



AltaLink Management Ltd.

**New 240/138-kV Nilrem 574S Substation,
Double-circuit 240-kV Transmission Lines 953L/1047L and
Double-circuit 138-kV Transmission Lines 679L/680L**

November 10, 2011

The Alberta Utilities Commission

Decision 2011-445: AltaLink Management Ltd.

New 240/138-kV Nilrem 574S Substation, Double-circuit 240-kV

Transmission Lines 953L/1047L and Double-circuit 138-kV Transmission Lines 679L/680L

Application No. 1606753

Proceeding ID No. 938

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Fifth Avenue Place, Fourth Floor, 425 First Street S.W.

Calgary, Alberta

T2P 3L8

Telephone: 403-592-8845

Fax: 403-592-4406

Website: www.auc.ab.ca

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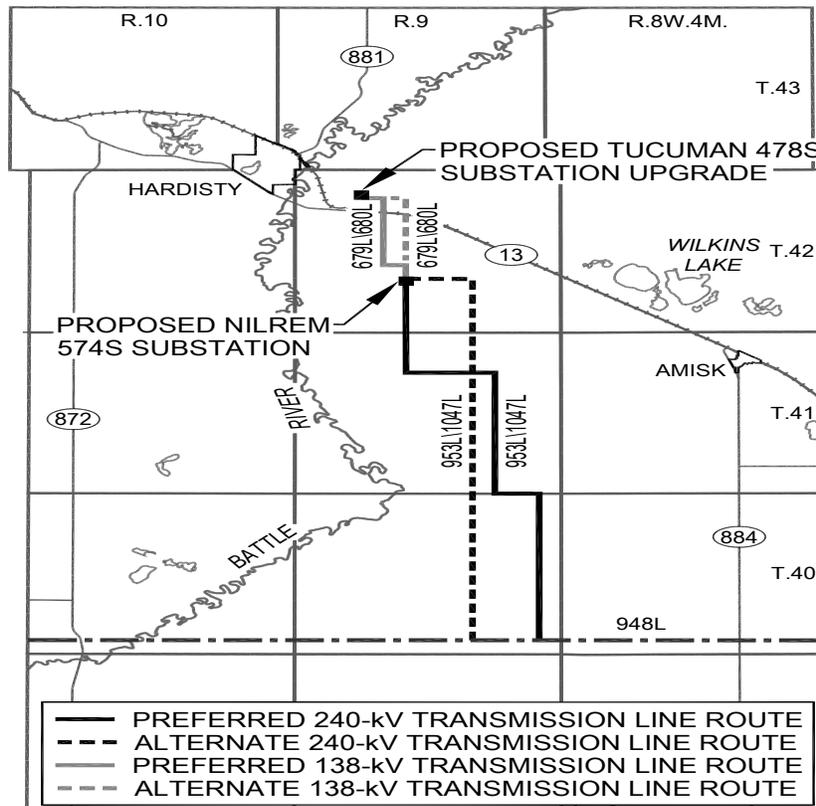
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1 Introduction

1. On November 15, 2010, AltaLink Management Ltd. (AltaLink) filed Application No. 1606753 with the Alberta Utilities Commission (AUC or the Commission), pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, for approval to construct and operate the 240/138-kilovolt (kV) Nilrem 574S substation, a double-circuit 240-kV transmission line 953L/1047L, a double-circuit 138-kV transmission line 679L/680L and alterations to Tucuman 478S substation. The double-circuit 240-kV transmission line is approximately 25 kilometres in length travelling in a southerly direction, and connects the proposed Nilrem 574S substation to the existing 240-kV transmission line 953L. The double-circuit 138-kV transmission line 679L/680L, approximately 6.5 kilometres long would connect the proposed Nilrem 574S substation to the existing Tucuman 478S substation to the north. The application was established as Proceeding ID No. 938 in the AUC's electronic proceeding system. The project is located mostly in the Municipal District of Provost. The Tucuman 478S substation is located approximately three kilometres south east of the town of Hardisty, Alberta. The proposed facilities are shown in the map below.



2. The application follows an approval of a needs identification document issued by the Commission on April 29, 2010.¹ The reinforcement of the transmission system in this part of province, the Hanna region, was needed because of the forecasted load growth and development of wind-powered generation. The Alberta Electric System Operator (AESO) had forecasted that the regional load would increase from approximately 420 megawatts (MW) in 2008 to approximately 820 MW by the year 2012, and then to 970 MW by 2017. The AESO also predicted that up to 175 MW of wind-powered generation would be operating in the Hanna region by the year 2012 and a total 700 MW of wind-powered generation would be operating in the region by 2017.²

1.1 Background

3. The Commission issued a notice of application on December 10, 2010. The notice was distributed to AltaLink's mailing list and published on the AUC website. The notice was also published in the Sedgewick Community Press and the Wainwright Star on December 14, 2010, and in the Wainwright Edge on December 17, 2010. The Commission received five statements of intents to participate (SIPs) in response to the notice from Mr. Daardi AlMBERG, Mr. Stewart Chisan, Mr. Stewart Crone, Mr. Gordon Carson, Mr. Roy Carson and TransCanada Keystone Pipeline GP Ltd. (TransCanada).

4. A number of the interveners indicated in their SIPs that they were members of the Canadian Association of Energy and Pipeline Landowners Associations (CAEPLA) and that CAEPLA would represent them at the hearing in addition to their self representation. The registered interveners were also part of a local land owner group, the Hardisty Nilrem Landowner Committee (Landowner Committee), an association of local landowners impacted by the proposed transmission facilities.

5. The SIPs were relatively brief and raised a number of issues including the nature of consultation about the project, dissatisfaction with negotiations for rights-of-way on their lands, impact of the construction and operation of the lines on their current and future farming and other activities, compensation for the inconvenience and other losses sustained during construction and operation of the lines, concerns about electric and magnetic fields (EMF) on people and livestock, and impact on property values. Some of the landowners were prepared to have a transmission line on their lands provided a satisfactory easement or right-of-way agreement could be entered into with AltaLink for the use of their lands and related impacts. No further evidence was filed by any of the interveners prior to the start of the hearing, either on their own behalf or by CAEPLA or the Landowner Committee as their representatives.

6. TransCanada supported the application because it required an interconnection to the Alberta Integrated Electric System for its Keystone pipeline project.

7. The Commission's staff held a public information session on Thursday, March 31, 2011, at the Hardisty Community Center to explain the application process, how to participate, how a hearing is conducted and the intervener funding regime administered by the Commission.

¹ Decision 2010-188: Alberta Electric System Operator – Needs Identification Document Application Hanna Region Transmission System Development, Application No. 1605359, Proceeding ID No. 278, April 29, 2010.

² Ibid, paragraph 23.

8. A notice of hearing was issued on March 15, 2011, setting a hearing date of June 8, 2011. In response to the notice of hearing, the Commission received a submission from Todd and Lynn Moser.

9. Mr. AlMBERG requested an adjournment of the hearing for 60 days on April 8, 2011, indicating he had insufficient time to prepare for a hearing and the adjournment would place the hearing outside of the busy calving and planting season. The Commission issued a ruling on April 25, 2011, granting additional time for interveners to prepare evidence and information requests while maintaining the hearing date.³

10. On May 12, 2011, the Commission received a second request from Mr. AlMBERG to adjourn the hearing for 60 days so landowners would have more time to prepare for the hearing, as well, to accommodate a meeting with AltaLink. The Commission denied the request, noting that a previous adjournment request had been denied, adequate time was given for the process, no intervener evidence had been filed and the possible landowner meeting with AltaLink was unrelated to the proceeding.⁴

11. AltaLink amended the application on June 3, 2011, after detailed engineering for the project showed that higher 138-kV structures were needed as well as a new configuration for the location where the proposed double-circuit 240-kV transmission line connected with existing transmission line 953L. Typical 138-kV structures would increase from between 17 and 20 metres to between 17 and 26 metres, and the typical width would increase from 4 to 4.5 metres. Also, the height of approximately 25 per cent of the 240-kV structures were increased to 51 to 57 metres, exceeding the typical height range of 44 to 51 metres. AltaLink amended the dead-end structure types for the 240-kV connection point at the southern connection point on the existing transmission line 953L from a single steel lattice tower to a three-pole dead-end structure. AltaLink indicated this amendment would require a larger right-of-way.⁵

12. On June 6, 2011, the Commission issued an adjournment to the hearing⁶ due to the late amendment. The hearing was rescheduled for July 5, 2011.

13. The application was further amended because the Municipal County of Provost wanted the setback distance expanded from 25 metres to 35 metres from Township Road 410 for the preferred 240-kV routing for a certain stretch along that road. AltaLink advised the Commission of this amendment at the hearing on July 5, 2011. It stated that no new stakeholders were affected by the amendment and an information update was provided to the affected stakeholders. The amendment would not cause any change in the construction schedule and the costs of the amendments were within previous cost estimates. While not requested by the County of Provost, AltaLink also applied this setback distance to the alternate 240-kV route paralleling Township Road 422 between Nilrem 574S substation and Point A5 on the AltaLink maps filed in the proceeding.

14. A public hearing was held on July 5, 2011, in Hardisty before Ms. Carolyn Dahl Rees, Vice-Chair.

³ Exhibit 082.01, Letter Ruling from Commission, dated April 25, 2011.

⁴ Exhibit 087.01, Letter Ruling from Commission, dated May 24, 2011.

⁵ Exhibit 089.02, Hardisty Nilrem Amendment, dated June 2, 2011.

⁶ Exhibit 091.01, Adjournment of hearing letter.

15. Following the close of the hearing, the Commission directed AltaLink in a letter, dated July 8, 2011, to conduct discussions and report on route alternatives proposed by Mrs. Moser and Mr. Crone during the hearing.⁷ Mr. Crone's proposed alternative would involve impacts to his neighbors to the south, the Holtes. AltaLink submitted its report on August 15, 2011,⁸ Mr. Crone responded on August 23, 2011,⁹ and AltaLink replied on September 8, 2011.¹⁰ The Mosers and the Holtes did not file any further submissions.

2 Legislative framework

16. 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.

17. Decision 2009-028¹¹ 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.

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.

⁷ Exhibit 95.01, AUC direction to AltaLink to conduct discussions on intervener route options, July 8, 2011.

⁸ Exhibit 100.01, AML Response to AUC Direction of July 8, 2011, August 15, 2011.

⁹ Exhibit 101.01, Mr. Crone's response to AML submission, August 23, 2011.

¹⁰ Exhibit 103.01, AML Letter to AUC - Comments on submission of Mr. Crone, September 8, 2011.

¹¹ 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.

18. 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 (ASRD), Alberta Culture and Community Spirit, Alberta Transportation, municipalities, and federal government departments.

19. 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.

3 The application

20. As indicated earlier, AltaLink's project consists of the following components:

- the new 240/138-kV Nilrem 574S substation
- the new double-circuit 240-kV transmission line 953L/1047L
- the new double-circuit 138-kV transmission line 679L/680L
- the alteration of existing 240-kV transmission line 953L
- the alteration of existing Tucuman 478S substation

21. The existing AltaLink 240-kV transmission line 953L currently connects ATCO Electric Ltd.'s (ATCO) 240-kV transmission line 9L953 with Hansman Lake 650S substation. After the proposed 240-kV transmission line 953L/1047L is connected to the existing transmission line 953L, the portion of existing transmission line 953L from the connection point east to Hansman Lake 650S substation will be renamed as line 1047. The portion from the connection point west to ATCO's transmission line will remain as 953L. The connection point for the preferred 240-kV route is located in NE 12-40-9-W4M and the connection point for the alternate 240-kV route is located in NW 11-40-9-W4M.

22. AltaLink proposed NW 9-42-9-W4M as the location of the proposed Nilrem 574S substation. The substation would consist of:

- two (2) 240/138-kV, 240/320/400-megavolt ampere (MVA) transformers
- three (3) 240-kV circuit breakers
- three (3) 138-kV circuit breakers
- associated substation equipment
- an enclosure surrounded by a chain link fence

23. The existing Tucuman 478S substation would be altered by adding two 138-kV circuit breakers within the current fenced area housing the substation. After the alteration, Tucuman 478S substation would contain:

- two (2) 138/25-kV, 25/33/42-MVA transformers
- five (5) 138-kV circuit breakers
- one (1) 27-megavolt ampere reactive, 138-kV circuit breaker
- nine (9) 25-kV circuit breakers
- associated substation equipment
- an enclosure surrounded by a chain link fence.

