 2012, as the close of record date for this proceeding.

3 Legislative framework

25. For applications under sections 14 and 15 of the *Hydro and Electric Energy Act*, the Commission must consider whether the project is in the public interest. Section 17 of the *Alberta Utilities Commission Act* reads:

17(1) Where the Commission conducts a hearing or other proceeding on an application to construct or operate a ...transmission line under the Hydro and Electric Energy Act... it shall, in addition to any other matters it may or must consider in conducting the hearing or other proceeding, give consideration to whether construction or operation of the proposed... transmission line is in the public interest, having regard to the social and economic effects of the ...line ...and the effects of the..... line ...on the environment.

26. Decision [2009-028](#)⁸ provides the Commission's view on what the "public interest" means in Section 17(1) of the *Alberta Utilities Commission Act*, when considering an application to construct and operate a transmission line:

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

⁵ Exhibit 0167.01, Letter from Commission, dated January 12, 2012.

⁶ Exhibit 0172.0, Letter from AltaLink, dated January 17, 2012; Exhibit 168.0, email from Randall Rath, dated January 19, 2012.

⁷ Exhibit 0169.01, Letter from Commission, dated January 26, 2012; Exhibit 173.0, Letter from AltaLink, dated February 8, 2012; Exhibit 174.0, email from Randall Rath, dated February 9, 2012.

⁸ Decision 2009-028: AltaLink Management Ltd. Transmission Line from Pincher Creek to Lethbridge, Application No. 1521942, Proceeding ID No. 19, March 10, 2009, paragraph 32 to 33.

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.

27. The Commission's review and consideration of this application also takes place in the context of thorough regulatory requirements and detailed information filed in support of the application as well as the submissions and testimony of the participants at the public hearing. The transmission facility application must meet the informational and other requirements set out in the AUC Rule 007: *Applications for Power Plants, Substations, Transmission Lines and Industrial System Designations* (AUC Rule 007) as well as the information requirements, notification to or approval of government departments such as Alberta Environment, Alberta Sustainable Resource Development, Alberta Culture and Community Spirit, Alberta Transportation, municipalities, and federal government departments.

28. AUC Rule 007, for example, has over 40 specific requirements, most of which must be included in either a transmission line or a substation application. The rule covers topics such as technical and functional specifications, public consultation, environmental impacts, noise assessments, route selection criteria and the cost of the proposed project.

4 Issues

29. The Commission received various submissions from landowners who expressed concerns or opposition to the transmission project. As stated earlier, a number of parties removed their objections to the application prior to the start of the hearing. The submissions received were relatively brief and included issues such as adequacy of consultation, impacts on agriculture, effects of electric and magnetic fields (EMF), and compensation. No further evidence was filed by the interveners prior to the start of the hearing. The interveners' evidence at the hearing consisted almost entirely of oral testimony. The interveners testified about the impacts of the project on their lands and some argued for specific routing changes.

30. The Commission will discuss the application and its potential impacts, including specific concerns expressed by interveners, based on the evidence before it. Some of the issues discussed were not the subject of a focused intervention on the part of the interveners, but the Commission considers it necessary to assess the overall application even when there may not be registered objections filed by interveners.

31. The Commission will consider the following matters:

- transmission line and substation selection
- consultation
- environmental impacts
- social and economic impacts

5 Transmission line and substation selection

32. For the East Palliser North portion of the project, the application provided two routing options for the 240-kV proposed transmission line 1009L, a preferred route and an alternate route. The East Palliser North portion of the project also included proposed alterations to Bowmanton 244S substation, Cypress 562S substation, and a portion of existing 138-kV transmission line 668L. Both routing options and the alteration of existing facilities met the electrical need identified by the AESO, and both routes were technically feasible to construct, maintain and operate. AltaLink submitted that both the preferred and alternate route had low overall impacts and minimized potential effects of the transmission project, and that proper planning principles had been considered in developing the routes.

33. For the East Palliser South portion of the project, the application provided a single routing option for the proposed 240-kV transmission lines 978L and 1076L. It also provided a preferred and an alternate location for the proposed Elkwater 264S switching station in the event that the alternate route was approved for the Bowmanton to Whitla project. At the filing of the application, the Bowmanton to Whitla project was before the Commission for consideration in another proceeding (Proceeding ID No. 748). In Decision 2011-250,⁹ the Commission approved the Bowmanton to Whitla transmission line along the preferred route. Accordingly, the Commission will only consider the preferred location for the proposed Elkwater 264S switching station. The East Palliser South portion of the project also included proposed alterations to 240-kV transmission lines 964L and 983L (approved in Decision 2011-250) and to renumber the portion of the transmission lines from Elkwater 264S switching station to Bowmanton 244S substation as 1073L and 1074L.

5.1 East Palliser North 240-kV transmission line 1009L preferred and alternate route

34. As part of the East Palliser North project, the single-circuit 240-kV transmission line 1009L would travel from Bowmanton 244S substation to Cypress 562S substation. AltaLink stated that both the preferred route and alternate route meets the electrical need identified by the AESO, and is technically feasible to build and operate. Both routes have no residences located within 150 metres.

35. AltaLink stated that the preferred route was chosen because it has the lowest overall impact including the least amount of agricultural land crossed, the fewest residences within 800 metres, avoids an important bird staging area, has the smallest number and size of environmentally sensitive areas crossed, the fewest sand dunes crossed, the least amount of right-of-way on private land, the most kilometres parallel to existing linear disturbances resulting in less fragmentation, the shortest line length at 77 kilometres, and has a lower estimated cost than the alternate route.

5.2 East Palliser South 240-kV transmission lines 978L and 1076L

36. As part of the East Palliser South project, the single-circuit 240-kV transmission line 978L would travel from Wild Rose 1 547S substation to the proposed Elkwater 264S switching substation. AltaLink stated that the proposed route meets the electrical need identified by the

⁹ Decision 2011-250: AltaLink Management Ltd. Cassils 324S – Bowmanton 244S – Whitla 251S Substations and Associated 240-kV Transmission Lines, Application No. 1606402 and No. 1606403, Proceeding ID No. 748, June 8, 2011.

AESO, and is technically feasible to build and operate. The proposed route is not located within 800 metres of parks and/or protected areas, does not cross any environmentally sensitive areas, and had strong landowner support during the consultation process.

37. The single-circuit 240-kV transmission line 1076L would connect NaturEner's Wild Rose 2 Eagle Butte 274S substation and the proposed Elkwater 264S switching substation. Due to the close proximity of these facilities (approximately 200 metres), AltaLink stated that there were no feasible alternatives considered.

5.3 Elkwater 264S switching station and Bowmanton 244S substation

38. AltaLink stated that the proposed Elkwater 264S switching station is sited in the vicinity of Wild Rose 1 and Wild Rose 2 power plants and the proposed route for double-circuit 240-kV transmission lines 964L and 983L. AltaLink proposed a preferred location for the proposed switching station in the event that the preferred route for 964L and 983L was approved by the Commission and an alternate site for the Elkwater 264S switching substation in the event that the alternate route was approved. As noted earlier, the Commission approved the double-circuit transmission line 964L and 983L along the preferred route.¹⁰ Accordingly, the Commission will only consider the preferred location for the proposed Elkwater 264S switching station in the southwest corner of NE 12-10-05-W4M.

39. AltaLink also proposed to alter Bowmanton 244S substation with the addition of one 50 MVAR reactor which would require an expansion to the existing fence line of the substation.

5.4 Views of the Commission on transmission route and substation location

40. The Commission finds that AltaLink's planning exercise for transmission line routes and switching station location was sufficient for purposes of this proceeding. AltaLink's planning exercise employed relevant principles and requirements as well as criteria such as:

- proximity to nearby residences
- impact on agricultural activities
- environmental impacts
- utilization of existing corridors
- opportunity to consolidate current and future electrical facilities

41. These factors are reflected in AUC Rule 007, AUC Rule 12: *Noise Control* (AUC Rule 012) and Alberta Environment's guide for *Transmission Lines and Conservation and Reclamation Informational Letter*. In addition to its own professional work in developing potential routes, AltaLink also took into account the concerns, information, and views of individual landowners and others whose properties or interests would be impacted by the construction and operation of the transmission line.

42. Government departments and Cypress County were also contacted and provided direct input into the route planning. Several route options were developed, considered, refined and either confirmed or rejected by AltaLink.

¹⁰ Decision 2011-250.

6 Consultation

43. AltaLink's consultation activities included over 140 stakeholders. In May of 2010, specific and detailed information about the transmission line was provided to all landowners and occupants within 800 metres of each preliminary route. Two open houses were also held in May of 2010, one in Schuler located 60 kilometres north-east of Medicine Hat on Highway 41 and one in Irvine located 30 kilometres east of Medicine Hat on Highway 1. AltaLink conducted one-on-one sessions with landowners and others whose lands or residences were located on or adjacent to the proposed preliminary routes or substations as the consultation process progressed. Ongoing updates were also provided to interested parties.

44. In addition to landowners and leaseholders, AltaLink also consulted with or contacted numerous government agencies, municipalities, Treaty 7 First Nations and special interest organizations, including provincial departments such as Alberta Environment, Alberta Sustainable Resource Development, Cypress County, Navigation Canada, Ducks Unlimited, Ross Creek Irrigation District, Southern Alberta Land Trust Society and the Farmers Advocate.

45. AltaLink stated that the purpose of its participant involvement program was to convey a thorough description of the preliminary routes that AltaLink had developed, and to explain the potential impacts of the project and its routing on people and the environment. The goal of the consultation was also to gather the views and concerns of individual landowners so that site-specific information about potential impacts on their property could be assessed, concerns mitigated and the mitigations incorporated into the planning for the project where possible.

46. AltaLink indicated that it had incorporated feedback from its stakeholders as a result of its consultation. AltaLink also explained that it had developed its consultation program jointly with NaturEner because NaturEner already had a consultation history with landowners in the project area due to the development of NaturEner's wind farm projects as well as early route determination for the interconnection of its wind farm projects.

47. Some of the concerns raised by stakeholders during the consultation process include: compensation, effects of EMF impacts, lightning strikes, visual concerns, property values, weed control, environmental impacts and noise, effects on radio and television reception, and impacts on agricultural operations including impacts on GPS devices.

48. At the hearing, interveners complained about AltaLink's consultation efforts. Mr. Weisgerber testified, on behalf of himself and his son, Brock Weisgerber, that an AltaLink representative told him that AltaLink would be on his land in a week whether he signed an agreement or not. Mr. Rath was particularly frustrated with his discussions with AltaLink because in his view, AltaLink did not investigate his route proposals seriously. He testified that he has been engaged in consultation with NaturEner and AltaLink for three years and repeatedly pointed out the advantages of an alternative route south of his property but that the information went in one ear and out the other. He did not see the point in ongoing discussions when AltaLink was not prepared to discuss and conduct some on-the-ground field work to assess the merits of his alternative route.

