AUC
Alberta Utilities Commission

AltaLink Management Ltd. and ATCO Electric Ltd.

Nilrem to Vermilion Transmission Development Project

September 23, 2021

Alberta Utilities Commission
Decision 26145-D01-2021: Nilrem to Vermilion Transmission Development Project

AltaLink Management Ltd.
Applications 26145-A006 to 26145-A008

ATCO Electric Ltd.
Applications 26145-A001 to 26145-A005

Proceeding 26145

September 23, 2021

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1 Decision summary

1. Building a transmission facility in Alberta requires two applications to the Alberta Utilities Commission. First, a needs identification document that identifies the reasons the new transmission facility is required is filed by the Alberta Electric System Operator. Second, a transmission facility application that proposes a location for the facility considering matters such as routing, siting, consultation and design is filed by an assigned transmission facility owner. The Commission already approved the need for this project as part of the Provost to Edgerton and Nilrem to Vermilion Transmission Development.[1]

2. In this decision, the Commission must consider, pursuant to Section 17 of the *Alberta Utilities Commission Act*, whether it is in the public interest to approve the transmission facilities currently before it, having regard to their social, economic and environmental effects. For the reasons described herein, the Commission denies the applications by AltaLink Management Ltd. and ATCO Electric Ltd. to construct and operate their proposed transmission facilities, as it is unable to approve them as filed.

2 Introduction

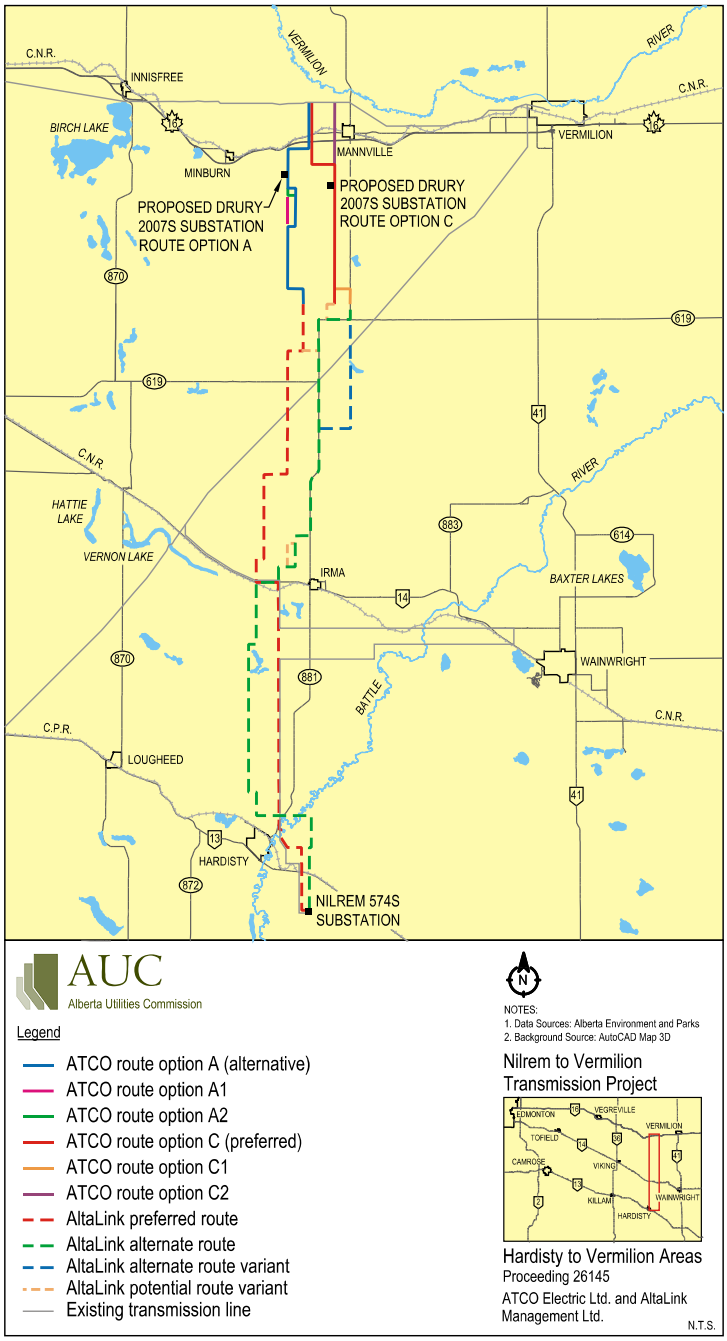
3. AltaLink and ATCO each applied to construct and operate a single-circuit, 240-kilovolt (kV) transmission line, which would be initially energized at 138 kV and 144 kV, respectively. AltaLink's portion, designated as Transmission Line 333L, is approximately 75 to 80 kilometres long, from the existing Nilrem 574S Substation to the service territory boundary with ATCO. ATCO's portion, designated as Transmission Line 7L333, is approximately 13 kilometres long, from the proposed Drury 2007S Substation to the service territory boundary with AltaLink. Both transmission facility owners (TFOs) also filed applications to interconnect the two transmission lines.

4. In addition, ATCO applied to construct and operate the new Drury Substation and to construct and operate a double-circuit, 144-kV transmission line that connects the Drury Substation to existing Transmission Line 7L65; AltaLink applied to alter the existing Nilrem Substation.

5. The proposed routes are shown in Figure 1 below.

[1] Decision 23429-D01-2019: Alberta Electric System Operator – Amended Provost to Edgerton and Nilrem to Vermilion Transmission System Reinforcement Needs Identification Document, Proceeding 23429, Application 2349-A001, April 10, 2019.

