AUC
Alberta Utilities Commission

Alberta Electric System Operator

Chestermere 419S Substation and Balzac 391S Substation Modification Needs Identification Document Application

AltaLink Management Ltd.

Chestermere 419S Substation and Interconnection Facility Applications

May 26, 2017

Alberta Utilities Commission
Decision 21973-D01-2017

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Proceeding 21973
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1 Decision summary

1. In this decision, the Alberta Utilities Commission must decide whether to approve a needs identification document application from the Alberta Electric System Operator (AESO) and facility applications from AltaLink Management Ltd. (AltaLink) to construct and operate a new Chestermere 419S Substation, connect the substation to the Alberta Interconnected Electric System via two single-circuit 138-kilovolt (kV) transmission lines, and alter the Balzac 391S Substation. After consideration of the record of the proceeding, and for the reasons outlined in this decision, the Commission finds the AESO's assessment of the need to be correct and finds that approval of the facility applications is in the public interest, having regard to the social, economic, and other effects of the project, including its effect on the environment. The Commission approves the preferred substation location, Site E.

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

2 Introduction and background

3. The AESO filed an application with the Commission, pursuant to Section 34 of the *Electric Utilities Act*, seeking approval of the need to alter the existing Balzac 391S Substation and to construct a new substation in the Chestermere area (the needs application) to supply growing demand for electricity in the Chestermere and Balzac areas at the request of FortisAlberta Inc. (Fortis). The application was registered on September 9, 2016 as Application 21973-A001.

4. AltaLink filed facility applications with the Commission for approval to construct the facilities to meet the need identified by the AESO. The facility applications, filed pursuant to sections 14, 15 and 18 of the *Hydro and Electric Energy Act*, were registered on September 16, 2016 as applications 21973-A002 to 21973-A005.

5. Pursuant to Section 15.4 of the *Hydro and Electric Energy Act*, the Commission combined the needs and facility applications and considered them jointly as Proceeding 21973.

2.1 Needs identification document application (needs application)

6. Fortis, as the owner of electric distribution facilities in the Chestermere and Balzac areas, requested system access service to meet its distribution planning criteria and to serve existing load, committed new load additions and forecasted load growth in these areas. Fortis requested a rate demand transmission service contract capacity increase of 1.4 megawatts (MW) for the system access service provided at the existing Balzac 391S Substation and a rate demand transmission service contract capacity of 43.7 MW for a new system access service in the Chestermere area. The AESO prepared this needs identification document application in response to Fortis' request.

7. As part of its request, Fortis provided a need for development report describing the deficiencies in its electric distribution system and the facility upgrades required to address those deficiencies. A number of 25-kV distribution feeders were predicted to exceed feeder loading criteria, and the back-up capability at the connecting substations did not satisfy restoration criteria. The AESO submitted Fortis' need for development report as part of the needs application.[1]

8. Fortis' need for development report also provided a load forecast table with actual peak load data from 2009 to 2013 and load forecast data from 2014 through 2023. On October 14, 2016, the AESO submitted an updated load forecast table from Fortis which included actual peak load data for the years 2014 and 2015 and load data forecasts to the year 2025. This updated table indicated that there was already an existing N minus one contingency[2] at the Carseland 525S Substation that would leave Fortis with unsupplied load.[3]

9. The needs application stated that the AESO's corporate forecast for the Calgary Planning Region and South Planning Region is consistent with the load associated with the applied-for transmission development.

10. Fortis' need for development report considered four alternatives to address the distribution system deficiencies. The first alternative was load shifting that would rely on back-up distribution feeders from the ENMAX Power Corporation (ENMAX) distribution system. The second alternative was to add source transformers at the ENMAX 24S and 39S substations and the Carseland 525S Substation. The third alternative was a new 138/25-kV substation with one source transformer. However, this alternative would not be sufficient to transfer the entire load away from ENMAX during a contingency event.

11. The first three alternatives all relied on the ENMAX distribution system, which is 30 degrees phase-shifted electrically from the Fortis distribution system, which means that the voltage waveforms of the two systems reach their maximum peak and zero values at different times (i.e., they are not synchronized). When different systems are phase-shifted, they cannot be directly connected unless a phase shifting transformer, which is non-standard equipment, is used to eliminate the phase difference. Fortis was not aware of a distribution solution that would allow two distribution systems with different phase angles to be connected without presenting a safety

[1] Exhibit 21973-X0004.
[2] Failure of one transmission system component.
[3] Exhibit 21973-X0041, Table 2-1, PDF page 4.

risk to utility workers, other than using non-standard equipment.[4] As well, if there was an outage on one of Fortis' distribution feeders, the time to engage an electrically phase-shifted distribution feeder from ENMAX would exceed Fortis' restoration time criteria. These three alternatives were deemed not technically feasible in light of Fortis' equipment standards, which are aligned with current distribution industry standards and practices and Fortis' restoration time criteria.[5]

12. The fourth alternative was considered technically feasible and was selected for further study by the AESO. The proposed transmission development included:

a) Construction of a new 138/25-kV point-of-delivery substation, designated as Chestermere 419S Substation, with two source transformers.

b) Construction of two new 138-kV transmission lines to connect the new Chestermere 419S Substation to existing transmission line 765L using an in-and-out configuration.

c) Alteration of Balzac 391S Substation by adding a new 25-kV circuit breaker.

13. A connection engineering study considered the impact of the proposed development on the Alberta Interconnected Electric System and found that there would be a number of system performance issues under Category B contingency conditions. Real-time operational practices could be used to manage a number of the system performance issues, and the remaining issues could be mitigated by using a remedial action scheme at the Chestermere 419S Substation.

14. Additional studies indicated that upon completion of the developments in the AESO 2015 Long-term Transmission Plan, the use of real-time operational practices and the proposed remedial action scheme would no longer be required to mitigate the identified post-project reliability criteria violations.

15. The AESO worked with AltaLink to carry out a participant involvement program to notify stakeholders of the project. The AESO described the need for the development on its website and an overview of the project need was included with AltaLink's participant involvement package sent to all stakeholders. The AESO was not aware of any concerns or objections regarding the need for the proposed development when the application was filed.

16. The AESO's estimated in-service cost of the proposed development was approximately $21 to $22 million, depending on the location of the proposed substation.[6] There would be no system-related costs associated with the proposed transmission development in accordance with the ISO tariff.

[4] Transcript, Volume 1, pages 124 and 125.
[5] Exhibit 21973-X0008, PDF page 6.
[6] Exhibit 21973-X0001, Needs Identification Document Application, Section 2.3.

17. On August 7, 2015, pursuant to Section 35(1) of the *Electric Utilities Act*, the AESO directed AltaLink to prepare and submit a facility application to the AUC to meet the need identified in the AESO's needs application.[7]

2.2 Facility applications

18. AltaLink's facility applications sought approval for construction of the new Chestermere 419S Substation and connecting 138-kV transmission lines as well as alteration of the Balzac 391S Substation. The details of each application are provided in the following sections.

2.2.1 Chestermere 419S Substation

19. AltaLink applied to construct and operate a new 138/25-kV substation to be designated as Chestermere 419S Substation.

20. The proposed substation site would be 120 metres by 110 metres. The substation equipment would be enclosed within an approximately 73 metres by 60 metres chain-link fence.

21. The substation would have two modular switchgear buildings which can contain six 25-kV breakers each. While the AESO's functional specifications only required 10 circuit breakers, AltaLink proposed to install 12 breakers in the two switchgear buildings, two of which would be non-energized and available for future development.

22. The Chestermere 419S Substation would contain the following major equipment:

- two 138/25-kV, 25/33/42- megavolt-ampere (MVA) transformers
- three 138-kV breakers
- ten 25-kV breakers (plus two non-energized 25-kV breakers)
- one 20- to 30-metre tall telecommunications tower

23. In its application, AltaLink proposed a preferred substation location, Site E, and two alternate locations, sites A and C.

24. Site E, the preferred substation location, was on undeveloped land owned by the City of Chestermere within the city of Chestermere in the southwest quarter of Section 2, Township 24, Range 28, west of the Fourth Meridian (SW-2-24-28-W4 or SW-2 parcel). Site A, an alternate substation location, was on privately-owned, agricultural land in Rocky View County in the northeast quarter of Section 1, Township 24, Range 28, west of the Fourth Meridian (1-24-28-W4). Site C, another alternate substation location, was on privately-owned, agricultural land in Rocky View County in the northwest quarter of Section 8, Township 24, Range 27, west of the Fourth Meridian (8-24-27-W4). The following map shows the proposed and alternate substation locations.

[7] Exhibit 21973-X0015, Appendix C AESO Direction Letters, PDF page 4.

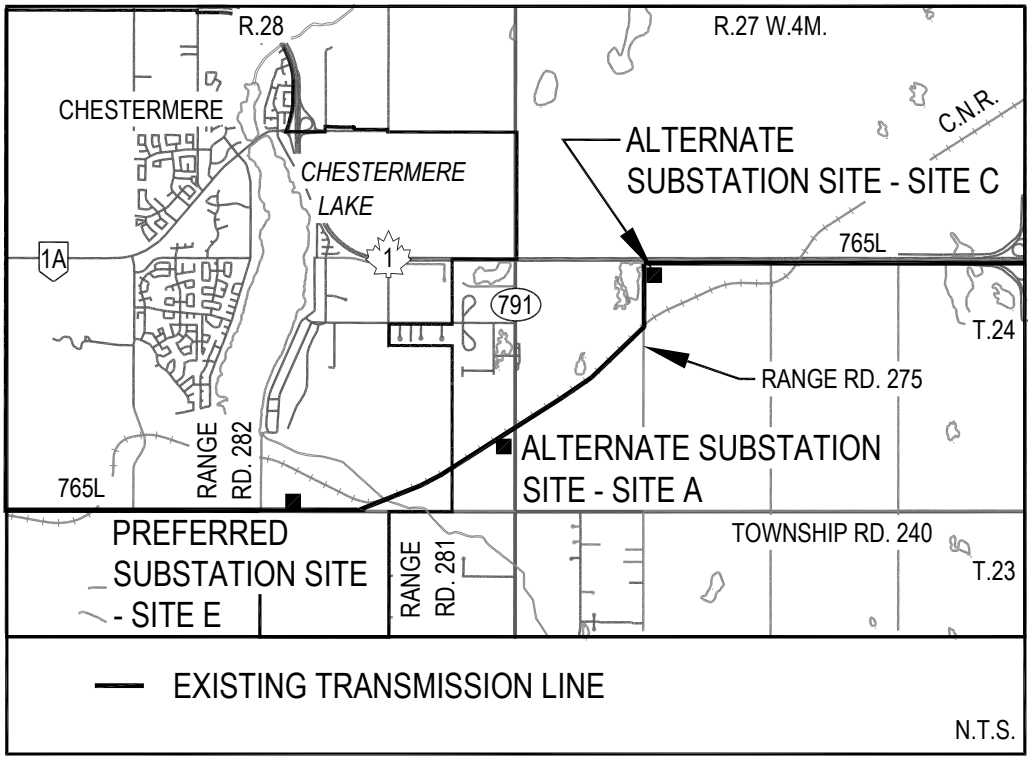

Figure 1 - Proposed and alternate substation locations

25. A steel lattice telecommunications tower is proposed for each site. Ultra high frequency (UHF) communication is proposed to be used at sites A and C; whereas a microwave radio link would be required at Site E. Faster communication is required for Site E because it is closer to the Janet 74S Substation.[8]

26. Access to the proposed substation was also proposed as part of the application. For Site E, the gravel access road was proposed to run north from Township Road 240 to the south side of the substation. For Site A, the gravel access road was proposed to run west from Highway 791 to the east side of the substation. For Site C, the gravel access road was proposed to run east from Range Road 275 to the west side of the substation.

27. Construction of the proposed development was expected to start in April 2018 with an estimated in-service date of September 2018.

2.2.2 138-kilovolt transmission lines 765L and 691L

28. AltaLink applied to construct two single-circuit 138-kV transmission lines from the new Chestermere 419S Substation to existing 138-kV transmission line 765L in an in-and-out configuration.

29. The length of the transmission lines was dependent on the substation location. At Site E, the lines would be approximately 35 metres long. At Site A, the lines would be approximately 75 metres long. At Site C, the lines would be approximately 85 metres long.

[8] Exhibit 21973-X0042, AML IR Responses to AUC (1-5), AML-AUC-2016OCT11-002.

30. The new transmission lines would be strung on single-pole, wood structures. For Site E, all structures would be either located in the road allowance or on AltaLink-owned property. For sites A and C, a 30-metre right-of-way on private land would be required for the portion of transmission line from the new substation to existing transmission line 765L. An easement would be required for the right-of-way required at sites A and C.

31. AltaLink stated it would not require additional workspace for construction of the new 138-kV transmission lines. All workspace would be within the proposed right-of-way and substation site property boundaries.

32. The applications also included the required modifications to existing transmission line 765L to accommodate connection of the new transmission lines. Transmission line 765L runs from Janet 74S Substation to Strathmore 151S Substation and is operated pursuant to Permit and Licence U2012-648.[9] Upon connection of the new transmission lines, the resulting transmission line between the Chestermere 419S Substation and the Strathmore 151S Substation would remain designated as 765L and the transmission line between the Chestermere 419S Substation and the Janet 74S Substation would be redesignated as 691L.

33. Modifications to existing transmission line 765L to accommodate connection of the new transmission lines would include cutting into the existing transmission line, removing a portion of the existing transmission line, and constructing new dead-end structures within the existing transmission line right-of-way.[10] Additionally, guy anchors would be required one metre north of the existing transmission line.[11]

34. Cost estimates for the total development proposed in Proceeding 21973, including construction of the new 138-kV transmission lines and alteration of existing transmission line 765L, were provided in applications 21973-A002, 21973-A003, and 21973-A004. The cost of the entire proposed development is discussed in Section 6.6.

35. Construction of the proposed development was expected to start in April 2018 and the estimated in-service date was September 2018.

2.2.3 Balzac 391S Substation alteration

36. The Balzac 391S Substation, operating pursuant to Permit and Licence U2010-427,[12] is located in LSD 4, Section 2, Township 26, Range 29, west of the Fourth Meridian. The substation is located approximately 20 kilometres northwest of Chestermere.

37. The Balzac 391S Substation alteration would consist of adding a new 25-kV circuit breaker within an existing switchgear building within the existing fenced area of the substation.

[9] Transmission Line Permit and Licence U2012-648, Proceeding 1045, Application 1607067, December 20, 2012.
[10] Transcript, Volume 2, page 309.
[11] Exhibit 21973-X0022, Appendix I Public Stakeholder Information Package, PDF page 33.
[12] Substation Permit and Licence U2010-427, Proceeding 978, Application 1606832, December 21, 2010.