49. AltaLink said that it attempted to resolve Mr. Rath's concerns about the transmission line commencing in July of 2011 through direct meetings and on the telephone, and there was a renewed effort made after the pre-hearing meeting. AltaLink filed evidence shortly before the

hearing outlining four alternative routes situated off Mr. Rath's lands. AltaLink's evidence was based on a desk-top not an on-site investigation of the potential impacts of these alternatives. It concluded that these alternative routes were inferior to its applied-for route.

6.1 Views of the Commission

50. The Commission's AUC Rule 007 contains the requirements for public consultation and summarizes the purpose of consultation:

The Commission considers it paramount that effective communication takes place among industry, government, and the public so that concerns may be raised, properly addressed and if possible, resolved. All persons whose rights may be directly and adversely affected by the proposed development must be informed of the application and have an opportunity to voice their concerns and to be heard.¹¹

51. An applicant will meet this goal if it provides relevant and comprehensive information about the specific project to potentially affected parties. It must also conscientiously elicit feedback from interested parties and meaningfully respond to concerns, discuss options, alternatives and mitigating measures. There is a corresponding responsibility on interested parties such as landowners to participate in the consultation so that their particular concerns are identified, assessed and mitigated if possible. The result of genuine consultation is a better application, one that acknowledges and responds to the concerns raised in the consultations. Consultation will not resolve all issues, there may still be contentious matters, subject to the jurisdiction of the Commission, between the applicant and landowners. These differences are considered in the context of a public hearing and resulting decision of the Commission.

52. The Commission finds that, overall, AltaLink's consultation or participant involvement program meets the requirements of AUC Rule 007. It identified interested parties such as landowners, municipalities, government departments, First Nations and special interest organizations, and provided detailed and thorough information about the project and its potential and real impacts. It conducted open houses, one-on-one sessions and provided ongoing information updates. Where possible, it integrated feedback in the project's design. Some examples of this include: the September 23, 2011 amendments to AltaLink's application altering the East Palliser North alignment in four locations as a result of ongoing consultation efforts with three impacted landowners;¹² and, altering the alignment a further one-half mile to the south along a route segment on the East Palliser South leg in order to maximize the distance between residences and the line reducing its visual impact.¹³ To some extent, the fact that only three interveners maintained objections to the project and participated at the hearing is an indication that AltaLink's consultation efforts were effective and meaningful.

53. However, the interveners did express some dissatisfaction with aspects of AltaLink's consultation. Mr. Weisgerber was disappointed with AltaLink's open house because a company representative flippantly dismissed his concerns. A comment by an AltaLink representative that the company would be on Mr. Weisgerber's land in short order whether or not he signed an agreement hardly constitutes respectful or genuine consultation let alone correct information.

¹¹ AUC Rule 007: *Applications for Power Plants, Substations, Transmission Lines and Industrial System Designations*, Appendix A, page 29.

¹² Exhibit 0140.01, Wild Rose 1 and 2 amendment to application, September 23, 2011.

¹³ Exhibit 0008.00, Application, paragraph 334.

While this may be an isolated incident, the Commission urges AltaLink to train and monitor the performance of its public representatives in their interactions with landowners and other affected parties so as to ensure that accurate and timely information is exchanged in a respectful manner.

54. Mr. Rath's dissatisfaction with consultation is based on AltaLink's indifference to his dogged advocacy of an alternative route over the past two years. It was not until shortly before the hearing that AltaLink filed desk-top evidence addressing alternative routes. This evidence was prepared largely in response to the Commission's pre-hearing meeting on September 27, 2011, where Mr. Rath presented his concerns about the applied-for route and the availability of an alternate one. In the Commission's view, AltaLink's consultation with Mr. Rath was flawed because it did not make a serious, timely effort to conduct a field investigation of the merits of Mr. Rath's proposed route, in circumstances where AltaLink had identified only one route in its application.

55. The Commission will give some weight to Mr. Rath's complaint about AltaLink's consultation in determining whether AUC Rule 007 requirements have been met in his case and whether the applied-for route for the south leg of the East Palliser project is in the public interest.

7 Environmental impacts

56. The environmental impacts and AltaLink's response to them are outlined in the application.¹⁴

57. AltaLink indicated that the project is located within a mixed grassland region which contains cultivated crops, native prairie and tame pasture. The project area includes a variety of wildlife which are reliant on the native grassland in the area including native prairie and tame pasture. The primary land use in the area is agricultural.

58. AltaLink stated that the proposed routes were designed to avoid environmental impacts where practical and balance the potential environmental impacts with other potential impacts on stakeholders.

59. AltaLink retained Stantec Consulting Ltd. (Stantec) to conduct a detailed environmental evaluation for the project. The environmental evaluation also identified mitigation measures which AltaLink has committed to adopt. Based on the conclusions of the environmental evaluation, AltaLink submitted that it would continue to consider concerns and mitigation to reduce potential environmental impacts through the construction and operation of the transmission lines. AltaLink further submitted that the potential environmental impacts of the project would be minimal with the implementation of the prescribed mitigation measures.

60. Some project-specific mitigation practices include:¹⁵

- Winter construction in sand dune areas, where feasible.
- Structures will be set back from the edges of steep or unstable slopes.
- Wind erosion control measures will be used as required to stabilize salvaged soil piles

¹⁴ Exhibit 0008.00, Application, paragraphs 470-509, November 25, 2010.

¹⁵ Exhibit 0017.00, Appendix I: Environmental Evaluation, Section 7.0: Summary of Mitigation Measures, November 8, 2010.

- Construction on native prairie during dry or frozen conditions.
- No structures will be sited within permanent open water wetlands. A setback of a minimum 30-metre distance from the ordinary high water mark of waterbodies will be maintained, where feasible.
- Herbicides will not be used within 10 metres of known rare plant occurrences.
- AltaLink will maximize efforts to construct in grassland habitats (including native prairie and tame pasture), and wetland and riparian habitats outside the migratory bird nesting period.
- Equipment cleaning to reduce the spread of weeds.

7.1 East Palliser North 240-kV transmission line 1009L preferred and alternate route

61. AltaLink concluded that the potential environmental impacts between the preferred and alternate route the East Palliser North project are limited. While the alternate route is considered more suitable from a vegetation perspective, the preferred route is considered more suitable from a wildlife resource perspective. From a soils resource perspective, the preferred and alternate routes are considered comparable. Both routes are considered viable options from the conclusion of the environment evaluation. However, the preferred route avoids an important bird staging area, crosses a smaller amount of environmentally sensitive areas, and traverses the fewest amount of sand dunes.

7.2 East Palliser South 240-kV transmission lines 978L and 1076L

62. For the East Palliser South project, AltaLink concluded that terrain impacts are considered minimal. Mitigation and monitoring measures may be required to address potential wind and water erosion on soil quality. AltaLink further concluded that most potential environmental impacts will be reduced or eliminated with mitigation measures.

7.3 Bowmanton 244S substation

63. AltaLink completed a noise impact assessment¹⁶ for the proposed alteration of Bowmanton 244S substation as required by AUC Rule 012. The assessment concluded that the cumulative noise would be compliant with the applicable daytime and nighttime permissible sound levels set out in AUC Rule 012. There were no other key environmental issues associated with the expansion of the substation.

7.4 Views of the Commission

64. The Commission considers that the potential environmental impacts along or near the proposed transmission line routes have been thoroughly evaluated and discussed in the application. Where impacts cannot be avoided AltaLink has outlined mitigation measures it proposes to undertake as noted in Stantec's environmental evaluation of the project.

65. The Commission understands that while both the preferred and alternate routes in East Palliser North are viable options, compared to the alternate route, the preferred route avoids an important bird staging area, has the lowest number and size of environmentally sensitive areas crossed, and traverses the fewest amount of sand dunes. The Commission finds that the preferred route is superior to the alternate route in regards to environmental impacts.

¹⁶ Exhibit 0024.00, Appendix P: Noise Impact Assessment Bowmanton 244S Substation, October 18, 2010.

66. With respect to the East Palliser South, the Commission understands that most potential environmental impacts can be reduced or eliminated with mitigation measures. Potential impacts are further considered by the Commission in Section 8.4 (Impacts to land use) of this decision.

67. Mr. Hoffman and Mr. Rath raised concerns regarding weed control during consultation with AltaLink. AltaLink stated that its vehicles and equipment would be cleaned prior to entering the project area to reduce the risk of spreading weeds. AltaLink further stated that it would be agreeable to additional cleaning activities at the request of landowners.¹⁷

68. Based on AltaLink's evidence, the Commission considers the proposed transmission line routes can be constructed and operated in an environmentally acceptable manner provided that the mitigation measures, pre-disturbance assessments, and on-going monitoring, as outlined in the application, are implemented. Accordingly, the Commission finds that, overall, there are no negative environmental impacts that would weigh against approval of the project.

8 Social and economic impacts

69. The Commission considers the following potential social and economic impacts of the project in this section:

- electric effects including electric and magnetic fields (EMF)
- cost of project
- property values
- impacts to land use

8.1 Electric and magnetic fields

70. AltaLink's application explained that EMF are created by the generation, transmission and use of electricity. Electric fields are produced by voltages applied to electrical conductors (wires) and equipment, and the strength of the electric field will increase as the voltage increases. Electric fields may be shielded or blocked by intervening objects such as trees or buildings. Magnetic fields are created by the flow of electricity (the current). The strength of a magnetic field increases as the current increases. Unlike electric fields, magnetic fields are not easily shielded. Transmission lines and all other electrical devices cause EMF and the strength of electric and magnetic fields diminishes as one moves away from the source. The electric field's strength also declines even faster or completely, if the field is obstructed by objects such as wood or metal. EMF created by transmission lines is referred to as extremely low frequency because the frequency of the lines (60 cycles per second or 60 hertz) is at the very low end of the frequency spectrum.¹⁸

71. AltaLink calculated the EMF¹⁹ created by the proposed lines using conditions that would show the highest levels in the field including minimum ground clearance and maximum loading

¹⁷ Exhibit 0008.00, Application, paragraph 400, November 25, 2010.

¹⁸ Exhibit 0008.00, Application, paragraphs 530 to 534 and Exhibit 0022.00, Appendix N (N-1.1 to N-1.99), N-2, N-3.

¹⁹ AltaLink used a computer program based on the scientific work developed by the Bonneville Power Administration, a division of the U.S. Department Of Energy (BPA, 1991), see Exhibit 022.00, Appendix N-2, paragraph 23.

on the lines. The EMF levels were determined under the transmission lines and at the edge of the right-of-way. In both cases, the levels of electric and magnetic fields were lower than international standards for general public and occupational exposure and diminished considerably more further away from the edge of the right-of-way.²⁰

72. AltaLink filed a study it had prepared and filed in other facility applications in response to landowner concerns about the impact of EMF on human and animal health. The study provided an overview of many scientific studies into the health effects of exposure to extremely low frequency EMF. The report outlines the type of research as well as the scientific consensus about the effect on human health and animal health.²¹

73. The report showed that the health effects of exposure to EMF had been the subject of extensive research for more than 40 years, including experimental testing on animals, and that agencies such as Health Canada²² and the World Health Organization had not concluded that exposure to extremely low frequency EMF was a demonstrated cause of any long-term adverse effect to humans, plants or animal health. Nor had these organizations recommended that the general public needed to take steps to limit their everyday exposure to extremely low frequency EMF, including proximity to transmission lines.