Figure 1. Nilrem to Vermilion Transmission Development proposed routes



6. A number of landowners near the proposed development intervened in the proceeding:

   i. The Rosyth Area Landowners Group, comprised of Blake and Kelsey Moser, Lynn and Todd Moser, Catherine and Stewart Crone, and Noel Flaade, opposed the A5 to A40 portion (the AltaLink southern segment, shown in Figure 2) of AltaLink's alternate route and supported AltaLink's preferred route in this area.

ii. Darryl MacKay, Garrett Raasok, Gwenda and Steven Raasok, Adam and Jennifer Stuart, John Stuart, and Larry Stuart opposed AltaLink's preferred route from A40 to B50/A92 (the AltaLink central segment, shown in Figure 2). Darrell Hinkey opposed the alternate route along the same segment.

iii. The Alternate/Alternate Variant Opposition (AAVO) Group, Lyle Barss, Ron Bourgeault, Mac Loades, Alfred and Judy Fleming, and Barb and John Fleming all supported AltaLink's preferred route from B50/A92 to the service territory boundary (the AltaLink northern segment, shown in Figure 2). The AAVO Group is comprised of Laurel Thompson, Duncan Thompson, Diamond T Farms Ltd., Heather Thompson, William Tobman, Greg Fischer, Mystic Dawn Ranch Ltd., Philip Larson, Evelyn Larson, James Barss, Heather Barss, Vernon Haun, Annette Haun, Trisha Rue, Shaun Rue, Doug Larson, Teri Griffiths, Dayne Larson and Larson Motorsports Inc. No party who intervened objected to the preferred route in this area.

iv. The Sargeant Group, comprised of Willie Sargeant, Blaine Sargeant, Derek Sargeant and Joel Christensen, and Howard Arnold opposed ATCO's alternative route, or variants to it. Ron Bourgeault, Bill Bryden, Mac Loades, Carla Schroeder opposed ATCO's preferred route or its C1 variant. Kori Strowger and Shirley Wonsik objected to ATCO's C2 variant. David Kufeldt, Dianne Kufeldt, and Karen Heinemann opposed the common portion of ATCO's preferred and alternative route.

7. The Consumers' Coalition of Alberta (CCA) intervened to address cost-related matters that may affect ratepayers. Braes REA Ltd. also intervened but withdrew its objection before the hearing.

8. The Commission considered all of the submissions received in the course of making its determination on the applications and held a virtual oral hearing to consider the applications, from June 14th to June 25, 2021.

9. In Section 3 of this decision, the Commission explains why, as a result of the applicants' routing process and the information provided in their applications, it was unable to assess routing. In Section 4, it outlines its concerns with a lack of co-ordination between the applicants and the inefficiencies and duplication that resulted from it. In Section 5, it discusses other cost concerns raised in the proceeding. In the last section, the Commission sets out its expectations for future applications by AltaLink and ATCO.

3 Inability to properly assess routing

10. Before deciding to deny the applications, the Commission undertook an extensive assessment of the applications and proceeding materials in an attempt to determine the lowest impact routes. The number of variants, along with the number of ways that the segments can be combined, results in many different overall routes that the Commission could potentially approve. To narrow this down, the Commission first considered the local variants, often segments within segments, in an attempt to determine which would have lower impacts, before it moved on to considering larger segments. This was an iterative process. The Commission also conducted a holistic analysis to assess the impacts of overall combined routes, taking into

account that the interrelated nature of adjacent segments meant they could not be considered in isolation.

11. Ultimately, because of the flawed nature of the applicants' routing process and the discrepancies in the cost information provided, the Commission could not select a route based on the information before it. Despite its extensive route assessment, the Commission had no confidence in the routing determinations it needed to make, particularly since these determinations would decide which stakeholder would be impacted over another. It is further concerned that as a result of the applicants' routing process, other viable and potentially lower-impact routes may not have been placed before it and must therefore conclude that it is not in the public interest to approve any of the proposed routes.

12. The Commission is aware that denying these applications is not without its own impacts. The need for this project has been approved, including dates by which the project should be in service. Denying these applications is likely to result in delays to that in-service date. This has the potential to negatively affect generators intending to connect in the area and load that will continue to be served by an area transmission system that does not meet the Alberta Electric System Operator's (AESO) reliability standards.

13. Furthermore, the already-approved need for the projects means that some interveners may have to go through this process again. This is, at the very least, a significant inconvenience. The Commission recognizes that its processes can be time intensive, especially for those not familiar with them.

14. Having to repeat this process is not only inefficient but will result in additional costs that may ultimately be borne by ratepayers. Given its findings in this decision and while recognizing that such a determination is outside the scope of this proceeding, the Commission considers that the applicants may be responsible for some of these costs.

15. In spite of these drawbacks, the Commission has no other option but to deny the applications. Given the errors and omissions, to do anything else would run counter to the public interest and would erode the public's trust in the regulatory process.

16. To be clear, the Commission is not finding that the routes proposed in this proceeding are not viable, nor does it consider that the facilities fail to meet the need identified by the AESO. It is finding that it does not have adequate information to assess the routes before it and that the applicants have failed to properly assess other viable route options.

3.1 The lack of co-ordination between AltaLink and ATCO resulted in incomplete or improper consideration of routing options

3.1.1 Assignment of transmission projects to transmission facility owners

17. The majority of transmission line applications the Commission receives come from a single applicant. This is not the case in this proceeding, where both AltaLink and ATCO have applied to construct a portion of the 240-kV Nilrem to Drury transmission line. For system projects such as this, the AESO is responsible for determining (direct-assigning) which TFO will construct and operate, and therefore apply for, a transmission facility. In this case, the AESO determined that AltaLink and ATCO would each be responsible for the portion of the project within their respective service territories.

