



**Alberta Electric System Operator
AltaLink Management Ltd.
Alberta-Pacific Forest Industries Inc.**

**Needs Identification Document, Transmission Line,
Substation and Power Plant
Al-Pac Pulp Mill Project**

December 24, 2010

ALBERTA UTILITIES COMMISSION

Decision 2010-612: Alberta Electric System Operator, AltaLink Management Ltd. and
Alberta-Pacific Forest Industries Inc.

Al-Pac Pulp Mill Project

Applications No. 1606083, 1606181, 1606200, and 1606265

Proceedings ID. 586 and ID. 677

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ALBERTA UTILITIES COMMISSION

Calgary Alberta

**ALBERTA ELECTRIC SYSTEM OPERATOR
ALTALINK MANAGEMENT LTD.
ALBERTA-PACIFIC FOREST INDUSTRIES INC.
AL-PAC PULP MILL PROJECT**

**Decision 2010-612
Application Nos. 1606083, 1606181,
1606200, and 1606265
Proceedings ID. 586 and ID.677**

1 INTRODUCTION

1. This decision report jointly addresses four applications filed with the Alberta Utilities Commission (Commission) in the spring and early summer of 2010:

- a Needs Identification Document (NID) filed by the Alberta Electric System Operator (AESO) under section 34 of the *Electric Utilities Act*;¹
- a power plant filed by Alberta Pacific Forest Industries (Al-Pac) under section 11 of the *Hydro and Electric Energy Act*;²
- a substation application filed by Al-Pac under sections 14 and 15 of the *Hydro and Electric Energy Act*; and
- a transmission facility application filed by AltaLink Management Ltd. (AltaLink) under sections 14 and 15 of the *Hydro and Electric Energy Act*.

2. The applications arise from Al-Pac's desire to build and operate an additional 30-megawatt (MW) power plant on its pulp mill site located approximately 50 kilometres (km) northeast of the Town of Athabasca and 200 km northeast of Edmonton. The fuel source for the proposed power plant is renewable organic waste product from its pulp operations.

3. The pulp mill was constructed in 1992 and is connected to the Alberta Interconnected Electric System (AIES) via a 25-kilovolt (kV) distribution line currently owned by FortisAlberta. The pulp mill has two steam turbine generators that produce up to 63-MW of electric power to serve Al-Pac's internal load of approximately 54-MW, with the surplus power exported to the AIES via FortisAlberta's 25-kV line for sale in the electricity wholesale market in Alberta. Al-Pac also utilizes a 13-MW gas turbine generator for stand-by purposes to supplement the approximate 5-MW available from FortisAlberta's 25-kV line.

4. Al-Pac intends to use the electricity generated by the proposed 30-MW power plant primarily to sell power into the electricity wholesale market in order to earn revenue. However, the existing 25-kV distribution line is not capable of transmitting the additional energy expected to be produced from the proposed power plant, and a new 138-kV transmission line is needed to connect to the AIES. Al-Pac has requested and accepted an Interconnection Proposal from the AESO to receive 138-kV transmission service from AltaLink via a newly proposed transmission line.

¹ SA 2003, Chapter E-5.1

² RSA 2000, Chapter H-16

5. The proposed transmission line will also provide a reliable source of power in the event that the mill's own internal sources of power go down and a cold start of operations is required. Al-Pac presently relies on an aging 60 year old-gas fired turbine to provide this function. A new substation at the mill site is also required to receive the 138-kV transmission service from AltaLink and to step down the voltage to 13.8-kV to serve the pulp mill.

6. In addition to Al-Pac's need to connect to the AIES, the AESO has also identified the need for more transmission capacity in the Athabasca region to meet longer term forecasts for load growth.

7. The Commission will consider these four integrated applications collectively with more discussion on AltaLink's proposed 138-kV transmission line project because a public hearing was held specifically for that application. The Commission received interventions from three landowners in response to a Notice of Applications that was issued on July 29, 2010. The notice was mailed to more than 300 potentially affected occupants, residents, and landowners within 800 metres (m) of the proposed transmission facilities and 2000 m from the proposed power plant. A Notice of Hearing for the four applications was issued on September 20, 2010 for a November 23, 2010 hearing date and sent to the same list of potentially interested parties.

8. The Commission ruled on formal motions brought by the AESO, AltaLink and Al-Pac which dealt with the interest and/or standing of the three interveners in the applicants' respective applications. In response to these applications or coincidentally with them, two of the interveners withdrew their objections to all four of the applications before the start of the public hearing. The Commission ruled that the AESO's NID application and Al-Pac's power plant and substation applications would not be considered at the scheduled public hearing, rather, the Commission would consider those applications on the basis that there were no objections and issue a decision report in due course. The Commission confirmed that one of the landowners, Mr. Wayne Adams, had standing in AltaLink's transmission line application and reaffirmed that a public hearing would be held to consider only that application.³

9. The hearing commenced on November 23, 2010, at 9:00 a.m. at the New Western Athabasca Inn, in the Town of Athabasca and lasted one day. Commission member Anne Michaud presided. The Commission considers that the record of the proceeding closed on November 24, 2010 when an outstanding undertaking of Mr. Adams was filed by his counsel.

10. In this decision report, the Commission will first discuss and determine the unopposed applications: the AESO's NID application and Al-Pac's power plant and substation applications. The consideration of these applications, as well as AltaLink's transmission application, takes place in the context of thorough regulatory requirements and detailed information filed in support of the applications. For example, the power plant, substation and transmission line applications must meet the informational and other requirements set out in the *Alberta Utilities Commission's Rule 007 Applications for Power Plants, Substations, Transmission Lines and Industrial System Designations (Rule 007)* and *Alberta Utilities Commission's Rule 012 Noise Control (Rule 012)* as well the information requirements or notification to provincial agencies such as Alberta Environment. *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

³ Exhibit 130 Letter Ruling from Commission, dated November 18, 2010, Proceeding ID. 586, Application No. 1606181

topics such as technical and functional specifications, public consultation, environmental impacts, noise assessments, route selection criteria and the cost of the proposed project.