74. AltaLink's report also indicated that research on the effect of EMF created by transmission lines on domestic animals including livestock has been carried out since the 1970's, but that the research had not indicated that EMF results in ill effects on the health, behaviour or productivity of livestock, or the growth and viability of crops.²³

8.1.1 Interveners

75. Interveners were generally concerned about the health effects of EMF although no intervener filed expert evidence prior to the hearing and no experts or specialists in EMF were called as witnesses on their behalf. Mr. Weisgerber, in particular, testified about his family's concerns about the effect of EMF on their health as well as the condition of their cattle. Mr. Weisgerber stated that both his residence and his son's residence were located less than 400 metres from the proposed transmission line and that this distance created concern and uncertainty about potential exposure to EMF on his family. AltaLink's electric effects and EMF specialist, Mr. Mundy, responded to these concerns by stating that the electric and, in particular, magnetic fields would have diminished to practically zero at 100 metres from the right-of-way and would not be measurable at 300 or 400 metres. He testified that EMF levels in these residences would be caused by electric devices and wiring within the homes, not by the transmission lines.²⁴

²⁰ Exhibit 0022.00, Appendix N-2, paragraphs 23 to 30, Tables 1-10, 1-11 and 1-12; Figures 1-2, 1-3, 1-5, 1-6, 1-8, 1-9, 1-11, 1-12, 1-14, 1-15.

²¹ Exhibit 0022.00, Appendix N-3, Status Report on Electric and Magnetic Field Health Research, Exponent Inc., June 22, 2010. and Appendix N-1.9, EMF Research Update, Appendix A, Fauna and Flora EMF Assessment Update, July 31, 2008.

²² Exhibit 0022.00, Appendix N-1.3, It's Your Health, Electric and Magnetic Fields at Extremely Low Frequencies, Updated January 2010.

²³ Exhibit 0022.00, Appendix N-3, page 19, Status Report on Electric and Magnetic Field Health Research, Exponent Inc., June 22, 2010; also, Appendix N-1.9, EMF Research Update, Appendix A, Fauna and Flora EMF Assessment Update, July 31, 2008.

²⁴ Transcript, Volume 1, page 53, lines 18 to 25; page 54, lines 1 to 25; page 55, lines 1 to 10.

76. With respect to the magnetic field, Mr. Mundy referred to AltaLink's modelling of EMF near the north part of the transmission project in the vicinity of the Weisgerbers' lands and residences, and explained that the level of the magnetic field calculated at this location was based on the highest load expected to be carried on the line and conditions which would give the highest possible level of magnetic field.

77. Mr. Mundy stated that the closest Weisberger residence was 370 metres from the proposed transmission line and that the maximum level of the magnetic field created by the transmission line at the residence was 0.28 milligauss and the maximum electrical field was zero.²⁵ A study referenced in AltaLink's application²⁶ indicated that the mean magnetic field for about 900 houses in the study was 0.9 milligauss.²⁷

78. Mr. Mundy testified that international standards of exposure to magnetic fields are 833 milligauss for the general public and 4,200 milligauss for occupational exposure. International agencies recommended that the general public exposure to electrical fields be 8.3 kilovolts per metre. He said that directly under the transmission line, the magnetic field would be less than 200 milligauss and the electric field level would be slightly above three kilovolts.²⁸

8.1.2 Views of the Commission

79. The evidence before the Commission consists largely of material filed by AltaLink as part of its application. The material includes modelling calculations and results, a status report on research into EMF over the past 40 years, a Health Canada publication and a number of other monographs and publications from other government, health and industry organizations. AltaLink's electrical effects and EMF specialist also testified at the hearing. No scientific evidence was provided by the interveners.

80. The Commission is familiar with the evidence filed by AltaLink because the scientific evidence contained in the present application has been part of previous applications for other transmission facilities considered by the Commission. In particular, the Commission has accepted the reliability and soundness of the scientific work developed by the Bonneville Power Administration,²⁹ which AltaLink used in its computer program to calculate the EMF levels at various distances from the proposed transmission line.³⁰

81. There was no expert or other scientific evidence offered by the interveners which challenged the reliability of the modelling. Mr. Weisgerber expressed concern with the proximity of the transmission line to his residence and his son's. The modelling evidence, taking into account the highest load expected and other factors tending to increase EMF levels, showed that electric and magnetic fields would have diminished to practically zero at 100 metres from the right-of-way and would not be measurable at 300 or 400 metres. Mr. Weisgerber and his son's

²⁵ Transcript, Volume 1, page 121, lines 15 to 25; pages 122 to 125.

²⁶ Exhibit 0022.00, Appendix N-1.7, Electric and Magnetic Fields Associated with the Use of Electric Power, National Institute of Environmental Health Sciences, National Institutes of Health, June, 2002, page 32.

²⁷ Magnetic fields are usually measured in gauss (G) or milligauss (mG) where 1 gauss equals 1,000 milligauss.

²⁸ Transcript, Volume 1, page 129, lines 1 to 25.

²⁹ Decision 2011-436: AltaLink Management Ltd. and EPCOR Distribution & Transmission Inc., Heartland Transmission Project, November 1, 2011, paragraph 584.

³⁰ Exhibit 0022.00, Appendix N-2, paragraph 23, Bonneville Power Administration, a division of the U.S. Department Of Energy (BPA, 1991).

residences were about 370 metres from the proposed right-of-way.³¹ The Commission accepts that EMF levels in these residences would be caused by electric devices and wiring within the homes, not by the transmission line.

82. The Commission finds that the scientific weight of the evidence contained in the application, including the modelling evidence at the proposed right-of-way and beyond, does not support the conclusion that exposures to extremely low frequency EMF caused by these lines would result in long-term health problems for people or animals.

Electric effects

83. The interveners raised a number of issues related to the electrical effect of the power lines on their agricultural operations including GPS devices, two way radios, electronic devices in farm equipment, home appliances including televisions and radios and induction of electric currents in steel structures such as fences and grain bins. Mr. Hoffman expressed concern about the effect of the power lines on local police and emergency response communications as well as on an Environment Canada weather station located three or four miles south of his land along Highway 41. For most of these issues, the interveners either related personal incidents or what others had told them. No expert evidence was provided on their behalf.

84. AltaLink's evidence showed that the corona phenomena, an electrical activity that is caused by the current flow on a transmission line under certain conditions, can result in audible noise, interference with radio, television, GPS and induction. AltaLink assessed the corona activity associated with the proposed transmission lines with a reliable computer model to quantify the effect on noise levels, radio and television interference and the operation of GPS devices. The modelling was based on fair weather conditions for noise and radio interference, and on foul weather for television interference. The modelling was also premised on peak loading conditions.³²

Bins

85. Mr. Weisgerber testified that the proposed right-of-way would pass directly overhead of seven large, metal grain bins located on his quarter SW 13-16-2-W4M.

86. He objected to the proposed route because of the danger that the transmission line would pose to his operations around the bins and wanted the line rerouted because he had no other suitable land to put the grain bins on. Mr. Weisgerber said that the bins hold 4,000 bushels of grain each and that he uses a 90-foot auger to fill them. The risk of serious injury or death from accidental contact with the overhead lines was a very real one. He testified that the current terrain for the bins was flat and was the only land he owned that could handle the semi-trailer trucks that haul his grain year round.³³ AltaLink committed to work with Mr. Weisgerber to move the grain bins so that he would have safe access and working space around the bins.

³¹ There is one residence within 150 metres of the centre line and seven residences within 800 metres of the edge of the right-of-way on the East Palliser South route; there are no residences within 150 metres of the centre line and eight residences within 800 metres of the edge of the right-of-way on the East Palliser North preferred route.

³² Exhibit 0022.00, Attachment N-2, paragraphs 1 to 22 for detailed discussion and measurements on corona, television, radio, GPS and induction.

³³ Transcript, Volume 1, page 230, lines 5 to 15.

AltaLink would consider all alternatives and if an alternate site was not available on his lands, then AltaLink would compensate him for the loss of use of the bins, or relocate the bins to suitable lands owned by others, paying the cost of relocation and rental of the lands.³⁴

87. Mr. Weisgerber also gave the example of a fence along a power line whose gate could not be opened without receiving a shock. He attributed this to electricity leaking from the power lines. AltaLink agreed that this type of induction is well known and that the solution is to ground the fence at intervals of every hundred metres. The intensity of the induction depends on the proximity of the fence to the lines and that grounding eliminates the condition. AltaLink indicated that it had a great deal of experience with induced current and voltage, and the grounding techniques to eliminate the impact. It pointed out that it works with qualified electricians to ground homes near its high-voltage lines, for example.³⁵

GPS

88. Mr. Weisgerber and Mr. Hoffmann also expressed concerns about the effect of the proposed transmission lines on the operation of the GPS units in their respective farm equipment. Mr. Weisgerber stated that he had three GPS devices in farm machinery and all three had malfunctioned as the machinery passed under distribution lines. AltaLink's application stated that it had rarely encountered problems with GPS devices because interference with GPS devices will only occur if the voltage of the transmission line is greater than 240 kV, the frequency of the GPS instrument is less than 30 MHz (millions of cycles per second) and the transmission line and the GPS instrument are less than 100 metres apart. It stated GPS receivers operate at much higher frequencies than 30 MHz and that research showed that it is unlikely that power lines interfere with their use.

89. AltaLink's electrical effects specialist testified that the transmission lines would not interfere with GPS devices in farm machinery unless the transmission lines were damaged, but that AltaLink would respond to any complaints that might be linked to their transmission lines. He also recounted, for example, that problems may arise where the GPS is not upgraded to the most recent manufacturer specifications or installation in tractor or equipment has not been properly grounded to the tractor chassis. In the event that interference with the operation of GPS devices was linked to the transmission lines, AltaLink committed to send technical personnel to investigate the problem.

Television and radio

90. AltaLink's public consultation indicated that landowners were concerned that the transmission lines would cause interference with televisions and radios. The interveners at the hearing touched on this issue briefly. The evidence in AltaLink's application on this issue demonstrated that with respect to radios, the electrical interference fell within the regulatory limits set out in Industry Canada's guidelines.³⁶ AltaLink committed to identify and mitigate sources of radio interference and conduct measurements after construction to show compliance with Industry Canada's guidelines. It also agreed to take pre- and post- operation measurements at the request of individual landowners and others who were concerned about this impact.

³⁴ Transcript, Volume 1, page 130, lines 4 to 25, page 131, lines 1 to 25 and page 132, lines 1 to 5.

³⁵ Exhibit 0022.00, Appendix N-2, paragraphs 20 to 22.

³⁶ Exhibit 0022.00, Appendix N-2, paragraphs 12 to 14.

91. AltaLink stated in its application that the reception of the video part of television signals may be impacted by the energy created by corona if the television signal is low, the corona activity is high and the television antenna is located close to the transmission line. The interference can be resolved by moving the antenna away from the line or using a higher antenna. Corona activity does not affect cable or satellite reception.