18. It is not the first time a project has been assigned to two different TFOs. In recent years, there have been a number of applications to construct transmission projects crossing a service territory boundary which have been applied for by multiple TFOs (e.g., the Jasper Interconnection Project and, very recently, the Central East Transfer-out Transmission Development Project).[2] Both applicants asserted that they successfully executed such past projects sufficiently and effectively.[3]

19. However, several factors in this proceeding, including the fact that the preferred routes of the applicants do not connect and that the applicants proposed to use different structures and conductors, caused the Commission to question whether this practice was appropriate in this case.

20. After considering the applicants' evidence on their co-ordination efforts and routing, the Commission finds that AltaLink and ATCO failed to adequately co-ordinate to compare and assess overall routes. This lack of a holistic routing process led the Commission to the conclusion that there may be better, lower-impact routes that were not put before it.

3.1.2 Lack of an overall assessment

21. The preferred routes proposed by the applicants do not directly connect to each other. AltaLink's preferred route connects to ATCO's alternative route, while ATCO's preferred route connects to an AltaLink potential route variant that ultimately connects to AltaLink's alternate route. The record reflects that the applicants co-ordinated with respect to identifying potential interconnection points. The addition of an interconnection point at D85/R24 is an example of one TFO identifying impacts within its own service territory and the two applicants working together to consider an alternative to avoid those impacts.

22. However, other than at the interconnection points, each applicant primarily assessed the impacts of its own routes in its own service territory and left it to the Commission to assess the overall impacts. This is abundantly clear as there is not a single place on the record where the routing metrics for the project as a whole are combined into a single comparison. ATCO indicated that in its view, the best approach for the facility applications was to present the evaluation of metrics, stakeholder feedback, environmental considerations and planned mitigations in each of the TFOs' respective service territories separately. The Commission disagrees.

23. While the Commission recognizes that in keeping with its public interest mandate its role is to assess the overall impacts of the proposed routes, it must have accurate and complete information to do so. It can only consider the routes placed before it. The Commission does not have all of the information available to the applicants through their respective routing processes, nor, if it considers there are other potential routing options, can it consult with potentially affected landowners. As a result, to determine whether a given set of applied-for routes is in the public interest, the Commission must be able to conclude that those routes have been adequately assessed before being put forth in an application.

[2] Decision 22125-D01-2018: Jasper Interconnection Project (May 4, 2018); Decision 25469-D01-2021: Central East Transfer-out Transmission Development Project (August 10, 2021).

[3] Transcript, Volume 3, page 509, line 19 to page 510, line 8; Transcript, Volume 5, page 777, lines 14-24.

24. AltaLink and ATCO's independent identification of preferred routes that did not directly connect guaranteed that if the Commission were to approve a particular route, at least a portion of an alternate route would be approved.[4] This factor alone created the potential for additional and unnecessary impacts, given AltaLink's statement that it would proceed with detailed design on its preferred route and that approval of any alternate routes could result in delays and increased costs.[5] In addition, identifying preferred routes that could not both be approved may have contributed to unnecessary confusion for stakeholders. While proposed transmission line routes can and should, be broken into segments where possible and compared on a segment-by-segment basis, an essential part of the iterative routing process is to revisit the overall route, taking into account the various possible segment combinations. Because the applicants failed to do so here, the Commission does not have an accurate and complete picture of the routes that were proposed, nor is it satisfied that in certain areas the routes proposed are the lowest impact routes.

25. ATCO's primary contribution to an overall route was an acknowledgment that in assessing the overall project routes, the Commission may consider it in the public interest to approve construction of AltaLink's preferred route and ATCO's alternative route, and that ATCO did not object to this outcome, as all of its proposed routes are low impact, viable routes. But as noted earlier, ATCO's position was that it considered the impacts in its own service territory separately rather than the routing options for the project as a whole.

26. AltaLink appeared to have conducted some assessment of an overall route, arriving at the following conclusion:

> In assessing the routes in their entirety, AltaLink has identified AltaLink's Preferred Route connecting to ATCO's Alternative Route at B140 as the complete route with the lowest overall impacts, **as it is the shortest overall line length (~101 km)** and has only five residences within 150 m along the entire route. The potential impacts of this route are viewed to be slightly lower than a complete route consisting of AltaLink's Preferred Route (using the B132-C68 and C75-C85 Variants) and ATCO's Preferred Route, which is close to the same line length, has the same number of residences within 150 m, and a slightly higher estimated cost. AltaLink understands that ATCO also views the potential impacts of these two routes as being similar.[6] [emphasis added]

27. No supporting evidence or assessment was provided and critically, one of the key points upon which AltaLink bases its assessment is incorrect. The combination of AltaLink's preferred and ATCO's alternative route described in the paragraph above is not the shortest overall route. In fact, using the preferred route for the southern and central segments of AltaLink's routing, followed by AltaLink's alternate route, its potential variant from C75 to C85, connecting to ATCO's preferred route and using ATCO variant C2, is the shortest route. This route would be approximately 92.6 kilometres in length, or approximately eight kilometres shorter than the route AltaLink identified as the shortest.[7] In addition, as discussed further below, evidence on the

[4] However, a connector segment between nodes B132 and C68 in the northern part of AltaLink's service territory would allow the majority of both preferred routes to be approved.

[5] AltaLink later acknowledged that it would attempt to mitigate these delays and costs by focusing its efforts on the south portion of its routing, farthest away from where ATCO's routing may impact overall routing decisions.