4 Issues

24. The Commission received four submissions from landowners who expressed concerns or opposition to the transmission project. As stated earlier, the submissions were relatively brief and included issues such as consultation, impacts on agriculture, EMF and compensation. No further evidence was filed by the interveners, from CAEPLA, or the Landowner Committee, prior to the start of the hearing. The interveners' evidence at the hearing consisted almost entirely of oral testimony.

25. The interveners primarily testified about their dissatisfaction with AltaLink's consultation efforts. Some testified specifically about the impacts of the project on their lands and argued for specific routing changes. Their testimony about the specific effects on their lands was not lengthy. For example, very little intervenor testimony related to environmental impacts created by the project or property values.

26. 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 important to assess the overall application even when there may not be registered objections filed by interveners.

27. The Commission will consider the following matters:

- preferred and alternate route and substation selection
- consultation
- environmental impacts
- social and economic impacts

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

5 Preferred and alternate route and substation location

29. AltaLink's application provided two routing options for both the 240-kV and the 138-kV sections of the proposed transmission project, a preferred route and an alternate route. It also provided one location for the proposed Nilrem 547S substation. Both routing options and the siting of the substation met the electrical need identified by the AESO, and both were technically feasible to construct, maintain and operate. AltaLink submitted that both routes and the substation had low overall impacts and minimized potential effects of the transmission project, and that proper planning principles had been considered in developing the routes.

30. AltaLink planned the routes utilizing the section quarter lines under the Alberta township system.¹² The use of section quarter lines underpinned the planning exercise because a transmission line located on quarter section lines is likely to have less impact on cultivated lands than line locations within quarter section lines. This is because quarter section lines often mark the boundary lines between properties and fields. The bigger 240-kV towers usually straddle the quarter section line with foundations placed five metres on each side of the line into the adjacent fields. This alignment results in easier operation of farm equipment near the tower compared to towers located in other parts of cultivated fields. AltaLink also considered developed and undeveloped road allowances where that was feasible.

31. The routing or siting exercise within the planning area took into account constraints such as urban areas, water bodies, wetlands, public road allowances, parks and protected areas and historical resources. Section quarter lines were eliminated for possible routing where residences were located within 150 metres of the section quarter line because the transmission line was likely to have a more direct impact on yards, gardens and windbreaks. Route elimination also occurred where active oil and gas wells were situated within 50 metres of a quarter section line or where the transmission line traversed provincially designated environmentally sensitive areas¹³ or passed within 800 metres of an environmentally sensitive areas boundary. As quarter section lines were eliminated, fewer potential route alignments became available.

32. In general, road allowances provided a routing opportunity for the smaller 138-kV transmission lines because the poles can be located one metre within the road allowance.

33. AltaLink's planning for the preferred and alternate routes also took into account the site-specific and other information that landowners, agencies, and other stakeholders on or near the proposed routes conveyed to AltaLink during its participant involvement program.

34. As a result of this planning exercise, AltaLink proposed the following routes.

5.1 240-kV transmission line preferred route

35. The double-circuit 240-kV transmission line 953L/1047L, would travel southward from the proposed Nilrem 574S substation to a connection point with the existing east-west 240-kV transmission line 953L. The preferred routing commences at the Nilrem 574S substation and runs south and east, in a stair-step fashion, along quarter section lines and road allowances for

¹² Exhibit 002.00, Application, paragraph 205 and Figure 4-3, November 15, 2010.

¹³ Exhibit 002.00, Application, paragraph 225, November 15, 2010. ESAs (environmentally sensitive areas) denote areas of potential environmental concerns such as: unique landforms and species, habitat, and large blocks of native grassland.

25 kilometres to the connection point on the existing 240-kV transmission line 953L. AltaLink stated that 2.5 kilometres of this route is located on Crown land and the balance on private lands.

36. AltaLink stated that the preferred route meets the electrical need identified by the AESO, and is technically feasible to build and operate. The route is located primarily along quarter section lines. There are no residences within 150 metres of the line and two residences within 800 metres of the line. It has less line length within environmentally sensitive areas and crosses less native vegetation and wetlands than the alternate route identified by AltaLink. The route is located primarily along quarter lines resulting in less fragmentation of cultivated and forage lands.

5.2 240-kV transmission line alternate route

37. AltaLink's alternate routing for the 240-kV transmission line is 23 kilometres in length commencing at the proposed Nilrem 574S substation and proceeding east beside a developed road and then south, adjacent to an undeveloped road allowance, to the southerly connection point on the existing 240-kV transmission line 953L. 5.5 kilometres of the alternate routing is on Crown land with the remaining portion on private lands or road allowances. There are no residences located within 150 metres of the line and two residences within 800 metres of the line. While the alternate route crosses less cultivated and forage lands, there was potentially more fragmentation of agricultural lands because it is primarily located 25 metres from the edge of undeveloped road allowances on private and public lands.

5.3 138-kV transmission line preferred route

38. The applied for double-circuit 138-kV transmission line 679L/680L must connect the proposed Nilrem 574S substation to the existing Tucuman 478S substation, located about six kilometres to the north. The preferred route starts at the Nilrem 574S substation and travels north and west primarily along on existing road allowances and undeveloped road allowances with a small portion on private land. There are no residences within 150 metres of the line and three residences within 800 metres of the line.

5.4 138-kV transmission line alternate route

39. The alternate route runs north from Nilrem 574S substation, along section quarter lines and then west to Tucuman 478S substation, mostly on private lands. The alternate route, similar to the preferred route, is approximately 6.5 kilometres long. There are no residences within 150 metres of the line and five residences within 800 metres of the line.

40. While both the preferred and alternate 138-kV routes were electrically feasible in AltaLink's view, the preferred route has less agricultural and environmental impacts, fewer residences within 800 metres and is mostly in the developed road allowance.

5.5 Nilrem 574S substation location

41. AltaLink submitted that AESO's functional specification required that the Nilrem 574S substation be sited near the existing Tucuman 478S substation and connected by a 138-kV transmission line. AltaLink considered different locations including a site three kilometres northeast of the Tucuman substation where land was available, but rejected this site because it required more 240-kV towers and conductors, potentially impacted more residences and was costlier. The proposed location is 6.5 kilometres south of the Tucuman substation. AltaLink also

indicated that it had secured an option to access this substation location from the owner. AltaLink stated that this location is the applied-for location for the proposed Nilrem 574S substation.

5.6 Views of the Commission on transmission route planning and substation location

42. The Commission considers that AltaLink's planning exercise incorporated relevant principles and requirements such as:

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

43. 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. Government departments and the County of Provost 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. The Commission finds that AltaLink's planning exercise for transmission line routes and substation location was sufficient for purposes of this proceeding.

6 Consultation

44. AltaLink's consultation activities, as required by AUC Rule 007, began in March of 2010 with most of the consultation taking place the spring and summer of that year. AltaLink stated that the purpose of this consultation and its various components 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 elicit the views and concerns of individual landowners so that site-specific information about impacts on their lands could be assessed, concerns mitigated and the mitigations incorporated into the planning for the project where possible.

45. Occupants, residents and landowners within 800 metres of the proposed project and other interested parties such as municipalities and government departments, were provided written information about the proposed transmission project and directed to websites where information was also available. Telephone discussions, face-to-face meetings with individual landowners were conducted, and an open house was advertised in three local papers and held in the town of Hardisty on March 18, 2010. AltaLink stated that its open door policy encouraged interested persons to contact them with questions or concerns on an ongoing basis through the planning and construction process. Concerns such as annual structure payments, noise, construction, EMF, environmental impacts, agricultural impacts, property values, television signals and radio interference, and visual impacts were expressed during the consultation.

46. AltaLink also consulted the First Nation communities of Ermineskin, Louis Bull, Montana, Samson, and Siksika Nations. AltaLink stated that it was unaware of any unresolved issues or objections.

47. Once AltaLink had settled on the preferred and alternate routes, further consultations and exchanges of information were held with the 40 landowners on or adjacent to the preferred and alternate routes. Landowners completed consultation forms outlining their particular issues and AltaLink responded to these concerns in follow-up discussions.

48. AltaLink also notified and consulted landowners when it contemplated and filed amendments to its application, for example in relation to its height increases of the 138-kV and 240-kV structures, and its amendment of the 240-kV tap configuration at the connection point with the existing transmission line 953L.

49. The Commission, in a letter dated July 8, 2011, directed AltaLink to hold further discussions with Mr. Crone, Mrs. Moser and Mrs. Holte regarding route alternatives proposed by interveners during the hearing. A meeting was held with each of them and additional material and maps were provided. Other landowners who might also be impacted by the proposals were provided with the same information package in a timely way. Follow-up telephone calls were also made to the landowners.¹⁴

50. AltaLink considered that its consultation or participant involvement program was comprehensive, well-intentioned and effective.

51. Three of the four landowners who appeared at the hearing expressed their dissatisfaction with AltaLink's consultation efforts. These interveners did not find the consultation process meaningful and characterized it as inadequate because AltaLink had not discussed the project with the Landowner Committee. CAEPLA representatives considered that AltaLink should negotiate a comprehensive easement agreement for the Landowner Committee members before the application came to the Commission for consideration.

52. These interveners also described specific instances where the consultation process failed in their view:

- Failure to pay compensation for consultation time with landowners.¹⁵
- A lack of follow-up when certain issues were identified by the landowner to AltaLink. For example, a landowner advised AltaLink at the open house that the proposed transmission line was located over a gas well but there was no timely follow-up.¹⁶
- Relatively brief discussions about issues at inconvenient times, for example, on a cell phone while landowner was combining a field.¹⁷
- Contact with landowners during busy times of the year with their agricultural operations.¹⁸

¹⁴ Exhibit 0100.01, AML Response to AUC Direction of July 8.

¹⁵ Transcript, Volume 1, page 34, lines 8-25; page 35, lines 1-10; page 225, lines 1-20.

¹⁶ Transcript, Volume 1, page 163, lines 8-11.

¹⁷ Transcript, Volume 1, page 163, lines 12-18.

¹⁸ Exhibit 076.01, email from Mr. Almberg to Alberta Utilities Commission, dated April 8, 2011.

- Inadequate effort by AltaLink to thoroughly consider alternatives proposed by landowners including discussion with all affected neighbours.¹⁹
- Contact with landowners the night before the hearing about the further setback from road allowance of the preferred 138 kV route.²⁰

53. Overall, however, the key criticisms of AltaLink's consultation efforts by CAEPLA and some of the individual landowners, were AltaLink's failure or refusal to negotiate an all encompassing easement agreement directly with the Landowner Committee as a condition of the project's approval by the Commission, and AltaLink's failure to compensate landowners for their time during consultation.

54. CAEPLA submitted that easement agreements must be negotiated and in place prior to any Commission approval of the project, and that these agreements should cover a wide range of matters, including compensation, abandonment of the facilities, risk assessment, indemnification agreements based on landowner criteria, periodic review of land value, weed control, water protection, construction, compensation, property value, stray voltage and individual landowner issues. CAEPLA representatives stated that many issues were common to all landowners and should be negotiated with the Landowner Committee, with CAEPLA as their authorized representative, for the benefit of its members. CAEPLA representatives submitted that as a general policy, it did not object to projects like this particular transmission line provided that a satisfactory easement agreement was in place that met all their concerns, before the Commission approved the project. They argued that it was not in the public interest to approve the project before such agreements were in place for only the agreements could protect the landowners' property rights.²¹

55. AltaLink submitted that the purpose of its consultation efforts was to elicit the views and concerns of individual landowners so that site-specific information about impacts on their lands could be assessed, concerns mitigated and the mitigations incorporated into the planning for the project where possible. It argued that it followed a systematic process of planning with an emphasis on minimizing impacts on agricultural activities, residences and the environment and that both its initial planning and detailed engineering work incorporated mitigative measures to meet these impacts. It pointed to the Serecon report which outlined mitigation measures in response to agricultural impacts.²²

56. AltaLink received authorization forms in the fall of 2010 from some landowners which indicated that CAEPLA and the Landowner Committee represented their interests in the project and in all discussions, negotiations and correspondence related to any aspect of the project except site-specific issues.²³

¹⁹ Transcript, Volume 1, page 167, lines 13-25; page 168, lines 19-25; page 169, lines 1-25.