92. AltaLink assessed television interference at the edge of the right-of-way of the proposed transmission lines and its results showed that television signals received at that point would be greater than the interference caused by the corona effect from the transmission lines. It concluded that adequate television reception would continue. AltaLink also committed to conduct measurements before and after construction and operation of the line for residents who expressed a concern about television reception.³⁷ AltaLink's evidence showed that there were no residences located at the edge of the proposed right-of-way.³⁸

Communication systems

93. Mr. Hoffman questioned whether the transmission lines would interfere with emergency radio communications used by police and EMS services, cell phones and Environment Canada's radar system in the area. AltaLink indicated that interference with cell phones or emergency radio communications used by the police and EMS services would not likely occur as the frequencies used in those types of systems are much higher than those produced by the proposed transmission line during normal operation. AltaLink stated that many factors could influence the performance of wireless systems like cellular communications and concerns would be investigated by AltaLink if raised by affected parties.

Noise

94. AltaLink's application stated that sound pressure level or noise created by corona activity (and heard as a hum or crackling sound) complies with the permissible sound level of AUC Rule 012 for a rural site with low housing density. While the permissible sound level is 40 dBA during the nighttime and 50 dBA during the daytime at the most impacted dwelling, AltaLink carried out the noise impact at the edge of the proposed right-of-way for each transmission line. AltaLink's modelling showed that the maximum audible noise level at the edge of the right-of-way of the proposed transmission lines in fair weather was 24 dBA, well below the 40 dBA threshold at the most impacted dwelling. AltaLink acknowledged that it would also be obliged to conduct noise assessments to measure the actual noise levels once the transmission facility was operating to ensure compliance with AUC Rule 012.

Views of the Commission

95. The Commission finds that AltaLink has thoroughly described the kinds of interference with electrical devices, fences and structures that may occur because of the operation of the proposed transmission lines. For effects that can be modelled or calculated such as noise, and interference with radio and television reception, AltaLink has provided evidence that shows, for example, that the Commission's AUC Rule 012, will be met or, in the case of electrical

³⁷ Exhibit 0008.00, paragraphs 538 to 540, and Exhibit 0022.00, Appendix N-2, paragraphs 15 to 16, Tables 1-7 and 1-8.

³⁸ Exhibit 0008.00, Table 4.6, page 82 and Table 4.9, page 94.

interference with radio and television reception, that Industry Canada guidelines will be met for radio or television signals close to the right-of-way which will not be affected by the corona activity. AltaLink will conduct a noise level assessment once the transmission lines are operational to ensure that the actual noise levels meet AUC Rule 012. AltaLink will also, upon request by landowners and others, conduct pre- and post-construction assessments to ensure that interference with radio and television signals, if present, are mitigated after operations commence.

96. With respect to electrical interference with the operation of GPS devices, the Commission accepts AltaLink's evidence that because the higher operating frequencies of GPS instruments and the proposed voltage of 240-kV, as opposed to a higher voltage for the transmission lines, there should be little if any effect on GPS devices. AltaLink has committed to investigating with trained technicians, any problems that landowners may experience with their GPS devices once the transmission line is operating. It will mitigate any problems that are caused by the transmission lines.

97. The Commission finds that Mr. Weisgerber's concern about induction of electricity into his grain bins and accidental contact between his grain auger and the overhead transmission wires is a serious matter. The proposed right-of-way for the preferred route takes the transmission line almost directly overhead of the large bins. The potential for highly unsafe agricultural operations around the bins is undoubted given the machinery used, including 90-foot augers, and the distance between the wires and the bins.

98. AltaLink's witness unequivocally stated that if Mr. Weisgerber or any other stakeholder was affected by or encountered a problem with a proposed or existing transmission facility, AltaLink was committed to addressing those issues with the landowner. AltaLink stated that this commitment did not depend on a specific written agreement, for example, an easement agreement, but was an integral policy of the company.

99. In this case, AltaLink has committed to ensuring that safe conditions will be in place for Mr. Weisgerber's operations around the bins in their current location. If this is not possible in the current location and if Mr. Weisgerber does not own alternate lands fit for this purpose, AltaLink has committed to compensate him for the loss of use of the bins or relocate the bins to suitable lands owned by others, paying the cost of relocation and rental of the lands. The Commission observes that the use of the bins, seven bins each holding 4,000 bushels of grain, is an essential part of Mr. Weisgerber's farming operations and that every effort must be made by AltaLink to ensure that the efficiency and integrity of Mr. Weisgerber's farming operations are not compromised.

100. Overall, the Commission finds that the electrical impacts created by the operation of the proposed transmission line are well understood by AltaLink and where they cannot be avoided, the mitigation measures that AltaLink has outlined and committed to are satisfactory.

8.2 Cost

101. AltaLink estimated that the East Palliser North portion of the transmission project would cost approximately \$51.9 million for the preferred route and \$53 million for the alternate route and that the East Palliser South portion of the project would cost approximately \$42.1 million. It stated that the cost projections were based on its experience with other large projects and were

accurate within +20% / -10%, and calculated on preliminary engineering and construction planning. The estimates were also based on construction commencing in April 2012, with in-service connection dates of March 2013 for Wild Rose 1 and July 2013 for Wild Rose 2.

102. AltaLink's evidence³⁹ indicated that in general, a typical cost per kilometre of transmission line is approximately \$525,000 and includes a combination of tangent, angles and deadend structures. Individually, deadend structures (30 to 90 degrees) cost \$330,000; heavy angle structures (five to 30 degrees) cost \$ 260,000 and light angle structures (two to five degrees) cost \$135,000 each.

103. AltaLink filed evidence shortly before the hearing commenced, outlining four alternate routes that would avoid Mr. Rath's lands in the East Palliser South part of the transmission project.⁴⁰ Mr. Rath had discussed an alternate route during consultations which would for the most part align itself with Township Road 94 although not all of the alternate routes described by AltaLink followed this alignment. AltaLink submitted that the four alternate routes would be between 30%-70% longer and cost an additional \$1.2 million to \$1.7 million more than the applied-for route.

104. Mr. Rath submitted that the cost should not be the only factor when considering routes. The overall and specific impacts on landowners should have equal influence in consideration by Commission.

8.2.1 Views of the Commission

105. The Commission must take into account a number of considerations when deciding whether to approve an applied-for route or an alternate route proposed by an applicant or interveners. Environmental, social and economic impacts are all relevant and are balanced depending on their impacts, in deciding on the best route. The relative cost of one route versus another is an important factor. In the present application, the respective cost projections for the East Palliser North preferred and alternate route are within approximately one million dollars of each other and for the East Palliser South facility, the additional cost of the alternate routes is between \$1.2 million and \$1.7 million more than the applied-for route. The Commission recognizes that these numbers are not precise and may be subject to adjustment when actual construction conditions and contingencies are encountered. They do, however, give some perspective on the relative cost of the proposals that will be part of the Commission consideration of the routes, especially Mr. Rath's alternate route or routes.

8.3 Property values

106. The impact of transmission lines on property values was a concern identified through AltaLink's wider consultation program as well as with the specific interveners at the hearing. AltaLink's basic position was that like roads and railways, transmission lines were part of the countryside and had a negligible if any negative impact on land values. If there was an impact, it was quickly reduced with distance from the line and the reduction dissipated over time.⁴¹

107. AltaLink provided a report entitled *High Voltage Overhead Transmission Lines and Rural Property Values* in response to Mr. Hoffman's concern about the devaluation of his

³⁹ Exhibit 0131.01, AML IR Responses to, L and D Farms IR Requests, LD FARMS.AML-008.

⁴⁰ Exhibit 0160.01, AltaLink's Reply Evidence, December 5, 2011.

⁴¹ Exhibit 0008.00, Application, paragraphs 397 to 398.

lands.⁴² The report compared the sale prices for similar properties in a particular area, sold at the same time where the one important difference was the presence of a high-voltage transmission line on one property. The report stated that the difference in the selling price or the value of the property was attributed to the presence of the transmission line.

108. The report also contained a review of property values based on the opinions and experiences rural real estate agents who had acted for sellers or buyers of lands with high-voltage transmission lines located on the property. The report concluded that there is no effect on lands which have an agricultural highest and best use, one of reasons being that owners of such properties receive annual structure payments which are a form of guaranteed income and would be in the contemplation of any potential buyer. However, if the highest and best use for rural lands was for commercial, industrial recreational or residential use, the effect of transmission lines on lands with those types of uses, was slightly negative. Although not precise because of the relatively small sample size, the report stated that value of such properties could be reduced by 3.5 per cent.

8.3.1 Views of the Commission

109. Neither AltaLink nor the interveners at the hearing presented expert witnesses to testify about the impact of the proposed project on property values although this was an issue raised by landowners during the consultation stage. Both the interveners and AltaLink's witnesses at the hearing gave their respective corporate or personal view on this subject. However, an expert report on property values was filed by AltaLink earlier in the proceeding and forms part of the record before the Commission. The Commission places some weight on the report in the absence of other substantial evidence.

110. The Commission accepts that there will be little if any impact on property values for lands whose best and highest use is for agriculture because the negative impacts caused by the presence a high-voltage transmission line are offset by a continuing stream of income, the annual structure payments, received by the landowner.

111. The Commission also accepts that residential, recreational and commercial properties may experience a small reduction in value if a transmission line is situated on such lands because of the obstruction of particularly scenic views or the impairment of other aesthetic characteristics or the more direct impacts of electrical effects on a residence in close proximity to a transmission line. The actual impact will depend on the specific characteristics of the land and transmission line in question.

112. In the present proceeding, the proposed transmission lines will be located on the agricultural lands of Messrs. Hoffman, Weisgerber and Rath. There is no evidence before the Commission that these lands have been used for any purpose other than agricultural or that their highest and best use is for some other purpose. The evidence showed that Weisgerber residences were located about 370 metres away from the transmission line and that there was no residence on Mr. Hoffman's lands.

113. Mr. Rath, as part of his final argument at the hearing, said for the first time in the proceedings, that his lands may be suitable for residential development because he had access to a co-op potable water pipeline. However, he provided no indication of when this might take

⁴² Exhibit 0128.05, Letter from AltaLink to Mr. Hoffman dated August 17, 2011.

place, or what if any steps he had taken to determine whether the development was feasible. Certainly, his evidence was to the effect that he and his father before him had always used the lands for farming. Mr. Rath also testified that the view of the Cypress Hills from his residence would be impeded by the presence of a transmission line to the south across Township Road 100, on his northwest quarter.

114. Later in this decision, the Commission deals with the visual impact of the proposed transmission line on Mr. Rath's lands. There may be a small reduction in the value of the lands or part of them where his residence is located according to the report. However, there is no specific evidence on the particular features or characteristics of the residential property in relation to the proposed transmission line to determine the decrease, if any, in the value of the property. Based on the report, the projected impact would be a small reduction, as much as 3.5 per cent. In these circumstances, the Commission finds that this potential impact on Mr. Rath's residential lands would not be sufficient to deny the proposed alignment of the transmission line on his agricultural lands.