[6] Exhibit 26145-X0045.01, AML PENV Nilrem to Vermilion – Application, PDF page 122.

[7] Exhibit 26145-X0459, AML Undertaking 014 (Confirm Length of AUC Suggested Shortest Route).

record also contradicts AltaLink's statement that the route consisting of AltaLink's preferred route (using the B132 to C68 and C75 to C85 variants) and ATCO's preferred route would have a higher cost than a route consisting of AltaLink's preferred and ATCO's alternative. This is an example of the contradictory evidence that rendered it impossible for the Commission to confidently assess the routes.

28. The applicants' routes are not independent of each other and must be considered together. By considering its routes independently of ATCO, AltaLink may have identified a route with the lowest impacts within its service territory but one that must connect to a higher-impact route in ATCO's service territory. A route that would have higher impacts may exist within AltaLink's service territory but would nevertheless result in a lower overall impact route because it connects to a lower impact route in ATCO's service territory.

29. It appears to the Commission that this scenario has arisen in this proceeding, and in particular, that the applicants failed to properly understand and appreciate the overall costs of certain routes. This is made clear by both applicants' failure to identify the shortest overall route in their evidence. The Commission cannot conclude that the applicants successfully considered all of the available routing options in a comprehensive manner when the only evidence on the record describing their overall route assessment contains a material error.

3.1.3 Interdependence of route segments

30. Although routing must be considered holistically, AltaLink's routes can be initially broken down into three segments, as AltaLink did in its application and shown in Figure 2. Within each of these segments a preferred or alternate route could be approved, which means that a number of combinations of preferred and alternate routes are possible within AltaLink's service territory. AltaLink confirmed that combination routes are viable and able to be approved. Despite this, AltaLink did not initially provide route metrics for individual segments; its applications only included metrics for the complete preferred route, the alternate route, and for the alternate variant, which uses the alternate route for the majority of its length.[8] This was not helpful and multiple rounds of information requests were required to attempt to obtain this information.

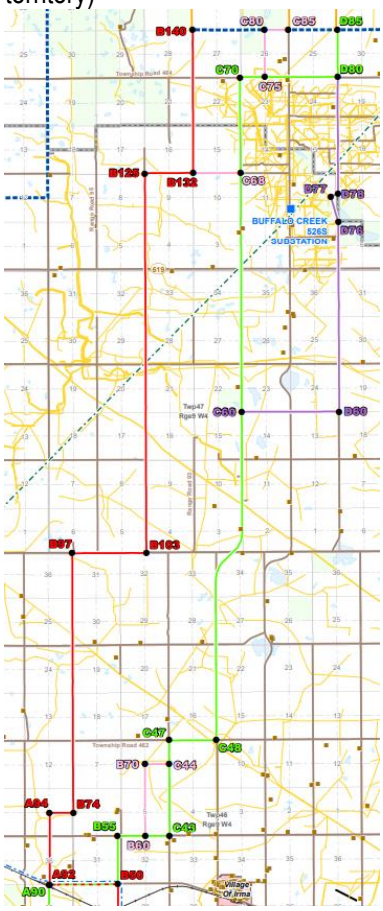
[8] ATCO provided metrics for the segments where it proposed variants, but did not initially provide any information on the costs of those segments.

Figure 2. AltaLink segments

AltaLink southern segment (A5 to 40)

AltaLink central segment (A40 to B50/A92)

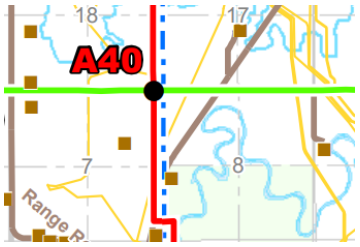
AltaLink northern segment (B50/A92 to ATCO service territory)



31. Where routes can be broken down into segments and combinations of routes are possible, it is essential that the Commission be able to understand the impacts of each individual segment to arrive at an overall route determination, taking into account all of the segments and potential permutations. Given the Commission's understanding that AltaLink's route selection followed such a process (considering routes on a segment-by-segment basis before considering the overall route within its own service territory), it is especially disappointing that AltaLink would fail to provide that level of detail to the Commission at the outset.

32. This segment-by-segment information is essential to the Commission's public interest assessment, because routing must also be considered holistically and iteratively. Decisions on certain segments affect the Commission's decisions on adjacent segments. For instance, the point where two routes intersect at a common node can easily serve as the boundary for a segment; the Commission could therefore approve the preferred route up to a common node followed by the alternate route afterwards (or a number of other possible combinations). However, as is the case at node A40, shown in Figure 3, various combinations can result in A40 being either a tangent or dead-end structure, which results in different structure impacts and costs:

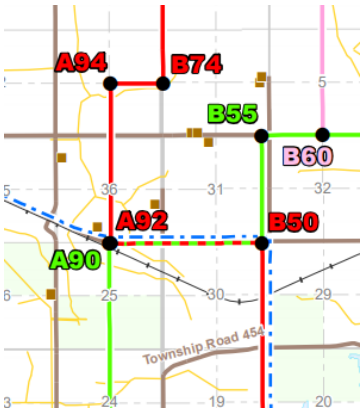
Figure 3. Common node between segments



The preferred route connecting to the preferred route (red) is a straight line, requiring a tangent structure. As is the alternate route connecting to the alternate (green). The alternate route connecting to the preferred route (green to red), or vice versa, is a right angle, requiring a dead-end structure.