11. *Alberta Utilities Commission's Rule 007*, in conjunction with section 34 (1) of the *Electric Utilities Act* and section 11 of the *Transmission Regulation*,⁴ also sets out the requirements of NID applications. In *Rule 007* there are 13 background and technical requirements that should be addressed including information on the current and future operation of the existing transmission system, system performance, circuit configuration, comparison of alternatives including rationale for recommending preferred option, and cost breakdowns.

12. The Commission has reviewed and considered the unopposed applications, as well as the contested transmission line application, in light of these regulatory requirements, which the applicants have met. The Commission's consideration of each of the unopposed applications follows. Consideration of AltaLink's contested transmission line application begins after the unopposed applications are dealt with and is lengthier.

13. The Commission has reviewed all the evidence filed in all of the applications or taken at the transmission line hearing, as well as argument and reply in that proceeding. Any references to specific parts of the record of any of the applications are intended to assist the reader in understanding the Commission's decision report, but should not be taken as an indication that the Commission did not consider the entire record as it relates to that issue.

2 THE UNOPPOSED APPLICATIONS

2.1 The AESO's NID Application No. 1606083

14. The AESO filed Application No. 1606083, on April 13, 2010, with the Commission pursuant to section 34 of the *Electric Utilities Act*. This application sought the approval of the NID for reinforcing and enhancing the transmission system in the Athabasca region in order to ensure the reliability of the system access service to the Al-Pac pulp mill.

15. The AESO, using load forecast and generation assumptions, including a proposed power plant addition at the Al-Pac pulp mill, tested the Athabasca region transmission system for acceptable performance and to determine present and future adequacy. This analysis identified capacity constraints and conditions that affect the operation, safety and reliability of the transmission system in the Athabasca region. Reinforcement and enhancement were required to ensure adequate capacity and compliance with the AESO's Transmission Reliability Criteria.

16. The AESO evaluated two alternatives for the reinforcement and enhancement of the transmission system. Its preferred solution contemplated a single circuit radial connection from the nearest point of connection, either the Flat Lake 242S substation, Waupisoo 405S substation or via a tapped connection from circuit 633AL.⁵ The AESO estimated that the proposed connection of the Al-Pac pulp mill to the AIES required the construction of approximately 28 km of 138-kV transmission line from a new terminating station at Al-Pac's mill to existing circuit

⁴ AR 86/2007

⁵ The 138-kV transmission line from Flat Lake 242S substation that taps onto the existing 138-kV transmission line 633L is licenced as 728AL. The AESO and AltaLink refer to the 728AL transmission line as 633AL in their applications. For consistency and clarity the 728AL transmission line is referred to as 633AL in this document.

633AL transmission line south of the existing Flat Lake 242S substation. The transmission line would utilize a single 266.8 kcmil ACSR⁶ conductor and a single optic fiber ground wire. The estimated transmission cost for the preferred alternative was \$17 million +20%/-10%, in 2010 dollars, with Al-Pac paying \$14 million and the AIES paying \$3 million.

2.2 Al-Pac's Substation Application No. 1606200

17. Al-Pac filed Application No. 1606200 on May 13, 2010, with the Commission requesting a permit and licence to construct and operate a new 138/13.8-kV substation, the Grassland 282S substation, within its pulp mill site located in the northeast quarter of Section 29, Township 68, Range 19, West of the 4th Meridian. The proposed substation would house a 138-kV/13.8-kV transformer and a 138-kV circuit breaker and accept service from the proposed AltaLink 138-kV transmission line 796L from the Waupisoo 405S substation. The location of the proposed substation and a portion of AltaLink's proposed transmission line are shown on a map provided by Al-Pac and reproduced in Figure 1: Al-Pac Power Plant And Substation Location (Figure 1) at the end of this decision report.

18. The substation application was made pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*.

2.3 Al-Pac's Power Plant Application No. 1606265

19. Al-Pac filed Application No. 1606265 on June 4, 2010 with the Commission requesting a approval to construct and operate a 30-MW condensing steam turbine generator, pursuant to section 11 of the *Hydro and Electric Energy Act*. Al-Pac has decided to construct another generator because surplus steam production capacity exists at its pulp mill. The proposed steam turbine generator would be added to the existing three generating units at the mill site located at LSD 4, Section 32, Township 68, Range 19 west of the 4th Meridian. The location of the proposed steam turbine generator within the Pulp Mill site is also shown in Figure 1 at the end of this decision report.

20. The new and existing generating units will meet Al-Pac's electricity needs and surplus electricity will be sold into the electric wholesale market through the AIES.

2.4 Public Notification and Consultation

21. The AESO, AltaLink and Al-Pac made a joint, cooperative effort to inform and consult with those persons, communities and other interested stakeholders who might be affected by their respective applications. AltaLink led this public participant involvement program which is generally described below. A more detailed discussion of public consultation related to AltaLink's transmission application and the intervention of Mr. Adams is found later in this decision report.