8.4 Impacts to land use

115. AltaLink described the project area as a mixed grassland eco-region which includes cultivated crops and large tracts of native prairie and tame pasture. The primary land use in the project area is for agriculture. There is a wide variety of wildlife in the area reliant on the native grassland habitats. There are no major watercourses crossed by the project.

116. AltaLink testified that the construction and operation of the proposed transmission line may impact cultivated and forage lands although most of the right-of-way can be used for agricultural activities, except for the land used the tower footprints. AltaLink said that it attempted to minimize impacts on land use by selecting a route which paralleled large existing linear disturbances, such as Highway 41 for the East Palliser North portion of the project, and by following quarter section and section lines which may reduce the fragmentation on otherwise undisturbed lands.

117. AltaLink explained that transmission lines cut across farm lands and create fragmentation of the lands which poses operational challenges for farmers who have to operate machinery near or around the towers. By following property boundaries lines or quarter section lines, the impact on farming operations can often be shared by different landowners who also share in the compensation. AltaLink testified that for the most part where the project followed the quarter section line, the H-frame transmission structures would straddle the quarter line so that there would be 20 metres on each side of the right-of-way. In contrast, AltaLink testified that if the proposed 240-kV transmission line was located adjacent to a road allowance, the edge of right-of-way would have to be set back from the edge of the road allowance by 30 metres, there would be another 20 metres to the centerline of the right-of-way and a further 20 metres on the other side of the centre line.⁴³ Much more agricultural land would be potentially impacted by the transmission line.

118. AltaLink also stated that in selecting the proposed routes, it had moved the centre line in the right-of-way to accommodate farm machinery where possible and would place structures at the edge of fields and on quarter lines or in other locations to minimize impacts, where feasible.

⁴³ Transcript, Volume 1, page 75, lines 22 to 25, page 76, lines 1 to 23.

8.4.1 Views of the Commission

119. The proposed transmission project is situated on lands that are primarily used for farming and ranching operations. Cultivated crop land, tracts of native prairie and tame pasture characterize the area. The Commission recognizes that a large transmission line will have some negative impacts on agricultural operations. It is important that these impacts as well as mitigating measures are identified in the application, and that AltaLink makes a strong and binding commitment to implement mitigation where necessary. Where impacts are unavoidable or cannot be minimized, fair compensation must be provided to landowners. The Commission finds that in selecting the routes for consideration in this application, AltaLink has meaningfully taken into account the impacts of the transmission line on agricultural activities and the potential mitigation of these impacts. In particular, the Serecon Report⁴⁴ describes the myriad of impacts and measures to reduce or diminish potential impacts. The Commission finds that these mitigating measures are satisfactory. They are well known and the practices have been incorporated in most if not all transmission projects in this part of Alberta.

120. Overall, the Commission finds that where negative impacts to agricultural operations are caused by the construction and operation of the transmission line, the mitigation practices adopted by AltaLink are satisfactory and minimize potential impacts. However, there may be unique or site-specific impacts that affect particular lands. AltaLink must recognize these special circumstances, make genuine efforts to discuss mitigation approaches with landowners and devise a plan that meets the impact.

121. In the following sections, the Commission considers the specific impacts on land use raised by Messrs. Weisgerber, Hoffman and Rath in their written submissions and testimony at the public hearing.

8.4.2 Specific concerns of interveners relating to land use and line routes

8.4.2.1 Mr. Weisgerber

122. Mr. Weisgerber objected to the proposed transmission line on the East Palliser North portion traversing on an angle across a cultivated field on his land, SW 13-16-2-W4M. He said that whether he aerially sprayed or not, the placement of towers at that particular location would cause him to operate his machinery around them four or five times a year and that the proposed compensation was inadequate reimbursement for the inconvenience, extra work and operational inefficiencies that would result from the transmission line. AltaLink observed that the line crossed a relatively small portion of his cultivated field and that it may be possible to span the distance to avoid the farming difficulties. If that was not possible, AltaLink would compensate him through the annual structure payments.

123. Mr. Weisgerber testified that he had to aerial spray his grain crop on SW 13-16-2-W4M in 2010 because rust had developed and the crop was too high to use a ground sprayer. He said that this was the first time he had to use an airplane and that he usually ground sprays when necessary. The aerial spraying followed a north south direction on those lands. He stated that the proposed power line would cut across his lands at an angle preventing aerial spraying in the north south direction if he needed to use an airplane in the future.

⁴⁴ Exhibit 0131.01, Letter from AltaLink dated August 22, 2011, Responses to Information Requests from L&D Farms, including Potential Agricultural Impacts from High Voltage Overhead Transmission Lines, July 2008 (Serecon Report).

124. AltaLink acknowledged in its filed application that aerial spray companies may decline service when a transmission line runs at an angle across a field because of the extra risks and time associated with flying in relative close proximity to power lines. Fewer acres are sprayed and extra fuel is required because of how the plane has to navigate the structures. If ground spraying was the only alternative, the field could produce a reduced income for the farmer due to trampling from the ground sprayer or the inability to effectively control weeds.⁴⁵

125. AltaLink committed to compensate Mr. Weisberger for any negative impact on aerial spraying caused by the transmission lines on his lands. It indicated that this was a common policy or commitment made to landowners in responding to Mr. Rath's concerns about aerial spraying on his lands for example, AltaLink testified that the compensation was based on the loss of production which resulted from the inability to aerial spray and the nuisance or inconvenience of having to ground spray as opposed to aerial spraying. These costs would be negotiated and be reflected in the annual structure payments.

126. Mr. Weisgerber was also concerned about the clearance between the transmission wires or conductors and the height of farm machinery and vehicles at access points into his lands or when having to otherwise operate around or under the transmission lines. He was satisfied, however, that sufficient clearance was provided because there was an additional 10 feet of clearance between a vehicle 20 feet high and the conductors.⁴⁶

Views of the Commission

127. The Commission finds that the placement of the transmission line on an angle across Mr. Weisgerber's cultivated lands located on SW 13-16-2-W4M will negatively impact his farming operations. He will have to operate his machinery around or near the structures throughout the year creating operational inefficiencies and reducing the amount of land available for cultivation. The location of the transmission line will also hinder or prevent any aerial spraying that he might require in the future because the angle of the transmission line cuts off the north/south pattern of spraying. While both of these impacts, if not avoided or susceptible to mitigation, may be resolved through compensation, the Commission directs AltaLink to make every effort to span the small piece of land in question rather than place structures on the land. This would mitigate to a reasonable degree the inefficient navigation of machinery around or near large structures in Mr. Weisgerber's cultivated field.

128. This modification to the current proposal would still pose a significant if not complete impediment to aerial spraying because the alignment would still interfere with the north/south pattern flown by the plane. However, Mr. Weisgerber said that he usually uses a ground sprayer and has only resorted to aerial spraying in 2010. Given the infrequency of aerial spraying on these lands and the use of compensation to make good any damages or loss of income that he may sustain in the future if he cannot aerially spray, the Commission finds that this impact has been satisfactorily dealt with.

8.4.2.2 Mr. Hoffman

129. Mr. Hoffman owns two quarter sections of land: SE 24-16-2-W4M and SW 30-16-2-W4M on or near the East Palliser North portion of the proposed transmission line.

⁴⁵ Exhibit 0131.01, AML IR Responses to L&D Farms, Serecon Report, pages 17 to 19, August 22, 2011.

⁴⁶ Transcript, Volume 1, page 235, lines 2 to 6.

He was primarily concerned with the impact of the proposed power line on the SE 24-16-2-W4M section. In general, he questioned why a different route was needed to transmit the electricity from Bowmanton 244S substation to Cypress 562S substation when there was an existing line already built between these two points. He submitted that the right-of-way of the proposed route on East Palliser North went through cultivated land, had more 90 degree turns, higher cost, and required more land than the existing line.

130. With respect to his SE 24-16-2-W4M, Mr. Hoffman said that the proposed right-of-way, located on his land away from the edge of the Highway 41, would prevent him from using the only level spot he could relocate his present grain bins or situate new bins on. He stated that farmers are seeding all their land now so additional bins would probably be required in the future. He reiterated the evidence of Mr. Weisgerber that the big semi-trailer trucks used to haul grain would not be able to negotiate year round loading on terrain that was uneven or hilly. A flat access to the bins and exit from the bins was essential for safe and efficient loading operations.

131. Mr. Hoffman also testified about his concern with the overhead clearance of the proposed lines over roadways and access to building and other sites. He pointed out that equipment and machinery is getting bigger all the time and that a typical grain bin being hauled on a truck bed will have a height of over 20 feet from the ground. He acknowledged that AltaLink would construct the transmission line with the proper height clearance and would specifically work with him on the clearance issue on his lands, but was concerned that the size of equipment is getting bigger and that the lines may not accommodate the size of equipment in the future not only for him but other farmers along the proposed right-of-way.

132. AltaLink stated that it would continue its discussions with Mr. Hoffman about adequate clearance under the proposed transmission lines so that he could access his lands adjacent to the right-of-way in safety. It pointed out that the lines are designed for a minimum 20-foot clearance which is AltaLink's standard across the province and which is four feet in excess of the Alberta Electric Utility Code requirement of 16 feet. AltaLink explained that this would allow a 20 foot high agricultural vehicle or equipment to safely pass under the line, even where the line sags closest to the ground. The ground to conductor clearance is 8.9 metres or about 29 feet.⁴⁷ AltaLink also testified that it would consider placing taller structures at specific locations, like an access point into a field, so that adequate clearance was achieved for particular landowners and their equipment. If the access point was located closer to a structure the clearance would be higher as opposed to further away from the structure so placement of the structures was also a possible approach. Other alternatives included providing access at entry points that were not under the transmission lines.

133. Mr. Hoffman also briefly mentioned that he was concerned about devaluation of his property with the line located on the lands and believed that the market for such lands would be more limited than without them. He also identified weed control around the transmission structures and limitations on aerial spraying as potential negative effects of having the line on his property although he testified that he had not used aerial spraying in the past.⁴⁸ Mr. Hoffman's evidence on these points was not extensive.

⁴⁷ Transcript, Volume 1, page 142, lines 2 to 14; Exhibit 131.01, AML IR Responses to L&D Farms, LD FARMS.AML-014, August 22, 2011.

⁴⁸ Exhibit 0117.01, Hoffman submission stating concerns and hearing participation, July 29, 2011.

Views of the Commission

134. Mr. Hoffman testified about the impact that the proposed transmission line would have on his ability to move some or all of his current grain bins from their current location to level ground adjacent to Highway 41 and the proposed right-of-way. In the Commission's view, this issue appeared to be the most significant impact on Mr. Hoffman's future use of his lands.

135. Highway 41 cuts across Mr. Hoffman's lands as does the transmission line right-of-way which follows the highway. The level land is situated between the highway and the proposed right-of-way. Mr. Hoffman's current location of the bins is not ideal for future bin placement because the terrain is not completely flat and poses some challenges for semi-tractor trailers especially in the winter because of snow and the bin's distance from the field entry point on Range Road 20. He stated that the proposed transmission line would prevent him from using the only level location on his lands for the bins should he have to relocate existing bins or obtain new ones. Mr. Hoffman was also concerned about the clearance under the transmission lines at the access points to his lands for his equipment, machinery and trucks now and in the future.