33. This is generally the simplest case, as the impacts of a single tangent versus a dead-end structure may not be material to the Commission's decision. In cases where segments do not end at a common node but at points where there are connector routes, the impacts of combining different routes may be material. Such is the case at B50/A92, shown in Figure 4, where it could cost an extra $2.8 million to connect the preferred to preferred (or alternate to the alternate) rather than a combination of the two:

Figure 4. Common route between segments



Travelling from the preferred route to the preferred route (red) or alternate route to the alternate route (green) requires travelling from B50 to A92 (dotted red and green line) which adds length and cost.

34. AltaLink did a segment-by-segment assessment before finalizing its overall routing within its own territory. In doing so, it failed to properly consider that ATCO's portion is effectively another segment. As a result, it is clear that AltaLink and ATCO failed to conduct an overall assessment of their routes together.

35. The evidence reflects a joint routing process wherein each TFO considered which routes were preferred within its own service territory, taking into account the complete routes arrived at by the other TFO. The TFOs did not appear to re-examine a variety of other potential combinations, iteratively taking into account segment-by-segment comparisons in the course of an overall analysis. AltaLink's witness testified to this effect that when it considered final routing with ATCO, it was "using generally complete routes," i.e., comparing AltaLink's complete preferred route or complete alternate route. AltaLink confirmed that this routing consideration did not necessarily contemplate other options, such as the combination of routes that resulted in the shortest overall route identified at the hearing.[9] ATCO indicated a similar focus on AltaLink's complete preferred, alternate and alternate variant routes, on the basis that

[9] Transcript, Volume 3, page 503, line 14 to page 504, line 1.

ATCO understood AltaLink put those routes forward as "the best balance or most feasible" routing combinations.[10]

36. The Commission considers that AltaLink and ATCO erred in this regard. The interdependent nature of AltaLink and ATCO's routes is most prevalent near the service territory boundary; therefore, ATCO's routes have the greatest impact on the northernmost segment of AltaLink's routing. By only assessing AltaLink's complete routes at this stage, the merits of the alternate route in the northernmost segment are potentially diminished by alternate route segments further to the south, with potentially greater impacts. This in turn results in the merits of ATCO's preferred route being diminished by the impacts of AltaLink's alternate route, and fails to properly consider that a combination of routes may be the lowest impact overall route.

37. This issue is perhaps most clearly demonstrated by AltaLink's incorrect assessment that its preferred route to ATCO's alternative route is the shortest overall route. Length is but a single factor considered in routing, and the Commission recognizes that this shorter route may have additional impacts that weigh against it. However, it appears to the Commission that because the applicants did not appreciate the differences in length between the routes, they could not have fully understood or appreciated the cost differences between the routes. In response to an information request to an undertaking given to the Commission during the oral hearing, AltaLink stated that the shortest route would cost approximately $11.8 million less than the route that AltaLink had identified as being the route with the lowest overall impact (AltaLink's preferred to ATCO's alternative).

3.1.4 Routing near the service territory boundary

38. The interdependence between the applicants' routing is most prominent near the service territory boundary. AltaLink's northern segment provides an example of how the lack of overall routing may have affected routing decisions.

39. The Commission recognizes that when viewed in the isolation of its own service territory, AltaLink's northernmost preferred route segment (shown in red in Figure 5) appears to be a low impact route, with no residences within 150 metres, and strong landowner support.

[10] Transcript, Volume 4, page 752, lines 6-18.

Figure 5. AltaLink routes – northern segment (B50/A92 – service territory boundary)

40. However, it accomplishes this through additional length and costs. In isolation, those costs may or may not be materially relative to the impacts; in fact, as shown in Table 1, the preferred route actually appears to be the shortest route and have the lowest cost.

Table 1. Metric analysis comparison – AltaLink northern segment[11, 12]

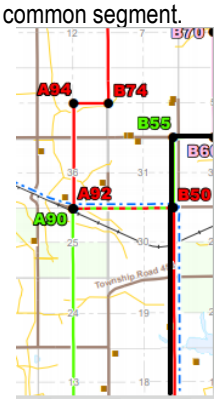
Major Aspects and Considerations	Preferred	Preferred using variant to C85	Alternate using variant to D85	Alternate to C85	Alternate to D85
Total Route Length (km)	33.9	37.2	38.8	34.2	35.8
Cost ($ millions)	39.8	43.7	45.6	40.1	42.0

41. When considered holistically, this is not the case. The preferred route connects to ATCO's alternative route, which costs an additional $5 million relative to ATCO's preferred route.[13] In addition, if the preferred route in AltaLink's central segment were approved, the preferred route in the northern segment would require the use of a common segment from B50 to A92, at a cost of $2.8 million. Conversely, connecting the preferred route in the central segment to the alternate route in the northern segment would not require this $2.8 million common segment.[14]

Figure 6. Common segment

The preferred route connecting to the preferred route requires the common segment.

The preferred route connecting to the alternate route does not require the common segment.



42. This clearly demonstrates the need for an overall analysis, as the cost of the complete route using AltaLink's preferred route is $7.8 million greater than shown in the Table 1 and is now significantly more expensive than the alternate routes (e.g., $7.5 million more than the "alternate to C85"). Adding to this initial mis-assessment of the comparative costs is AltaLink's

[11] Adapted from Exhibit 26145-X0456, AML Undertaking 011 (Update Costs of Route Segment Tables).

[12] A combination of the alternate routing crossing over to the preferred is also possible but the Commission has not included it here as the Commission considers that it will likely have higher costs and higher impacts.

[13] For readability, the Commission has focused its discussion on ATCO's preferred and alternative routes, but both routes have variants, A1 and C2, that would reduce the length and costs, generally at the expense of greater impacts to residences.

[14] The opposite is true if the alternate route to the south (i.e., in the central segment) were approved. In that case, the common segment, and its additional costs, would be required to connect the alternate route in the central segment to the alternate route in the northern segment.