22. Occupants, residents, and landowners within 800 m of the proposed transmission line right-of-way or substation boundaries were identified through title searches and provided with information packages. Other interested stakeholders, including First Nations, municipal and provincial government agencies, industry and non-government organizations, were also notified. AltaLink acted on behalf of the AESO providing interested parties with information about the need for the new transmission line and substation in the Athabasca and Lac La Biche areas. Al-

⁶ Kcmil means thousand circular mil aluminum conductor steel reinforced

Pac and AltaLink also worked together to provide stakeholders with pertinent information and material showing how the different parts of the overall transmission project worked together. The information package also included contact information, project location and description, and maps showing the location of the proposed transmission facilities. Personal consultation with occupants, residents and landowners on, or directly adjacent to, the proposed project development was also conducted as well as a public open house in Atmore, Alberta.

23. Al-Pac's notification on its power plant application consisted of a package of project information that was sent to an established list of all residents located within 5000 m of the pulp mill site and other interested organizations, parties and agencies. Al-Pac has used this method of communication in the past to announce and discuss changes to the pulp mill's operations. The material included an outline of its current and future development plans, questions and answers about specific aspects of the power plant operation and impacts such as location of the new generator and condenser, changes to emissions, fog, noise, safety and visual changes.⁷

24. Al-Pac received numerous responses from the mail-out and responded to inquiries. Many of the questions or comments related to the proposed transmission project. As noted elsewhere in this decision report, three land owners objected to the overall project, one of whom directed objections specifically to the power plant. No outstanding objections to the power plant remained by late November, 2010.

2.5 Environment

25. The main environmental impacts associated with the proposed power plant, substation and transmission projects include power plant atmospheric emissions, power plant and substation equipment noise, and transmission line rights-of-way clearing, construction, and maintenance. The environmental impacts associated with the construction and operation of the proposed transmission line are discussed in more detail later in this decision report under Section 4 AltaLink's Transmission Facility Application No. 1606181. Al-Pac's consultant prepared an environmental impact statement which was required by Natural Resources Canada, a federal government department, because Al-Pac will be receiving , approximately \$60 million from the federal government to build the proposed power plant and related infrastructure. The report describes the various environmental impacts that would be created by the project and the efforts that Al-Pac will employ to mitigate the impacts.⁸ Other reports include an air dispersion study and a noise impact assessment.⁹

26. One impact is the increase in atmospheric emissions caused by the increase in combustion of wood product required to produce more electricity from the new generator. Emissions will also increase because incremental supplies of waste wood will be trucked in from other locations and additional emissions will be produced by the vehicles. However, Al-Pac submitted that there will be environmental benefits such as reduced greenhouse gas emissions resulting from the elimination of the decay of waste wood. Decaying wood produces methane and other greenhouse gases. Another benefit is the displacement of generation of electricity from sources that have a higher greenhouse gas intensity like coal and natural gas.

⁷ Exhibit 28, Participant Involvement Program, Proceeding ID. 677, Application No. 1606265

⁸ Exhibit 28, Environmental Impact Statement, Proceeding ID. 677, Application No. 1606265

⁹ Exhibit 27, Air Dispersion Study of Alberta Pacific's Source Emissions, Proceeding ID. 677, Application No. 1606265, and Exhibit 33, Noise Impact Assessment Proceeding ID. 677, Application No. 1606265

27. Al-Pac confirms that the emissions will comply with the current Alberta Source Emission Standards and proposed emission levels will be within existing Alberta Environment approvals. There will be no incremental land disturbances, as the proposed power plant and substation will be within the existing pulp mill site and there will be no surface water impacts created by the proposed power plant.

28. There is some background related to the issue of noise. On March 10, 2010 Al-Pac filed an application with the Commission for approval to use the Class A2 adjustment when preparing its noise impact assessment for the power plant development on its site under the Commission's *Rule 012*. The application was registered as Application No. 1605948, Proceeding ID. 539. In Decision 2010-265, the Commission approved Al-Pac's application to use the Class A2 adjustment in the preparation of the noise impact assessment for the proposed power plant, as it applies to the permissible sound level at the receptor dwelling located 1900 m southeast of the proposed development. The approved Class A2 ambient adjustment increased the normal 40-decibels permissible sound level by 8 decibels, resulting in a permissible sound level of 48-decibels both daytime and nighttime.

29. After the Commission's approval of the A2 adjustment, Al-Pac retained a noise consultant to conduct a noise impact assessment for the Al-Pac pulp mill plant including the sound levels from the proposed power plant expansion and substation. The study, which was prepared in June 2010, was conducted in accordance with *Rule 012*. The results of this assessment indicated that the predicted sound levels of the existing facilities, the proposed power plant and substation, and including ambient noise, would be 44-decibels, which is less than the permissible sound level of 48-decibels approved by the Commission in this case. The Al-Pac pulp mill, including the proposed expansions, is expected to comply with the Commission's noise standard.

2.6 Other Approvals

30. Al-Pac indicated that Alberta Environment has confirmed that the existing approvals, issued to Al-Pac under the *Environmental Protection and Enhancement Act*¹⁰ are adequate for the addition of the proposed steam turbine. Clearance under the *Historic Resources Act*¹¹ is not required because the proposed expansion will be located within the existing Al-Pac pulp mill site and no new land will be disturbed.

3 FINDINGS ON THE UNOPPOSED APPLICATIONS

3.1 The AESO's Needs Approval Document Application No. 1606083

31. The AESO applied under section 34 of the *Electric Utilities Act* for an approval of a NID application to interconnect the proposed Al-Pac power plant and substation to the AIES. This application is required where a need for expansion or enhancement to the provincial power grid is necessary. Approval is required before the assigned transmission facility owner may apply to construct and operate the specific transmission facility to meet the approved need. Under section 15 (4) of the *Hydro and Electric Energy Act*, the two applications may be considered jointly. That is the case here.