²⁰ Transcript, Volume 1, page 39, lines 10-25; page 40, lines 1-10.

²¹ Transcript, Volume 1, page 225, lines 1-25; page 226, lines 1-3; page 229, lines 14-25; pages 230-233.

²² Exhibit 19.00, Application Appendix Q, Potential Agricultural Impacts From High Voltage Overhead Transmission Lines, July 2010.

²³ Exhibit 93.01, Hardisty Nilren Landowner Committee Authorization and Direction: The wording in the authorization document reads: "... I, as an associate member of the Canadian Association of Energy and Pipeline Landowner Associations, (hereinafter called "CAEPLA), and a member of the Hardisty Nilren [sic] Landowner Committee (hereinafter called "HNLC") hereby authorize and direct HNLC and CAEPLA to represent my interest in all discussions, negotiations, correspondence (excepting site-specific issues) with

57. AltaLink made a distinction between consultation for the purpose of developing a better application to the Commission for approval of a transmission project, compared to negotiations with landowners for rights-of-way or easements for the facilities. In the latter case, these discussions or negotiations would take place, for the most part, during the land acquisition phase of the project after the Commission's approval of the project, and would focus on compensation for use of the land and related provisions. If negotiations proved unsuccessful, AltaLink would apply to the Surface Rights Board for an entry order and the issue of compensation would be determined by that agency. This process is in accordance with Section 37 of the *Hydro and Electric Energy Act*, as was pointed out by AltaLink's counsel during the hearing.²⁴

58. There were some circumstances, however, where AltaLink did negotiate with landowners for entry onto their lands prior to the issuance of an approval of the project. If AltaLink needed to carry out geotechnical, environmental or historical resource surveys (in anticipation of approval of particular route), negotiations involving entry on lands were conducted and compensation was paid for those purposes. Also, negotiations took place, again in anticipation of approval of a particular route, for option agreements to obtain route rights-of-way, where landowners were prepared to do this at an early stage in the regulatory process, in advance of the Commission's approval, and where the terms were agreeable to both sides.²⁵

59. AltaLink stated that it did not have a great deal of experience with individual landowners authorizing a group, such as the CAEPLA and the Landowner Committee, to represent them. AltaLink interpreted the authorization document put forward by these groups as applying to the stage of the regulatory process when land acquisition and compensation for impacts on land would be discussed. It had not reached this stage of the process with these landowners. One landowner stated that he declined any further discussions with AltaLink after signing the authorization and referred the company to CAEPLA.²⁶ In the application, AltaLink stated that seven stakeholders declined to consult with AltaLink.²⁷

60. AltaLink also interpreted the authorizations as forbidding discussion of site-specific issues between it and CAEPLA or the Landowner Committee. As a consequence, AltaLink did not discuss any of the issues associated with the project with these groups, although AltaLink did continue to discuss site-specific issues with some individual members of the Landowner Committee because it interpreted the authorization as allowing this type of consultation. AltaLink regarded site-specific issues as part of the consultation process intended to secure feedback from specific landowners about their particular concerns, which could be taken into account in the final planning of the facility.

61. At the hearing CAEPLA disagreed with AltaLink's interpretation of the authorization document, submitting that it was intended to be exclusive and exhaustive. In other words, AltaLink was to consult only with CAEPLA and the Landowner Committee on all issues for all of the members of the group before the Commission considered and approved the project. CAEPLA interpreted the "exception" in the authorization document, which would allow discussions and negotiations of site-specific issues between individual landowners and AltaLink,

respect to the AltaLink proposed Nilren [sic] Project and any related regulatory process or proceedings with respect to the proposed application and landowner considerations, including compensation."

²⁴ Transcript, Volume 1, page 215, lines 4-18.

²⁵ Transcript, Volume 1, page 64, lines 1-25; page 136, lines 1-25.

²⁶ Transcript, Volume 1, page 163, lines 12-18.

²⁷ Exhibit 002.00, Application, paragraph 316, November 15, 2010.

as meaning any matters that remained unresolved after negotiating the generic agreement on behalf of its members.

62. Some landowners refused to talk to AltaLink unless they received compensation for their time. AltaLink's policy was not to compensate landowners for their time where the purpose and focus of the consultation was to learn more about impacts and concerns of individual landowners. AltaLink did not think it was a prudent use of ratepayer money. AltaLink did, however, compensate landowners for their time when the parties were prepared to negotiate specific rights-of-way and compensation for impacts on lands.

63. CAEPLA representatives described the proceeding as a route hearing, one that was ill-suited and unable to protect the landowners' property rights and effectively deal with the many impacts created by the transmission project on the interveners' lands. They argued that only a satisfactory easement agreement resulting from negotiations before the approval of the application could provide this protection and ensure that its members would have the benefit of an all encompassing agreement whatever route alignment was chosen. There were over 30 issues dealt with in their proposed easement agreement and they testified that if these issues were not dealt with between AltaLink and CAEPLA's members prior to the Commission granting approval, the Commission would be imposing liabilities, risks, and annual obligations on landowners that should not be imposed on them.

6.1 Views of the Commission

64. Applicants, such as AltaLink, who apply for approval to construct and operate an electric facility must comply with the AUC Rule 007 which sets out the information that an application must contain and the requirements that an applicant must adhere to. One requirement is consultation directly with those persons whose rights might be directly and adversely affected by the proposed project as well as the general public. AUC Rule 007 describes this process as a participant involvement program.

65. The purpose of the participant involvement program or consultation is set out in AUC Rule 007 which in Appendix A, page 29 states:

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.

66. In the Commission's view, an applicant in meeting this purpose must effectively disseminate project specific information to those persons who may be impacted by the proposed project, respond meaningfully to concerns, discuss options, alternatives and mitigating measures. Those persons who are impacted by a project have a corresponding responsibility to participate in the consultation so that their particular concerns are identified, assessed and mitigated if possible. The process results in a more complete application filed with the Commission, one that acknowledges and responds to the concerns raised in the consultations. There may still be outstanding issues subject to the jurisdiction of the Commission between the applicant and landowners. In the absence of an agreement between the parties, these matters will be resolved under Section 9 of the *Alberta Utilities Commission Act*, through a public hearing where there

are potentially directly and adversely affected parties, and through a resulting Commission decision.²⁸

67. The Commission finds that for the most part AltaLink's public participation program met the principles and requirements reflected in AUC Rule 007. AltaLink conducted extensive consultation with those persons who might be affected by the project and with the general public. Two rounds of personal consultation were held with stakeholders, an initial round when preliminary routes had been developed and a second round when the preferred and alternate routes were proposed. Over 180 title holders owning land in the project area were contacted and AltaLink provided a great deal of information, including maps, brochures on EMF and the AUC's hearing process, a website information sheet, contact information and newsletters. Notices were published in local newspapers and an open house was held in Hardisty.

68. Further contact and exchange of information took place after the initial round of individual consultations and the open house once the preferred and alternate routes had been developed.²⁹ Changes to the proposed routes were also made as a result of consultation.³⁰

69. Stakeholders raised a host of issues and questions as a result of this consultation and AltaLink took these into account in its planning of the project, and the mitigation or response to these issues are an integral part of the application filed with the Commission. Issues such as EMF, noise, global positioning system interference, induction and nuisance shock, long-term weed control, land development, radio, television and cell phone interference, reclamation practices and the route selection process were addressed by AltaLink.³¹

70. While the Commission has concluded that on an overall basis AltaLink's participant involvement program met the requirements and principles of AUC Rule 007, it is doubtful that a consultation program intended to inform and engage a large number of people about a significant transmission facility will be conducted flawlessly in the eyes of all affected parties. As noted, AltaLink initially contacted over 180 landowners as part of its participant involvement program, concentrating on the 40 landowners on or adjacent to the preferred and alternate routes. Landowners who intervened at the hearing gave examples of flaws in this program which merit some attention from AltaLink. Particularly challenging is the scheduling of direct consultation with affected landowners during busy times of the agricultural year. Applicants must be especially alive to this issue and make every effort to accommodate busy farmers and ranchers. Another complaint that caused dissatisfaction is the perception that AltaLink was fixed in its routing proposals and landowner proposals were not adequately explored. This concern, in part, resulted in the Commission directing AltaLink on July 8, 2011, after the hearing, to further consult with some interveners about routing proposals.

²⁸ A comprehensive opportunity for testing an application is in place. Section 9 of the AUC Act, the Commission's Rules of Practice (Rule 001) and Rules on Local Intervener Costs (Rule 009) in particular provide for procedural fairness and funding (for counsel, consultants and experts). Landowners, with the representation of counsel, have the opportunity to mount a thorough case supported with funding for the relevant evidence of witnesses and experts.

²⁹ Exhibit 002.00, Application, paragraphs 287 to 317, November 15, 2010.

³⁰ Transcript, Volume 1, page 65, lines 21-25; page 66, lines 1-25; page 67, lines 1-16.

³¹ Exhibit 002.00, Application, paragraph 319 and Table 5.1, November 15, 2010.

71. The interveners asserted at the hearing that landowners should be compensated for their time during consultations. This stance exacerbated the difficulty in conducting discussions between the parties because AltaLink refused to compensate these landowners for their time at the early consultation stage. The Commission finds that AUC Rule 007 consultation does not require compensation and it is not reasonable for landowners to expect payment for their time at this juncture in the process. In AUC Rule 007, consultation is intended to gather information from landowners so site-specific and other concerns can be reflected in the application; this stage of consultation does not address the more specific negotiation for easements or rights-of-way which are essentially commercial arrangements where one party owns land that the other wants to access and use. It is understandable that the demands of specific negotiations for easements or rights-of-way should be accompanied by compensation for the landowner's time required to reach the agreement.

72. In past decisions the Commission has not required transmission facility owners to compensate landowners for early stage consultation.³²

73. The Commission is satisfied that overall AltaLink consulted meaningfully with those persons and interested parties who might be impacted by the proposed transmission project.

74. However, the Commission considers it necessary to discuss CAEPLA's argument that comprehensive easement agreements must be in place between landowners and AltaLink before the Commission may approve the project. In the Commission's view, this position is not in accordance with the statutory framework, and does not recognize the role of the Commission or agencies like the Surface Rights Board in the development of transmission infrastructure in the province of Alberta.

6.1.1 Statutory framework and role of the Commission

75. The Commission is established under Section 2 of the *Alberta Utilities Commission Act*. The Commission is granted powers, rights, protections and privileges under the *Alberta Utilities Commission Act*, other enactments and by law. The quasi-judicial nature of the Commission is crystallized in its powers to hold hearings, determine all questions of law or fact, and make orders granting the relief applied for, including interim orders or partial orders, under sections 8 and 23 of the *Alberta Utilities Commission Act*. The quasi-judicial nature of the Commission is reinforced by the hearing provision in Section 9(2) of the *Alberta Utilities Commission Act*. Under this section, if it appears to the Commission that its decision on an application may directly and adversely affect the rights of a person, the Commission must give notice of the application, give the person a reasonable opportunity of learning the facts on the application as presented by the applicant and other parties and hold a hearing.

76. The Commission has adopted AUC Rule 001: *Rules of Practice* to ensure that parties are afforded a fair process, and under the principles of natural justice and administrative law, parties to a hearing are entitled to an impartial, independent decision-maker. The Commission is such a decision-maker and does not favour any party before it. It makes its decisions on applications on the evidence before it and submissions of the parties to a hearing, the requirements set out in enactments governing the application, and, for facility applications, the public interest consideration set out in Section 17(1) of the *Alberta Utilities Commission Act*.