38. Upon completion of the alteration, the Balzac 391S Substation would contain the following major equipment:

- two 138/25-kV, 25/33/42-MVA transformers
- ten 25-kV breakers
- five 138-kV breakers

39. Given that the proposed alteration was within an active substation and did not require an expansion of the existing fenceline, AltaLink stated that no adverse effects to soil or terrain were expected. AltaLink also anticipated no adverse effects on wildlife with the implementation of the mitigation measures outlined in the Environmental Specifications and Requirements document.

40. Notification to stakeholders potentially affected by the proposed alteration at the Balzac 391S Substation was included as part of the participant involvement program for the total development proposed in Proceeding 21973 (see Section 4).

41. The cost of the proposed alteration at the Balzac 391S Substation was included in the cost estimates for the total development which were provided in applications 21973-A002, 21973-A003, and 21973-A004. The cost of the entire proposed development is discussed in Section 6.6.

42. Construction of the proposed development was expected to start in April 2018 and the estimated in-service date was September 2018.

2.3 Process

2.3.1 Notice of applications

43. The AUC issued a notice of application for the developments in Proceeding 21973 on October 12, 2016.[13] The notice was mailed directly to all landowners, residents and occupants within 800 metres of the proposed new developments and within 200 metres of the existing Balzac 391S Substation, as well as government agencies, industry and other interested parties.

44. On December 15, 2016, the Commission held a public information session in Chestermere to provide interested parties with information about how to become involved in the proceeding and explain available funding.

2.3.2 Interventions

45. The Commission received 13 statements of intent to participate from individuals, families, companies and landowner groups in response to the notice of applications.[14] While the majority of statements of intent to participate related directly to the proposed Chestermere 419S Substation site, two of them were related to the AESO's needs application. The Commission did not receive any interventions to the proposed alteration at the Balzac 391S Substation.

[13] Exhibit 21973-X0039.

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

46. On November 29, 2016, the Commission issued a ruling,[15] which granted standing to those persons who had demonstrated that they had rights that may be directly and adversely affected by the Commission's decision on the facility application. Three subsequent rulings were issued on January 10, February 9, and February 21, 2017 granting standing to late-registered persons.[16] Pursuant to Subsection 9(2) of the *Alberta Utilities Commission Act*, the Commission held a hearing to consider the concerns of the registered parties with standing.

2.3.3 Hearing

47. The Commission issued a notice of hearing for Proceeding 21973 on December 6, 2016.[17] A public hearing was held at Chestermere Landing from February 27, 2017 to March 2, 2017 for the needs application and the facility applications. The primary focus of the hearing was the contested need for the new development as well as the proposed Chestermere 419S Substation location.

48. The hearing was held before a Commission panel comprised of Panel Chair Neil Jamieson and Acting Commission Member Kate Coolidge.

49. In response to a request from Commission counsel during the hearing, the Western Irrigation District (WID) submitted a draft dam safety study and a request for confidential treatment of the study with the Commission after the hearing was concluded, on March 3, 2017. The request was subsequently filed on the record of this proceeding on March 31, 2017, and the Commission issued a process letter inviting parties to make submissions as to the WID's request. AltaLink submitted a letter stating that it took no position on the WID's request and the Commission received no other correspondence from parties. The Commission issued its ruling on the confidentiality request on April 28, 2017, which granted confidential treatment to the draft dam safety report and allowed parties to the proceeding access if they filed a confidentiality undertaking. Signed confidentiality undertakings were submitted by Gavin Fitch, Celina Fiedler, Bryan Hunter, Colin Harvey, and Thomas Marriott.

2.3.4 Participants in the proceeding

50. A list of all registered parties in this proceeding, including those who did not appear in person at the hearing, is provided in Appendix A to this decision. A complete list of hearing participants is attached to this decision in Appendix B.

51. The AESO's need determination was opposed by the Office of the Utilities Consumer Advocate (UCA). The UCA was created in 2003 under the *Government Organization Act* and the *Utilities Consumer Advocate Regulation*. The UCA represents the interests of residential, farm and small business consumers of gas and electricity in Alberta. It intervened in the needs application as it was concerned about capital costs for the new developments that would be passed on to consumers.

52. The Industrial Power Consumers Association of Alberta submitted a statement of intent to participate and issued information requests to the AESO but did not participate in the hearing.

[15] Exhibit 21973-X0095.
[16] Exhibit 29173-X0120, Exhibit 21973-X0184, and Exhibit 21973-X0213.
[17] Exhibit 21973-X0098, Notice of hearing.

53. All other hearing participants intervened in the facility applications for the new Chestermere 419S Substation and associated 138-kV transmission lines. AltaLink's preferred substation Site E was supported by the City of Chestermere and opposed by two landowner intervener groups, the WID, Anna Kardash, Philip Paxton, and Ray Blanchard. AltaLink's alternate sites, Site A and Site C, were opposed by the Barrie and Carol Clayton and John and Doreen Knight, respectively. The main issues raised were land use, residential impacts, agricultural impacts, environmental impacts, proximity to Lake Chestermere, and cost.

54. The City of Chestermere (City) is the landowner of preferred Site E and was in favor of Site E due to plans the City has to develop that quarter section for light industrial use. The City had entered into an option-to-purchase agreement with AltaLink. Jean-Marc Lacasse, Manager – Economic Development, appeared at the hearing on behalf of the City.

55. The South Chestermere Group consisted of 10 families who are residential landowners in the vicinity of Site E. Three families reside approximately 500 to 600 metres west of Site E, across Range Road 282. The other seven families reside 750 metres or more away from Site E, to the north, in the Chestermere neighbourhood of Kinniburgh. The group was opposed to Site E as the location for the proposed new substation. Ms. Celina Fiedler appeared at the hearing on behalf of the group. The South Chestermere Group also sat expert witnesses. Mr. Cliff Wallis of Cottonwood Consultants Ltd. gave evidence on comparative environmental impacts of Site A, Site C and Site E. Mr. David Bell and Mr. Justin Barer of Urban Systems Ltd. (Urban Systems) gave evidence on the likely timing of light industrial development on the parcel where Site E is located.

56. The second landowner group opposing to the preferred Site E was the Forster Group which was comprised of siblings Monte Forster, Vicki Worthen and Leslie Bateman who jointly own land, with their parents, that is directly south of Site E, across Township Road 240. Ms. Bateman appeared at the hearing and Ms. Worthen participated through teleconference on behalf of the group.

57. Anna Kardash lives in the Chestermere community of Kinniburgh within approximately 900 metres of Site E. She opposed Site E and submitted a petition with approximately 160 signatures from Kinniburgh residents opposing Site E.

58. Philip Paxton, president of Bablake Ltd., is the owner of property used as a tree farm and residence located approximately 400 metres north of proposed Site E. His parents reside on the property.

59. Ray Blanchard is the owner of land approximately 500 metres west of proposed Site E, across Range Road 282. Mr. Blanchard resides on the property.

60. The WID owns and operates Lake Chestermere as a storage reservoir. WID opposed Site E as the location for the proposed new substation. David McAllister, General Manager, appeared at the hearing on behalf of the WID.

61. Barrie and Carol Clayton own and farm the land where alternate Site A is located. The Claytons were opposed to Site A as the location for the proposed new substation.

62. John and Doreen Knight own and farm the land where alternate Site C is located. The Knights were opposed to Site C as the location for the proposed new substation.

63. Brenden Montgomery, on behalf of Edith Wenzel, submitted a statement of intent to participate in opposition to the proposed development at Site E but did not attend the hearing. Ms. Wenzel is the landowner of property approximately 400 metres west of proposed Site E.

3 Need to respond to a system access request from a market participant

64. In this proceeding, the Commission is considering two aspects of the proposed project: (i) the AESO's assessment of the need for the project; and (ii) AltaLink's applications for the construction of the proposed facilities. The needs and facility applications have been described above. In this section, the Commission will first consider the need for the proposed development.

3.1 Legislation

65. Section 34 of the *Electric Utilities Act* describes the circumstances under which the AESO must file a needs application. In brief, the AESO must file a needs application if it determines that an expansion or enhancement of the grid is required to meet Alberta's needs and is in the public interest, in three circumstances: there is a system constraint or condition affecting performance, a need to improve efficiency, or a request for system access service from a market participant. Under Section 29 of the *Electric Utilities Act*, the AESO must provide system access service in a manner that allows all market participants a reasonable opportunity to exchange electric energy and ancillary services.

66. Section 11 of the *Transmission Regulation* describes the information that the AESO must include in its application. Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments* provides further information requirements for different types of applications, including needs identification document applications, which were filed in this proceeding.

67. Subsection 38(e) of the *Transmission Regulation* requires the Commission to consider the AESO's assessment of need to be correct, unless an interested person satisfies the Commission that the assessment is technically deficient, or that approval of the needs application would not be in the public interest.

68. When making a decision on a contested needs application, Section 34(3) of the *Electric Utilities Act* provides that the Commission has three options. The Commission may approve the application, refer the needs application back to the AESO with directions or suggestions for changes or additions, or refuse to approve the needs application.

3.1.1 Views of the AESO

69. In this proceeding, the AESO responded to Fortis' system access service request described in the needs application section above. Fortis' need for development report identified concerns with the adequacy of existing transmission and distribution facilities in the greater Chestermere area. Fortis confirmed to the AESO that a distribution-only solution would work in the short-term, but that a transmission-based solution was still preferred when medium and long-term requirements were considered.

70. In accordance with Section 38(e) of the *Transmission Regulation*, the AESO submitted that no interested party had demonstrated that the AESO's assessment of the need was either: (i) technically deficient; or (ii) not in the public interest.

71. First, the AESO submitted that the needs application contained all relevant requirements and was technically sufficient, and that no party had demonstrated otherwise. Specifically, the AESO addressed the UCA's submission that the NID12 requirement in Rule 007 had not been met due to outdated load forecast information. Fortis' need for development report only contained forecast data for 2014 and 2015 at the time the needs application was filed.[18] Fortis subsequently provided the actual peak demand for 2014 and 2015, but stated that actual peak demand for 2016 would not be available until the spring of 2017.[19] The AESO filed the updated information on October 14, 2016, more than three months prior to the hearing.[20] The AESO submitted that it was reasonable to interpret the NID12 requirement to mean the last five years of available data, which it provided.

72. Even without updated actuals for 2016, the AESO submitted that the data provided shows that there is an existing criteria violation to be addressed by the proposed transmission development.[21] The AESO submitted that its assessment of the need was thus based on evidence showing an existing need for development in the area, not purely on the need to serve future forecast loads. The AESO also addressed the concern that there were significant variances between the predicted and actual values for 2014 and 2015. The AESO filed correspondence from Fortis stating that the load forecasts for 2014, 2015 and 2016 included contracted load commitments. Because the loads may or may not materialize at the expected rate for any given year, there would be a difference between forecasted and actual values for 2014 and 2015.

73. Second, the AESO submitted that its assessment of the need was in the public interest and was executed consistently with its statutory mandate, and that no party had demonstrated otherwise. The AESO and the UCA disagreed on the interpretation of the AESO's statutory mandate as it related to system access service requests under Section 34(1) of the *Electric Utilities Act*; in particular, the UCA argued that a higher level of scrutiny is required for such requests than the level of review that the AESO undertook. The AESO submitted that a market participant's request for system access service is distinct from the scenarios contemplated in sections 34(1)(a) and 34(1)(b) of the *Electric Utilities Act*, in which the AESO independently identifies a need to expand or enhance the transmission system to address constraints or conditions affecting the operation of the system, or to improve the efficiency of the transmission system. In drawing this distinction, the AESO submitted that with respect to requests for system access service, the AESO "invariably relies on information received by the market participant".[22]

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18 Exhibit 21973-X0004, NID Application, Appendix E – DFO Need for Development Report Turbo Balzac and Chestermere, page 4.
19 Exhibit 21973-X0041, 2016-10-06 Email from AESO to Richard Penn.
20 Transcript, Volume 3, page 634, line 18 and page 635, lines 1-12; Transcript, Volume 3, page 662, line 10 to page 667, line 4.
21 Transcript, Volume 3, page 637, lines 16-18.
22 Transcript, Volume 1, page 629, lines 8-10.

74. The AESO submitted that in order to discharge its statutory duties in respect of a system access service request, it must provide the service within a reasonable timeframe as long as the market participant has met all of the AESO's connection process requirements.

75. The AESO submitted that if it chose to ignore a request for system access service or failed to address the nature and scope of the request, it would be in breach of its duty to provide all market participants with a "reasonable opportunity" to exchange electricity pursuant to Section 29 of the *Electric Utilities Act.* The AESO further stated that its understanding of the "public interest" in the context of Section 34 of the *Electric Utilities Act* was that it was obliged to respond to a system access service request, and it was in the public interest to provide persons with a reasonable opportunity to exchange electric energy.

76. The AESO argued that it was inappropriate for it to second-guess the distribution facility owner's planning decisions and forecasts. It cited sections 105(1)(b) and 105(1)(c) of the *Electric Utilities Act* which provide, respectively, that distribution facility owners are charged with the duties "to make decisions about building, upgrading and improving the electric distribution system for the purpose of providing safe, reliable and economic delivery of electric energy having regard to managing losses of electric energy to customers in the service area served by the electric distribution system" and "to operate and maintain the electric distribution system in a safe and reliable manner."

77. With respect to the review of project costs, the AESO submitted that it does not have a role in reviewing the reasonableness of distribution facility owner costs, in contrast to its role in respect of transmission facility owner cost estimates.[23] It noted the lack of mandate in the *Electric Utilities Act* to review distribution planning decisions and associated cost consequences, and cited a previous Commission decision placing responsibility for providing accurate load forecasting information on the distribution facility owner.[24] The AESO argued that the nature and scope of its consideration of distribution costs in this proceeding was reasonable and consistent with its mandate as the transmission system planner.[25]

3.1.2 Views of interveners

78. The Industrial Power Consumers Association of Alberta expressed concerns with the process for reviewing the forecasted need for development. It noted that while the AESO may have assessed the preferred alternative, impacts of the proposed load on the transmission system, and conducted power flow and stability analysis, there appeared be no assessment of the need for development on the record. The association requested that the Commission review: (i) who establishes the need; (ii) who reviews the need to establish its reasonableness; and (iii) whether it would be appropriate to have the distribution facility owner re-confirm the need prior to the actual construction in order to correctly time the installation of distribution facilities. The association submitted information requests to the AESO but did not participate further in the proceeding.