¹⁰ RSA 2000, Chapter E-12

¹¹ RSA 2000, Chapter H-9

32. Under section 38 (e) of the *Transmission Regulation*¹², the Commission must consider the AESO's assessment of need to be correct unless an interested person satisfies the Commission that the AESO's assessment is technically deficient or that approval of the NID would not be in the public interest. No interested person has objected to the AESO's application. Accordingly, the Commission finds that the AESO's assessment of need is correct and approves the NID application.

3.2 Al-Pac's Power Plant Application No. 1606265 and Substation Application No. 1606200

33. The Commission, under section 17 of the *Alberta Utilities Commission Act*, shall in addition to any other matters it may or must take into account, consider whether the proposed project is in the public interest having regard to its social and economic effects and its effect on the environment.

34. The Commission accepts that there will be increased economic activity, both initially and over the long term, associated with the construction and operation of the power plant and substation. In particular, the sale of excess electricity into the Alberta wholesale market will provide Al-Pac with another source of revenue in difficult economic times for the forest industry in Canada.¹³ The Athabasca region, its municipalities, businesses and residents will benefit from this economic activity.

35. The Commission finds that the environmental evidence submitted by Al-Pac demonstrates that a minimum level of impacts will be created by the addition of a 30-MW power plant and substation, primarily because the new facilities will be situated at the existing Al-Pac mill site, a large industrial operation which has already disturbed its immediate environs. Additional air emissions caused by the increased combustion of wood waste and truck traffic are balanced by a decrease in green house gases emitted from decaying wood and a new source of green power displacing what might otherwise be power fueled by more carbon intense sources like coal and natural gas. The emissions are within the current Al-Pac approvals and will continue to meet Alberta Environment's Source Emission Standards.

36. The Commission finds that a noise impact assessment demonstrating compliance with the Commission's noise standards is also satisfactory. The assessment included the sound levels of the existing facilities, the proposed power plant, the proposed substation, and included ambient noise. The assessment indicates that the predicted sound level would be 44-decibels, which is less than the permissible sound level of 48-decibels approved by the Commission in this case.

37. Taking into account all the circumstances of Al-Pac's applications for a power plant and substation, the Commission finds that the two applications are in the public interest and approves the applications.

4 ALTALINK'S TRANSMISSION FACILITY APPLICATION NO. 1606181

4.1 Nature of the Application

¹² SA 2007, Chapter A-37.2

¹³ Transcript, Volume 1, page 120, lines 2-25; page 121, lines 1-25; page 122, lines 1-9

38. As stated earlier in this decision report, AltaLink's transmission facility Application No. 1606181 is an integral part of the Al-Pac project to build a new power plant on its mill site. The existing distribution lines connected to the mill are not capable of transmitting the surplus power expected to be produced from the proposed 30-MW power plant. The proposed 138-kV transmission line would also provide a dependable source of power to cold start mill operations should power be interrupted.

39. In addition to Al-Pac's need for the 138-kV transmission line, the AESO has also identified the need for more transmission capacity in the Athabasca region to meet longer term forecasts for load growth in the region.

40. AltaLink filed Application No. 1606181 on May 5, 2010, requesting a permit and licence to construct and operate transmission line 796L from the existing transmission line 633AL to a new proposed Al-Pac-owned Grassland 282S substation, and alter the existing Waupisoo 405S substation. The application was made under sections 14, 15 and 18 of the *Hydro and Electric Energy Act*. AltaLink proposed to:

- construct approximately 32 km of new single circuit 138-kV transmission line 796L from the existing 633AL transmission line to a new proposed Al-Pac-owned substation (Grassland 282S substation, to be located at Al-Pac's mill site in 10-29-68-19-W5M);
- consolidate a segment (approximately 550 m) of existing 633L transmission line with the new transmission line 796L on the same structures from Waupisoo 405S substation to the existing tap point on the 633AL transmission line;
- re-number a segment of 633AL transmission line from the tap point on the new transmission line 796L to existing Flat Lake 242S Substation as transmission line 796AL; and
- alter the existing Waupisoo 405S substation by adding one new 20-megavolt amperes reactive capacitor bank with one 138-kV breaker, and one new 138-kV circuit breaker for the new transmission line 796L.

41. The Commission finds that the transmission development as applied-for by AltaLink will satisfy the need as identified by the AESO in the NID.

42. The proposed route, described as Route B, is shown on a map provided by AltaLink and reproduced in Figure 2: Transmission Line Route (Figure 2) at the end of this decision report. Route B travels approximately 13 km in a westerly direction from a point south of the Flat Lake 242S substation and turns north for 19 km terminating at the Al-Pac pulp mill site. The route consists of private lands, crown lands, existing road right-of-ways and unopened road allowances. Double circuit structures, with a conductor strung on one side of mostly single poles, characterizes the east-west section of the line. These structures can accommodate the stringing of a second conductor when expansion in the region is necessary. On the north-south portion of the proposed line, single circuit structures would be built, both single and two pole.

43. The average structure height along the 32 km length of the proposed line is 17-20 m with structures up to 27 m tall at road, rail and highway crossings. Spans between structures would average 120 m.

44. AltaLink's application and attachments contain detailed information in support of the application and its applied-for Route B. The application meets the informational and other requirements set out in *Rule 007* as well as the information requirements and notification to several other provincial, federal and municipal agencies or departments i.e. Alberta Environment, Alberta Culture and Community Spirit, County of Athabasca, Navigation Canada.