³² Decision 2009-049: ATCO Electric Ltd. – Construct Updike Substation 886S and 144-kV Transmission Line 7L34, Application No. 1589611, Proceeding ID No. 114, April 28, 2009, paragraph 43.

77. The Commission holds hearings on transmission line applications to consider the applications and the issues brought forward by interveners regarding the potential impacts of the applications on the interveners and on the environment, among other issues. The nature of the hearing is explained in the Commission's notices of application and hearing, its published information brochures, the information sessions held in communities where projects are proposed and in the many decision reports that it issues. During the Commission's approval process a geographical alignment will be approved, denied or adjusted after consideration of impacts to landowners caused by the proposed route. This decision is made under Section 19 of *Hydro and Electric Energy Act* and in the public interest.

78. The Commission does not accept CAEPLA's argument that the purpose of consultation is to compel parties to reach an all-encompassing easement or right-of-way or other agreement that deals with entry on to private lands and compensation or other mitigative measures for impacts to those lands. The fact that applicants and landowners may voluntarily enter into these types of agreements at any time does not impose a mandatory requirement in the Commission's process, that in every case in every application such an agreement must be finalized before the application is filed or before the Commission's decision on an application.

79. The Commission's view is confirmed by Section 37 of the *Hydro and Electric Energy Act*,³³ which provides that a transmission operator like AltaLink may obtain an interest in land through negotiation with the owner of the land or by proceedings under the *Surface Rights Act*.³⁴ There is no statutory compulsion in Section 37 to successfully conclude negotiations with a final agreement. Similarly, Section 14(4) of the *Hydro and Electric Energy Act* allows a transmission operator to acquire an interest in land through voluntary negotiations.

80. Section 12(1) (d) of the *Surface Rights Act* reads:

12(1) No operator has a right of entry in respect of the surface of any land...

(d) for or incidental to the construction, operation or removal of a power transmission line, ...until the operator has obtained the consent of the owner and the occupant of the surface of the land or has become entitled to right of entry by reason of an order of the Board pursuant to this Act.

81. Section 25 of the *Surface Rights Act* then outlines how the Surface Rights Board determines the compensation payable for the entry on and the use of the lands. Considerations include the amount of the land granted to the operator, the per acre value, the loss of use by the owner of the area granted, the adverse effect of the area granted on the remaining land of the owner including nuisance, inconvenience and damage to the land in the area granted and any other factors that the board considers proper in the circumstances.

82. The Commission concludes that AUC Rule 007 and the relevant legislation do not require AltaLink and landowners to negotiate overall agreements respecting the entry, use and impacts on lands created by the construction and operation of a transmission facility before the Commission may, in law, issue an approval.

³³ RSA 2000, Chapter H-16.

³⁴ RSA 2000, Chapter S-24.

7 Environmental impacts

83. The environmental impacts and AltaLink's response to them are outlined in the application.³⁵ Its analysis was conducted on a landscape level review, part of its route planning exercise. This included aerial photographs, government and non-government environmental data sources and field level reconnaissance. The land cover along the proposed routes consists mostly of cultivated and improved pasture lands and aspen parkland. Aspen parkland is a mix of native prairie grasses, shrub and non-merchantable aspen. There are three environmentally sensitive areas in the project study area and the dominant industries in the area are agriculture and oil and gas.

84. Alberta Environment's Guide for *Transmission Lines and Conservation and Reclamation Information Letter (C&R IL 95-2)* sets out the requirements applicable to AltaLink's project when impacts on land, water, air or wildlife are identified or encountered. AltaLink's mitigation practices are described in detail in the application and apply to brushing and clearing activities, protection of nesting birds and other wildlife, construction in wetlands, conservation of soils, oil containment at the substation, and disturbance of native prairie vegetation. The mitigation practices are designed to reduce or avoid impacts created by the construction and operation of the transmission line. The specific nature of the mitigation plans will be based on further field studies or pre-disturbance assessments prior to the construction of the transmission line and environmental practices, plans and monitoring will be in place for the construction and ongoing operations. Discussions with Alberta Environment and ASRD will also take place for guidance and direction where particular site-specific issues arise.

85. Some mitigation practices will include:

- Construction during dry/frozen conditions and location of towers away from wetlands.
- Use of specific equipment and site-specific soil compaction and erosion control measures, storage of fuel and equipment outside of 100 metres from the high water mark of any water body.
- Setting back access trails a minimum 30 metres from high water mark of water bodies.
- Location of towers away from rare plants and staking off or fencing off area around them as required.
- Restrictions on use of herbicides.
- Equipment cleaning to reduce the spread of weeds.
- Construction of the transmission line outside of avian migration, nesting and breeding periods if possible and avoiding active mammal dens.
- Completion of nesting surveys prior to brushing and clearing if it is done in nesting season.

86. AltaLink responded to Alberta Environment's concern about soil conservation by outlining a mitigation practice which includes storing and reusing top soil and prevention of soil erosion, compaction, rutting and sedimentation by using fencings, rig matting or constructing in

³⁵ Exhibit 002.00, Application, paragraphs 342-385, November 15, 2010.

dry or frozen conditions. Several of the mitigation practices described above apply to potential environmental impacts on native prairie. AltaLink also submitted that where the proposed preferred or alternate routes encountered native prairie, and where reasonably possible, efforts would be made to avoid the area, narrow the right-of-way width as much as reasonably possible, construct the line during dry or frozen soil conditions, clean equipment before entering the area, and restrict the use of herbicides within 10 metres of a particular ecological community. It further submitted that any disturbed portion of the native prairie would not be seeded but rather allowed to reclaim naturally.

7.1 240-kV preferred and alternate transmission lines

87. AltaLink concluded that the preferred 240-kV route had a smaller footprint within the environmentally sensitive areas than the alternate (9.2 kilometres versus 14.3 kilometres) and caused less habitat fragmentation in those areas. Impacts on wildlife and wetlands were comparable for both preferred and alternate 240-kV routes. There was slightly less impact to vegetation on the preferred route. AltaLink submitted that through the detailed siting of towers and the implementation of mitigation measures outlined above, either the preferred or the alternate 240-kV transmission routes could be built and operated in an environmentally acceptable manner.

7.2 138-kV preferred and alternate transmission lines

88. AltaLink stated that the preferred 138-kV line created marginally less impact on the environment because of its location in a road allowance although the alternate route had a slightly smaller footprint within native prairie vegetation. AltaLink submitted that through the detailed siting of towers and the implementation of mitigation measures outlined above, either the preferred or the alternate 138-kV transmission routes could be built and operated in an environmentally acceptable manner.

7.3 Nilrem substation

89. AltaLink completed a noise impact assessment for the Nilrem 574S 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 substation.

7.4 Views of the Commission

90. The Commission considers that the potential adverse impacts to the environment along or near the proposed routes have been thoroughly highlighted and discussed in AltaLink's application. Where impacts cannot be avoided AltaLink has outlined mitigation measures, guided by the practices and direction found in Alberta Environment's *C&R IL 95-2*, and stated that it will comply with these guidelines.³⁶ For many of the environmental issues, the nature and extent of the particular impact will be assessed by further field studies and pre-disturbance assessments which will provide site-specific information essential for developing the most effective mitigation during construction and for future operation of the transmission line. These studies will be provided and discussed with Alberta Environment and ASRD where its respective jurisdictions are engaged. Alberta Environment has already indicated its concern about soil

³⁶ Exhibit 002.00, Application, paragraphs 34 and 345, November 15, 2010.

conservation and AltaLink has responded to the issue with mitigation measures.³⁷ Ongoing monitoring will also contribute to effective mitigation efforts.

91. No registered intervener or other interested party raised environmental objections along and near the proposed routes apart from impacts to agricultural operations of an environmental nature, for example, weed control and soil conservation. AltaLink committed to providing mitigations for these types of concerns.³⁸

92. The Commission considers that either of the preferred or alternate routes 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 ASRD, 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

93. In this section, the Commission will review the potential impacts of the project on the following social and economic matters:

- electric and magnetic fields
- property values
- economic effects
- cost
- land use

8.1 Electric and magnetic fields

94. AltaLink's evidence³⁹ showed that EMF occurs wherever electricity is generated, transmitted or used. Transmission lines create EMF, as does any electric device such as household appliances, computers and office equipment, and wiring in walls. EMF diminishes in strength as you move away from the source, and the strength of the electric field will fall off even faster or completely if obstructed by objects such as wood or metal. AltaLink pointed out that a number of factors may influence the level of EMF, including configuration of the conductors, their height from the ground, the amount of current running through the line and whether there are other transmission lines in the same corridor. EMF created by transmission lines is sometimes 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.⁴⁰

95. EMF was raised as a health issue by landowners during AltaLink's participant involvement program including those interveners who appeared at the hearing. Mr. Crone expressed concern about the health effects on his family and himself while working near the

³⁷ Exhibit 002.00, Application, paragraph 36, November 15, 2010.

³⁸ Exhibit 002.00, Application, paragraphs 334-337, November 15, 2010.

³⁹ Exhibit 002.00, Application, paragraphs 395 and 398-403 ; Exhibit 016.00, Appendix N; Exhibit 022.00, Appendix T.

⁴⁰ Exhibit 016.00, Appendix N-2.

transmission line, and the possible health effects on his cattle, which under the preferred route would be walking underneath the transmission line twice a day as they went for water.

96. AltaLink submitted that it takes concerns about the effects of EMF very seriously and had commissioned a status report on the extensive research into the effects of EMF on health. The status report describes the research process and the current scientific consensus related to the health effects of extremely low frequency EMF.⁴¹

97. The status 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 Canada 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. The World Health Organization, did however, recommend that low cost precautionary measures to reduce exposure to magnetic fields, such as siting, should be considered and implemented when constructing new facilities and designing new equipment.⁴²

98. Health Canada has stated:

At present, there are no Canadian government guidelines for exposure to EMFs at ELF. Health Canada does not consider guidelines for the Canadian public necessary because the scientific evidence is not strong enough to conclude that exposures cause health problems for the public.⁴³

99. Health Canada further stated while some international agencies had issued health based exposure guidelines, the purpose of the guidelines was to ensure that EMF did not cause electric currents or fields in the body that are stronger than the ones produced naturally by the brain, nerves and heart.

100. The status report explained that these exposure guidelines set by international agencies are based on avoidance of immediate or short term health effects which can occur at very high field levels. This effect is a stimulation of nerves and muscles, like a shock. AltaLink modelled the levels of EMF both on the proposed right-of-way and at the edge of the right-of-way. The calculations were based on peak loading and other factors that would tend to increase EMF levels. The results demonstrated that for both locations, electric and magnetic field levels were below international guidelines for occupational and general public immediate exposure to EMF. Levels for electric and magnetic fields were considerably below the international guidelines at the edge of the right-of-way.⁴⁴

⁴¹ Exhibit 022.00, Appendix T-2, Status Report on Electric and Magnetic Field Health Research, Exponent Inc., June 22, 2010.

⁴² Exhibit 022.00, Appendix T-2, pages 17 and 18.

⁴³ Exhibit 022.00, Application, Appendix T-2, Appendix 1, It's Your Health, Electric and Magnetic Fields at Extremely Low Frequencies, Updated January 2010.

⁴⁴ Exhibit 022.00, Appendix T-1, pages 8-10.

101. AltaLink's status 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.⁴⁵

102. AltaLink also considered other electrical effects caused by transmission lines such as interference on radio, television signals and global positioning systems, induction on metallic objects, and stray voltage. AltaLink confirmed that it grounds metal fences and large metal buildings so they do not induce a current that will cause a nuisance shock, and that it was committed to working with landowners on an individual basis to mitigate any of these kinds of electrical effects caused by the transmission line.

8.1.1 Views of the Commission

103. The Commission acknowledges that the issue of EMF is one that concerns many landowners and residents who may live near transmission lines although in this proceeding reference to EMF was general in nature by those who objected to the transmission project. For example, no scientific evidence on the health effects of EMF was filed by the interveners. One intervener at the hearing expressed some concern over the effect of EMF on people who lived and worked near transmission lines and the health effects on cattle.