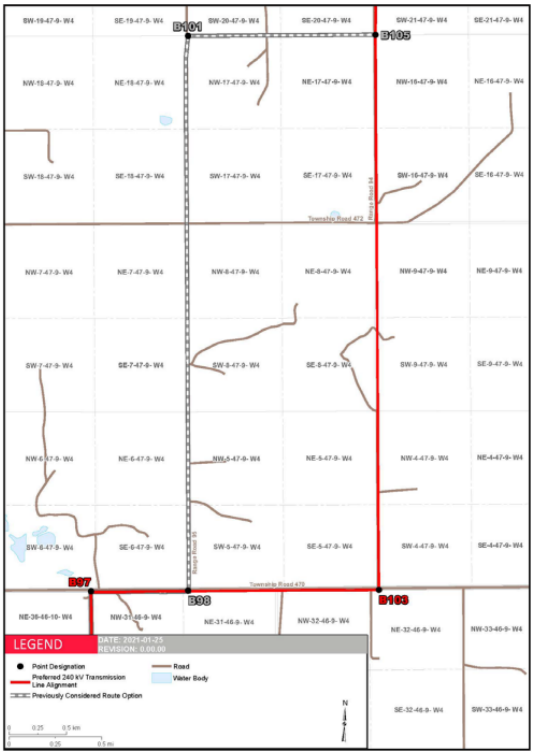
troubling admission that in reality, its segment cost estimates are less accurate than complete, bottom-up estimates and the cost difference between those two routes is actually $10.5 million.[15]

43. Given the incorrect assessment of the shortest route and the applicants only assessing complete preferred or complete alternate routes, the Commission questions whether AltaLink properly understood these costs and as a result did not adequately consider alternative routes. In particular, the Commission is concerned that AltaLink's routing process inadequately considered routes that may have resulted in higher impacts within its own service territory, but when combined with ATCO's routing, would have had lower overall impacts.

44. For AltaLink's northern segment, the Commission was largely left to decide between a preferred route with low impacts and high costs and an alternate route with higher impacts and lower costs. It questions whether there is a middle ground option that better balances costs and impacts, whether AltaLink failed to identify such an option because it did not fully understand the significant cost increase of the preferred route, or that perhaps, as discussed later, it was rushed in filing its application.

45. One example of a route that could have been considered is near an amendment AltaLink filed after the Commission initially placed the applications in abeyance. The amendment to its preferred route is shown below:

Figure 7. AltaLink amended route[16]



[15] Exhibit 26145-X0472, AML IR Response to AUC on Undertaking 013. AltaLink stated that the cost difference between the combination of its preferred and ATCO's alternative and the shortest route identified by the Commission is $11.8 million. The shortest route includes ATCO's C2 variant, which is $1.3 million less than the preferred, hence $10.5 million.

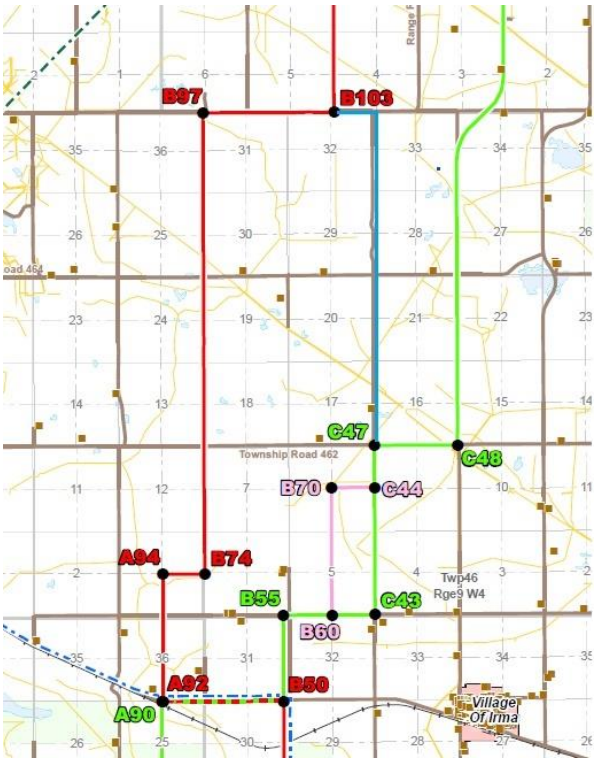
[16] Exhibit 26145-X0045.01, AML PENV Nilrem to Vermilion – Application, PDF page 114.

46. AltaLink submitted that compared to the previous preferred route, the amended preferred route would reduce agricultural impacts and reduce costs by $220,000 due to fewer angle structures.

47. The Commission agrees that AltaLink's amended route is superior to its previous preferred route, but considers that AltaLink failed to consider whether this change also created additional routing options on a broader scale. The amended route moves the preferred route further east at a more southern point (B103), and as a result, it is now closer to AltaLink's alternate route.

48. In the hearing, the Commission asked whether AltaLink considered a route from C47 on its alternate route to B103 on its preferred route (shown in blue in Figure 8). Although AltaLink investigated a potential route in this general area prior to its application amendment, it stated that it had not considered that particular route, and that stakeholders had expressed a preference for the preferred route in this area. AltaLink also indicated that such a route would be within 150 metres of a residence that would not otherwise be affected, and would require use of the alternate route from B50 to C47, which AltaLink considered had greater impacts than the preferred route. In response to an undertaking, AltaLink estimated that such a route would cost $3.8 million less than the preferred route. The Commission observes that such a route would avoid impacts associated with four residences within 150 metres of the alternate route, as well as other impacts raised by the Flemings and members of the AAVO Group.