4.2 Public Notification and Consultation

45. AltaLink's public participant involvement program commenced in November 2009 and for Mr. Wayne Adams, as discussed later in this decision report, continued until late November 2010. In November 2009, over 300 occupants, residents, landowners within 800 m of the proposed right-of-way were provided with notice of the transmission project through a stakeholder information package which included pertinent information about the nature of the transmission line and its location, maps, projected schedule for regulatory filing, and proposed construction timing. An open house held in Atmore, a hamlet located 54 km east of the Town of Athabasca on the shore of Charron Lake, provided additional information about the project and knowledgeable AltaLink staff to answer questions. Throughout the period from November 2009 to April 2010, AltaLink initiated discussion by telephone or in person with individual occupants, residents, and landowners whose property was adjacent to or on whose land the line was to be located. AltaLink also talked to those persons who contacted it directly. In April 2009, a letter updating the project's status was sent to the same list of interested persons.¹⁴ The letter set out the preferred and alternative routes being proposed by AltaLink.

46. The main issues identified by occupants, residents, and landowners through the consultation were electric and magnetic fields (EMF); visual impacts; agricultural impacts; television and radio interference; and tree trimming. AltaLink provided pertinent information and discussed these issues with individuals throughout the course of its public consultation and, in the Commission's view, for the most part, landowner's concerns were dealt with satisfactorily. As mentioned earlier, three landowners filed objections to the proposed transmission line with the Commission but by the time the hearing started on November 23, 2010, two had withdrawn their objections.

47. Throughout the same time period, a similar program of notification and/or consultation took place with interested government departments and agencies including: Alberta Environment, Alberta Sustainable Resource Development, the County of Athabasca, individual oil and gas companies operating in the region, Alberta Energy Corridor Initiative (energy industry and local government initiative to reduce multiple corridors on landscape), utility companies, and non-government organizations such as Ducks Unlimited Canada. No relevant agency, municipality, government department, company or other organization objected to the project.

48. Subject to the discussion that follows under Section 4.4 Siting of this decision report, the Commission finds that the participant involvement program as summarized above was thorough, relevant, inclusive and effective. A large number of interested stakeholders within 800 m of the proposed transmission line right-of-way or substation boundaries were part of the notification and consultation efforts, relevant issues were raised and answered, and extensive project

¹⁴ Exhibit 29, Letter from AltaLink, dated April 5, 2010, ID Proceeding No. 586, Application No. 1606181

information was provided by AltaLink. Further, changes were incorporated into the transmission line proposal to meet individual landowner concerns.¹⁵

4.3 Environment

49. AltaLink's approach to environmental impacts caused by its proposed Route B is outlined in its application.¹⁶ Additional environmental evidence about the proposed transmission line's impact is found in an environmental impact statement filed in Al-Pac's application.¹⁷ The report was required by Natural Resources Canada, a federal department, because Al-Pac will be receiving funds from the federal government to build the power plant. The lands impacted by the transmission project are described as a rural landscape consisting of agricultural fields, forested areas and peatlands.

50. AltaLink reviewed several sources of environmental information in order to identify features relevant to route planning or construction of the line. These included aerial photographs, existing literature, its own data base dealing with species at risk and government data bases such as the Fisheries and Wildlife Management Information System and the Alberta Conservation Information Management System. AltaLink's staff or contractors also personally inspected the lands under consideration for the route.

51. 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 clearing right-of-ways (tree removal, protection of nesting birds, aquatic protection) and construction in wetlands (spanning riparian habitats, winter construction, placing structures outside wetlands, avoiding conductors being dragged along bed of water bodies).

52. In its application, AltaLink also provided evidence regarding species at risk. Several provincially or federally listed species may occur in the vicinity of the proposed transmission line, but impacts to these species are seen to be minimal given the amount of previously disturbed land that AltaLink's right-of-way would follow, the confinement of construction and maintenance activities to right-of-ways or existing trails and roads and winter construction. For birds that may be at risk and for other avian species, AltaLink would install line markers on the overhead shield wire at locations where collisions with transmission lines may occur.

53. The Commission notes that AltaLink provided relevant project information to Alberta Environment and Alberta Sustainable Resource Development, the two provincial government departments most involved in environmental matters. These departments have not expressed any concerns about the identified environmental impacts or the measures that AltaLink will take to mitigate the impacts. No other interested parties or interveners objected in a concerted way to any of the environmental issues described in the application or raised independently.

¹⁵ Exhibit 52, Transmission Interconnection Application, Proceeding ID. 586, Application No. 1606181, paragraph 93

¹⁶ Exhibit 52, Transmission Interconnection Application, Proceeding ID.586, Application No. 1606181, pages 29-32

¹⁷ Exhibit 28, Environmental Impact Statement, Proceeding ID. 677, Application No. 1606265

54. The Commission finds that AltaLink has properly identified potential and real environmental impacts associated with its Route B and will implement effective mitigation activities to satisfactorily reduce these impacts. On the whole, the environmental impacts are low because approximately 80% of Route B is within road allowances or road right-of-ways.

4.4 Siting

55. It is trite to observe that most disagreements around transmission lines and their impacts ultimately reduce to siting: there is or is not a better location for the line. AltaLink argues that it has selected the route which, overall, most effectively minimizes the many impacts that the construction and operation of long transmission lines create. Mr. Adams takes the contrary view that fewer impacts exist on alternate routes such as Route A or routes not examined by AltaLink.

56. AltaLink took into account the principles and guidelines set out in Alberta Environment's *Guide for Transmission Lines and Conservation and Reclamation Informational Letter (C&R/IL/95-2)* as well as the requirements contained in the Commission's *Rule 007*. These may be summarized as: proximity to nearby residences, impact on agricultural activities, environmental impacts, utilization of existing corridors, and opportunity to consolidate current and future electrical facilities.