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[23] Exhibit 21973-X0139, AESO Information Response to the UCA, AESO-UCA-2016DEC23-003, 3(a) and 3(b), PDF pages 17-18; Transcript, Volume 3, page 639, lines 8-25.

[24] Decision 21538-D01-2017, FortisAlberta Inc. 2015 PBR Capital Tracker True-Up, January 26, 2017, paragraph 240.

[25] Transcript, Volume 3, page 639, lines 8-11.

79. The UCA sought to participate on the basis that the construction of new electric transmission lines or upgrades to existing lines would result in increased capital costs, which eventually would be passed on to consumers through rates. The UCA submitted that the AESO's assessment of the need was: (i) technically deficient; and (ii) not in the public interest. The UCA's position was that the Commission should direct the needs application back to the AESO for further consideration.

80. First, the UCA pointed out that the updated load forecast information provided on October 14, 2016 did not include 2016 actuals, and that Fortis' need for development report, as filed, did not include 2014 and 2015 actuals. The UCA submitted that this contravened the NID12 requirement in Section 6.2.1 of Rule 007, given that a needs application is intended to be complete on its face when filed. The UCA's position was that the AESO should have waited to file the needs application until updated load forecast data was available, and its failure to do so contravened Rule 007.

81. Second, the UCA submitted that the AESO applied insufficient scrutiny in assessing the need for the project. The UCA did not dispute the AESO's contention that a request for system access service is distinct from the AESO independently identifying a need to expand or enhance the transmission system, or to improve the efficiency of the transmission system. Instead, the parties differed on what is required in order to discharge the AESO's duties under Section 34(1)(c) of the *Electric Utilities Act* in relation to system access service requests. As a starting point, the UCA submitted that the AESO's legislated responsibility to provide market participants with a "reasonable opportunity" to exchange electricity is not a guarantee that the AESO will provide access.[26]

82. The UCA noted that in Decision 2044-D01-2016, the Commission discussed the cost consequences of certain AESO decisions:

> It is clear that the AESO does not have a mandate to assess the prudence of project costs. This mandate falls squarely within the Commission's statutory authority to set just and reasonable rates. However, **on a practical level, the Commission recognizes that, at key points in the cycle of project development and execution, major decisions by the AESO and TFO, and the cost consequences of these decisions, may become irreversible**. Consequently, given the planning mandate of the AESO and its involvement with the TFO during the facility process from needs identification document (NID) through to energization, it follows that decisions made and actions taken by the AESO will have a bearing – and, quite possibly, a very significant bearing – on the Commission's assessment of the prudence of the TFO's execution of a project.[27] [emphasis added]

83. The UCA argued that the same concern with the cost consequences of the AESO's decisions apply in this case. The UCA argued that it was not clear that the AESO had met its statutory duty to ensure that the project is required to meet the needs of Alberta and is in the public interest, given that it relied on information provided by Fortis without undertaking an

[26] Transcript, Volume 3, page 654, lines 2-4.

[27] Transcript, Volume 3, page 658, lines 10-25 and page 659, lines 1-11, citing Decision 2044-D01-2016, AltaLink Management Ltd. 2010-2011 Direct Assign Capital Deferral Account Audit of Southwest Transmission Project, January 20, 2016.

independent verification of the need for a connection project. The UCA submitted that the AESO could not have objectively satisfied itself that the project was in the public interest based on the level of scrutiny exercised, and that independent verification is particularly important in light of the reverse onus for needs applications in Section 38(e) of the *Transmission Regulation*.[28] The UCA was also concerned that Fortis is subject to a form of cost-of-service regulation because certain projects are subject to capital tracker treatment, outside of the performance-based regulation model currently in place. The UCA submitted that Fortis is incentivized to build a larger rate base upon which to earn a return and therefore the AESO's scrutiny is necessary.

84. The UCA cited the use of forecast information in Fortis' need for development report which was not updated until after the needs application was filed as an example of where the AESO could have exercised greater oversight. The UCA submitted that the AESO had prematurely filed its needs application without updated load forecast information and that the updated information, once filed, showed significant variances between the predicted and actual values for 2014 and 2015. The UCA submitted that these variances should have prompted the AESO to reconsider the continuing need for the project.

85. The UCA asked the Commission to direct the needs application back to the AESO for reconsideration, specifically to: (i) reassess the need for the project in light of the most updated forecast information; (ii) independently verify the viability of transmission alternatives to confirm Fortis' assertions of the technical feasibility of certain distribution alternatives; and (iii) undertake a reasonableness review of the estimated capital costs for the project.

3.1.3 Commission findings

86. There are two key issues that arise with respect to the Commission's assessment of the need for the facilities in this proceeding. The first is that the Commission must determine whether the AESO's needs application is technically deficient. The second issue concerns the reconciliation of two different views on the AESO's statutory mandate and responsibilities relating to the needs identification document application and approval process, and whether the public interest has been served in this instance.

87. As noted, the UCA argued that because the AESO's needs application did not contain actual peak demand data for 2014 through 2016 at the time it was filed, and did not include actuals for 2016 as of the date of the hearing, the application was technically deficient. Rule 007 requires needs applications to include "the last five-year summer and winter peak substation loads applicable to the development area." The Commission agrees with the AESO's submission that a reasonable interpretation of this requirement is to include the last five years of available data, which in this case would not include 2016 actuals.

88. The Commission recognizes that the most recent available data, within the definition of Rule 007, was not included in the needs application on the date it was filed (i.e., 2014 and 2015 actuals). However, as noted in Decision 3539-D01-2015, the Commission "always strives to consider the best available information when rendering a decision," and has "accepted the use of actual information that was available at the time of filing the application or that became available

[28] Transcript, Volume 3, page 656, lines 15-20.

prior to the close of record of the proceeding."[29] The Commission bases its decision on the entire record. At the time of the hearing, the record included actuals for 2014 and 2015, as well as a confirmation by Fortis that the "most recent feeder peak loading information available justif[ies] the need for the transmission upgrades identified in the original [Need for Development Report]."[30] Even assuming that the needs application was technically deficient as of the date it was filed, such a deficiency can be corrected on the record up to the date that the record of the proceeding is closed, as long as all parties have been provided with a fair opportunity to review and test that information. In this case, the actuals for 2014 and 2015 were filed on October 14, 2016, and the hearing began on February 27, 2017.[31] As such, the Commission considers that all parties had an opportunity to review the updated information. The Commission finds that the AESO's needs application is not technically deficient.

89. The Commission accepts the AESO's submission that its assessment of the need was based not purely on the need to serve future forecast loads but also on evidence showing a need for existing development in the area. The Commission finds that the proposed transmission development is needed and that it is in the public interest to ensure that the transmission system is reliable.

90. With respect to the issue of whether the AESO sufficiently scrutinized Fortis' planning decisions, the Commission finds that the UCA has not demonstrated that approval of the needs application would not be in the public interest. As the AESO stated in the hearing, its position is that it should not second-guess distribution facility owners' planning decisions, but that the AESO is nonetheless responsible for determining if upgrades to the transmission system are required. When the AESO receives a system access service request, it reviews the request and the need for development report to identify whether there are existing criteria violations or capacity concerns, and what solutions may address those concerns.[32] In this case, the AESO reviewed four alternative solutions provided by Fortis prior to filing the needs identification document, one of which was a distribution solution, and concluded that only one of the alternatives warranted further consideration.[33] The AESO further stated that while it does not independently test the distribution facility owner's load forecast values during this process, it does consider whether the values provided look reasonable and may ask the distribution facility owner questions to confirm that the information provided is realistic.[34]

91. The UCA was concerned with the potential incentive for Fortis to build its rate base under the capital tracker mechanism currently in place, which operates like a traditional cost-of-service model. The Commission acknowledges the UCA's general concern with the incentive structure under a cost-of-service ratemaking model. As recognized in the Commission's decision that introduced performance-based regulation for distribution, the traditional cost-of-service model provides certain incentives and disincentives that are widely recognized, including that generally, "since the company earns a profit on the equity in its rate

[29] Decision 3539-D01-2015: EPCOR Distribution & Transmission Inc. 2015-2017 Transmission Facility Owner Tariff, Proceeding 3539, Application 1611027-1, October 21, 2015, paragraph 58.
[30] Exhibit 21973-X0135, January 12, 2017 Letter from Fortis to the AESO, page 1.
[31] Exhibit 21973-X0041, October 14, 2016, 2016-10-06 Email from AESO to Richard Penn, page 4.
[32] Transcript, Volume 1, pages 30 to 33.
[33] Transcript Volume 1, page 110, line 22 to page 114, line 22.
[34] Transcript Volume 1, page 32, line 23 to page 33, line 2.

base, there is an incentive to choose spending money on capital assets, on which a return can be earned" and that "there is no incentive to minimize the costs of capital assets."[35]

92. However, the Commission notes that oversight is currently applied to Fortis' planning decisions through the capital tracker true-up mechanism. In Decision 21538-D01-2017, the Commission required Fortis to provide information to facilitate a prudence analysis of Fortis' actions with respect to certain projects:

> In its future capital tracker true-up applications, Fortis is directed to describe how the load forecast and DTS contract levels for each project were determined, and compare this forecast with the actual load materialized to date. Fortis is also directed to provide any other information it deems relevant to the Commission's prudence analysis of Fortis' actions with respect to the execution of the AESO Contributions projects.[36]

93. Additionally, Decision 20414-D01-2016 (Errata)[37] set out the parameters of the 2018-2022 performance-based regulation plans for distribution utilities, including Fortis, and discontinued the existing capital tracker mechanism in its current form. The Commission determined that capital will be divided into two categories. Type 1 capital will be governed under a modified capital tracker mechanism. Type 2 capital will be governed under a K-bar mechanism that provides a set amount of capital funding for each year of the 2018-2022 performance-based regulation term. Generally speaking, it is the Commission's expectation that transitioning away from the existing capital tracker mechanism with its cost-of-service regulation features, will reduce the incentive for a utility to increase its rate base. In this proceeding, construction of the proposed substation is expected to start in April 2018. Therefore, the Commission considers that the UCA's concern with Fortis' incentive structure will most likely be mitigated in this case because the project will be put into service in 2018, when the next generation of performance-based regulation comes into effect.

94. As a distribution facility owner, Fortis is obligated to comply with its statutory obligations, including its duties under Section 105(1)(b) of the *Electric Utilities Act* to "make decisions about building, upgrading or improving the electric distribution system for the purpose of providing safe, reliable and economic delivery of electric energy." The Commission agrees with the UCA's assertion that this duty can be subject to questioning and oversight. However, in this case, given the oversight provided in the capital tracker true-up process and the effect of transitioning to expected stronger incentives under the next generation of performance-based regulation, the Commission accepts the AESO's conclusion that the project is in the public interest. However, as they apply more generally, these matters may be part of the Commission's review of AESO tariff contribution policy provisions in a future AESO tariff proceeding.

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35 Decision 2012-237, Rate Regulation Initiative: Distribution Performance-Based Regulation, Proceeding 566, Application 1606029, September 12, 2012, paragraph 11.

36 Decision 21538-D01-2017, FortisAlberta Inc. 2015 PBR Capital Tracker True-Up, Proceeding 21538, January 26, 2017, paragraph 240.

37 Errata to Decision 20414-D01-2016, 2018-2022, Performance-Based Regulation Plans for Alberta Electric and Gas Distribution Utilities, Proceeding 20414, February 6, 2017.

95. Having considered all of the evidence before it, the Commission finds that no interested person has demonstrated that the AESO's assessment of the need for the applied-for facilities is technically deficient or not in the public interest.

96. The Commission's findings regarding public consultation for the needs application, conducted by AltaLink on behalf of the AESO, will be discussed in Section 4.

4 Public consultation

97. In this proceeding, the Commission is considering two aspects of the proposed project: (i) the needs application; and (ii) the facility applications. Consideration of the needs application has been described above. In this section, the Commission will consider the public consultation AltaLink undertook to inform potentially affected persons of the proposed needs and facility applications, as per the requirements of Rule 007.

98. AltaLink commenced its participant involvement program for the proposed development in September 2015, which included two rounds of notification and consultation and subsequent project updates.

99. AltaLink sent project-specific information packages to stakeholders within 800 metres of the proposed Chestermere area development and 200 metres of the Balzac area development. The packages included information on the need for the project on behalf of the AESO. AltaLink held two public open houses on October 7, 2015 and February 29, 2016, in Chestermere. AltaLink consulted face-to-face, by email or by telephone with 40 landowners, occupants and residents on, or directly adjacent to, the proposed developments. It also provided two update letters to stakeholders, on June 21, 2016 and August 4, 2016, in response to changes to the project due to ongoing consultation. New stakeholders were added to the mailing list during the program through regular land title updates, consultation efforts and stakeholder contact with AltaLink.

100. AltaLink presented and discussed four preliminary sites (A, B, C and D) during its first round of consultation with stakeholders in September 2015. Due to stakeholder suggestions, AltaLink added two additional sites (E and F) and removed Site D for the second round of consultation in February 2016. As a result of further consultation and identification of additional impacts, AltaLink decided to refine the location of Site E and remove sites B and F from consideration for the final siting stage in June 2016. Site D was removed from consideration due to the possibility of a future highway interchange nearby. Sites B and F were removed from consideration as they were deemed to have higher overall impacts compared to the other proposed sites including more residences within 200 metres of a site, closer proximity to an airstrip, the need to cross a rail line, and proximity to a future highway realignment.

101. AltaLink stated that it used information obtained during its participant involvement program to inform its substation site determination and to mitigate impacts from it. For example, the petition provided by Ms. Kardash formed part of the rationale for AltaLink moving Site E

from its originally proposed location adjacent to Range Road 282 to the applied-for Site E location that is 350 metres to the southeast of the original site.[38]

102. Over 300 stakeholders were informed about the proposed development. AltaLink successfully contacted every stakeholder identified for consultation with only one stakeholder declining to consult with AltaLink.

103. AltaLink asserted that its participant involvement program met the consultation requirements contained in the Commission's Rule 007 and succeeded in ensuring that stakeholders understood the proposed project and its impacts and were able to express their concerns and provide site-specific input.

104. The members of the South Chestermere Group argued that "even though they only recently purchased their properties, none of the members of the SCG were made aware of the possibility of a new electrical substation at Site E, notwithstanding making enquiries about potential future development to the south".[39]

105. The South Chestermere Group was concerned that the June 2016 update letter, which indicated Site A was the preferred site, was misleading since it did not indicate that negotiations with the City were ongoing and that the preferred site could change. They were concerned that AltaLink's consultation with the City to acquire the land for Site E was more extensive than AltaLink's consultation with other stakeholders, and private discussions took place without other stakeholders being aware.