Figure 8. C47 – B103 aid to cross route[17]



[17] This map was submitted as an aid to cross-examination, and is included here merely for illustrative purposes; the Commission has consistently found that only a witness's responses to questioning consist of evidence for the purposes of the Commission's consideration of the application.

49. As this route is not before the Commission and AltaLink has not consulted on it, the Commission cannot fully assess its impacts, let alone approve it. However, based on a preliminary analysis, it appears to represent a route with potentially lower impacts to landowners than the alternate and at a lower cost than the preferred, and may consequently result in a lower overall impact route. As such, the Commission expects that AltaLink will reassess routes in this area to attempt to find a route that better balances costs, environmental effects, and impacts to landowners.

3.2 AltaLink and ATCO failed to provide complete and accurate information to be able to assess overall routes

50. The applicants' decision to not conduct an overall route assessment and only consider routing within their respective service territories meant that there was not one place where the Commission could look to see the metrics of an overall route. While the Commission attempted to piece together the available evidence to arrive at its own determination of which route combinations could be approved, it was unable to do so. The lack of complete and accurate information, particularly the cost estimates, rendered it impossible for the Commission to properly assess the routing options before it. As previously discussed, segment information was not provided when the applications were initially filed, took multiple information requests to obtain, and it was only at the hearing that the Commission finally understood the degree of potential inaccuracy in the segment cost estimates provided.

51. AltaLink and ATCO's routes can connect in number of different ways. Local variants and decisions on preferred versus alternate routes in other segments further from the service territory boundary will affect the overall costs of the route. For illustrative purposes, the Commission focuses on five routes that demonstrate the importance of holistic routing and accurate cost estimates. In this illustration, although the Commission makes certain assumptions and eliminates certain variant combinations to explain its attempt at an assessment, these routes are not intended to reflect any Commission routing decisions:

i. AltaLink's alternate (green in Figure 10) to ATCO's preferred (red in Figure 9) via AltaLink's potential route variant from C75 to C85 (pink in Figure 10).

ii. AltaLink's alternate to ATCO's preferred via ATCO's C1 variant (orange in Figure 9).

iii. AltaLink's preferred (red in Figure 10) to ATCO's alternative (blue in Figure 9).

iv. AltaLink's preferred to ATCO's preferred via AltaLink's potential route variant from B132 to C68 (southern pink section in Figure 10) and its potential route variant from C75 to C85 (northern pink section in Figure 10), referred to as the "crossover route."

v. AltaLink's preferred to ATCO's preferred via AltaLink's potential route variant from B132 to C68 and ATCO's C1 variant.

Figure 9. ATCO routing near service territory boundary

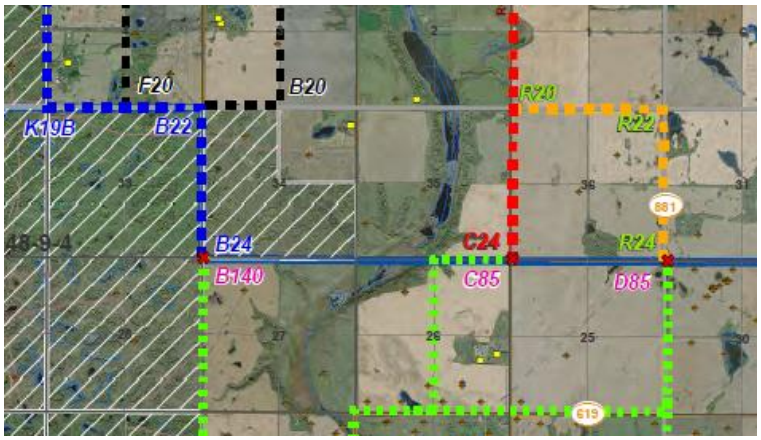
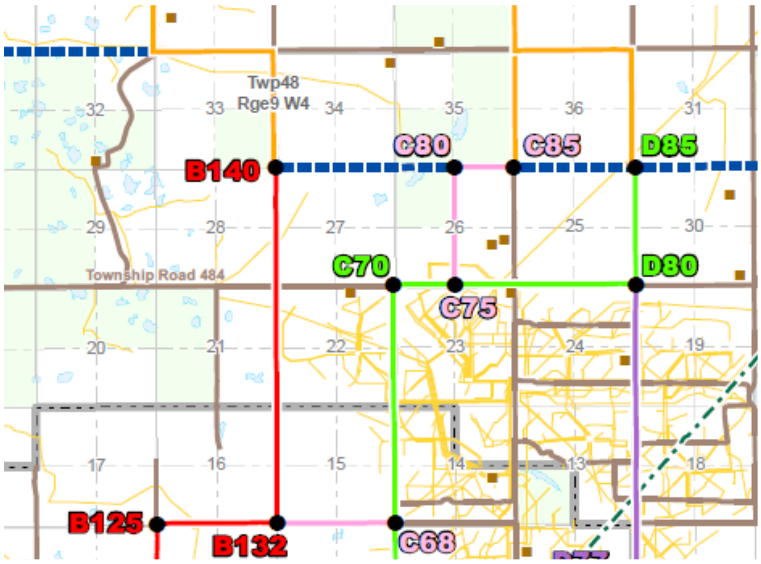


Figure 10. AltaLink routing near service territory boundary



52. The overall incremental costs of these five routes, which are based on ATCO's overall cost metrics and on metric tables for segments provided by AltaLink, are summarized in Table 2 below. For comparative purposes, the Commission assumed a choice of AltaLink's preferred routes in its central and southern segments, which means that AltaLink's preferred route would require the use of the $2.8 million common segment (from B50 to A92). As noted above, ATCO's alternative route costs $5 million more than its preferred; (AltaLink's segment cost estimates were provided in Table 1).