57. AltaLink examined a number of possible routes in the region, settling on five for serious consideration. These were Routes A, B, E, F and G respectively, in AltaLink's application.¹⁸ Routes E, F and G were rejected because AltaLink rated their adverse environmental and agricultural impacts greater than the other two routes. The remaining Routes A and B compared favourably on environmental (there were marginally more environmental impacts on Route B) and agricultural impacts, and both routes utilized unopened and existing road allowances and quarter section lines paralleling existing linear disturbances. AltaLink testified that there were pinch points along Route A where residences were located within 150 m of the proposed line resulting in objections from the owners. No landowners within 150 m of the line on Route B objected.

58. AltaLink selected Route B as its preferred and applied for route because, unlike Route A, it impacted fewer residences (5 versus 7) within 150 m of the transmission line, would accommodate a second circuit on its 13 km east-west section where system expansion was forecast, and would result in fewer costs and disruption of existing electrical distribution lines located on the route. It also argued that a significant corridor, consisting of the 19 km paved Al-Pac Connector Road and rail line to the Al-Pac mill, already existed on the north-south portion of Route B and utilization of this linear disturbance complied with industry, provincial and municipal planning principles. AltaLink noted that the County of Athabasca supported Route B for this reason.

59. Mr. Adams objected to Route B. He purchased the land, legally described as the North-east Quarter of Section 1, Township 67, Range 19, West of the 4th Meridian, in January, 2010 after he and his wife had looked at a number of locations in Alberta and Saskatchewan for the construction of their retirement home. They were struck by the beauty of the land, in particular,

¹⁸ Exhibit 52, Transmission Interconnection Application, Proceeding ID. 586, Application No. 1606181, page 25, Table 6-1; page 27, paragraph 130

the sloping boreal forest to the south of the property, giving an arching view of over 2000 acres of Crown land.

60. Mr. and Mrs. Adams intended to build a house and a separate 800 square foot elevated recreational structure, the latter looking south over the land as it fell away from the higher ground of their property. The recreational building would house a sauna, a hot tub and entertainment equipment. The expansive vista was one of the primary reasons that the Adams bought the land.

61. Mr. and Mrs. Adams lived in Fort McMurray at the time of the purchase. They did not know that part of a 138-kV transmission line was being proposed at a location approximately 800 m to the south of their land. A pivotal corner structure or pole some 17-20 m tall would be placed in the direct line of sight from their future recreational facility. Mr. Adams stated that had he known, he would not have acquired the land.

62. Mr. Adams testified that upon purchase of the property he set about to obtain the necessary construction permits from the County of Athabasca and that by the summer of 2010, he had built a driveway to the side of the house, cleared trees for the yard, contoured the site, and excavated the ground for the foundation. He had also cleared trees in the southern part of the lands for the eventual construction of the recreational facility.

63. He stated that he first learned of the proposed transmission line in April 2010 when he received a letter or other material from AltaLink which showed that Route A was the preferred route. Mr. Adams was not concerned because the nearest part of Route A was located several kilometres to the east of his lands and did not impact his view. He testified that in August 2010, he received written information from AltaLink showing that Route B was now the preferred route. On August 15, 2010 he filed his opposition to the project with the Commission and stopped work on his land.

64. At the hearing, Mr. Adams did not have the letter or package or material that he remembered receiving from AltaLink in August 2010, showing that Route B had become the preferred route. Nor was any document dated April 2010 showing Route A as the preferred route filed by either AltaLink or Mr. Adams. Through his counsel, he undertook to search his records at home for the notification documents which he understood had shown Route A as the preferred route and then in August had shown Route B as the preferred route. AltaLink's evidence was that it had never showed Route A as its preferred route in any of the information sent or communicated to Mr. Adams or to the hundreds of other interested parties. By letter dated November 24, 2010, Mr. Adams' counsel advised that Mr. Adams was unable to find the documents that he thought he had received from AltaLink.

65. The Commission accepts AltaLink's evidence that in its public consultation materials and in its dealings with Mr. Adams, Route B was always its preferred route.

66. The Commission's finding on this point does not detract from the basic nature of Mr. Adam's objection: a better route, for example Route A, should have been selected because the preferred route, Route B, created greater environmental and other impacts on a greater number of residences. The specific impact on Mr. Adams was the obstruction of his viewscape with the consequent loss of the enjoyment of his lands and the value of his property. The Commission

accepts that the visual impact of transmission lines on landowners living nearby is a common and genuine concern.

67. AltaLink's evidence ranked this issue as one of the top five concerns expressed by landowners contacted by AltaLink.¹⁹ In response to such concerns, AltaLink, where possible, will realign the transmission line so it is less visible to residences and consult with landowners in order to determine the placement of the transmission structures along the centre line of the right-of-way. AltaLink's witness testified that it attempts to mitigate the visual impacts for those residences which are located within 150 m of a 138-kV transmission line because those residences would likely experience the largest potential impact. AltaLink also stated that it also takes into account the impact of its transmission lines on residences that are located more than 150 m from the line when landowners object to the obstruction of their views. This factor is weighed along with the many other considerations that are reviewed during the route selection process.²⁰

68. AltaLink acknowledged that its proposed corner structure 800 m to the south of Mr. Adams' property would be visible in the background of his view because the sight line from the Adams' elevated recreational facility would be looking over the forest canopy unimpeded by any natural visual obstructions.

69. The Commission heard evidence from Mr. Adams and AltaLink at the hearing that a proposal was made by AltaLink, albeit only days before the commencement of the hearing, to use a single pole structure of weathered steel (making it look brown) for the corner structure in question. AltaLink testified that this would make the structure a little less visible from Mr. Adams' land. Mr. Adams did not find this proposal satisfactory because the structure would still be visible from his property. Further, he pointed out that there would be ongoing maintenance of the line and on the specific structure, creating additional visual dissonance throughout the year.