104. The evidence before the Commission was largely contained in AltaLink's application and consisted of modelling results, the status report on the research into EMF over the past 40 years, a Health Canada publication on the topic, and a number of publications from other government, health and industry organizations, to the effect that extensive research had not concluded that extremely low frequency EMF caused long term health effects on humans or animals or on the viability of crops.

105. The Commission finds that the scientific weight of the evidence contained in the application, including the modeling evidence at the proposed right-of-way and beyond, does not support the conclusion that exposures to extremely low frequency EMFs cause long-term health problems for people, plants or animals. The Commission also accepts that the levels of exposure for immediate effects caused by EMF are well below those set by international organizations.

106. Further, as indicated earlier in the Decision report, neither the preferred nor the alternate 240 kV routes have residences within 150 metres and both have two residences within 800 metres of the respective alignments. There are no residences within 150 metres of the preferred or alternate 138 kV route while the preferred route has three residences within 800 metres and the alternate route has five. Given these distances to residences, and the diminishment of EMF as you move away from the source,⁴⁶ the Commission finds that this fact is in keeping with the precautionary principle as expressed by the World Health Organization.

⁴⁵ Exhibit 022.00, Appendix T-2, Status Report on Electric and Magnetic Field Health Research, Exponent Inc., June 22, 2010, page 19; also see, Exhibit 016, Appendix N-7, EMF, Electric and Magnetic Fields Associated with the Use of Power, National Institute of Environmental Health Sciences, National Institutes of Health, June 2002, pages 25-27.

⁴⁶ Exhibit 022.00, Appendix T-1, pages 11, 12, 14, and 15.

107. The Commission also finds that the other electrical effects, such as interference on radio and television signals, induction on metallic objects, and stray voltage created by the transmission line can be mitigated and holds AltaLink to its commitment that effective mitigation measures will be implemented where these effects are encountered.

8.2 Property values

108. Neither AltaLink nor the interveners provided expert evidence or any other substantial evidence on the effect of the proposed transmission lines on the property value of lands along or near the routes. AltaLink did not believe that there would be any reduction in value, but apart from that assertion provided very little evidence directly on the issue.⁴⁷ There was reference to one landowner who believed that the tower and easement payments increased the value of their lands.⁴⁸ Intervenors who appeared at the hearing were concerned that the transmission line would cause a decrease in the value of their lands.⁴⁹

8.2.1 Views of the Commission

109. The Commission considers that the evidence is insufficient on whether there is a positive or negative effect on the value of lands on or near the proposed transmission routes. No expert reports were filed by either side and the evidence that was given was brief and in the nature of a personal or corporate opinion. The Commission heard that some landowners wanted the route on their lands primarily for the compensation that accompanied tower and right-of-way payments and some landowners did not want them at any level of compensation. Likely, underlying these contrasting positions on tower and easement payments is an assumption that the transmission facility will either cause a decrease or increase in the value of the land.

110. The Commission considers that in balancing the benefits and impacts of the transmission project, this potential impact is neutral.

8.3 Economic effects

111. AltaLink indicated that the transmission reinforcement in the Hanna region was necessary to reliably meet the anticipated doubling in load growth in the area by 2017, mostly caused by increased oil and gas development, including oil pipelines that consume significant amounts of power in order to pump the product to its destination. The TransCanada Keystone pipeline is one of these projects. Also, an upgrading of the system is needed to meet the interconnection and transmission needs of a projected 700-MW of wind generated electricity in central Alberta over the next 10 years.⁵⁰

112. AltaLink stated that the project would cost in excess of \$75 million including labour, equipment, engineering and design, acquisition of easements and project management.

⁴⁷ Transcript, Volume 1, page 125, lines 14-25.

⁴⁸ Exhibit 0100.01, AML Response to AUC Direction of July 8, August 15, 2011, page 10.

⁴⁹ Exhibit 0100.01, AML Response to AUC Direction of July 8, August 15, 2011, page 3 and page 9; also, Transcript, Volume 1, page 193, lines 16-22; and, Exhibit 101.01, Mr. Crone's response to AML submission, August 23, 2011.

⁵⁰ Exhibit 002.00, Application, paragraphs 5 and 425, November 15, 2010.

8.3.1 Views of the Commission

113. The Commission notes that the proposed project would meet its purpose, which is to upgrade the transmission system in the Hanna region in order to meet increasing demand for power to support oil and gas development and to interconnect wind power developments. The Commission finds that there is an economic benefit of having a transmission system that has the capacity to reliably deliver power to the various sources of economic activity in the region. Without the electric infrastructure in place, projects may be unduly delayed or become uneconomical.

114. The cost of the project is addressed in the next section of this decision.

8.4 Cost

240-kV preferred and alternate routes

115. AltaLink estimated the costs of the preferred and alternate transmission routes to a +20/-10 per cent tolerance. The cost for the preferred route is \$76.4 million and the cost for the alternate route is \$81.7 million. AltaLink stated that the difference in costs for the two routes is mostly accounted for by the project's proposed schedule and the costs already incurred for the preferred line. AltaLink said that, in order to meet its proposed in-service date of April 2012, construction must commence by October 2011. To this end, it had spent money on the preferred route for right-of-way agreements where possible, engineering work, preparation of construction contracts, environmental field studies and some tendering in advance of an anticipated approval by the Commission.

116. AltaLink indicated that it had not completed this preliminary work or incurred the associated costs for the alternate route. It submitted that if the alternate route is approved, the project's construction start will be delayed until this preliminary work is completed and that the delay would result in increased costs due to incremental escalation, project carrying costs such as project management, allowance for funds used during construction over the life of the project as well as the engineering costs already incurred for the preferred route.

138-kV preferred and alternate routes

117. AltaLink's evidence showed that the estimated cost of the preferred 138-kV route was approximately \$2.8 million and the alternate route was approximately \$3.7 million.

Nilrem substation

118. AltaLink estimated the cost for the Nilrem substation at about \$23.6 million if the preferred routes were selected and approximately \$23.7 million if the alternate routes were approved.

8.4.1 Views of the Commission

240-kV preferred and alternate routes

119. The Commission accepts that the cost figures for the 240-kV preferred and alternate transmission lines are estimates that could increase or decrease depending on circumstances. AltaLink has incurred certain preliminary costs related to the preferred route in order to advance the implementation of the project, prior to the Commission's determination of the route. Of

course, there was no certainty that the Commission would approve the preferred route at the time when these costs were incurred. In fact, the application for the project was contested early on by landowners and a public hearing was held to consider the evidence and arguments of all interested parties.

120. It is not certain at this time whether preliminary costs incurred with respect to the preferred route will be recovered from ratepayers as opposed to shareholders. A rate case will determine the prudence of this expenditure. This is a factor in balancing the impacts of the preferred and alternate routes based on the cost estimates at this stage. In other words, the Commission does not necessarily consider that advance spending on the preferred route determines that the preferred route must be chosen as the most reasonable route in this proceeding.

138-kV preferred and alternate routes

121. The Commission considers that because the preferred 138-kV route is less costly by almost a million dollars for the six kilometre stretch of transmission line, the balance is weighted toward the approval of the preferred route.

Nilrem substation

122. Since the cost of the proposed Nilrem substation does not vary significantly with the route selected, the Commission considers that the cost of the substation is a neutral factor in determining whether a preferred or alternate route is approved.

8.5 Impacts to land use

8.5.1 General issues relating to land use

123. AltaLink described the land along the proposed routes and at the Nilrem substation location as mostly cultivated and improved pasture lands and aspen parkland. Aspen parkland is a mix of native prairie grasses, shrub and non-merchantable aspen. There are three environmentally sensitive areas potentially affected by the proposed routes and the dominant industries in the area are agriculture and oil and gas.

124. AltaLink submitted that it planned the routes using principles designed to avoid or minimize the impacts to residential, agricultural and other land uses. It pointed out that very few residences, for example, would be impacted by the proposed routes because no residences were within 150 metres of both preferred lines and very few were within 800 metres of the alternate lines.

125. AltaLink acknowledged that the proposed transmission lines and substation will create potential impacts for crop and pasture lands, but that the only lands taken out of production are those parts required for the towers and the rest of the right-of-way would still be available for these uses. AltaLink plans to consult with individual landowners about avoiding impacts where practical and where impacts cannot be avoided, putting mitigation measures in place. Many of these measures are set out in the Serecon report.⁵¹

⁵¹ Exhibit 19.00, Application Appendix Q, Potential Agricultural Impacts From High Voltage Overhead Transmission Lines, July 2010; also, Exhibit 002.00, Application, paragraphs 334-337, November 15, 2010.

126. Some potential impacts during construction include the spreading of weeds, loss of top soil and soil compaction. The Serecon report recommends mitigation for these impacts. To control the spread of weeds and soil compaction, possible mitigation includes construction when the ground is frozen and minimizing disturbance by keeping to designated access trails on the right-of-way. Additional weed control measures include cleaning of vehicles and equipment. The potential infection of clubroot is of particular concern and AltaLink indicated that it has developed a clubroot mitigation procedure which includes conducting a right-of-way survey to identify existing weeds and clubroot infection prior to entry on to the property and proper equipment sanitation.

127. The report recommended that storing top soil separately from subsoil and controlling wind erosion by installing wind break fencing or installing downslope silt fences would mitigate possible loss of top soil. During construction, the potential exists for crop loss and interference with field operations. Possible mitigation for these impacts include planning construction to avoid crop season and compensating landowners in first year payment for crop loss when mitigation does not cover all potential impacts.

128. AltaLink agreed that potential impacts to agricultural operations exist during the operation of the transmission line. The Serecon report listed forced changes to ongoing cultivation patterns, and crop damage and crop loss as examples of potential impacts that could be mitigated with financial compensation. Other such losses or damage include aerial spraying and collisions between farming equipment and the towers. Possible mitigation measures include providing reflectors to mark towers at night, increased seeded down footprint area, and increased annual structure payments for the additional crop loss. Collisions could be mitigated by increasing conductor height in areas where high equipment movement was necessary.

129. The Serecon report also described potential impacts to livestock operations and related mitigation measures. Potential impacts include electrical induction on metallic objects, decreased grazing area during construction and a general disturbance of the animals. Common mitigation for these impacts include testing and grounding of metallic objects, relocation of livestock to alternate pastures and ensuring gates and fences are installed and closed to control the livestock.

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

130. At the hearing, both Mr. Crone and Mrs. Moser testified that they were not satisfied with the applied-for routes because of the impacts visited upon their lands. They proposed adjustments to the routing. In particular, Mr. Crone proposed possible adjustments to the route in the vicinity of his lands, which would assist in avoiding impacts on his lands, but which would affect adjoining landowners as well. Mrs. Holte also indicated her opposition to the alignment of the routes on her lands and the impacts that Mr. Crone's proposal would have on her family's land immediately to the south and southeast of Mr. Crone's property.

131. As indicated earlier in this decision, after the hearing concluded in Hardisty on July 5, 2011, the Commission issued a letter dated July 8, 2011, directing AltaLink to undertake further discussions about the feasibility of the proposed adjustments with these interveners and other landowners who might be impacted. The results of this additional consultation are reflected

in AltaLink's report of August 15, 2011.⁵² Mr. Crone's email letter of August 23, 2011,⁵³ and AltaLink's reply of September 8, 2011.⁵⁴

8.5.2.1 The Mosers' adjusted route

132. The Mosers own the section of land described as 16-42-9-W4M near the proposed Nilrem substation and on the 138-kV preferred transmission line route. Although they had earlier discussions with AltaLink about locating the substation on their lands, AltaLink secured other lands. Previous negotiations also related to the location of the 138-kV transmission line on their lands but no agreement resulted. The Mosers' objected to the visual impact of the transmission line on the enjoyment of their home quarter, the effect of the transmission line on future industrial development of their lands and the related impact of the lands' value.⁵⁵

133. The Mosers wanted the transmission line to border the west and south side of SW 16-42-9-W4M (their adjusted route) as opposed to the north and east side of that quarter section. Their adjusted route would put the transmission line further away from their residence on the home quarter. AltaLink confirmed that this adjustment would be entirely within a road allowance, while the preferred route would cross approximately 1.6 kilometres of quarter line and private land. AltaLink assessed the Mosers' adjusted route as having a lower potential for agricultural impacts and that no residences were located within 800 metres of the Mosers' adjusted route. The Mosers have, in fact, the closest residence.