136. The Commission finds that AltaLink is alive to Mr. Hoffman's concerns and has offered to discuss potential solutions to the bin location and clearance issues although Mr. Hoffman has not been receptive to any detailed discussions about these mitigative measures. AltaLink had offered to construct alternate field access to his current bin location and to grade the area to improve access and to accommodate the placement of future bins. AltaLink has also offered to relocate the bins, albeit, Mr. Hoffman's view is that there is only one suitable location and the transmission line prevents any move to this area next to Highway 41.

137. It is not clear on the evidence that a location closer to Highway 41 is completely out of the question. AltaLink's evidence is that no building structures can be located on the transmission line right-of-way in order to ensure the safe operation of the line. The northwest boundary of AltaLink's right-of-way would be 90 metres from the centre of the highway or 60 metres from the northwest boundary of the highway which is also Mr. Hoffman's fence line.⁴⁹ The Commission has not heard that, for example, detailed evidence that this land outside the northwest boundary of the right-of-way could not be made suitable through grading and earth levelling efforts at a reasonable cost.

138. The Commission directs AltaLink and Mr. Hoffman to have further discussions aimed at resolving Mr. Hoffman's future need for additional grain bins. In the Commission's view, there are acceptable mitigation measures that might be implemented including the expansion of the current location, detailed review of locations closer to Highway 41 and compensation including payment for a suitable location off Mr. Hoffman's lands. The Commission finds that any clearance issues raised by Mr. Hoffman have been satisfactorily met by AltaLink. The proposed line is designed in excess of the Alberta Electric Utility Code requirement of 16 feet and, in fact, the ground to conductor clearance is 29 feet at the closest sag point of the wires to the ground. If this design does not allow for any site-specific safe farming operations, AltaLink can place a taller structure at specific access points into a field to provide safe clearance for machinery and vehicles.

⁴⁹ Exhibit 0128.05, AltaLink letter to Hoffman, August 18, 2011.

8.4.2.3 Mr. Rath

139. Mr. Rath, through written submissions and his testimony at the hearing, opposed the applied-for route of the East Palliser South 978L transmission line on his property. His objections related to the line's proximity to his residence, obstruction of his family's view of Cypress Hills Provincial Park, inefficient farming operations because of the location of the right-of-way on his lands, impediments to aerial spraying, interference with an existing natural gas pipeline and construction of future water station for livestock, impacts to wildlife and restrictions to the future potential residential development of his lands.

140. Mr. Rath testified that he spoke with the owner of the pipeline company, Ki Exploration Inc. (Ki Exploration), who indicated that the company was concerned with the proximity of the transmission line to the pipeline. Mr. Rath was concerned that the two linear disturbances on his land would restrict developments such as a watering station for his livestock because of the land taken up by the two rights-of-way.⁵⁰

141. AltaLink testified that the pipeline company has no concerns with the proximity of the proposed transmission line or with the project. AltaLink stated that it deals with gas pipeline companies frequently given the level of oil and gas activity in its service territory and that proximity agreements which mitigate any construction and operational issues that may arise because of the close proximity of the two facilities, will be entered into with Ki Exploration prior to construction. In response to an undertaking given at the hearing, AltaLink filed an email correspondence,⁵¹ dated December 7, 2011, from Ki Exploration's vice-president of operations which indicated that it did not have concerns with the proposed transmission line. Ki Exploration requested that no transmission line structures or facilities be placed within its existing pipeline right-of-way, but that it does not have any concerns with AltaLink's right-of-way overlapping a portion of its existing pipeline right-of-way or using part of the pipeline's right-of-way for work space. AltaLink committed to working with Ki Exploration regarding the conditions listed in its correspondence.

Aerial spraying

142. Mr. Rath testified that he has used aerial spraying on two occasions in the past 10 years and that the aircraft sprayed his quarter sections in a north-south pattern. He maintained that it would be very inefficient and costly to spray in an east-west pattern, to the point of futility. AltaLink stated that it had contacted the aerial spraying service provider, Kinniburgh Spray Service Ltd., that Mr. Rath had used⁵² and understood from discussions with the company that the proposed location of the transmission line on Mr. Rath's lands would not prohibit aerial spraying. According to AltaLink, spraying could be applied in an east-west pattern. Mr. Rath testified that his land had previously been sprayed in a north-south pattern and that since the proposed transmission line bisected his lands in an east-west direction, aerial spraying, if possible at all, would be very expensive and inefficient in terms of covering all his lands. He said that because he had neighbours to the east and west of his quarters and given the lay of the land and wind conditions, the cost of spraying in an east-west pattern would be prohibitive and so effectively he could not use aerial spraying when required.

⁵⁰ Transcript, Volume 1, page 151, lines 21 to 25, page 152, lines 1 to 10.

⁵¹ Exhibit 0170.02, AML Response to Undertaking 001, December 19, 2011.

⁵² Exhibit 0161.01, AML Correspondence with Kinniburgh Spray Services Ltd.

143. AltaLink's evidence⁵³ acknowledged that there was a loss of efficiency if only a quarter section was sprayed in an east-west pattern at one time since a quarter section was half the length of a section but the same number of turns was required. Costs of spraying included a flat rate, the product being sprayed, distance from the airport, and presence of transmission line or wind turbines posing safety concerns and application of product to plant's surface or roots. The spraying plane would have to keep about 200 feet away from a transmission line that straddled a quarter section as was proposed for Mr. Rath's lands. Transmission lines on either side of the quarter line posed the greatest restriction to aerial spraying.

144. AltaLink's evidence⁵⁴ from the aerial spraying company pointed out that buffer zones may be required depending on the site-specific conditions present at the time of spraying. No spraying can occur on the buffer zones so the application of the product to the targeted field is very challenging and may not result in complete coverage of the field. Considerations such as adjoining land uses, types of crops on the same land, nature of product being applied, wind and humidity may all contribute to the size of a buffer zone.

145. AltaLink testified that if Mr. Rath could not use aerial spraying on all or part of his lands because of the location of the transmission line, AltaLink would compensate him for any potential loss of crop productivity that results from ground spraying. AltaLink would also pay compensation for the nuisance value of having to ground spray part or all of his fields as well as the premium costs charged by the aerial spraying company as a result of having to manoeuvre near the transmission towers. AltaLink explained that the compensation would be negotiated as part of the annual structure payments and referred to the Serecon Valuations Inc. report for a description of the impacts to aerial spraying caused by transmission lines.⁵⁵ AltaLink also offered to adjust the line and placement of the towers on his land to minimize, where possible, impacts to his land use, including aerial spraying.

Views of the Commission on aerial spraying

146. The Commission finds that although Mr. Rath has only used aerial spraying twice in the past 10 years, wet springs and other adverse growing conditions are real contingencies that may preclude ground spraying and require aerial spraying. If crops are not properly or effectively sprayed, quality and yield diminishes especially specialty crops, reducing revenue to the farmer.

147. There are challenges to aerial spraying on Mr. Rath's lands because the plane will have to fly in an east-west pattern. This is inefficient and costly because this pattern means more air time, greater fuel consumption and less land covered. The lack of buffer zones, which currently exist in the north-south pattern of spraying, will also exacerbate the product drifting onto his neighbours land or other unwanted locations.

148. However, on the evidence before the Commission, aerial spraying of the Rath lands in an east-west pattern may well be feasible. Only the aerial spraying company can determine this at the time when spraying is required. If a spraying company agrees to spray his crops, Mr. Rath will incur higher costs than would otherwise be the case. These costs have been described as premium costs to reflect the challenges of effectively covering the fields, and meeting the

⁵³ Exhibit 0170.03, AltaLink Undertaking 002, page 7, December 19, 2011.

⁵⁴ Exhibit 0170.03, AltaLink Undertaking 002, page 5, December 19, 2011.

⁵⁵ Exhibit 131.01, AML IR responses to L&D Farms IR requests, Potential Agricultural Impacts From High Voltage Overhead Transmission Lines report by Serecon Valuations Inc., July 2010.

additional risks associated with the pattern of spraying caused by a lack of buffer zones and location of the transmission line.⁵⁶ AltaLink has committed to paying these premium costs and to compensate Mr. Rath for any loss of production and resulting income that occurs from the fact that not all of his lands can be aerially sprayed. If he has to use ground spraying to complete the operation, AltaLink will also compensate him for the nuisance of having to use a ground sprayer. These payments would form part of the annual structure payment negotiated between the parties.

149. The Commission finds that based on this mitigation approach, any impediment to the use of aerial spraying on the Rath lands has been satisfactorily dealt with.

Visual effects

150. Mr. Rath testified at the hearing that he and his family currently enjoy a view of the Cypress Hills to the southwest⁵⁷ and that the proposed location of the power line along the quarter line of his northwest and southwest quarters would impair this view. AltaLink contended that the visual impacts were not brought up during the pre-hearing conference and pointed out that Mr. Rath's home quarter is located over a half mile away from the line diminishing the impact on the view.⁵⁸

Views of the Commission on visual impact

151. The Commission recognizes that the impairment of a viewscape in scenic country is an unwanted impact caused by transmission lines. It is a factor that is weighed in the balance of the overall advantages and disadvantages of the proposed alignment of the route. The evidence before the Commission is that the proposed transmission structures will be wooden H-frame towers up to 24 metres in height with an arm span of 12 metres,⁵⁹ situated about a half mile from the Rath's home. In the Commission's view, the design and size of the structures coupled with their distance from the Rath's home diminishes this negative impact. Any residual impairment of the view is not sufficient on its own to deny the applied-for route.

Water dugout

152. Mr. Rath stated that he wanted to develop a winter watering station for his livestock at a year round spring-fed watering hole on his native grass lands on the SW 36-9-4W4M. This spring or dugout is located immediately south of the transmission line right-of-way on his quarter line. Mr. Rath initially thought about developing the winter water station five years ago. The facility would consist of a trough, corrals, windbreaks and potentially a building to prevent the water from freezing. He asserted that the proposed location of the transmission line right-of-way and the existing pipeline right-of-way would restrict the construction of this project. Given the topography of his land near the dugout, he would have to develop the winter water station to the west of the dugout towards the proposed transmission line right-of-way. He said that the cost of the development and the fact that he has a supply of water through a co-op pipeline to his yard, have been the reasons he has not started the winter water station project.

⁵⁶ Exhibit 170.03, AltaLink Undertaking 002, December 19, 2011.

⁵⁷ Transcript, Volume 1, page 155, lines 8 to 13, page 275, lines 14 to 25, page 276, lines 1 to 3.

⁵⁸ Transcript, Volume 1, page 271, lines 20 to 21.

⁵⁹ Exhibit 0008.00, Application, page 19, November 25, 2010.