70. Based on the application filed by AltaLink, in advance of the hearing Mr. Adams filed a written submission asserting that Route A was superior to Route B for the following reasons:

- Route A had the lowest potential for environmental impacts as assessed by AltaLink;
- Route A had less than half as many residences located within 800 m of the route compared to Route B (16 versus 35) which were subject to the various impacts of the transmission line;
- Route A required less private land for easements than did Route B;
- Route A had only 2 more residences located within 150 m of the line than Route B (7 versus 5); and

¹⁹ Exhibit 52, Transmission Interconnection Application, Proceeding ID. 586, Application No. 1606181, paragraph 93 (electric and magnetic fields, visual, agricultural, tv/radio interference, tree trimming)

²⁰ Transcript, Volume 1, page 26

- Route A was 4 km shorter than Route B resulting in fewer impacts. Mr. Adams also argued that fewer residences were located within 400 m of Route A (8) compared to Route B (16), again demonstrating that more people would be impacted by Route B. His basic contention was that a route that impacted the least number of residences should be selected and that AltaLink should do more work to find such a route.²¹

71. At the hearing, AltaLink amended Table 6-1, on page 25 of its application (Exhibit 52), testifying that it had neglected to include more than 20 residences in the Village of Grassland that were located within 800 m of Route A. Instead of only 16 houses as depicted in Table 6-1 there were actually more than 36 residences within 800 m. AltaLink's witness, Mr. Johns, stated that the residences could be discerned from the aerial strip mosaics in another part of the application but the information was not transferred to Table 6-1.²² Further, AltaLink stated that it had calculated that 11 residences were situated within 400 m of both Route A and Route B. It also argued that the shorter length of Route A did not mean fewer impacts because there were more residences located within 800 m along that route than along Route B.

72. Mr. Adams did not alter his position. He argued that a better route, not necessarily Route A, would reduce impacts on all the landowners along Route A and Route B. In cross-examination of AltaLink's witness, an alternate route was suggested, one which followed an existing pipeline right-of-way diagonally, not along quarter section lines through lands to the east of Mr. Adams' property. AltaLink rejected this alternative as it would disturb privately-owned agricultural lands.²³

73. In two recent decisions, Decision 2009-028 and Decision 2009-049, the Commission has discussed the principles that it takes into account when reviewing a transmission line application. The starting point is section 17 of the *Alberta Utilities Commission Act* which requires that, in addition to any other matters it may or must consider, the Commission shall consider whether the proposed project is in the public interest having regard to its social and economic effects and its effect on the environment. There is no strictly objective measure of what constitutes the public interest in any given set of circumstances, but the public interest standard will generally be met by an activity that benefits the segment of the public to which the relevant 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.²⁴

74. In determining the public interest in this case, the Commission must balance the benefits associated with upgrades to the transmission system with the accompanying adverse impacts that landowners and other land users and the environment will experience along the proposed route. The primary benefit of the proposed transmission line is to allow Al-Pac to transmit electricity from its proposed new generator into the provincial grid for sale in the wholesale electricity market. The Commission heard from both the president of Al-Pac and the Reeve of the County of Athabasca about the importance of the Al-Pac mill to the local and provincial economy, (approximately \$220 million of which \$120 million stayed in the region) and the need for additional revenues in the difficult economic times faced by the Canadian forest industry. A

²¹ Exhibit 124, Submission of Wayne Adams, Proceeding ID. 856, Application No. 1606181

²² Transcript, Volume 1, page 71, lines 7-25; page 72, lines 1-20

²³ Transcript, page 43, lines 22-25; page 44, lines 1-5

²⁴ Alberta Energy and Utilities Board Decision 2001-33, page 6

secondary benefit, important in itself, is the capacity to meet forecasted growth and reliability in the region through the stringing of a second conductor on the structures located in the east-west portion of the proposed route.

75. The adverse effects of a transmission line are undoubted. As stated in Decision 2009-028:

35. When assessing whether AltaLink's proposed route is in the public interest, the Commission must weigh the benefits described above with the site specific impacts that will be experienced by landowners and residents along the proposed route as well as others that may be impacted. The Commission understands that these impacts are real and may be significant. Transmission towers are large structures that may obscure scenery, impact agricultural operations, and may have an influence on land use and development plans.²⁵

76. In addition, there will be environmental impacts on the country side the line passes through.

77. The proposed Route B elicited opposition from landowners but remarkably little. Three people filed interventions and two withdrew their objections as the hearing approached. Mr. Adams' opposition was essentially grounded on the obstruction to his viewscape created by a proposed corner structure approximately 800 m to the south of his property. He would not have bought the property had he known of the proposed transmission line. Mr. Adams also testified that the proximity to the proposed line would decrease the value of the land because potential buyers would have concerns about EMF. Although, given the distance from the transmission line, he testified that he and his family would not be concerned about EMF.²⁶ No independent evidence, in writing or orally, supported his contention that the value of his property would be reduced because of the corner structure or proximity to the proposed transmission line and the Commission finds that this fact has not been established.

78. Although Mr. Adams raised a general environmental concern about the transmission line and Route B, his intervention did not provide any detailed or specific evidence or argument on this type of adverse impact. Accordingly, the Commission accepts the evidence of AltaLink related to environmental impacts and finds that the impacts are acceptable and that reasonable efforts to mitigate the impacts will be implemented by AltaLink as more particularly set out in section 4.3 Environment of this decision report.

79. Mr. Adams' basic contention, which underlay his concern about his own property, was that as few as possible landowners should be affected, and Route B did not accomplish this.

80. The Commission finds that the selection of Route B as the preferred route took into account relevant factors including potential impacts on agricultural operations, residences, environment, distribution lines, route length, easements on private property and views from agencies such as the County of Athabasca. Where landowner and environmental issues arose, AltaLink proposed reasonable steps to mitigate resulting adverse impacts.²⁷ AltaLink made a proposal to Mr. Adams as well, offering to camouflage the structure somewhat by using weathered steel, as well as placing a single pole instead of a more visible double pole.