106. Ms. Kardash was concerned that she had not been notified that Site E had been ultimately selected as AltaLink's preferred site after receiving the June 2016 update which had indicated that Site A was the preferred site.

107. AltaLink argued that the record showed that each of the South Chestermere Group members were included in AltaLink's participant involvement program. With regard to the particular concerns of the Fiedlers, Snooks and MacDonalds, that home builders building custom homes in the Kinniburgh community were not notified of the proposed development, AltaLink argued that Sterling Homes Ltd. and Broadview Homes (Alberta) Ltd. were included in the participant involvement program before these group members acquired title to their properties. AltaLink also noted that notification for the February 2016 open house included bold sign advertisements in the Chestermere area and advertisements in the Chestermere City News on February 18 and 24, 2016.

108. With respect to the South Chestermere Group's comments that residents were not made aware of discussions between AltaLink and the City of Chestermere, AltaLink argued that this was only true from October 2015 to January 2016, and that this was consistent with AltaLink's siting process. AltaLink stated that sites are susceptible to change and do not become real until they are released to the public.[40]

[38] Transcript, Volume 1, page 174, lines 13-18.
[39] Exhibit 21973-X0178, page 5, paragraph 22.
[40] Transcript, Volume 4, page 820, lines 1-7.

109. The City stated it had publically announced the purchase of the SW-2 parcel in September of 2015 and that the municipal development plan, publically available since 2009, indicated that the SW-2 parcel could be used for light industrial development. Additionally, the City noted that it negotiated with AltaLink to move Site E further away from residences.

4.1 Commission findings

110. A participant involvement program is effective if it meets Rule 007 requirements and has allowed stakeholders an opportunity to understand the proposed transmission facility and its potential impacts. It is a mechanism for stakeholders to express their concerns about the project and to provide site-specific input in an effort to reduce the impacts of the project. However, an effective participant involvement program may not resolve all stakeholder concerns.

111. Although the Commission acknowledges the concerns expressed by interveners regarding AltaLink's consultation, it must assess the participant involvement program as a whole, in light of the nature and scope of the project.

112. The Commission accepts AltaLink's evidence that it notified and consulted with stakeholders in and around the project areas and continued to send project updates to stakeholders as the project planning progressed.

113. With regard to the concerns of the South Chestermere Group residents, it is unclear from the record which homebuilders were contacted as part of the participant involvement program. In its rebuttal evidence, AltaLink stated that it had contacted the builder of the Fiedlers' home, Sterling Homes Ltd. However, the stakeholder mailing list does not include Sterling Homes Ltd. The Commission expects that when a proposed development is near a developing area that the applicant would contact all developers in the area. However, the Commission notes that neither the applicant nor the Commission can compel developers to share information about nearby proposed developments with prospective buyers. Nevertheless, the evidence on the record does show that the members of the South Chestermere Group were informed of the project and given an opportunity to express their concerns prior to the filing of the facility applications. The Commission finds that AltaLink's participant involvement program, with respect to the group, achieved the desired purpose as per Section 1.2 of Appendix A1 to Rule 007.

114. The Commission finds that the location of Site E was not changed between the June 2016 notification and the August 2016 update therefore Ms. Kardash should have remained on AltaLink's notification list. However, the Commission notes that the June 2016 notification that Ms. Kardash received clearly stated that the AUC could approve any one of the three proposed sites (A, C or E). The Commission is satisfied that Ms. Kardash was informed of the project and given an opportunity to express her concerns about the project prior to the application being filed even though she did not receive the August 2016 update. Therefore, the Commission finds that AltaLink's participant involvement program, with respect to Ms. Kardash, achieved the desired purpose as per Section 1.2 of Appendix A1 to Rule 007.

115. The Commission is satisfied that AltaLink was reasonably responsive to the concerns expressed by stakeholders with respect to the proposed substation location. AltaLink considered a total of six substation site locations (sites A through F) and used stakeholder feedback in its decision to reject three of these sites and relocate Site E from its originally proposed location.

116. Having regard to the foregoing, the Commission finds that potentially affected parties were provided with sufficient information from the AESO and AltaLink to understand the proposed development and were given opportunities to express their concerns during the course of the participant involvement program. The Commission finds that the participant involvement program met the regulatory requirements of Rule 007.

5 Public interest

117. When considering an application for transmission facilities, the Commission must consider whether the proposed transmission facilities are in the public interest having regard to the social, economic and environmental effects of the transmission facilities in accordance with Section 17 of the *Alberta Utilities Commission Act.*

118. In interpreting the term "public interest", the Commission is guided by Decision 2009-028,[41] which states:

> The Commission recognizes that there is no universal definition of what comprises the "public interest" and that its meaning cannot be derived from strictly objective measures. The Commission acknowledges that the ultimate determination of whether a particular project is in the "public interest" will largely be dictated by the circumstances of each transmission facility application.
>
> In the Commission's view, assessment of the public interest requires it to balance the benefits associated with upgrades to the transmission system with the associated impacts, having regard to the legislative framework for transmission development in Alberta. This exercise necessarily requires the Commission to weigh impacts that will be experienced on a provincial basis, such as improved system performance, reliability, and access with specific routing impacts upon those individuals or families that reside or own land along a proposed transmission route as well as other users of the land that may be affected. This approach is consistent with the EUB's historical position that the public interest standard will generally be met by an activity that benefits the segment of the public to which the legislation is aimed, while at the same time minimizing, or mitigating to an acceptable degree, the potential adverse impacts on more discrete parts of the community.
>
> …
>
> When assessing whether AltaLink's proposed route is in the public interest, the Commission must weigh the benefits described above with the site specific impacts that will be experienced by landowners and residents along the proposed route as well as others that may be impacted. The Commission understands that these impacts are real and may be significant. Transmission towers are large structures that may obscure scenery, impact agricultural operations, and may have an influence on land use and development plans. The Commission expects transmission facility owners to take all reasonable steps to avoid such impacts but acknowledges that despite the use of sound routing and planning practices such impacts are sometimes truly unavoidable given the nature of

[41] Decision 2009-028: AltaLink Management Ltd. Transmission Line from Pincher Creek to Lethbridge, Proceeding 19, Application 1521942, March 10, 2009.

transmission lines. Where such impacts are truly unavoidable, the Commission expects that the Applicant would explore all reasonable steps to mitigate those impacts.[42]

6 Chestermere 419S Substation

119. As noted above, the Commission is considering the needs application and the facility applications for the proposed project. The need has been discussed above. In the sections that follow, the Commission considers the facility applications for the Chestermere 419S Substation, the associated 138-kV transmission lines, and the Balzac 391S Substation.

120. After considering multiple sites throughout the consultation process, AltaLink stated that in consideration of the imminent future land development, a willing landowner, and the comparable residential, visual and environmental impacts, it identified Site E as its preferred site for the proposed 138/25-kV Chestermere 419S Substation.[43]

121. The Commission heard evidence regarding the intended land use at Site E as well as potential impacts of the proposed substation at each of the three proposed sites. This included agricultural impacts, residential impacts, environmental impacts and economic impacts. An analysis of each issue follows and the Commission's decision with respect to the substation can be found in Section 6.7.

6.1 Land use

6.1.1 Views of AltaLink

122. AltaLink's site determination process considered the current and proposed use of the sites and the City's plans for developing the parcel in which Site E was located. AltaLink submitted that the Commission should consider the City's future development plans on the SW-2 parcel when considering the selection of Site E as the preferred site. AltaLink's position was that the proposed Site E presented lower overall impacts in large part because it was located on land designated for light industrial use.

123. AltaLink has an option to purchase the land required for Site E on the SW-2 parcel from the City.[44] AltaLink submitted that the Commission should place significant weight on the fact that the landowner of Site E, the City, was not only in favour of the project but had also taken steps to redesignate the land on which it is located to accommodate such a use. AltaLink submitted that this factor should be weighed more heavily than the fact that a larger number of interveners oppose Site E than the alternate sites. In response to the South Chestermere Group's submissions and evidence on the timing of future development on the SW-2 parcel, AltaLink submitted that the information provided by the City, and by Urban Systems, confirmed that the parcel would be eventually fully built out and thus the overall impacts would be lower.

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[42] Decision 2009-028, paragraphs 32, 33 and 35. The reference in this quote to the EUB is to the Alberta Energy and Utilities Board (predecessor to the AUC).
[43] Exhibit 21973-X0012, Application, paragraph 200.
[44] Exhibit 21973-X0192, City of Chestermere IR Response to South Chestermere Group-2017JAN30-001(a) Attachment.

6.1.2 Views of interveners

124. The City supported AltaLink's position with respect to the land use for the SW-2 parcel and confirmed that the parcel has been slated for clean light industrial development since the City's Municipal Development Plan was passed in 2009.[45] The City also confirmed that it was in the process of preparing an outline plan for the area including Site E and expected approval of the plan in the summer of 2017. The SW-2 parcel's land use designation (zoning) was urban transition. The City stated during the hearing that it was currently in the process of changing Site E's land use designation (rezoning Site E) from urban transition to light industrial/business park.[46] The City confirmed at the hearing that its municipal council had agreed to change the parcel's land use from urban transition to light industrial.

125. In response to the South Chestermere Group's submissions and evidence on the timing of future development on the SW-2 parcel, the City confirmed that several buyers had expressed interest in the area, and that the City planned to sell lots on the SW-2 parcel over the next one to two years. The City believed the parcel would be fully developed in 10 years.

126. The South Chestermere Group submitted that AltaLink's rationale for making Site E the preferred site was based on the premise that the City would be able to develop the SW-2 parcel for light industrial development in the near term, thereby mitigating impacts to nearby residences. The South Chestermere Group submitted that the future development of the land around Site E was not imminent and was based on the assertions of Mr. Lacasse who was providing views on timing as a hopeful developer rather than as an objective expert.

127. The South Chestermere Group retained Urban Systems to prepare a report addressing the likelihood of substantial industrial market transactions and development activity occurring in the area within the next two to three years. Urban Systems stated that the likely timing of development activity could be estimated based on factors such as industrial market conditions in the Calgary region, the location and quality of competitive supply, market-driven critical site assessment, and the presence of catalyst uses. Urban Systems concluded that significant industrial/business park development around Site E should not be expected to materialize in the short-term.

128. Urban Systems explained at the hearing that they did not expect significant development to materialize in the area within approximately the next five years. Urban Systems also clarified that in contrast to AltaLink's reply evidence, the timeframes in its report were inconsistent with those expressed by the City. Urban Systems did not expect that a full build-out would occur within 10 years, given the extent of competitive supply in the surrounding area. Urban Systems confirmed that it did not solicit information from the City about its plans or potential conversations with developers and that its report was based on the likelihood of development timing in consideration of the factors outlined in the report, rather than the City's knowledge of expressed interests.

[45] Transcript, Volume 1, page 176, lines 1-8.
[46] Transcript, Volume 2, page 495, lines 3-7.

129. The Forster Group submitted that the proposed substation did not conform with the clean light industrial use set out in the City's 2009 Municipal Development Plan. They were also concerned that a substation located on Site E would interfere with their development plans. They stated they had a letter of intent for an Alzheimer research center to be built on two acres of their land, donated by the Forster Family Trust, with an additional 13 acres to be set aside for a long-term care facility and senior living centre. The Forster Group submitted that these plans are compatible with continued residential growth in the area and with the City's stated plans for clean light industrial uses, and that their plans will likely not materialize if the proposed substation is built at Site E.

130. The Claytons and the Knights both expressed concerns with alternate Site A and Site C being located on agricultural land and submitted that applicable land use legislation weighed in favour of choosing Site E. These considerations are discussed further in Section 6.3.

6.1.3 Commission findings

131. Section 619 of the *Municipal Government Act* provides that the Commission's approval prevails over the City's planning decisions. However, in assessing whether a proposed development is in the public interest, the Commission considers whether a proposed project location is consistent with a municipality's planning and land use decisions.

132. Additionally, the Commission will consider future development plans on and in the vicinity of a site when considering the potential impacts of a proposed project. The weight the Commission places on such plans varies with the circumstances. In Decision 21030-D01-2017, the Commission commented on its consideration of future development plans in the routing process for transmission infrastructure:

> The Commission has considered developments that have received approval or are in the process of obtaining approval as part of the route selection process. Consistent with past decisions, the Commission considers that future developments and residences that are at the conceptual or idea stage are not certain and may change depending upon the economy, changes in circumstances of the potential developer, amendments to municipal by-laws on development, or inability to secure municipal approval. In the Commission's view, there is a great deal of uncertainty as to whether such projects would ever proceed and if so, the timing and the potential impacts; consequently, such projects are speculative.[47]

133. This proceeding is relatively unique in that the landowner with future development plans for a proposed substation site is also the relevant land use and planning authority. Because the City is the landowner and the land use planning decision-maker, the Commission considers the City's approved statutory future development plans to have a greater degree of certainty and reflection of overall public interest for the municipality than those of a private landowner who is subject to the potential refusal of their project by a municipal planning authority.

[47] Decision 21030-D02-2017, Fort McMurray West 500 kV Transmission Project, paragraph 417, citing EUB Decision 2007-055: Bearspaw Petroleum Ltd. Application for Two Pipeline Licences, Crossfield Field, Application 1453533, July 24, 2007, EUB Decision 97-1: Renaissance Energy Ltd., Applications for Well Licences, Applications for Pipelines, March 11, 1997 and Decision 2009-028: AltaLink Management Ltd. Transmission Line from Pincher Creek to Lethbridge, Application 1521942, Proceeding 19, March 10, 2009.

134. Urban Systems provided evidence to the effect that development on the SW-2 parcel may not occur within five, or even 10 years, thus reducing the mitigative effect of that development on the impacts to nearby residences. AltaLink and the City disputed this position, and Mr. Lacasse stated that there had been interest expressed by several buyers and that the City expects the area to be fully developed in 10 years. Regardless of whether lots are sold for the purpose of light industrial development within 10 years or longer, the Commission notes that the City has redesignated the SW-2 parcel for business park/light industrial use and that those lands have been considered urban transition lands since the City's 2009 Municipal Development Plan was formed.

135. With respect to the Forster Group's future development plans, the Commission finds that the evidence brought before it indicates that the research center remains speculative at this stage. Given the uncertainty surrounding the proposed project, the Commission is not persuaded that the potential future impacts to the Forster Group's development plans should weigh significantly against the preferred Site E location. In addition, any future development plans have the ability to be adjusted to help reduce potential impacts of existing or planned adjacent developments.