134. AltaLink pointed out that while its preferred 138-kV route crossed more cultivated lands, the Mosers' adjusted route bordered environmentally significant areas for a longer distance, but that the potential environmental impact could be mitigated. AltaLink concluded that the Mosers' adjusted route did not raise concerns for other stakeholders, met the electrical needs of the project, had negligible cost impacts and did not introduce environmental or other impacts that could not be mitigated. AltaLink recommended the Mosers' adjusted route for approval instead of the preferred 138-kV route for the segment in question. This adjusted route is shown in the map immediately following paragraph 156.

8.5.2.2 The Croness' alternative alignment

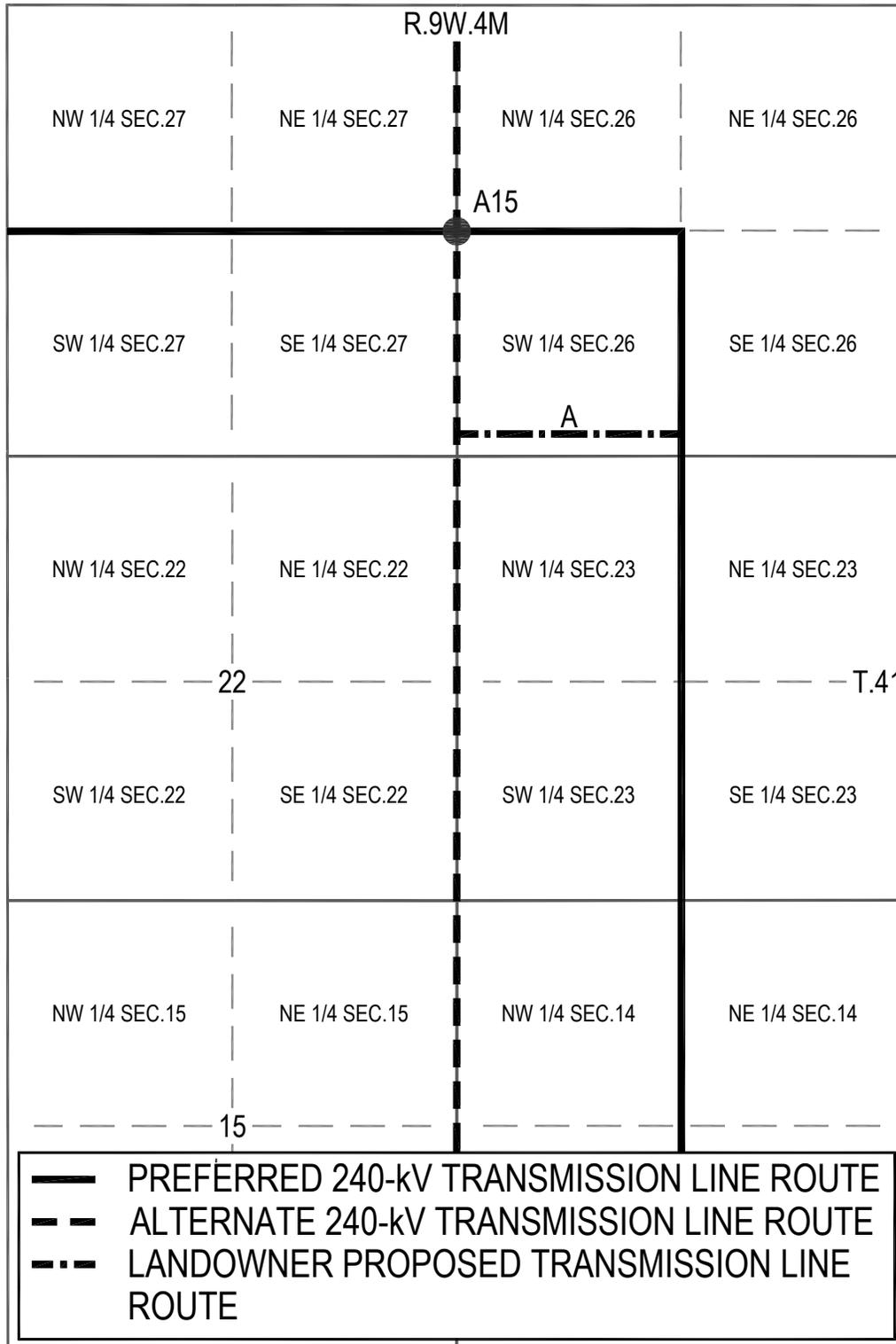
135. Mr. Crone owns the west half of section 26-41-9-W4M and also the northeast quarter of section 27-41-9-W4M. Part of the 240-kV preferred route is located on the southwest quarter of these lands, which he uses as seeded pasture for his purebred cattle herd. The preferred line runs along the north and east quarter line of that quarter. Mr. Crone said that the preferred route divided his pasture lands into two boxes, the southwest quarter and the rest of the lands. He proposed, instead, that the transmission line run along the west and south quarter lines of the south west quarter of section 26-41-9-W4M, either on his property or on the quarter section immediately south of his land (the alternative alignment). Mr. Crone stated that following AltaLink's alternate route south from point A15 on the map below would also meet his concerns. This route is shown below.

⁵² Exhibit 100.01, AML Response to AUC Direction of July 8, August 15, 2011.

⁵³ Exhibit 101.01, Mr. Crone's response to AML submission, August 23, 2011.

⁵⁴ Exhibit 103.01, AML Letter to AUC- Comments on submission of Mr. Crone, September 8, 2011.

⁵⁵ Exhibit 100.01, AML Response to AUC Direction of July 8, August 15, 2011, page 3.



136. Mr. Crone described a number of impacts that the preferred route would create on his lands. These included impairment of aerial spraying needed to maintain the forage on his lands, although because of the protracted drought and economic reasons he had not used aerial spraying in the last 10 years; the difficulty in maintaining secure fencing along the right-of-way to protect his purebred Hereford herd and forage from intruding elk and other cattle; the health effects

caused by EMF on him and his family working on the land as well as his herd walking under the transmission line at least twice daily to and from water; and operating machinery around the transmission towers. Mr. Crone submitted that his proposed alternative alignment would create less impact to his agricultural operation because the transmission line would be located on the outer boundary of his property not in the middle.

137. Mr. Crone also regarded the proposed transmission line as a serious impediment to the development of a gravel extraction operation on his lands. He had entered into an agreement with the County of Provost to start crushing gravel by the end of 2011. He was concerned about sterilization of some of the gravel deposits and operational difficulties if the preferred route was approved. He stated that he wanted a commitment from AltaLink that he could test for gravel deposits under the right-of-way if either of AltaLink's proposed routes on his lands were approved. Mr. Crone also indicated that it was likely, in the future, that his family would have to move to these lands because of the expansion of the tank farm near his current residence closer to Hardisty and that the preferred route would prevent the location of a residence on the lands. He believed that his alternative alignment would have a small impact on the Holte's property to the south as the transmission line would be situated on his property.

138. AltaLink asserted that it could mitigate the impacts on Mr. Crone's land caused by the preferred route. In discussions with him after the hearing, AltaLink committed to work closely with Mr. Crone in order to mitigate any challenges posed to aerial spraying, construct proper and appropriate fencing to ensure that the Crone lands and cattle were secure, and that normal operations could be carried out. AltaLink did not accept Mr. Crone's contention that the lines would cause health problems in his herd and relied upon the scientific evidence found in its application for this assertion.

139. The parties visited the lands to examine the locations where Mr. Crone expects to excavate the gravel and reviewed how the transmission line and the gravel operation could compatibly co-exist. Both the preferred route and the alternative alignment were considered in this discussion. AltaLink submitted that based on the area where Mr. Crone intends to extract the gravel, it was unlikely that the structures on the preferred or alternate route would interfere with his operations. The gravel deposits generally appear to be located north of the preferred route.

140. AltaLink stated that in several ways Mr. Crone's alternative alignment and the preferred route created similar impacts. The two routes, as well as AltaLink's alternate route, traversed grazing lands, native prairie, and the same environmentally sensitive area and avoided any residences within 800 metres. Mr. Crone's alternative alignment would also likely avoid a marshy wetland which the preferred route crossed. AltaLink described the potential residential, agricultural and visual impact for both the preferred route and Mr. Crone's alternative alignment as low.

141. Nonetheless, AltaLink rejected Mr. Crone's alternative alignment because it transferred the potential aerial spraying difficulties to the Holtes' lands immediately to the south and paralleled the Holtes' property for a greater distance, boxing them in. The alternative alignment also increased the cost by approximately \$1 million as it would require two additional dead-end structures and would delay the project by three months. AltaLink reported that another landowner opposed the alternative alignment because he would lose the tower payments and other compensation for the use of his lands where the preferred route was currently proposed.

142. Further, AltaLink argued that the preferred route reduces the length of line passing through environmentally sensitive areas, native vegetation and sensitive wetlands and, more landowners overall indicated that they would consider granting an easement for the preferred 240-kV route.

8.5.2.3 The Holtes' lands

143. The Holtes owned the section of land legally described as 23-41-9-W4M on which the preferred line was located. The preferred route bisected the Holtes' full section of land along the north/south quarter lines, running north into Mr. Crone's lands along the southwest quarter line of his lands. AltaLink's alternate route ran inside of the western boundary of the Holtes' section, 25 metres from the road allowance.

144. Although the Holtes did not file any intervention in the application, they did participate to a limited degree in the proceedings as a result of Mrs. Holte's attendance in the audience at the hearing and the Commission's need to clearly understand the Holtes' position on Mr. Crone's alternative alignment as he was testifying about it.⁵⁶ Due in part to the inconclusive nature of the testimony on the impacts of Mr. Crone's alternative and the impacts on the Holtes, the Commission directed AltaLink to consult with the Holtes during the post-hearing discussions.

145. Because of the potential for current impacts on their agricultural operations and the uncertainty about the future use of their lands, currently used as pasture, the Holtes basically opposed all the proposed routes. The Commission understood their position more clearly as a result of the post-hearing consultations with AltaLink and its report of August 15, 2011.⁵⁷

146. The Holtes did not agree with Mr. Crone's alternative alignment because it created all the same impacts as the preferred route. Further, since it would run along the north side of their lands, it would box them in restricting future residential development as well as posing problems for aerial spraying in the future although they do not currently use aerial spraying.

147. The Holtes further described their site-specific concerns about all the proposed routes as follows: nuisance shocks from use of electric and temporary electric fences; disturbance of their dugouts, especially the spring fed one along their south property line; replacement of fences, gates and corrals during construction of the power line; the risk of the towers falling; emergency access to the transmission line, and the effect on property value.

148. AltaLink responded that these types of impacts, if created, could be mitigated. Fences would be grounded whether the transmission line was located on the Holtes' land or adjacent to them; tower placement would take into account the location and type of dugout after discussions with the landowner; collapse of the towers was unlikely because of their design and engineering (if they did the structures were designed to fall within the right-of-way); AltaLink would replace any fences, gates or corrals affected during construction; and, if emergency access was required, AltaLink would notify the landowner if possible and also ensure that compensation for any damage would be paid as well as reclamation of the access trail. AltaLink stated that it did not expect the transmission line to have an effect on the value of the lands. Notwithstanding, the Holtes remained strongly opposed to the project.

⁵⁶ Transcript, Volume 1, July 5, 2011, page 174, lines 4-25; pages 175-179, page 199, lines 21-25; pages 200-202.

⁵⁷ Exhibit 100, AML Response to AUC Direction of July 8, August 15, 2011.

8.5.3 Construction workspace

149. AltaLink stated that the rights-of-way required for this project include the land rights required for key construction workspace areas which are temporarily needed for the physical construction activities.

150. AltaLink requested that the Commission approve permits and licences to operate the transmission lines which would include the construction areas required to do so as identified by AltaLink in the application.⁵⁸

8.5.4 Views of the Commission

240-kV preferred and alternate routes

151. The Commission considers that AltaLink has extensively identified the types of impacts to agricultural operations and other land uses along or near the proposed routes and that these activities are potentially impacted by both the preferred and the alternate 240-kV routes. Neither route, for example, utilizes existing corridors nor existing linear disturbances in a significant way, which would tend to have a mitigating effect on the impacts caused by the transmission line.