153. AltaLink questioned the likelihood of Mr. Rath proceeding with the water station as no construction has started for the past five years. It also stated that the dugout is approximately 55 metres from the quarter line and if the transmission line right-of-way straddled the quarter line, the southern edge of the right-of-way would be 20 metres from the quarter line, providing 35 metres of development space between the edge of the right-of-way and the dugout. AltaLink also said that although no buildings could be constructed under the transmission line, there was no restriction on other activities on the right-of-way.

154. AltaLink was also prepared to discuss the adjustment of the transmission line on the property and review the location of the structures in the right-of-way in order to minimize the impact on the proposed water station and other farming activities. AltaLink said that meaningful discussions with Mr. Rath about the potential dugout development have not taken place yet.

Views of the Commission on water dugout

155. The Commission finds that there is no immediate or urgent need for the development of a winter watering station at the dugout. Mr. Rath's delay in starting the construction over the past five years and the availability of the year round running spring at the dugout as well as the co-op water pipeline which terminates in his home yard, all appear to meet his farm's past and current watering needs throughout the year.⁶⁰

156. Whether the proposed transmission line and an existing pipeline right-of-way near the dugout will prevent his future development plans has not been established on the evidence before the Commission. It appears that there is land between the dugout and the southern edge of the proposed right-of-way and there is no absolute restriction on activities that may be conducted on the right-of-way, other than one cannot construct a building on those lands. AltaLink can also adjust the right-of-way to some extent and also place the towers in a way that may remove any restrictions on the development. The Commission has heard that those discussions have not taken place in any detail, if at all.

157. The Commission directs AltaLink to hold comprehensive discussions with Mr. Rath, with a view to preserving to the greatest extent possible the opportunity to expand the dugout into a winter watering station. The final layout of the watering station may not be what Mr. Rath initially envisioned, but a functioning watering station should be accommodated if reasonably possible. The Commission's approval of the transmission line right-of-way on Mr. Rath's property is not conditional upon Mr. Rath having a water station at this location, however, if damages or loss is sustained by him as a result the transmission line preventing development of the water station, he should be compensated for his loss. The Commission finds that there is presently no evidence that he has or will bear such a loss.

Wildlife

158. Mr. Rath testified that the proposed transmission line on his lands would bisect the flight path of water fowl and other birds seeking ponds, sloughs and other wet areas. He said that there are three significant water bodies aligned in a north-south direction on his land: one large lake north of his home yard, a watering hole on the quarter line and another watering hole

⁶⁰ Transcript, Volume 1, pages 276 and 277.

approximately 400 metres south of the quarter line. The proposed transmission line would create a collision risk for the birds as they fly toward the water bodies.

159. AltaLink argued that Mr. Rath's concern about avian collisions was disingenuous as his alternate route would pass much closer to larger water bodies on others' lands, posing an even greater risk of avian collision. AltaLink stated that it had made every effort to minimize the proximity of the transmission line near water bodies where possible. Its application identified wetlands in the East Palliser North and South project areas that might require anti-collision devices including important wetlands areas in the south part of the project with high densities of water birds along Highway 515 from Range Road 42 to Highway 41 north of Wild Rose 1 substation.

160. AltaLink stated that it would install bird markers, flight diverters and anti-perch devices along important water bodies and flight corridors. In addition, AltaLink committed to monitor the impacts on birds before and after construction for the success of the measures, schedule construction activities outside the migratory bird nesting period and follow its *AltaLink Standard for Installing Bird Markers on New Transmission Lines A1-1099* (Heck et al. 2007).⁶¹

Views of the Commission on wildlife

161. The Commission finds that the proposed transmission lines in both the north and south project areas which are near wetlands, may pose a collision threat to water fowl and other birds especially where there are relatively high densities of water fowl. AltaLink will further review this impact when it conducts its pre-disturbance survey of wildlife and related impacts caused by the transmission line. Mitigation measures include the installation of markers, flight diverter and anti-perch devices, and are a satisfactory response to avian collisions whether the risk is apparent in the north or the south part of the project.

162. The Commission understands that qualified biologists will determine whether anti-collision measures are necessary on those segments of the transmission line near wetlands given the nature, size and importance of the particular wetlands to water fowl and other birds. In these circumstances that Commission does not find it necessary to approve an alternate route away from the Rath's lands, in order to avoid or mitigate this particular impact. Indeed, the Commission recognizes that the alternate routes south of the preferred route on the south route, may pose higher risks to water fowl.

Rath alternative alignments

163. During consultations, Mr. Rath urged AltaLink to relocate the transmission line 1.5 miles to the south of his lands, parallel to Township Road 94. At the pre-hearing meeting and at the hearing, Mr. Rath advocated an alternative route that would start at marker B15⁶² head east for two miles, turn south along Range Road 44 to Township Road 94. The route would then turn east and travel parallel to the undeveloped road allowance past point H-70 until it reached Highway 41 where it would travel north to connect with route marker A30. Mr. Rath acknowledged that there may be other alignments using his proposal that would also meet his basic objection to the fragmentation of quarter sections farmed as a continuous unit.

⁶¹ Exhibit 0017.00, Appendix I, Environmental Evaluation, pages 6 to 69 to 6 to 73.

⁶² Exhibit 0160.01, AltaLink Reply Evidence and Errata, dated December 5, 2011, Focus Photo FP1.

164. Apart from the particular impacts on his own farming operations, Mr. Rath contended that the bisection of two quarters that were farmed as one continuous field resulted in greater operational inefficiencies than locating the line on the edge of a field. He wanted the line placed adjacent to Township Road 94. Although he conceded that a larger part of the lands would be used up because of the setback, he argued that only one head land pass underneath the transmission line would be required, compared to numerous crossings if the transmission line bisected the field. He believed that multiple passes resulted in greater inefficiencies as farmers manoeuvred machinery under and around transmission structures.

165. Mr. Rath estimated AltaLink's applied-for route would bisect about 4.5 miles of fields out of a total of nine miles, including his own land.

166. AltaLink submitted that, generally, it prefers routing transmission lines on quarter section lines as opposed to following road allowances because routing on quarter lines offers an opportunity to share property impacts between landowners and only 40 metres for the right-of-way is required. This can also reduce fragmentation of land if linear disturbances previously exist. If the proposed 240-kV transmission line was sited next to the road allowance, a setback of 30 metres from the edge of the road allowance was required in addition to the 40 metres needed for the right-of-way, pushing structures out into the field and taking up more land and impinging on farming operations.

167. AltaLink stated that the impact on bisecting Mr. Rath's farming operations or other landowners would be minimal. Generally, the impacts would be limited to structure placement and manoeuvrability of farming equipment under and around the structures. It argued that a greater impact, the use of more land for the transmission line resulted if the line was moved south along Township Road 94.

168. Mr. Rath argued that his alternative route along Township Road 94 offered other advantages over the AltaLink applied-for route. These included: no residences along the township road compared to several residences along Township Road 100 to the north of the AltaLink route; removal of visual obstruction of the Cypress Hills for those residences; a shorter crossing of Gros Ventre Creek and less likelihood of flooding at that crossing; less native prairie or native pasture lands taken up; landowners on alternative route are essentially the same landowners on AltaLink's route so there is little or limited shifting of impacts on others.

169. AltaLink had further discussions with Mr. Rath after the September 27, 2011 pre-hearing meeting and as a result filed reply evidence showing four potential alignments that relocated the transmission line off the Rath lands.⁶³ The Rath Alternate 4 route includes Mr. Rath's essential requirement: it follows Township Road 94 as it passes south of his lands. AltaLink developed the alternate routes through a desk top exercise. It accessed and assessed environmental, topographical, agricultural and other information from different data sources, but did not go directly on the lands to investigate and develop the routes.

170. AltaLink concluded that its applied-for route was superior to all four of the alternates because its applied-for route minimized impacts to pasture lands and native prairie, minimized potential for environmental impacts, had the shortest line length, lowest number of deadend and angle structures, lowest cost and most effectively minimized potential impacts of the

⁶³ Exhibit 0160.01, AltaLink Reply Evidence and Errata, Rath Alternative Routes, December 5, 2011.

transmission line.⁶⁴ AltaLink testified that it had inherited the route from NaturEner which had completed a substantial amount of stakeholder consultation and that the route had attracted very good stakeholder acceptance as about 90 per cent of the landowners with quarter sections on the route had indicated that they would grant easements.⁶⁵

171. AltaLink submitted that the Rath Alternate 4, an alignment that Mr. Rath was prepared to accept and which followed Township Road 94 south of Mr. Rath's lands, resulted in higher impacts when compared to the applied-for line because the alternate route was about 55 per cent longer. This created the potential for more impacts on pasture lands and native prairie, additional costs of about \$1.7 million for the extra length of the line and additional corner towers that the alignment required. AltaLink maintained its view that an alignment along Township Road 94 or road allowances generally, would result in greater impacts to farming operations on cultivated fields because the line would be offset from the edge of the road and take up more land. Further, it argued that the proposed alignment would transfer impacts to other landowners without any reduction in impacts.

172. As indicted earlier in this decision, the Commission directed AltaLink to provide further information after the hearing about the ownership of lands on two alternative alignments that met Mr. Rath's concerns. Mr. Rath had argued that his proposed route or routes would not shift impacts to new landowners because the landowners were essentially the same ones who owned or occupied the lands on the AltaLink applied-for route.

173. AltaLink reviewed its database for project stakeholders and land titles, and submitted that there were 10 additional owners or occupants on one of the alternative routes and the same 10 stakeholders plus two more on the other alternative route. It stated that corporate owners of some parcels of land were not necessarily made up of the individual owners on the applied-for route or other close relatives. It confirmed that no consultation had taken place with the additional corporate or personal owners. AltaLink also stated that three government departments and Cypress County would have to be consulted if an alternate route was contemplated.

174. Mr. Rath disagreed with the AltaLink information and using a county map and his own knowledge, maintained that apart from one or two parcels of land along the alternate routes, the landowners, whether companies or relatives, were essentially the same owners as those on the applied-for line or their land was farmed collectively with the owners on the applied-for route.

Views of the Commission on Rath alternative alignments

175. The Commission recognizes that both the applied-for route and the alternative routes will have impacts on land use, farming operations and the environment. Some impacts will affect some landowners more than others and it will not be possible in all situations to avoid the particular impact. In these cases, effective mitigation or compensation is necessary.

176. From the Commission's perspective, Mr. Rath's primary rationale for proposing the alternative routes was the farming advantage gained by placing the transmission line along Township Road 94 or other road allowances. In Mr. Rath's view, a route along this road would

⁶⁴ Exhibit 0160.01, AltaLink Reply Evidence and Errata, Rath Alternative Routes, paragraph 5, December 5, 2011.

⁶⁵ Transcript, Volume 1, pages 77 to 79.

create fewer farming impacts because the transmission line would be located at the edge of farmers' fields instead of bisecting cultivated and pasture lands. AltaLink argued that locating the line along the township road would cause greater agricultural hardships because more land would be needed for the transmission line given the setback of 30 metres required by the county and the 40 metres needed for the right-of-way.