²⁵ At page 7, paragraph 35

²⁶ Transcript, Volume 1, page 108, lines 15-25; page 109, lines 1-20

²⁷ Exhibit 52, page 17, Table 4-1 for landowner mitigation; pages 29-32 for environmental mitigation

81. Certainly, the number of potentially affected residences along a transmission line is an important consideration in determining whether a proposed route is in the public interest. The Commission finds that Route B will affect fewer residences (5 versus 7) within 150 m of the transmission line than Route A and somewhat fewer number of residences (35 versus more than 36) within 800 m. Route B will avoid the village of Grassland where over 20 residences are located within 800 m of Route A. There is disagreement over the number of residences within 400 m of the two lines. Mr. Adams submits that Route B has 16 and Route A has 8 while AltaLink has calculated 11 residences in both routes. It is not clear to the Commission how either calculation was determined but, in any event, this particular category of residences is not determinative.

82. The Commission accepts, however, that those residences within 150 m of the line will likely experience greater visual and other impacts than those who live within 400 or 800 m away and that fewer of these residences are located along Route B. The Commission considers this an important fact in deciding whether to approve the line. Also important is the fact that no owners of residences within 150 m of the line on Route B have objected while owners within that distance on Route A have objected.²⁸ These circumstances go some distance in balancing any adverse impacts caused by more private land being required for easements in Route B than Route A (7 km versus 3 km).

83. As stated earlier, the number of potentially affected residences along a proposed transmission line, is not the only factor taken into account. The Commission assesses and balances all the impacts associated with any particular route selected by an applicant or advanced by an intervener. Although the agricultural and environmental impacts are approximately the same for both routes, with Route B having marginally more environmental impact than Route A, Route B has advantages that Route A does not.

84. One advantage is that the AESO has identified this alignment for future system expansion.²⁹ The 13 km east-west segment starting at Flat Lake substation will provide flexibility to develop the region's electric system when required because a second conductor can be strung on the proposed 138-kV structures maximizing the use of the right-of-way and minimizing costs, disruption and land use impacts that construction of future stand-alone facilities might cause. This segment of the proposed line is depicted in Figure 2 from B1 to B6 before the line heads north.

85. Another benefit is that the 19 km north-south section, commencing at B6 and terminating at Grassland 282S substation as shown in Figure 2, will be built in an existing transportation corridor where there is currently a major paved road, (the Al-Pac Connector Road and a railway line. This is a significant existing linear disturbance of the land. The transmission line would be located one metre from the edge of the right-of-way within which the road is situated, hence there will be minimum interference with the road and future road improvements. Use of this corridor minimizes the fragmentation and disturbance of the landscape caused by industrial activity and infrastructure and its use is supported by the County of Athabasca and the Alberta

²⁸ Transcript, Volume 1, page 15, lines 1-15

²⁹ Transcript, Volume 1, page 46, lines 18-25; page 47, lines 1-25; page 48, lines 1-25; page 49, 1-16

Energy Corridor Initiative. The Commission endorses this principle and places considerable weight on this feature of Route B.

86. The Commission also finds that Route B is superior to Route A when the disruption of existing electrical distribution lines is considered. There is one kilometre of distribution line that would be disturbed in Route B compared to 11 km of line in Route A. On the portion of Route A going straight north from the Flat Lake 242S substation, there are 11 km of existing distribution lines in the same road allowance as Route A that would potentially have to be re-strung on the transmission structures underneath the transmission conductors, or buried or relocated. This is because landowners along the line do not want the visual impact of two lines paralleling each other on each side of the road. This disruption causes additional expense to the distribution utility as well as to AltaLink, costs that are ultimately passed on to system customers. Only one kilometre of distribution line would be at risk on Route B.³⁰

87. In summary, the Commission finds that AltaLink adhered to relevant criteria in determining possible routes for the proposed transmission line, examined a reasonable number of possible alignments and, for the reasons expressed by the Commission above and in earlier sections of this decision report, selected the route which the Commission finds has the fewest overall impacts and is in the public interest. The Commission also accepts that the transmission development as applied-for by AltaLink will satisfy the need as identified by the AESO in the NID. The Commission approves AltaLink's application and the applied for Route B.

5 DECISION

88. Pursuant to section 34 of the *Electric Utilities Act*, the Commission approves Application No. 1606083 and grants the approvals set out in Appendix 1 – Need Identification Document Approval No. U2010-438 – Needs Identification Document for a new 138-kV-line to reinforce the connection of the Al-Pac pulp mill to the AIES (Appendix 1 will be distributed separately).

89. Pursuant to sections 14, 15, and 18 of the *Hydro and Electric Energy Act*, the Commission approves Applications Nos. 1606181, 1606200, and 1606265 and grants the approvals (U2010-428, U2010-429, U2010-430, U2010-431, U2010-436, U2010-437, and U2010-439) set out in Appendices 2 through 8 (Appendices 2 through 8 will be distributed separately).

³⁰ Exhibit 52, Transmission Interconnection Application, ID Proceeding No. 586, Application No. 1606181, page 25, Table 6-1; Transcripts, Vol. 1, page 72, lines 21-25; page 73, lines 1-25; page 74, lines 1-25; page 75, lines 1-25; page 76, lines 1-25; page 77, lines 1-12

Dated on December 24, 2010.

ALBERTA UTILITIES COMMISSION

(original signed by)

Anne Michaud
Commissioner

FIGURE 2: TRANSMISSION LINE ROUTE