152. Effects on farming and ranching activities are experienced by landowners where transmission lines are constructed and operated in agricultural areas of the province, and a preferred or alternate route may cause impacts on some landowners and not others. However, mitigation measures have been developed to meet these impacts, whether impacts occur on AltaLink's preferred or alternate routes. There may be specific operational impacts that are unique to individual parcels of land which will require a tailored mitigation plan. AltaLink has committed to discuss proposed mitigation practices, whether unique to one landowner or common to many, with affected landowners in order to take into account the landowner's site-specific concerns and views.

153. Overall, the Commission considers that where negative impacts to agricultural operations are caused by the construction and operation of the transmission line, the mitigation practices adopted by AltaLink, as set out in its evidence, are satisfactory and avoid or minimize potential impacts. The Commission also considers that there are low potential impacts on residential use of lands along or near the preferred or alternate route because there are no residences located within 150 metres of the both the preferred and alternate routes and very few residences within 800 metres. As a result, the Commission finds that either the preferred or the alternate route provides an acceptable alignment.

Nilrem 574S substation

154. The Commission finds that the siting for the Nilrem 574S substation is satisfactory. The Commission notes that the substation is sited about six kilometres to the south of the Tucuman 478S substation reducing what might otherwise be a longer 240-kV line connecting to a site north of the Tucuman substation. Visual impacts and costs will also be reduced. The land required for the substation has been acquired from the owner who will be compensated for impacts to those lands. The Commission also finds that the substation complies with noise

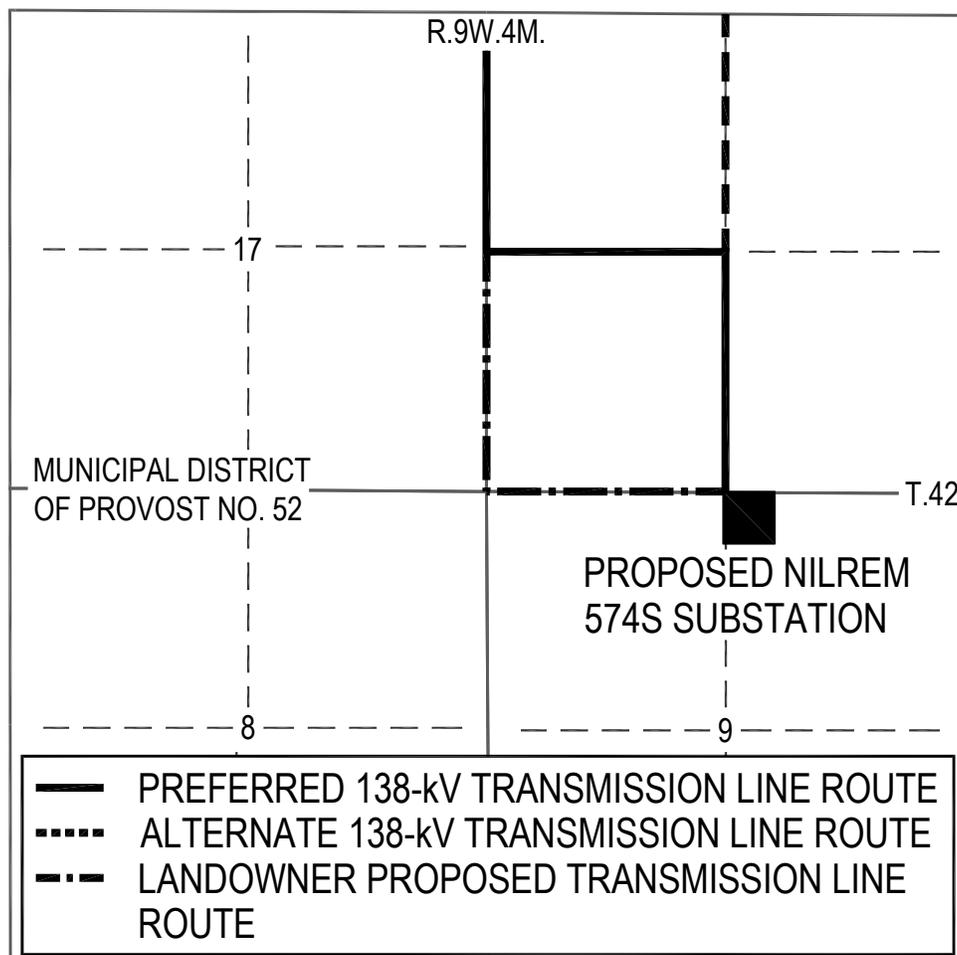
⁵⁸ Transcript, Volume 1, page 207, lines 8-19.

requirements outlined in AUC Rule 007 and notes that no environmental concerns or stakeholder concerns have been raised about the substation.

138-kV preferred and alternate routes

155. The Commission considers that the preferred 138-kV route has advantages over the alternate route. The preferred route will be located mostly on existing and undeveloped road allowances with only a small section of the line on private lands. There will be fewer impacts on agricultural activities and the environment given the existing linear disturbance created by the existing road allowances. The alternate route is mostly on private lands with the attendant impacts to the use of the lands. Also, there are only three residences within 800 metres of the preferred route while there are five residences within that distance of the alternate route.

156. As outlined earlier, the Mosers have proposed an adjusted route on their lands regarding the 138-kV transmission line. The Commission considers that the Mosers' adjusted route avoids more privately-owned lands resulting in fewer impacts on agricultural operations; adds a negligible cost to the project; meets the electrical needs of the project and does not present environmental or other impacts that cannot be mitigated. It, of course, meets the Mosers' concerns. The Commission approves this adjusted route. This adjusted route is particularly described as bordering the west and south sides of SW 16 42-9-W4M rather than bordering the north side of SW 16-42-9-W4M and the west side of SE 16-42-9-W4M as shown in the map below.



240-kV preferred and alternate routes

157. Notwithstanding the Commission's views on the general land use impacts of the 240-kV transmission lines, as outlined above, the Commission has considered the objections to the proposed routes raised by Mr. Crone and Ms. Holte both at the hearing and, after the Commission directed AltaLink to undertake further consultation about routing. These objections related to specific impacts on the interveners' lands caused by the routing.

158. The Commission considers that Mr. Crone's alternative alignment would likely reduce potential impacts on Mr. Crone's agricultural and gravel pit operations and future plans to build a house there, by moving the preferred line to the southern and western boundaries of his SW 26-41-9-W4M. This would eliminate the bisection of his southwest and northwest quarters. His western boundary currently forms part of the alternate route proposed by AltaLink.

159. However, location of the transmission line on the southern boundary or quarter section line would create a new alignment which borders the northern quarter section line of the Holtes' NW 23-41-9-W4M lands. The effect of this alignment transfers aerial spraying problems to the Holtes' lands, and because the preferred route already bisects their lands, tends to box them in restricting future residential development. In addition, the alignment would produce the same kinds of potential impacts that the preferred line currently creates, but on more of their lands.

160. The Commission notes that utilizing AltaLink's alternate route south from point A15 would meet Mr. Crone's concerns and, while there would potentially be greater agricultural impacts to the Holtes by having the alternate route run inside the western boundary of their section, 25 metres from the road allowance, as compared to the preferred route along quarter section lines, these impacts must be mitigated by AltaLink through compensation for any loss of use and other site-specific compensation or mitigation.⁵⁹ The Commission notes that the present primary use of the Holtes' land is for pasture and not cultivated fields. The Commission considers that grazing is a compatible use with transmission structures and satisfactory site-specific mitigation measures can be taken by AltaLink.⁶⁰ As with other landowners, AltaLink is required to discuss these mitigation efforts with the Holtes in order to better understand their concerns before final decisions on mitigation are made.

161. In considering these interests as well as the other impacts which have been discussed earlier in this decision report, the Commission finds that a combination of AltaLink's preferred and alternate routes meets some, but not all of the Holtes' and the Croness' concerns, and results in a balancing of potential impacts on their lands. The Commission also finds that where impacts still exist, satisfactory mitigation efforts have been proposed and must be implemented by AltaLink. The Commission approves the use of the alternate route south of point A15 because neither the Holtes nor the Croness will have their lands bisected by the 240-kV transmission line. The route will be located on the outer boundaries of their respective lands reducing to some extent the potential impacts caused by the present preferred route. For the two landowners, aerial spraying still appears to be viable because neither lands are bisected in a north/south direction and an east/west direction, which is the effect of the preferred route on the Croness' lands and the

⁵⁹ Transcript, page 217, lines 20-23.

⁶⁰ Exhibit 0100.01, AML Response to AUC Direction of July 8, August 15, 2011, pages 8 and 9 (site-specific measures would include grounding of the line to prevent nuisance shocks, replacement or relocation of fences, gates and corrals, weed control, placement of the towers to avoid interference with existing dugouts and reclamation of access trails).

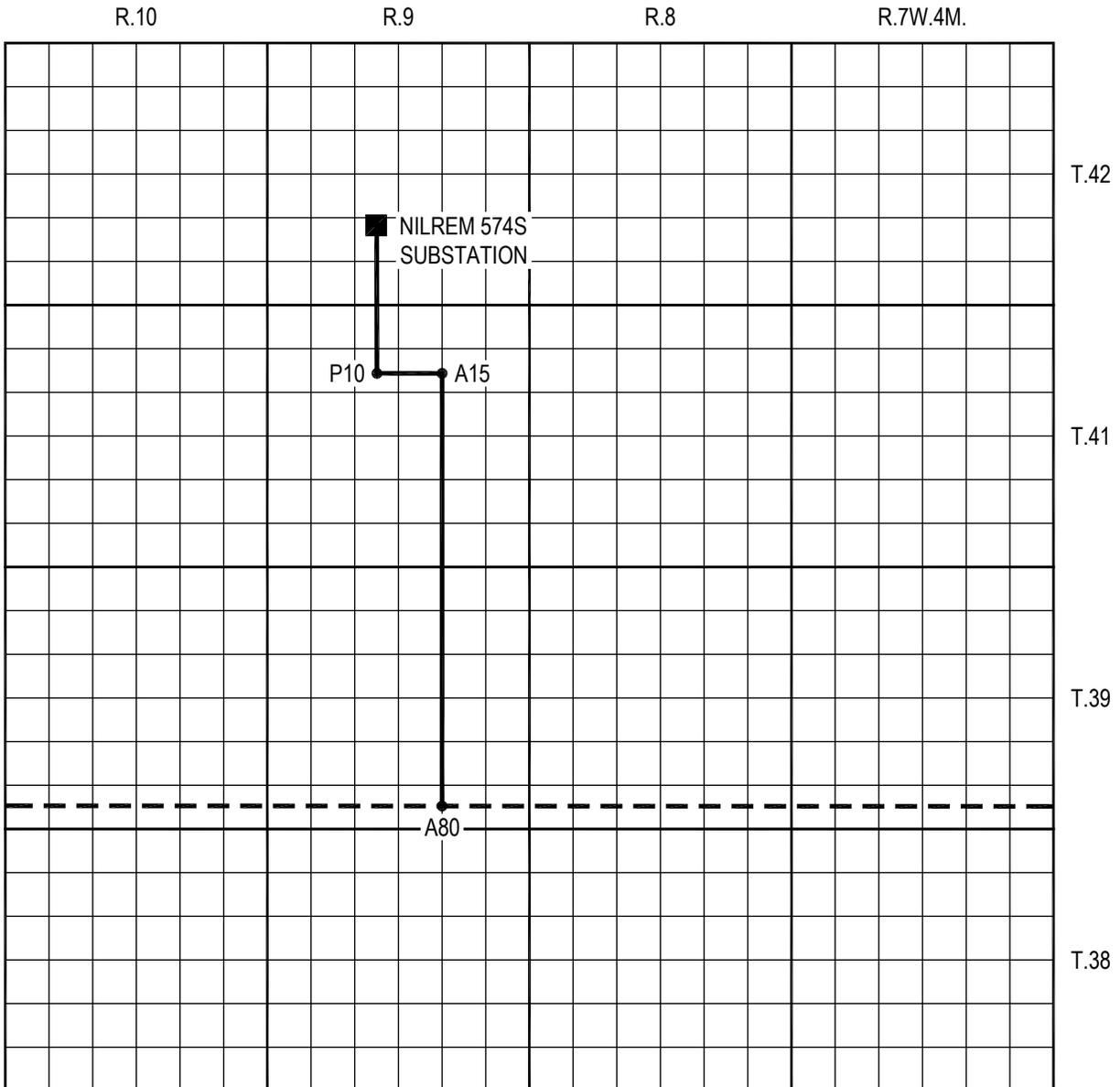
effect of Mr. Crone's alternative alignment on the Holtes' lands. The Commission's approved route also mitigates concerns that both landowners have for future residential development in the area of the preferred route. Further, there is less likelihood of undue impacts on Mr. Crone's gravel operations than there would be with the preferred route bisecting his lands.