136. The Commission considers that the current land use for a parcel must be considered in weighing the overall impacts of a proposed site. In this case, regardless of the timing of prospective future development, the preferred Site E is located on lands slated for light industrial development. The lands at issue have been slated for this type of development since 2009. An electrical substation is consistent with the uses contemplated in the City's 2009 and 2016 municipal development plans. Further, the City recently changed the land use designation for the SW-2 parcel to accommodate light industrial development. The Commission considers the land use designation of Site E to be a significant factor weighing in favour of the preferred substation site.

6.2 Proximity to Chestermere Lake

137. Chestermere Lake is a water reservoir with associated dams that is located in the City of Chestermere. The City of Chestermere's Municipal Development Plan identifies a drainage constraint area of approximately 68.46 hectares, located south of Chestermere Lake, referred to as the inundation area.[48] The plan defines the inundation area as the area where "potential flooding would occur following a dam breach or overtopping."[49] The WID owns and operates Chestermere Lake as a storage reservoir and component of its irrigation works.

138. The proposed substation Site E is located approximately one kilometre south of the dam, while sites A and C are approximately three and four kilometres east of the dam, respectively. The Commission heard concerns regarding the proximity of Site E to Chestermere Lake.

[48] Exhibit 21973-X0193, City of Chestermere-South Chestermere Group-2017JAN30-002 (b) Attachment.
[49] Exhibit 21973-X0012, Application, PDF page 44.

6.2.1 Views of AltaLink

139. AltaLink argued that it was aware of the inundation area along the western boundary of the SW-2-24-28-W4 and reference was made to the inundation area throughout its application; however, it was referred to as a drainage constraint area. AltaLink stated that the "drainage constraint area is one and the same as the inundation zone."[50]

140. AltaLink asserted that one of the benefits of the applied-for Site E location, as opposed to the originally proposed Site E location, was that the substation was moved outside of the inundation zone.

141. During the public hearing, AltaLink indicated that on January 26, 2017, it had received a draft copy of the recent dam safety report from the WID which indicated the inundation level would be at 1,019 metres above sea level.[51] AltaLink explained that all of the fenced area of the proposed Site E and all of the substation property, with the exception of a small portion along the westernmost edge, are at an elevation higher than 1,019 metres above sea level and that Site E posed no impediments to the WID's operations nor was there a risk of flooding. It noted that Site E already included up to one metre of grading which would bring the minimum floor elevation up to approximately 1,021 metres above sea level AltaLink further explained that equipment exposed to the risk of an outage caused by flooding would be at an elevation of 1,022 metres above sea level.

142. AltaLink further committed that the minimum ground elevation of Site E would be outside of the inundation area of the Chestermere Lake dam and that it would satisfy the WID's request to build Site E to a minimum floor elevation determined by a professional engineer, along with any other safety recommendations to address potential inundation effects.[52]

6.2.2 Views of interveners

143. The WID preferred that the substation be built at sites A or C because those sites were not located in or adjacent to the inundation area of Chestermere Lake and would eliminate the risk to life and property. Mr. McAllister advocated use of the precautionary principle in the selection of a substation location.

144. The WID submitted a confidential copy of the draft 2016 Dam Safety Study to the Commission as an undertaking at the hearing. At the hearing, Mr. McAllister emphasized that the report had not yet been finalized.

145. During the public hearing, Mr. McAllister allowed that only a small portion of Site E would potentially be in the inundation area and clarified that the WID had initially determined that Site E was within the inundation zone based on the entire unsubdivided 100-acre site. He further testified that the study used the worst-case scenario for dam failure in determining that the inundation areas would peak at 1,019 metres above sea level.

[50] Transcript, Volume 1, page 212, lines 23-24.
[51] Transcript, Volume 2, page 278, lines 19-24.
[52] Transcript, Volume 1, page 217, lines 9-15.

146. In addition to general safety concerns, the WID explained that it would face higher maintenance costs for the dam if Site E was chosen because new downstream infrastructure would potentially result in a new safety classification for the dam. The WID requested that if Site E was approved, then the substation "be constructed with a minimum floor elevation determined by a professional engineer to reduce the likelihood of effects arising from inundation of Site E."[53]

147. The City of Chestermere submitted a map, dated January 13, 2017, which showed the proposed substation property line and fenceline superimposed on a land elevation contours map. The map showed that the fenced substation area would be on land that is at least 1,019 metres above sea level.

148. Mr. Clayton testified that he had served on the Board of the Western Irrigation District for 11 years and was knowledgeable about dam safety concerns. He explained that regular inspection of the integrity of the dam is required by regulation, and in the extremely unlikely event of failure, the preferred Site E elevation and location does not pose a safety concern based on the WID surveys that he had seen when he was on the board.

149. Mr. Blanchard was concerned about the accuracy of the maps used to determine the high water level in the area south of Chestermere Lake and argued that the inundation levels may be inaccurate.

150. The South Chestermere Group pointed out that there was no mention about the risk of inundation in AltaLink's application and that the Commission should carefully examine the evidence of the WID.[54]

151. Two parties provided comments on the confidential draft dam safety study. The South Chestermere Group commented that the study supported the evidence and position of the WID. The City submitted that its evidence pertaining to the inundation area remained accurate and consistent with the information contained in the study.

6.2.3 Commission findings

152. The Commission finds that AltaLink did acknowledge the inundation area as a drainage constraint area in its facility applications.

153. The Commission accepts the results of the draft dam safety study which found that land at or above 1,019 metres above sea level would not be in the inundation area. Although this information is contained in the dam safety study, a document which has been ruled confidential, the evidence was also placed on the public record by AltaLink during the proceeding prior to the ruling and the Commission does not consider its disclosure here to breach the ruling. The Commission understands that the report is a draft, however the Commission considers that it is the best information currently available with respect to the expected inundation area. The Commission finds that no equipment which may cause an outage to the substation would be

[53] Exhibit 21973-X0144, Response Letter for proceeding 21973, page 1.
[54] Exhibit 21973-X0178, Submissions of the South Chestermere Group, page 11.

susceptible to flooding because such equipment will be at an elevation of 1,022 metres above sea level.

154. The Commission finds that while there is a greater risk of flooding at Site E than at sites A or C, this risk is mitigated by the fact that the substation equipment will be at an elevation of 1,022 metres above sea level which is above the inundation area. The Commission finds that the Site E location is acceptable but its proximity to Chestermere Lake slightly favours sites A or C.

6.3 Agricultural impacts

6.3.1 Views of AltaLink

155. Site A and Site C are both located on agricultural land. AltaLink stated that it considered the potential impacts of a substation on agricultural operations in the area in its preliminary siting stage. Although these impacts cannot be completely avoided in rural areas such as Site A or Site C, AltaLink identified substation locations that would reduce agricultural impacts such as locating the substation in the corner of a land parcel. AltaLink stated that this setback area between the roads and the substation site boundary at sites A and C could still be farmed and the gravel access road could be crossed by farming equipment.

156. With respect to the South Saskatchewan Regional Plan, AltaLink submitted that reducing the fragmentation of agricultural lands is only one of dozens of principles specified in the plan. AltaLink noted that the plan did not prioritize any one principle over another, nor did it impose a moratorium on placing substations or other transmission facilities on agricultural lands.

157. However, in identifying Site E as the preferred site, AltaLink stated that it determined that siting a substation in an area that will soon be developed as light industrial/business would be preferable to a rural location with no imminent development plans.

6.3.2 Views of interveners

158. The Claytons own the land where Site A would be located and farm the land for cereal crops and oil seeds. The Knights own land where Site C would be located and farm the land for hay. Both testified that locating a substation on their lands would result in difficulty farming the resulting setback areas.

159. The Claytons stated that conversion of parcels of farmland to other uses results in loss of food production capability, reduces production efficiencies by intrusion into farmland operations, imposes safety concerns and causes increased infrastructure needs.

160. Mr. Clayton also stated that he has been active on the Rockyview Agricultural Service Board and other focus groups advocating for farmland conservation. He asserted that it is accepted policy in Rockyview County to discourage farmland conversion to other uses except in close proximity to existing development, which is consistent with the *Alberta Land Stewardship Act*.

161. The Claytons stated they were not opposed to development, but were advocating that residential and commercial development should occur adjacent to already developed areas, thus minimizing the negative impacts on surrounding farmland and the environment.

162. The Knights noted that the proposed substation lands were within the South Saskatchewan Regional Plan area. They asserted that the plan recognizes the importance of agriculture to the Alberta economy and that land is not a renewable resource if it is put to other permanent uses such as an electrical substation. The Knights argued that given that Site E was a viable location for the substation, it was not necessary to reduce the amount of arable land at Site C.

163. The South Chestermere Group argued that the Claytons and the Knights would be compensated for agricultural impacts under the *Surface Rights Act*. By contrast, if Site E were approved, the residents of the Kinniburgh community would receive nothing. The group also argued that there was no provision in the South Saskatchewan Regional Plan that would prohibit development of Site A or Site C and that the "three to four acre" substation site was extremely minor relative to the sort of regional, large scale fragmentation contemplated in the plan.

164. The City argued that selection of Site E, which had an agreement in place for purchase and appropriate zoning, would mean that no land planned for future use as farmland would be taken out of production. The City's view was that maintaining agricultural land was in the public interest.

6.3.3 Commission findings

165. The Commission finds that based on the evidence of the Claytons and Knights, locating the substation on Site A or Site C would interfere with their farming operations.

166. The Commission is aware of the Claytons' intent to place a conservation easement on their land limiting its use to agricultural and park; however, the Commission must consider those plans speculative at this time as a formal application has not been submitted.

167. The Commission is cognizant that the South Saskatchewan Regional Plan provides guidance regarding land use management for the region. The plan states that the agricultural industry is the number one renewable and sustainable resource in the region and will continue to generate substantial social, economic and environmental benefits into the future.[55]

168. The Commission's view of agricultural impacts is influenced by the plan's strategy to "maintain an agricultural land base by reducing the fragmentation and conversion of agricultural land" which aims to "maintain contiguous blocks of land for primary production through the implementation of municipal land-use policies that expect municipalities to identify their agricultural lands and to limit their fragmentation and conversion to non-agricultural uses."[56] The Commission notes that the plan goes on to say that although the strategy is "targeted towards maintaining large agricultural areas, it is also recognized that smaller parcels contribute to the diversification of the overall agricultural economy."[57]

169. While the plan also states that access to electricity facilitates long-term economic development in the province,[58] the Commission considers that the impacts on agricultural land

[55] South Saskatchewan Regional Plan 2014-2024 (Amended February 2017), page 11.
[56] South Saskatchewan Regional Plan 2014-2024 (Amended February 2017), page 44.
[57] South Saskatchewan Regional Plan 2014-2024 (Amended February 2017), page 45.
[58] South Saskatchewan Regional Plan 2014-2024 (Amended February 2017), page 15.

must be weighed in comparison with the impacts of locating the substation site on land that is designated for light industrial uses.

170. Based on the evidence in this proceeding, the Commission finds that maintaining agricultural land and minimizing impacts on agricultural operations is in the public interest. With respect to the project's potential agricultural impacts, locating the substation at Site E is favoured over locating the substation at Site A or Site C.

6.4 Residential impacts

171. The Commission heard evidence regarding the residential impacts of the proposed development. This included visual impacts, health and safety concerns, and property value impacts. An analysis of each issue follows.

6.4.1 Visual impacts

6.4.1.1 Views of AltaLink

172. AltaLink stated that it assessed the proximity of existing residences to the potential substation sites, taking into consideration the potential for residential and visual impacts, as part of the site selection process. AltaLink stated that it considered requests for visual mitigation measures; however, viewscapes are subjective in terms of importance to landowners.

173. AltaLink stated that there are a total of 20 residences within 800 metres of Site E. The closest residence is approximately 400 metres to the east of the substation site. The nearest residence to the west, across Range Road 282, is approximately 500 metres from the substation site. The nearest residences in the Kinniburgh subdivision, to the north of Site E, are over 750 metres away and separated from the site by an irrigation canal, railway tracks, and the property owned by Mr. Paxton.

174. AltaLink explained that seven of these Kinniburgh residences would have their views of the substation partially obstructed by first-row houses. AltaLink also asserted that the six residences within the first-row of the Kinniburgh subdivision have a tree farm and a mature treed shelter belt located south of their properties which would partially obstruct their views to Site E.

175. In comparison, there are seven residences within 800 metres of Site A and four residences within 800 metres of Site C. AltaLink stated that these residents may have partially obstructed views of the proposed substation sites by trees or other structures on their properties.

176. AltaLink stated that Site E had more residences within 800 metres than Site A; however, based on the near-term industrial/business use development of the lands surrounding Site E, the majority of the residences near Site E would end up with other structures between them and the substation site. The same is not the case for sites A and C where there were no near-term developments anticipated. As such, the visual impact of the substation at Site E would be temporary until the surrounding land was developed. AltaLink asserted that since substations are long-term developments, the visual impact of the substation at Site E was expected to be less over time than at sites A or C.

177. AltaLink stated that, if Site E were to be approved, it had committed to working with the City to provide tree screening to the west of Site E along Range Road 282 and to add grey slats

along the south and west portions of the fenceline. AltaLink did not propose additional visual mitigation measures along the north side of the substation as it reasoned that the existing tree farm provided a visual screen. AltaLink asserted that it had committed to these meaningful measures to mitigate the potential visual impacts of Site E in response to stakeholder concerns.

178. With respect to the Forster Group's suggestion that the Site E location be relocated to the middle of or along the northern boundary of the land in the SW-2 parcel, AltaLink stated this would result in higher overall impacts from Site E since the overall cost of the project would increase, the area of developable lands on the parcel would be reduced, and the substation would be moved closer to existing residences in the Kinniburgh subdivision.

6.4.1.2 Views of interveners

179. The Claytons noted that significant buffers, consisting of an irrigation canal, a strip of farmland, and a railway right-of-way, exist between the proposed development on Site E and residential properties. They argued that in 10 years, the substation will be seen to have no negative impact on nearby residential properties.

180. When asked about his tree farm on the land in between Site E and the Kinniburgh subdivision, Mr. Paxton stated that all the trees on his property were for sale. Mr. Paxton later acknowledged that he had no immediate plans to remove the trees around the residence on his property while his parents were still occupying the home and that there were no plans to remove the line of trees parallel to the irrigation canal on the north edge of his property.[59] Mr. Paxton also stated that the trees on his property "do a really good job of screening to the north right now."[60]

181. The South Chestermere Group members in the Kinniburgh neighbourhood asserted that they all chose the location because of its proximity to the canal and open space to the south which afforded them views south across undeveloped lands used by wildlife. The South Chestermere Group also argued that there would be more residences within 800 metres of Site E in the future as the Kinniburgh subdivision continued to develop.