177. The Commission acknowledges that for Mr. Rath, placement of the line at the edge of a field reduces operational impacts for his farm. However, no other landowner along the south leg of the transmission project intervened at the hearing and testified that the road allowance alignment worked better for their farming operations. Impacts on different landowners may well be different and without evidence from those along the alternative routes, the Commission cannot conclude that farming impacts will be reduced. They may increase, for example, if more land is required for the right-of-way.

178. An illustration is Mr. Hoffman's land on the northern leg of the transmission project. The proposed transmission line is set back from the edge of Highway 41 on his land but still poses a potential problem for his farming operations because it may prevent him from locating grain bins on flat land taken up by the right-of-way. This emphasizes the point that the Commission cannot simply accept a general statement that impacts to agricultural operations will be minimized if a transmission line is located at the edge of a field.

179. Another example is M&D Farms Ltd. Currently, the applied-for route is located on the farm's northern boundary of SE 32-9-4-W4M between marker B15 and B24. If the alternate route described by Mr. Rath at the hearing is accepted, the right-of-way would travel easterly on the applied-for route from marker B15 to Range Road 44, then head south to Township Road 94. In doing so, the transmission line would appear to box-in M&D Farms Ltd.'s southeast quarter section and impact two more quarter sections owned by M&D Farms Ltd., as it headed south along Range Road 44. Other landowners may be relieved of impacts with this alternative route but no route alignment is without impacts, sometimes greater, to others.

180. The Commission finds it relevant that the applied-for route received a good deal of landowner acceptance at the time of consultation and as noted above, there were no objections to the applied-for route at the time of the hearing except for Mr. Rath's. The Commission may infer that these landowners along the applied-for route have taken into account the potential impacts created by the transmission line, whether the transmission line bisects fields or is located at the edge of a field, considered the compensation offered and on balance are satisfied with the applied-for route.

181. Mr. Rath argued that there were fewer environmental impacts associated with the alternative routes. The Commission finds that while the terrain on the applied-for route and the alternative routes is essentially the same, the alternative routes are all longer and as a result disturb more grasslands, both native prairie and pasture land. Grasslands are important habitat for wildlife in this part of Alberta and the potential impact on wildlife increases with the alternative routes. A potential increase in the risk of waterfowl collisions also results if the alternative routes that Mr. Rath favours are adopted. There is a large water body located to the north east of marker H60, which is in relatively close proximity to the alternative routes and a route between marker H70 and B50 effectively boxes-in at least one other large water body creating additional hazards for waterfowl.

182. The Commission does not find that there is technical or specialized evidence before it to conclude that the occasional spring flooding at Gros Ventre Creek on the applied-for route impairs the safety or operation of the transmission line or that the alternate crossing of the creek on Township Road 94 reduces any overall environmental impacts.

183. The Commission finds that the additional length of the alternative routes and their particular alignments also results in more corner towers with additional deadend structures. Corners and the larger deadend structures tend to box-in parcels of land and pose additional farming challenges. Dead end structures also cost more and coupled with the longer line result in increased costs of approximately \$1.2 million to \$2.0 million depending on the alternative and the number of corners. Lower costs favour the applied-for route.

184. AltaLink asserts that the alternative routes simply transfer impacts to new landowners. Mr. Rath maintains that the landowners on the alternative routes are essentially the same as those on the applied-for route whether land titles show corporate or ownership by a close relative. The Commission finds that there are different owners between markers H50 and H70 along Township Road 94 which is a common alignment of the alternatives acceptable to Mr. Rath. On the south side of the road there are Bruce Allen Geigle, Hazel Geigle and Curtis Vossler and owners on the north side of the road are Bruce Allen Geigle, Drew Lehr and the Crown. None of these individuals or the Crown own land on the applied-for route. Also, on the east side of the transmission project at a location that is due east of marker H70 near Highway 41, there is Lankers Farm Ltd., a new owner on an alternative route.

185. The Commission considers that whether the respective landowners on the applied-for or alternative routes are connected through corporate ownership or family or operate farmland jointly, as noted above, there is no evidence from these owners that impacts would be less or greater along the alternative routes. In any event, on the evidence before it, the Commission is of the view that the preferred route would have the fewest impacts overall.

186. The Commission concludes on the whole of the evidence and for the reasons expressed in this section and others, that AltaLink's applied-for route is acceptable and is approved.

9 Determination of the public interest

187. In making its decision, the Commission must weigh the benefits of the proposed project with the specific impacts that landowners and others along the proposed routes will experience in determining whether the project is in the public interest. In this case, the Commission has reviewed and made findings earlier in this decision as to route planning, consultation, environmental effects, and social and economic effects. These matters are summarized here.

188. AltaLink employed sound planning principles in developing the preferred and alternate routes for East Palliser North 240-kV transmission line 1009L, East Palliser South 240-kV transmission lines 978L and 1076L, and the location of the Elkwater 264S switching substation including proximity to residences, impacts on agricultural use of land, activities, environmental impacts, utilization of existing corridors, and opportunity to consolidate current and future electrical facilities.

189. The Commission finds that AltaLink took into account the impacts of the transmission line on agricultural activities and the potential mitigation of these impacts. Overall, the Commission finds that where negative impacts to agricultural operations are caused by the construction and operation of the transmission lines, the mitigation practices adopted by AltaLink are satisfactory and minimize potential impacts. Where there are site-specific impacts on landowners' operations as identified by the interveners in this proceeding, AltaLink has committed to providing specific mitigation measures.

190. The Commission accepts that there will be little if any impact on property values for lands whose best and highest use is agriculture operations because the negative impacts caused by the presence of a high-voltage transmission line are offset by a continuing stream of income, the annual structure payments, received by the landowner. The Commission also accepts that any decrease in the value of residential lands because of an impaired viewscape, would be satisfactorily mitigated by the distance of the transmission line away from the residence, and the design and size of the wooden H-frame structures.

191. The Commission finds that the electrical effects that may be caused by the operation of the transmission line will be satisfactorily mitigated. Electrical interference with radios, televisions, GPS and other devices will be investigated if experienced by landowners, and mitigation measures put in place to minimize the effects.

192. The Commission finds that the scientific weight of the evidence presented to it, including the modelling evidence at the proposed right-of-way and beyond, does not support the conclusion that exposures to extremely low frequency EMF caused by these lines would result in short-term or long-term health problems for people or animals.

193. The Commission finds that both the East Palliser North preferred and alternate transmission lines can be constructed and operated in an environmentally acceptable manner provided that the mitigation measures, field studies, pre-disturbance assessments, on-going monitoring and discussions with Alberta Environment and Alberta Sustainable Resource Development are implemented. Further, the siting of Elkwater 264S switching substation is satisfactory and no environmental and noise concerns are present.

194. The Commission finds that the East Palliser South applied-for transmission line route and the alternate routes discussed at the hearing will all have impacts on the environment but that the applied-for route will have fewer impacts. The applied-for route can be constructed and operated in an environmentally acceptable manner provided the mitigation measures, field studies, pre-disturbance assessments, on-going monitoring and discussions with Alberta Environment and Alberta Sustainable Resource Development are implemented.

195. The Commission finds that, overall, AltaLink's participant involvement program met the requirements of AUC Rule 007. However, improvements can be made in communication with landowners and the meaningful consideration of alternate routes recommended by them.

196. The Commission approves the East Palliser North preferred route because it is the shortest route with the lowest cost and overall creates fewer impacts on agricultural land use and residential land use. Its impact on the environment is no greater than the alternate route and in some respects, the avoidance of important bird staging areas and ecosystems like sand dunes, is

an advantage. Further, a greater percentage of the preferred route compared to the alternate, is parallel to an existing linear disturbance, Highway 41.

197. The Commission also approves the applied-for route in the East Palliser South portion of the transmission project. Both the applied-for route and the alternative routes will have impacts on land use, farming operations and the environment. The Commission finds that the alternative routes are longer, more costly and cause greater impacts to the environment. The Commission is not satisfied that the alternative routes, which would parallel Township Road 94 to a large extent, would cause any fewer impacts to farming operations than the applied-for route.

198. For the reasons and findings expressed in this decision report, the Commission concludes that construction, alteration and operation of the proposed facilities as described in this decision, are in the public interest.

10 Decision

199. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink approval to construct and operate 240-kV transmission line 1009L between Bowmanton 244S substation to the existing Cypress 562S substation along the preferred route.

200. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink approval to alter and operate Bowmanton 244S substation.

201. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink approval to alter and operate Cypress 562S substation.

202. Pursuant to sections 14, 15, 19 and 21 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink approval to alter a portion of 138-kV transmission line 668L by upgrading structures and conductors on the existing rights-of-way and to operate transmission line 668L.

203. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink approval to construct and operate Elkwater 264S switching substation.

204. Pursuant to sections 14, 15, 18 and 19 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink approval to construct and operate 240-kV transmission line 978L between Elkwater 264S switching substation to the Wild Rose 1 547S substation along the applied-for route.

205. Pursuant to sections 14, 15, 18 and 19 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink approval to construct and operate 240-kV transmission line 1076L between Elkwater 264S switching substation to the Eagle Butte 274S substation.

206. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink approval to alter 240-kV transmission lines 964L and 983L and to renumber the portion of the transmission lines from Elkwater 264S switching station to Bowmanton 244S substation as 1073L and 1074L.

207. The Commission considers that the construction access and workspaces required by AltaLink are property that is to be used for the purpose of, or in connection with, or incidental to, the operation of the transmission lines. The Commission considers this to include the construction of the transmission line rather than limiting the scope to the operation of the line, because access to the right-of-way and construction workspaces is required not only for operation and the associated maintenance of the line, but also for construction of the line, which must necessarily precede its operation.

208. As the Commission considers that the lands for construction access and workspaces, as identified by AltaLink, fall within the definition of transmission line, pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission grants AltaLink's request for construction access and workspaces needed for purpose of the transmission lines.

209. The permits and licences granted to AltaLink will be distributed separately.

Dated on March 21, 2012.

The Alberta Utilities Commission

(original signed by)

Willie Grieve, QC
Chair

Appendix 1 – Proceeding participants

Name of organization (abbreviation) counsel or representative
AltaLink Management Ltd. S. Carpenter K. McGlone
NaturEner Energy Canada Inc. E. Young
R. Rath
E. Weisgerber
H. Hoffman
T. Clark
Coyote Coulee Farms Ltd. S. Stenbeck
Cypress County
Don Kanewischer Holding Ltd. R. Schindel
Eagle View Farms Ltd. S. Stenbeck
Economic Development Alliance of Southeast Alberta
L & D Farms Ltd. S. Stenbeck
Brock and Juanita Weisgerber
The Alberta Utilities Commission Commission Panel W. Grieve, QC, Chair Commission Staff D. Larder, QC (Commission counsel) R. Chan K. Taylor

Appendix 2 – Oral hearing – registered appearances

Name of organization (abbreviation) counsel or representative	Witnesses
AltaLink Management Ltd. S. Carpenter K. McGlone	M. Mundy E. Dahlie G. Feltham
NaturEner Energy Canada E. Young	No witnesses
R. Rath	R. Rath
E. Weisgerber	E. Weisgerber
H. Hoffman	H. Hoffman