162. With respect to the costs of the project and the approved route, the Commission has taken the following factors into account. The costs forecast for the preferred and alternate routes are estimates and will be affected by real life exigencies, logistics and a host of other factors which may or may not increase or decrease the projected costs of the two proposed routes. The approved route is a hybrid consisting of 8.9 kilometres of the preferred route and 14.5 kilometres of the alternate route. To the extent that AltaLink has incurred preliminary costs related to the preferred route these costs will not be incurred again for 8.9 kilometres of the approved route. The Commission considers that these costs would amount to a material part of the overall preliminary costs incurred by AltaLink to date as 8.9 kilometres represents about 35 per cent of the preferred line length. The Commission's approved route from the point A15 to A80 is part of the applicant's alternate route. This stretch is straighter than the preferred route, with two fewer 90 degree dead-end towers. Dead-end structures are larger and more expensive and the elimination of two of them will reduce the overall cost of the approved route.

163. The Commission also notes that no objections south of the Holtes' property were registered with the Commission regarding AltaLink's alternate 240-kV transmission line route.

164. Accordingly the Commission approves the following 240-kV route:

- The 240-kV transmission line shall start at Nilrem 574S substation and proceed along the preferred 240-kV route, travelling south from Nilrem 574S substation, along the quarter line, for approximately 6.4 kilometres to Section 28-41-9-W4M or Point P10 in the map below.
- From this point, the transmission line will traverse east on the quarter lines for approximately 2.5 kilometres, following the preferred 240-kV transmission line routing until it reaches the point where the alternate 240-kV routing is located. This is indicated as point A15 in the application and in the map below.
- The transmission line will then head south for approximately 14.5 kilometres, following the alternate 240-kV transmission line route, parallel to an undeveloped road allowance and centered on a 50 metre easement abutting the east boundary of the road allowance where it would tie into existing 240-kV transmission line 953L at its southern connection point.



Construction workspaces

165. The Commission notes the definition of “transmission line” in paragraph 1(1)(o) and the authority granted in subsection 1(2) of the *Hydro and Electric Energy Act* which state:

1(1)(o) “transmission line” means a system or arrangement of lines of wire or other conductors and transformation equipment, wholly in Alberta, whereby electric energy, however produced, is transmitted in bulk, and includes

- (i) transmission circuits composed of the conductors that form the minimum set required to so transmit electric energy,
- (ii) insulating and supporting structures,
- (iii) substations,
- (iv) operational and control devices, and

- (v) all property of any kind used for the purpose of, or in connection with, or incidental to, the operation of the transmission line, but does not include a power plant or an electric distribution system.

1(2) The decision of the Commission is final as to whether

- (a) a definition in subsection (1) is applicable in a particular case, or
- (b) any line or system or installation is, or is part of, a power plant, a transmission line, industrial system or an electric distribution system.

166. The Commission considers that the workspaces described 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 line. The Commission finds that these words must be read broadly 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.

167. As the Commission considers that the lands for construction 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 and will specify the construction workspaces needed for purposes of the transmission line. These work spaces can be found in Appendix 9 of this decision.

9 Determination of the public interest

168. As indicated earlier the Commission must weigh the benefits of the proposed transmission line and substation 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. The findings of the Commission are summarized here.

169. AltaLink employed sound planning principles in developing the preferred 240-kV and 138-kV alternate routes and the location of the Nilrem 574S 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.

170. Overall, AltaLink's participant involvement program met the principles and requirements reflected in AUC Rule 007 and AltaLink conducted extensive consultation with those persons who might be affected by the project. The consultation program was not flawless, however, and complaints about scheduling contact with landowners during busy times of the agricultural year merit some attention from AltaLink.

171. The Commission does not accept the view of CAEPLA and the Landowner Committee that completed easement and other agreements must be in place before the Commission may consider whether to approve a project because that position does not conform with the statutory framework for transmission development in Alberta nor does it properly recognize the statutory role of the Commission.

172. Either the preferred or the alternate routes 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 Albert Environment and ASRD are implemented. The siting of Nilrem 574S substation is satisfactory and no environmental and noise concerns are present.

173. The scientific weight of the evidence before the Commission, including modeling evidence establishing EMF levels at the proposed right-of-way and beyond, does not support the conclusion that exposures to extremely low frequency EMFs cause long-term health problems for people, plants or animals. The Commission also finds that the levels of exposure for immediate effects caused by EMF are well below those set by international organizations.

174. The evidence before the Commission is insufficient to conclude whether the impacts of the proposed project have a negative or positive effect on property values. The Commission has considered this impact as neutral in terms of weighing whether the project is in the public interest.

175. The Commission finds that there is an economic benefit of having a transmission system that has the capacity to reliably deliver power to the various sources of economic activity in the region. Without the electric infrastructure in place, projects may be unduly delayed or become uneconomical.

176. Overall, where negative impacts to agricultural operations are caused by the project, the mitigation practices adopted by AltaLink are satisfactory to avoid or minimize potential impacts. There are also low potential impacts to residences because none are located in close proximity to the proposed routes.

177. Impacts to the Mosers', Crones' and Holtes' lands are mitigated with the Commission's approved alignment of the route. The Commission's approved 240-kV route, which is a combination of AltaLink's preferred and alternate routes meets some, but not all of the Holtes' and the Crones' concerns and results in a balancing of potential impacts on their lands. The Commission also finds that where impacts still exist, satisfactory mitigation efforts have been proposed and must be implemented by AltaLink.

178. The Commission does not necessarily consider that advanced spending on the preferred 240-kV route determines that the preferred route must be chosen as the most reasonable route in this proceeding. Any difference in the cost of the Commission approved route compared to the cost of the preferred route must take into account that approximately 35 per cent of the approved route is part of the preferred route and that there are fewer 90 degree dead-end structures required.

179. The lands for construction 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 and will specify the construction workspaces needed for purposes of the transmission line.

180. For the reasons and findings expressed in this decision report, the Commission concludes that construction and operation of the 138-kV, the 240-kV transmission lines, the Nilrem 574S

substation and alteration to Tucuman 478S substation, as described in this decision, are in the public interest.

10 Decision

181. Pursuant to sections 14, 15, and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants AltaLink the approval set out in Appendix 1 – Permit and Licence No. U2011-394 – November 10, 2011 to construct and operate Nilrem 574S substation (Appendix 1 will be distributed separately).

182. Pursuant to sections 14, 15, and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants AltaLink the approval set out in Appendix 2 – Permit and Licence No. U2011-395 – November 10, 2011 to construct and operate 240-kV transmission line 953L (Appendix 2 will be distributed separately).

183. Pursuant to sections 14, 15, and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants AltaLink the approval set out in Appendix 3 – Permit and Licence No. U2011-396 – November 10, 2011 to construct and operate 240-kV transmission line 1047L (Appendix 3 will be distributed separately).

184. Pursuant to sections 14, 15, and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants AltaLink the approval set out in Appendix 4 – Permit and Licence No. U2011-397 – November 10, 2011 to construct and operate Tucuman 478S substation (Appendix 4 will be distributed separately).

185. Pursuant to sections 14, 15, and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants AltaLink the approval set out in Appendix 5 – Permit and Licence No. U2011-398 – November 10, 2011 to construct and operate 138-kV transmission line 679L/680L (Appendix 5 will be distributed separately).

186. Pursuant to sections 14, 15, and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants ATCO Electric Ltd. the approval set out in Appendix 6 – Licence No. U2011-399 – November 10, 2011 to construct and operate 240-kV transmission line 9L953 (Appendix 6 will be distributed separately).

Dated on November 10, 2011.

The Alberta Utilities Commission

(original signed by)

Carolyn Dahl Rees
Vice-Chair

Appendix 7 – Statements of intent to participate

Name of organization (abbreviation) counsel or representative
AltaLink Management Ltd. (AltaLink) R. Lonergan D. Watts J. Yearsley
D. Almberg
G. and R. Carson
C. Chisan
S. Crone
T. and L. Moser
Transcanada Keystone Pipeline GP Ltd. R. Stevens T. Eastman V. Kostaskey
Hardisty Nilrem Landowner Committee D. Core (CAEPLA) J. Ness (CAEPLA) D. Almberg

Appendix 8 – Oral hearing – registered appearances

Name of organization (abbreviation) counsel or representative	Witnesses
AltaLink Management Ltd. (AltaLink) R. Lonergan D. Watts J. Yearsley	E. Dahlie W. Mundy
Hardisty Nilrem Landowner Committee	D. Core (CAEPLA) J. Ness (CAEPLA) D. Almberg S. Crone
D. Almberg	D. Almberg
S. Crone	S. Crone
L. Moser	L. Moser
F. Holte	F. Holte

<p>The Alberta Utilities Commission</p> <p>Commission Panel Carolyn Dahl Rees, Vice-Chair</p> <p>Commission Staff D. Larder, QC (Commission General Counsel) V. Choy</p>
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Appendix 9 – Location of construction work spaces

Type of workspace required	Land location
One 10x100m	SE 32-42-9-W4M around point P2 ⁶¹
Two 10x100m	SE 33-42-9-W4M and NE 28-42-9-W4M around point A1 ⁶²
Two 10x100m	E 17-42-9-W4M around point P3 ⁶³
One 10x100m	SE 16-42-9-W4M around point P4 ⁶⁴
Two 50x200m	Section 28-41-9-W4M around point P10 ⁶⁵
One 500x500m	East half of section 10-40-9-W4M and west half of section 11-40-9-W4M around point A80 ⁶⁶
One 50x200m	SW 11-40-9-W4M around point A80 ⁶⁷
Two 50x200m	SW 14-42-9-W4M and NW 11-42-9-W4M around point A5 ⁶⁸
Two 50x200m	E 26-41-9-W4M around point P25 ⁶⁹
One 50x200m	N 25-40-9-W4M around point P40 ⁷⁰
Two 50x200m	S 1-41-9-W4M around point P50 ⁷¹
One 500x500m	Section 12-40-9-W4M around point P80 ⁷²
One 50x200m	Section 12-40-9-W4M around point P80 ⁷³

⁶¹ Exhibit 9.00, page 8, SM3, November 15, 2010.

⁶² Exhibit 9.00, page 8, SM3, November 15, 2010.

⁶³ Exhibit 9.00, page 8, SM5, November 15, 2010.

⁶⁴ Exhibit 9.00, page 8, SM5, November 15, 2010.

⁶⁵ Exhibit 9.00, page 8, SM7, November 15, 2010.

⁶⁶ Exhibit 9.00, page 14, SM13, November 15, 2010.

⁶⁷ Exhibit 9.00, page 14, SM13, November 15, 2010.

⁶⁸ Exhibit 9.00, page 16, SM15, November 15, 2010.

⁶⁹ Exhibit 9.00, page 18, SM17, November 15, 2010.

⁷⁰ Exhibit 9.00, page 20, SM19, November 15, 2010.

⁷¹ Exhibit 9.00, page 20, SM19, November 15, 2010.

⁷² Exhibit 9.00, page 22, SM21, November 15, 2010.

⁷³ Exhibit 9.00, page 22, SM21, November 15, 2010.