182. The South Chestermere Group also argued that the tree farm between the South Kinniburgh neighbourhood and Site E was not permanent. They stated that Mr. Lacasse's statement that the City would plant trees along the railway track was entirely speculative and not a binding commitment. Ms. Fiedler testified that even when the mature trees on the Bablake property are out in bloom she can still see the Site E property, particularly from the third level of her home.[61] Thus the group asserted that there would be no reliable visual barrier between the Kinniburgh neighbourhood and Site E.

[59] Visible on the Chestermere Substation Interconnection Site E Focus Photo Map – Exhibit 21973-X0217, PDF page 1.
[60] Transcript, Volume 4, page 786, lines 14-18.
[61] Transcript, Volume 2, page 443, lines 12-14.

183. The South Chestermere Group also claimed that based on the evidence of Urban Systems, the visual impacts from Site E on the residents of South Kinniburgh will persist for many years to come.[62]

184. The South Chestermere Group argued that the fact AltaLink first rejected siting the substation in the now preferred site demonstrated that Site E had greater residential impacts. However, the group requested that if Site E was approved, that the Commission direct AltaLink to install visual mitigation on the north side of the substation.

185. The Forster Group were concerned about the visual impact of viewing the substation from their property, south of Site E across Township Road 240, as they intended to develop the land for residential use. They argued that while the Kinniburgh subdivision was nearly a kilometre away from the proposed substation site, their lands would be only 60 metres from the proposed substation.

186. The Forster Group also argued that, if Site E were chosen, AltaLink and the City had a duty to mitigate impacts on the Forsters' land by moving the substation back from the road and providing green space with trees to decrease the visual impact.

187. Mr. Lacasse testified that the City, as the developer of the lands in the SW-2 parcel, would take responsibility to ensure that residents' concerns about visual impacts of development on that land would be addressed. AltaLink testified that the City's conceptual development plan[63] indicated a green region along the east side of Range Road 282 where the City and AltaLink had discussions about planting trees to act as a visual screen for residences. Mr. Lacasse also mentioned that trees were proposed along the north side of the business park but indicated those details still needed to be finalized.[64]

188. Ms. Kardash was also concerned about the visual impact of the substation, and argued that Site E was the least favourable as it had the largest number of houses within 800 metres of the three proposed sites.

189. The Knights argued that the number of nearby residents should not be a primary consideration for substation location selection; otherwise urban dwellers would end up pushing development out of cities into the less populated adjacent countryside.

6.4.1.3 Commission findings

190. The Commission acknowledges that changes to a viewscape may be an unwanted impact caused by development; however, visual impacts are subjective and generally diminish with distance.

[62] See Section 4 for discussion of proposed future development.
[63] Exhibit 21973-X0132, AML Supplemental IR Responses to South Chestermere Group (20-21), PDF page 5.
[64] Transcript, Volume 2, page 515, lines 15-17.

191. The Commission considers that substation development is not incompatible with adjacent residential development as evidenced by the pictures provided by AltaLink in its rebuttal evidence.[65]

192. Given that there are more residences within 800 metres of Site E, the visual impacts of the proposed development, based on the number of residences alone, favours approval of Site A or Site C. However, the number of nearby residents is not the only metric to be considered and the Commission is mindful of the proposed measures to mitigate the visual impact concerns associated with Site E.

193. With regard to Site E, the nearest residences to the west will be screened by trees that the City has committed to plant along the east side of Range Road 282. AltaLink has also committed to installing slats in the chain-link fence along the west side of the substation.

194. The closest residences to the north of Site E, in the first row of homes in the Kinniburgh subdivision, are over 750 metres away from the proposed substation fence. The view of the proposed site from these residences is currently screened by trees. While the majority of these trees are for sale, Mr. Paxton acknowledged that for now the trees around the residence on his property would not be sold and that the line of trees at the north edge of his property was expected to be permanent. The City also testified that trees are proposed along the north side of the future business park which would further screen views of the substation.

195. In addition, the lands around Site E will be developed in the future. While the timing of this development is unknown, the fact remains that development is expected to occur, and the business park will help provide a visual screen between the Kinniburgh neighbourhood and the substation.

196. Any future residences in the Kinniburgh neighbourhood will be at least 750 metres away from Site E and have the tree farm and future business park or light industrial development between them and Site E to help mitigate visual concerns.

197. The Commission is also mindful that there is no residence on the Forster Group's land to the south of Site E. The Commission considers that any future development of the Forster Group's land can take into account the location of the substation and be designed in such a way as to minimize any visual impacts. As well, AltaLink has committed to installing slats in the chain-link fence along the south side of the substation.

198. Due to the above, the Commission finds that given the distance to residences, existing conditions, and proposed mitigation measures, the visual impacts of Site E will be reduced in the short-term. In the long-term, the Commission finds that the future development of the land around Site E, will mean that the visual impacts of the proposed development at Site E will be less than at Site A or Site C.

[65] Exhibit 21973-X0216, AML Reply Evidence, PDF pages 20-23.

6.4.2 Health and safety

199. AltaLink recognized that stakeholders were concerned about exposure to electric and magnetic fields (EMF) produced by the proposed development. AltaLink explained that EMF levels are strongest when close to the source and diminish quickly as the distance from the source increases. AltaLink provided a booklet by the National Institute of Environmental Health Sciences which provided typical EMF levels for power transmission lines. Under a 115-kV transmission line, which is comparable to a 138-kV transmission line, the magnetic field would be 30 milligauss (mG). However, that field drops to 1.7 mG at a distance of 30 metres from the transmission line. Similarly, the electric field under the transmission line would be approximately 1.0 kilovolts per metre (kV/m) but drops to only 0.07 kV/m at a distance of 30 metres from the line. The International Commission on Non-Ionizing Radiation Protection's recommended reference levels for public exposure are 2,000 mG and 4.16 kV/m for magnetic fields and electric fields, respectively.[66]

200. AltaLink retained Exponent, Inc., which prepared a February 2014 report entitled Status Report on Electric and Magnetic Field Health Research 2010-2013.[67] The report concluded that there is no evidence to suggest that extremely low frequency EMF are a cause of any adverse effects to human, plant, or animal health. Mr. Mezei, of Exponent, Inc., provided a list of approximately 60 studies[68] that have been done since 2013 and testified that the results of the more recent studies continued to support the findings in Exponent, Inc.'s February 2014 report.[69]

201. AltaLink noted that the World Health Organization, Health Canada and other agencies have also reviewed extremely low frequency EMF research and have come to the same conclusion. Mr. Mezei also testified that reviews on emerging and newly identified health risks by the European Union Scientific Committee in 2015 and the Swedish Radiation Safety Authority in 2016 both concluded that the evidence does not confirm the existence of any health effects related to EMF.

202. AltaLink argued that it was the only party to file expert evidence on the potential health effects from EMF.

203. Many interveners raised concerns with the potential health effects of electric and magnetic fields generated by the proposed development.

204. Ms. Bateman of the Forster Group stated that "although current investigations might conclude that power stations do not have an adverse effect on health…there is no guarantee that this is true…The majority of people buying homes do not want to chance living anywhere near a power station and would not choose a home adjacent to such a site."[70]

205. Ms. Kardash and the residents that signed her petition were also concerned with the safety of the substation, in particular the fire hazard it could pose. Mr. Blanchard indicated he

[66] Exhibit 21973-X0023, Appendix J Electrical Considerations Information, Appendix J-1, page 29, paragraph 2.
[67] Exhibit 21973-X0023, Appendix J Electrical Considerations Information, Appendix J-1.
[68] Exhibit 21973-X0241, AML Undertaking 002 (List of EMF Studies).
[69] Transcript, Volume 2, page 290, lines 12-14.
[70] Exhibit 21973-X0155, family-Chestermere power substation, paragraph 4.

was concerned about the impact of the proposed development on his pacemaker. Mr. Clayton was concerned about induced currents from the proposed transmission lines on his fences.

206. With regard to safety concerns, AltaLink asserted that the substation fire hazard risk is low. AltaLink stated that it takes safety into consideration both in the physical design of a substation site, including the location of the transformer toward the middle of the site and the boundary between the fenceline and the property line, as well as through ongoing controls monitoring and equipment maintenance at substation sites.

207. With regard to pacemakers, AltaLink stated that the risk of interference with pacemakers from 138-kV transmission lines is extremely low. AltaLink noted there would be no measurable EMF exposure from the proposed development at Mr. Blanchard's residence which is approximately 500 metres from Site E.

208. With regard to concerns about electrical shocks from induced currents on fences, AltaLink explained that it will work with stakeholders to ensure that fences close to its facilities are properly grounded to avoid the build-up of electrical charge and possible nuisance shocks.

6.4.2.1 Commission findings

209. The Commission acknowledges that many of the interveners expressed concerns about the potential health impacts of EMF. However, the evidence submitted by AltaLink regarding the typical EMF levels produced by 138-kV transmission lines was uncontroverted by any other expert. As well, the evidence provided by AltaLink on the topic of potential health effects of EMF was uncontroverted by any other person with relevant expertise in this field.

210. The Commission considers the following conclusion in the February 2014 Exponent, Inc. report persuasive:

> The existing body of scientific literature is extensive and has been thoroughly evaluated by multidisciplinary expert panels convened by numerous national and international health, scientific, and governmental agencies, including the World Health Organization (WHO). Overall, none of these agencies and expert panels has concluded that long-term exposure to ELF EMF is known to cause any adverse health effect, including cancer and other illnesses.[71]

211. The Commission accepts Mr. Mezei's expert testimony that subsequent studies of EMF health research in 2014-2016 do not require any revision of the conclusions of the report.

212. Therefore, the Commission finds that there is no evidence to suggest that there will be adverse health effects associated with the EMF produced by the proposed development. Accordingly, the Commission is of the view that all proposed substation locations are acceptable from an EMF perspective.

[71] Exhibit 21973-X0023, Appendix J Electrical Considerations Information, Status Report on Electric and Magnetic Field Health Research 2010-2103, PDF page 4.

213. The Commission accepts AltaLink's assertion that the fire hazard risk at the substation is low. The Commission finds that all three substation sites are acceptable from a health and safety perspective.

6.4.3 Property value impacts

214. AltaLink argued that there was no evidence of property value impacts in this proceeding. AltaLink further argued that there was no evidence of a difference in property value impacts between sites E, A, and C and thus property value impacts was not a reason for the Commission to prefer one site over another.

215. AltaLink asserted that property devaluation is a complex and technical issue requiring specialized knowledge and expertise and the Commission should not give weight to opinion evidence of lay witnesses.

216. Members of the South Chestermere Group were concerned that building the proposed substation at Site E had the potential to decrease the value of their homes and affect future resale.

217. Ms. Kardash and the residents that signed her petition indicated they were concerned that locating the substation at Site E would decrease the value of property in the community.

218. The Forster Group argued that houses built closer to "power stations" sell for a lower price than houses built further away and that a substation at Site E would make their land much less desirable for residential or business development. They asserted that the damage to the value of their property should be mitigated by moving the substation north away from the boundary of their property. The Forster Group further argued that, since the City preferred Site E, it was more reasonable to affect the value and ability to develop the City's land than to affect the Forster land.

6.4.3.1 Commission findings

219. In this proceeding, no expert evidence was filed with respect to the substation's potential impact on the value of surrounding properties. The evidence given was brief and in the nature of personal opinion. There was no evidence on the record of this proceeding to allow the Commission to determine whether there may be a negative effect on the value of lands near the proposed substation. Consequently, the Commission considers that no one location is favoured over another in terms of impact on surrounding property values.

6.5 Environmental impacts

6.5.1 Views of AltaLink

220. AltaLink retained CH2M Hill Energy Canada Ltd. (CH2M) to prepare an environmental evaluation report (EE Report) for the project. The EE Report[72] was based on desktop information, supplemented by 2016 wetland and wildlife field work. The EE Report described the environmental setting of the local study area including terrain and soils, environmentally sensitive areas, vegetation, water resources and wetlands, and wildlife and wildlife habitat. The

[72] Exhibit 21973-X0025, Application, Appendix L-1, Environmental Evaluation.

EE Report assessed the potential adverse effects of the project on these environmental components and compared the potential environmental impacts of sites E, A, and C.

221. CH2M's EE Report selected 22 environmental-specific metrics for comparing the potential environmental impacts of sites E, A, and C to one another. CH2M determined that 18 of the 22 metrics were identical or very similar for all three sites and that the four metrics that were not relatively similar (land uses crossed; total area of native vegetation cleared; number of wetlands encountered; and total area of wetlands encountered) favoured sites A and E over Site C.

222. During the public hearing, CH2M stated that none of the 22 environmental metrics selected by CH2M in its EE Report particularly distinguished Site E from Site A.[73] CH2M argued that the metrics they selected were comprehensive, providing an indication of the potential adverse environmental effects related to all of the proposed sites. CH2M chose not to include additional metrics in its assessment, such as indirect effects on wetlands.[74]

223. AltaLink prepared an Environmental Specifications and Requirements (ESR) document that itemized and described mitigation measures that would eliminate or reduce the potential environmental effects at the proposed substation sites. The ESR contains more than 130 mitigation measures and several appendices describing additional mitigation plans.[75]

224. All three substation sites were expected to encounter soil constraints. The EE Report concluded that Site A had the least potential for adverse effects on soils, but that all potential adverse environmental effects on soils were considered not significant. As a result, all three sites were considered environmentally satisfactory from a terrain and soil perspective with the implementation of the mitigation measures outlined in the ESR.

225. No rare plant species or ecological communities were observed on any of the sites during the wetland and wildlife field work.[76] CH2M concluded that Site A had the least potential for adverse effects on vegetation because it was entirely located on cultivated land, while Site C had the greatest potential for adverse vegetation effects because it would require the most clearing of native vegetation associated with wetlands and also had the highest potential for rare plants.

226. AltaLink's consultant, CH2M, conducted a desktop evaluation of wetlands using satellite imagery photographs. To verify the results, CH2M conducted wetland route reconnaissance surveys for sites A, C, and E in 2016 and reviewed historical aerial photographs to confirm permanency of water in the wetlands.

227. CH2M's EE Report stated that Site C encountered three wetlands (one Class III seasonal marsh wetland and two Class II temporary marsh wetlands) covering a total area of 0.5 hectares within its proposed property boundary, while sites E and A did not overlap or directly impact any wetlands within their proposed property boundaries.

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73 Transcript, Volume 2, page 270, lines 17-25.
74 Transcript, Volume 2, page 271, lines 6-15.
75 Exhibit 21973-X0025, Application, Appendix L-2, Environmental Specifications and Requirements.
76 Exhibit 21973-X0025, Environmental Evaluation, page 6-4.

228. CH2M verified during a July 2016 site visit that the Class VI wetland abutting Site E is outside Site E's property boundary. This wetland is located approximately 5.6 metres from the property boundary of Site E and 31 metres from the proposed substation fenceline of Site E. AltaLink stated that the area between the substation fenceline and the property boundary would be left undeveloped. AltaLink also stated that it may need temporary laydown areas outside the fenced area and confirmed that they would consider siting those areas on the side of the substation that is most distant from the Class VI wetland.[77]

229. AltaLink testified that the proposed fenceline of Site E may need to be expanded to the east and to the west in the future to accommodate additional power lines. AltaLink committed to maintaining a six metre setback between the Class VI wetland and the substation fenceline in the future, based on the City's Wetland Policy.

230. The EE Report concluded that sites A and E would have lower disturbance to wetlands than Site C. CH2M did not further differentiate the potential wetlands impacts of sites A and E.[78] CH2M concluded that potential adverse effects of the project on wetlands, hydrology, and groundwater were not significant for any of the substation locations.

231. AltaLink consulted Alberta Environment and Parks (AEP) on the project's potential impacts on wildlife. Based on a desktop review of evidence, AEP indicated that Site A appeared to be a slightly better option from a wildlife perspective since higher wildlife risks would occur closer to larger permanent bodies of water, like those at sites E and C.

232. The EE Report briefly described the wildlife habitat potential at the three sites:

- Site E was almost entirely on cultivated land, but small areas of Site E and a dugout immediately west of the substation could provide nesting habitat for birds and breeding habitat for amphibians.

- Site A was entirely on cultivated land, with the nearest potential wildlife habitat located 250 metres northeast of the site.

- Site C was within a hayfield with areas of temporary and seasonal wetlands and clumps of aspen and willow trees along the edge of the quarter section, which all offered potential wildlife habitat.

233. The EE Report concluded that Site C overlapped the greatest relative area of suitable habitat for wildlife.[79]

234. AltaLink confirmed in an information request response that wildlife field work determined that the Class VI wetland abutting Site E did not provide any suitable breeding habitat for amphibian species with special conservation status. AltaLink also confirmed that no site-specific wildlife habitat features (e.g., leks, dens, nests) were observed at any of the three sites during 2016 field work.

[77] Transcript, Volume 2, page 272, lines 18-23.
[78] Exhibit 21973-X0025, Environmental Evaluation, page 7-7.
[79] Exhibit 21973-X0025, Environmental Evaluation, page 8-7.

235. AltaLink's facility applications identified two environmental-specific metrics for comparing the potential environmental impacts of the three sites to one another. The first metric, selected to identify the area of wetland that may be directly impacted and thus requiring *Water Act* approval, favoured sites A and E over Site C. The second metric, selected to measure and compare the potential impacts on water birds, favoured Site A over sites E and C.[80]

236. Overall, AltaLink and CH2M concluded that Site A had the lowest potential environmental impacts; however, the differences between the potential environmental effects from sites E and A were considered minor. All three of the proposed substation sites were found to be environmentally satisfactory with implementation of the mitigation measures itemized in the ESR.[81] AltaLink committed to implementing the measures outlined in the ESR.[82]

237. AltaLink contended in the facility applications and during the hearing that Site E had lesser potential environmental impacts than sites A and C when the intended land use for Site E and the remainder of the SW2-24-28-W4 was considered. AltaLink argued that the wetlands in proximity to Site E would likely be affected by light industrial types of development regardless of whether a substation was built there or not. While this argument about future land use is connected to the project's environmental impacts, this topic has been addressed in Section 6.1 of this decision.

238. During the hearing, CH2M disagreed with the position of the South Chestermere Group and its expert that a substation and interconnecting transmission line located at Site E posed a greater potential bird collision risk than one located at Site A; rather, CH2M argued that it considered both sites to have very low potential for bird collisions.[83]

239. CH2M also disagreed with the position of the group that the west half of Site E overlaps a "high groundwater discharge potential zone" identified in the City of Chestermere's Wetland Policy.[84] CH2M only allowed that this zone was "in the vicinity of the west half of Site E ".[85]

6.5.2 Views of interveners

240. The South Chestermere Group retained Cliff Wallis of Cottonwood Consultants to review CH2M's EE Report and conduct his own evaluation and comparison of the biophysical impacts of the three sites.

241. In his report, Mr. Wallis chose seven metrics focused on wetlands and wildlife and determined that Site A was less environmentally impactful in comparison to Site E on six of the seven metrics. Site A was also favoured over Site C on three of the metrics and equal to Site C

[80] Transcript, Volume 2, page 269, lines 11-24.
[81] Exhibit 21973-X0025, Environmental Evaluation, page 9-2; Transcript Volume 1, page 218, lines 18-22; Transcript, Volume 4, page 703, lines 18-25 and page 704, lines 1-10.
[82] Exhibit 21973-X0012, Application, paragraph 301.
[83] Transcript, Volume 1, page 224, lines 6-21.
[84] Transcript, Volume 1, page 222, lines 14-16; Transcript, Volume 2, page 380, lines 23-25 and page 381, line 1; Transcript, Volume 4, page 748, lines 7-10.
[85] Transcript Volume 1, page 222, lines 22-23.

on the other four metrics. Lastly, Site C was favoured over Site E on three of the metrics, equal to Site E on three of the metrics, and not favoured over Site E on one of the metrics.[86]

242. Mr. Wallis observed that CH2M's EE Report did not reference the Chestermere Wetland Policy document. Mr. Wallis testified that the Class VI wetland abutting Site E was ranked as a wetland of "High" significance using the Clare and Sass (2012) wetland evaluation system utilized in the Chestermere Environmental Resources Inventory Report and the Chestermere Wetland Policy document. Additionally, the Class IV wetland located approximately 100 metres south of Site E, across Township Road 240, was ranked as "Exceptional" in significance under the Clare and Sass system. Mr. Wallis stated that, in contrast to Site E, Site A did not overlap or abut any wetlands and was located 1,000 metres from the nearest wetland ranked as "Exceptional" in significance. Mr. Wallis wrote that Site C directly impacted wetland habitat and also was located across the road from another wetland ranked as "High" in significance. He testified that the wetlands on Site C were less permanent and more disturbed by cultivation than the wetlands in the vicinity of Site E.[87]

243. Despite a difference of opinion with CH2M regarding the wildlife habitat value of the wetland abutting Site E, Mr. Wallis agreed with CH2M that the bird collision risk at all three sites was low.[88]

244. Mr. Wallis concluded that Site A had the least potential impacts on biodiversity, especially wildlife habitat and bird mortality risk and that Site C had greater potential biodiversity impacts than Site A, but less potential impacts than Site E.[89]

245. Mr. Lacasse, of the City of Chestermere, testified that AEP had provided the City with a verbal commitment that AEP was satisfied with the City's proposed outline plan for the SW-2 parcel and with a 20-metre setback from, and proposed wetland mitigation for, the Class VI wetland abutting Site E.

246. Mr. Wallis testified that AEP's *Recommended Land Use Guidelines for Protection of Selected Wildlife Species and Habitat within Grassland and Parkland Natural Regions of Alberta* recommends a 100-metre setback between industrial activity and wetlands used extensively by wildlife, which Mr. Wallis considered the wetlands near Site E to be. Mr. Wallis was of the opinion that the project's proposed six metre setback between the property boundary of Site E and the Class VI wetland was not sufficient and that a larger setback "would have helped".

247. Mr. Blanchard, a resident who lives west of Site E, across Range Road 282, testified that the Class IV wetland located south of Site E was a very important wetland in the area because it was shallow, had grass in it, and was the first wetland to obtain water in the spring.[90] Mr. Blanchard also testified that he had observed trumpeter swans using this wetland in the summer.

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86 Exhibit 21973-X0171, Tab G – Cliff Wallis Report, page 2.
87 Transcript, Volume 2, page 368, lines 8-19 and page 458, lines 16-20.
88 Transcript, Volume 2, page 379, line 23 and page 380, lines 20 and 21.
89 Transcript, Volume 2, pages 458-460.
90 Transcript, Volume 3, page 606, lines 17-25.

248. Ms. Bateman, of the Forster Group, expressed concern with Site E's proximity to the wetland area which extends from the south portion of Site E down over a significant portion of their land.[91]

249. Mr. Clayton, whose family has continuously farmed the land at Site A since 1901, testified that a variety of wildlife frequently used their lands, including ducks, geese, owls, and coyotes. He also testified that there was a seasonal wetland "right adjacent to the south part" of Site A.

6.5.3 Commission findings

250. The two main environmental issues that the Commission heard evidence on were potential impacts on wetlands and potential impacts on wildlife. The presence of wetlands provided potential habitat for wildlife and thus elevated the risk of potential impacts on wildlife.

251. The Commission heard that Site C directly impacted wetland areas, Site E abutted wetland areas, and Site A did not directly impact or abut any wetland area. Absent any other considerations, proximity to wetlands slightly favours selection of Site A.

252. The Commission notes that the Site E fenceline will be 31 metres from the adjacent Class VI wetland. The Commission notes that the current fenceline setback meets AEP's guidelines for Class VI wetlands utilized by water birds. For example, Table 3 of AEP's *Stepping Back from the Water* document recommends a minimum setback of 20 metres from Class VI open water wetlands.

253. The Commission also notes that there are no imminent plans to expand the substation. If an expansion is needed in the future, AltaLink would have to apply to the Commission, and the Commission would consider whether or not to approve the expansion given the setback distances at that time.

254. The Commission accepts Mr. Wallis' assertion that the Class VI wetland abutting Site E and the Class IV wetland located approximately 100 metres south of Site E appear to have higher wildlife productivity than the wetlands on and near sites A and C. The Commission also accepts Mr. Wallis' assertion that a substation and connecting transmission lines located at Site E may pose a higher bird mortality risk than if located at sites A or C. The risk is increased at Site E because there is a higher likelihood of wildlife using the wetlands adjacent to Site E than the wetlands in proximity to Site A or Site C. However, the Commission notes that Mr. Wallis ultimately agreed with CH2M that the bird collision risk at all three sites was low.

255. The Commission also notes that only 35 metres of transmission line is proposed to be constructed on the south side of Site E and it would be directly adjacent to an existing and much longer length of transmission line that parallels the south side of Site E. The Commission considers it unlikely that the proposed 35 metres of transmission line would appreciably increase the bird collision risk that is already present near Site E.

[91] Transcript, Volume 2, page 525, lines 14-19.

256. The Commission accepts AltaLink's commitment to incorporate "green jacket technology" for the lower voltage substation equipment to further reduce bird mortalities associated with the project.[92]

257. The Commission considers that potential impacts on wildlife, particularly birds, slightly favours Site A.

258. Overall, the Commission agrees with both CH2M and Mr. Wallis that Site A has fewer potential environmental impacts than Site E or Site C. However, the Commission also accepts the finding of CH2M that all substation locations are satisfactory from an environmental impacts perspective with the implementation of the mitigation measures provided in the ESR. Mr. Wallis ultimately agreed with this as well.[93]

259. The Commission recognizes that the ESR contains a large number of mitigation measures to minimize the project's potential effects on wildlife and wetlands. The Commission accepts AltaLink's assurances that it will implement the mitigation measures itemized in the project ESR for avoiding or reducing environmental impacts.

260. The Commission recognizes that, as much as possible, AltaLink has committed to scheduling vegetation clearing and construction activities outside of the April 14 to August 30 migratory bird nesting period, and also outside of other sensitive periods for species of conservation concern that occur in the local study area such as the March 15 to July 15 raptor breeding season. The Commission also recognizes that AltaLink confirmed in an information request response that if any construction activities occur within the April 14 to August 30 period, then ground searches for other wildlife-habitat features will also be done in conjunction with the nest search survey, including a visual scan out to 500 metres where suitable habitat is present.[94]

261. The Commission expects that AltaLink will monitor the effectiveness of its mitigation measures during the construction phase. If and where mitigation measures are less successful than predicted, the Commission expects AltaLink to develop and implement additional measures to minimize adverse environmental effects.

262. The Commission finds that with diligent application of AltaLink's proposed mitigation measures, and implementation and monitoring of additional mitigation where warranted, construction and operation of the project at any of the proposed substation sites is viable from an environmental perspective.

6.5.4 Noise

263. AltaLink submitted noise impact assessments for each of the applied-for substation sites which demonstrated that each site would comply with permissible sound levels prescribed in Rule 012: *Noise Control*.[95] The assessments revealed that at each of the tested receptors, sites A and C would have compliance margins of at least 4.9 dBA (A-weighted decibel sound pressure level) whereas Site E would have compliance margins of at least 4.7 dBA. In this case, the

[92] Transcript, Volume 4, page 706, lines 8-10.
[93] Transcript, Volume 2, page 426, lines 20-23.
[94] Exhibit 21973-X0042, AML IR Responses to AUC (1-5), AML-AUC-2016OCT11-005(b).
[95] Exhibit 21973-X0023, Appendix J Electrical Considerations Information, Appendices J-2 to J-4.

compliance margin is the amount by which the cumulative sound level is below the permissible sound level.

264. AltaLink acknowledged that high-voltage transmission lines do produce noise, most often described as a crackle and hum but argued that noise from wind, rain, traffic, or industrial sources often masks the low levels of audible noise generated by the transmission lines. Additionally, AltaLink accepted that substations also produce a humming sound as well as additional noise when the cooling fans are operating.

265. Several interveners raised concerns regarding potential noise impacts of the proposed Site E substation location including health risks and danger from increased noise from the substation. Interveners suggested AltaLink plants trees around the substation to prevent noise impacts.

266. The South Chestermere Group raised concerns about constant humming produced from the substation and transmission lines and further indicated that they chose to live in this area of Chestermere because it is secluded and quiet.

6.5.4.1 Commission findings

267. The Commission finds that the noise impact assessments submitted by AltaLink for the preferred and alternate substation locations fulfill the requirements of Rule 012 and that the sound levels at each of the proposed substation sites would be below the permissible sound levels.

268. The Commission finds that impacts associated with noise produced by the proposed substation and associated transmission lines is not a determinative factor when selecting the lowest impact site.

6.6 Cost

269. In response to an AUC information request, AltaLink provided an update to its cost estimates for the proposed development. The estimated costs (within plus 20 per cent and minus 10 per cent accuracy) were are follows: [96]

Table 1. AltaLink's estimated project costs

Substation location	Site A	Site C	Site E
Project cost (+20/-10%)	$ 20.886 million	$ 21.058 million	$ 21.217 million

270. The cost difference between the least expensive site, Site A, and the most expensive site, Site E, is approximately $330,000 or 1.6 per cent of the total project cost. Most of the higher cost is attributable to a different type of telecommunication equipment proposed for Site E. AltaLink explained that there are no transmission system related costs of the project and that the costs, with the exception of about $50,000 in line salvage costs, would be borne by Fortis, the customer.

[96] Exhibit 21973-X0042, AML IR Responses to AUC (1-5), AML-AUC-2016OCT11-003.

271. A microwave radio link is required at Site E, as opposed to UHF communication at sites A and C, as a result of the shorter distance from Site E to the Janet 74S Substation, requiring faster communication.

272. The intervener groups argued that Site E should not be preferred as it had the highest estimated cost.

6.6.1 Commission findings

273. The Commission finds that the estimated cost differences between the preferred and alternate substation locations are not significant given the overall cost of the proposed development and tolerance range of the estimates. Consequently, the Commission considers that no one location is favoured over another in terms of cost.

6.7 Commission findings for Chestermere 419S Substation

274. In this section, the Commission provides a summary of its reasons and findings on the various issues associated with AltaLink's application leading to the Commission's disposition of the application.

275. The Commission finds that the substation facilities proposed in the facility application are consistent with the need identified in the AESO's needs application. The Commission also finds that the facility application, filed by AltaLink pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, complies with the information requirements prescribed in Rule 007.

276. The Commission finds that the current land use is an important factor in weighing the overall impacts of a proposed site. In this case, regardless of the timing of prospective future development, the preferred Site E is located on lands slated for light industrial development. The lands at issue have been slated for this type of development since 2009. Further, the City recently changed the land use designation for the SW-2-24-28-W4 to accommodate light industrial development. The Commission considers this a significant factor weighing in favour of Site E.

277. The land for Site E is owned by the City of Chestermere and available for light industrial development, in contrast to sites A and C which are currently in use by private landowners engaged in agricultural operations. The Commission finds that maintaining agricultural land and minimizing impacts on agricultural operations when a suitable industrial site is available, as is the case in this application, is in the public interest. Thus the Commission considers this a significant factor weighing in favour of Site E.

278. The Commission finds that Site E is at a greater risk for flooding because it is located much closer to Chestermere Lake than Site A or Site C. However, even in the unlikely event of a dam breach, the Commission is satisfied that the substation lands and facilities at Site E will be elevated above the inundation zone through proper design, engineering and construction. Thus the Commission considers that this factor weakly favours sites A or C.

279. While Site E has more residences within 800 metres than either alternate site, the evidence before the Commission is that the City has committed to planting trees along the west side of SW-2-24-28-W4 creating a visual buffer for the closest residences. AltaLink has also committed to installing slats along the west and south sides of the substation fence. The next closest residences are over 750 metres away from the substation and a tree farm is located

between these residences and the substation, providing a visual buffer. Given the distance to residences, existing conditions, and proposed mitigation measures, the visual impact of Site E will be reduced in the short-term. In addition, the lands around Site E will be developed into a business park in the future, which will further reduce visual impacts of the substation. The City has also stated it has plans to plant trees along the south side of the railway tracks, along the north side of the business park, which would further reduce visual impacts of the substation. The Commission considers that in the long-term, the visual impacts of the proposed development at Site E will be less than at Site A or Site C.

280. There is no evidence on the record of this proceeding to suggest that there will be adverse health effects associated with the EMF produced by the proposed development. Accordingly, the Commission is of the view that all proposed substation locations are acceptable from an EMF perspective.

281. The Commission accepts AltaLink's assertion that the fire hazard risk at the substation is low. The Commission finds that all three substation sites are acceptable from a health and safety perspective.

282. There is no evidence on the record of this proceeding to allow the Commission to determine whether there may be a negative effect on the value of lands near the proposed substation. Consequently, the Commission considers that no one location is favoured over another in terms of impact on surrounding property values.

283. The Commission considers Site A to be marginally better than Site E with respect to potential environmental impacts on wetlands and to wildlife. However, the Commission finds that differences between the sites are not significant and that the impacts associated with Site E can be effectively mitigated. Both environmental experts who participated in the hearing gave that opinion. The Commission finds that approval of Site E will not result in significant effects to the local environment.

284. The Commission finds that the sound levels at each of the proposed substation sites will be below the permissible sound levels pursuant to Rule 012. The Commission finds that all three sites are acceptable from a noise perspective.

285. The Commission finds that the differences in the costs of the project depending on the site are insignificant and therefore, cost is not an influential factor in determining which site to approve. Site E, for example, is only 1.6 per cent costlier than the least expensive site which is negligible given the tolerance range of the estimates and the overall cost of the project.

286. While the Commission recognizes that approval of each of the locations proposed by AltaLink has associated impacts, it finds that approval of the preferred Site E location will result in lesser overall impacts than approval of either of the alternate locations.

287. For the reasons and findings expressed throughout the decision and in this part, the Commission finds construction of the proposed Chestermere 419S Substation at Site E to be in the public interest, pursuant to Section 17 of the *Alberta Utilities Commission Act*, having regard to the social and economic effects of the facilities, and their effects on the environment.

288. While the Commission finds that Site E is the lowest impact site overall, it recognizes that landowners in the Kinniburgh neighbourhood have visual impact concerns. To mitigate the visual concerns of these residents, given that the time frame for future development of the business park in SW-2-24-28-W4 is unknown, the Commission directs AltaLink to install slats in the chain-link fence on the north side of the substation in addition to the installations on the south and west sides to which AltaLink has already committed. The Commission directs AltaLink to file a letter with the Commission, within 30 days of completing construction, confirming that this direction has been met.

289. The Commission expects AltaLink to uphold its commitment to work with the City to provide tree screening to the west of Site E along the east side of Range Road 282.

290. The Commission also expects AltaLink to uphold its commitment to continue to consult with the WID and the City regarding final site grading and final elevation of the substation site.

291. The Commission recognizes that the project ESR contains a large number of mitigation measures to minimize the project's potential effects on wildlife and wetlands. The Commission accepts AltaLink's assurances that it will implement the mitigation measures itemized in the project ESR for avoiding or reducing environmental impacts.

292. The Commission also expects AltaLink to minimize its disturbance to the area west of the substation that is abutting the Class VI wetland by locating any temporary laydown areas needed during construction on the east or north sides of Site E if practical. The Commission directs AltaLink to file a letter with the Commission, within 30 days of completing construction, confirming that disturbance of this area was minimized as much as possible.

7 Commission findings on 138-kilovolt transmission lines 765L and 691L

293. The Commission notes that the concerns of the interveners were focused mainly on the substation and not the 138-kV transmission lines. These short transmission lines are necessary regardless of which site is approved and are being connected to a transmission line that already exists.

294. In light of the approval of Site E as the location for the new substation, the new 138-kV transmission lines to be constructed will be approximately 35 metres long. The new transmission lines will be strung on single-pole, wood structures and all structures will be located either in a road allowance or on AltaLink-owned property.

295. Upon connection of the new transmission lines, the resulting transmission line between the Chestermere 419S Substation and the Strathmore 151S Substation would remain designated as 765L and the transmission line between the Chestermere 419S Substation and the Janet 74S Substation would be redesignated as 691L.

296. AltaLink has provided information respecting the nature, extent, land ownership, potential environmental impacts and cost of the proposed transmission line developments as well as the participant involvement program it undertook to notify potentially affected persons.

297. The Commission is satisfied that the potential environmental effects of the proposed transmission line developments will be minimal with the implementation of the mitigations itemized in the ESR.

298. The Commission finds that the transmission lines proposed in the facility applications are consistent with the need identified in the needs application. The Commission finds that the facility applications, filed by AltaLink pursuant to sections 14, 15 and 18 of the *Hydro and Electric Energy Act*, comply with the information requirements prescribed in Rule 007.

299. The Commission finds the proposed transmission line developments to be in the public interest pursuant to Section 17 of the *Alberta Utilities Commission Act*.

8 Commission findings on Balzac 391S Substation alteration

300. The Commission notes that there were no concerns raised regarding the proposed Balzac 391S Substation alteration.

301. AltaLink has provided information respecting the nature, extent, land ownership, potential environmental impacts and cost of the proposed alteration to the Balzac 391S Substation as well as the participant involvement program it undertook to notify potentially affected persons.

302. The Commission finds that there are no outstanding technical concerns associated with the proposed alteration, nor are there any outstanding public or industry concerns. The Commission is satisfied that the potential environmental effects of the proposed alteration are negligible given the alteration will occur within the existing fenced area.

303. The Commission finds that the alteration proposed in the facility application is consistent with the need identified in the needs application. The Commission finds that the facility application, filed by AltaLink pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, complies with the information requirements prescribed in Rule 007.

304. The Commission finds the proposed alteration at the Balzac 391S Substation to be in the public interest pursuant to Section 17 of the *Alberta Utilities Commission Act*.

9 Decision

305. Pursuant to Section 34 of the *Electric Utilities Act*, the Commission approves the need outlined in Needs Identification Document Application 21973-A001 and grants the AESO the approval set out in Appendix 1 – Needs Identification Document Approval 21973-D02-2017 – May 26, 2017.

306. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 21973-A002 and grants AltaLink the approval set out in Appendix 2 – Substation Permit and Licence 21973-D03-2017 – May 26, 2017, to construct and operate the Chestermere 419S Substation at Site E.

307. Pursuant to sections 14, 15, 18 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 21973-A003 and grants AltaLink the approval set out in Appendix 3 – Transmission Line Permit and Licence 21973-D04-2017 – May 26, 2017, to alter and operate transmission line 765L.

308. Pursuant to sections 14, 15, 18 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 21973-A004 and grants AltaLink the approval set out in Appendix 4 – Transmission Line Permit and Licence 21973-D05-2017 – May 26, 2017, to construct and operate transmission line 691L.

309. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 21973-A005 and grants AltaLink the approval set out in Appendix 5 – Substation Permit and Licence 21973-D06-2017 – May 26, 2017, to alter and operate the Balzac 391S Substation.

310. The appendices will be distributed separately.

Dated on May 26, 2017.

Alberta Utilities Commission

(original signed by)

Neil Jamieson
Panel Chair

(original signed by)

Kate Coolidge
Acting Commission Member

Appendix A – Proceeding participants

Name of party or organization (abbreviation) **Name of counsel or representative**	**Group** (if applicable)
Aidoo, R. and E.	South Chestermere
Angulo, A. and A.	South Chestermere
Bablake Ltd. Paxton, P.	
Bateman, L.	Forster
Blanchard, R.	
Bruens, G. and K.	South Chestermere
City of Chestermere Marriott, T.	
Clayton, B. and C.	
Deniger, B.	South Chestermere
Ettienne, K. and K.	South Chestermere
Fiedler, C. and C.	South Chestermere
Forster Group Laycraft, J. B. and Louie, A.	
Forster, M.	Forster
Industrial Power Consumers Association of Alberta Penn, R.	
Johnson, K.	
Kardash, A.	
Knight, J. and D. Ham, H.	
LaBarbera, M. and M.	South Chestermere
Macdonald, T. and G.	South Chestermere
Office of the Utilities Consumer Advocate (UCA) McCreary, C. R.	
Snook, B. and A.	South Chestermere
South Chestermere Group Fitch, G.	
Wenzel, Edith Montgomery, B.	
Western Irrigation District (WID) McAllister, D.	
Worthen, V.	Forster
Wrightson, B.	South Chestermere

Alberta Utilities Commission

Commission panel
Jamieson, N., Panel Chair
Coolidge, K., Acting Commission Member

Commission staff
Larder, D. (Commission counsel)
Macnab, K. (Commission counsel)
Dalsin, C.
Glover, D.

Appendix B – Oral hearing – registered appearances

Name of party, group or organization (abbreviation) Name of counsel or representative	Witnesses
Alberta Electric System Operator (AESO) Sears, A and Sloan, T.	Clendining, W. Kamh, M.
AltaLink Management Ltd. (AltaLink) Hunter, B. and Hunter, B.	Cooke, E. Harvey, C. Mezei, G. Plaha, R. VanWyk, M.
Blanchard, R.	
City of Chestermere Marriott, T. and Plester, G.	Lacasse, J-M.
Clayton, B. and C.	
Forster Group Louie, A.	Bateman, L. Worthen, V.
Kardash, A.	
Knight, J. and D. Ham, H.	
Office of the Utilities Consumer Advocate (UCA) McCreary, R. C.	
Paxton, P.	
South Chestermere Group Fitch, G.	Barer, J. Bell, D. Fiedler, C. Wallis, C.
Western Irrigation District (WID)	McAllister, D.

Appendix C – Summary of Commission directions

This section is provided for the convenience of readers. In the event of any difference between the directions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail.

1. While the Commission finds that Site E is the lowest impact site overall, it recognizes that landowners in the Kinniburgh neighbourhood have visual impact concerns. To mitigate the visual concerns of these residents, given that the time frame for future development of the business park in SW-2-24-28-W4 is unknown, the Commission directs AltaLink to install slats in the chain-link fence on the north side of the substation in addition to the installations on the south and west sides to which AltaLink has already committed. The Commission directs AltaLink to file a letter with the Commission, within 30 days of completing construction, confirming that this direction has been met. (paragraph 288)
2. The Commission also expects AltaLink to minimize its disturbance to the area west of the substation that is abutting the Class VI wetland by locating any temporary laydown areas needed during construction on the east or north sides of Site E if practical. The Commission directs AltaLink to file a letter with the Commission, within 30 days of completing construction, confirming that disturbance of this area was minimized as much as possible. (paragraph 292)

Appendix D – Abbreviations

Abbreviation	Name in full
AEP	Alberta Environment and Parks
AESO	Alberta Electric System Operator
AltaLink	AltaLink Management Ltd.
CH2M	CH2M Hill Energy Canada Ltd.
City	City of Chestermere
dBA	The decibel (dB) sound pressure level filtered through the A filtering network that approximates human hearing response at low intensities.
DTS	demand transmission service
EE Report	Environmental Evaluation Report
ELF	Extremely low frequency
EMF	Electric and magnetic fields
ESR	Environmental Specifications and Requirements
EUB	Alberta Energy and Utilities Board
Fortis	FortisAlberta Inc.
kV	kilovolt
mG	milligauss
MVA	megavolt ampere
MW	megawatt
Rule 007	Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments*
Rule 012	Rule 012: *Noise Control*
SW-2 parcel	Southwest quarter of Section 2, Township 24, Range 28, west of the Fourth Meridian
TFO	transmission facility owner
WID	Western Irrigation District
UCA	Office of the Utilities Consumer Advocate
UHF	ultra high frequency (UHF)