Table 2. Overall route costs[18]

	AltaLink alternate to ATCO preferred (via potential variant (C75 to C85))	AltaLink alternate to ATCO preferred (via C1 variant)	AltaLink preferred to ATCO alternative	AltaLink preferred to ATCO preferred (via potential variant (C75 to C85))	AltaLink preferred to ATCO preferred (via C1 variant)
Incremental Cost ($M)	0.0	2.5	7.5	6.4	8.9

53. The crossover route (combining AltaLink's preferred and ATCO's preferred using the C68 to B132 connector and the C75 to C85 variant) would be $1.1 million less than AltaLink's preferred, or $6.4 million more than using AltaLink's alternate. This contradicts AltaLink's statement that the crossover route would be more expensive than a combination of AltaLink's preferred and ATCO's alternative routes.

54. In response to an information request on an undertaking given at the oral hearing, AltaLink indicated that the cost of its preferred route connecting to ATCO's alternative route would be approximately $173.4 million, or $11.8 million more than the shortest route identified by the Commission. The shortest route would use AltaLink's preferred route in the southern and central segments, the alternate route in the northern segment (thereby negating the need for the common segment (from B50 to A92)) and the potential variant from C75 to C85 to ATCO's preferred route. The shortest route would also use ATCO's C2 variant which, for simplicity, the Commission has not included in the above estimates. The C2 variant results in an additional $1.3 million in cost savings; as such the Commission considers the costs of AltaLink's preferred route in this segment to be $10.5 million more than the alternate route via C85. This is a significant increase from the $7.5 million indicated in Table 2.

55. AltaLink clarified the discrepancy between the costs as follows:

> The identified discrepancies when comparing the overall project cost of $173.4M versus the various segments are a result of how the estimates were developed. The $173.4M cost estimate is a result of using AltaLink's and ATCO's complete "tip to tail" Preferred and Alternate Route estimates that were developed as a detailed "bottom up" estimate. This estimate includes all project costs, as required in Rule 007 TS43 and Appendix B2. For the purpose of providing a high level comparison of various route segments or combinations as requested by the AUC, AltaLink used a per kilometer unit rate derived from the Preferred Route or Alternate Route (i.e. depending on the segments identified for analysis that would connect to the Preferred or Alternate Route). The per kilometer segment costs filed in the undertaking response included only [certain costs] in an effort to normalize the costs for comparison purposes. Taking individual segments using this method to develop a complete route cost estimate results in a less accurate estimate.[19]

56. The Commission is surprised at the size of the cost discrepancy between the two methods. While it appreciates that it may not be efficient to prepare detailed cost estimates for every route combination, it must have accurate cost information to properly assess which routes are in the public interest. Not only did it require multiple rounds of information requests to obtain segment-by-segment costs from AltaLink, the information the Commission ultimately received underestimated the cost differences between certain routes by a margin of 40 per cent. It

[18] Assumes the selection of the preferred route from A5 to B50 for all routes.
[19] Exhibit 26145-X0472, AML IR Response to AUC on Undertaking 013.

is difficult for the Commission to rely on any of AltaLink's segment cost estimates given this level of discrepancy.

57. Because AltaLink did not provide an overall cost estimate comparison for the crossover route, the Commission must assume that the additional cost of this route, relative to AltaLink's alternate in this segment, is between $6.4 million and $9.4 million.[20]

58. The Commission considers that the location of the potential route variant, node C68 to B132, serves as a better delineation point between segments than the service territory boundary. Selecting ATCO's alternative route would require selecting the portion of AltaLink's preferred route north of B132 and so it is important to consider those routes together; the same is true for ATCO's preferred and AltaLink's alternate.[21] ATCO's preferred route is $5 million less than its alternative route. Additionally, from node B132, according to AltaLink's segment costs estimates, the alternate route followed by the potential route variant from C75 to C85 is $3.9 million more than the preferred route. This suggests that AltaLink's preferred to ATCO's alternative is $1.1 million more expensive. However, given the variance between AltaLink's segment cost estimates and its complete bottom-up cost estimate for the shortest route, the Commission is not confident relying on those estimates. The Commission considers that cost would be a factor in choosing between these routes, and if AltaLink's $3.9 million estimate were again off by nearly 40 per cent, the AltaLink preferred to ATCO alternative route option might actually be less costly. Absent accurate cost information, the Commission cannot confidently determine which route is in the public interest.

59. Had the applicants co-ordinated to provide route metrics, including costs, for overall routes, the Commission would not have had this issue. Instead, the Commission was forced to try and piece together information from various sources. This was an inefficient, and in this case, an ultimately Sisyphean exercise.

60. The Commission expects that AltaLink, and all applicants, will take measures to ensure that more accurate segment cost estimates are provided in the future.

61. The Commission is also concerned with the magnitude of the cost variances between the different variants for AltaLink and ATCO. The cost difference between ATCO's Route A and Route A1, and also between its Route C and C2, is $0.6 million.[22] The differences in length in both cases is 1.6 kilometres. Conversely, the cost difference between AltaLink's C75 to C85 and C75 to D85, which would also have a difference in length of 1.6 kilometres, is $1.9 million.[23] Based on these figures, it appears as if AltaLink's costs are more than three times those of ATCO's to build the same length of transmission line. Further, in both of the ATCO cases, the additional $0.6 million is inclusive of additional dead-end structures, while in the AltaLink case, the route which is an extra $1.9 million actually requires fewer dead-end structures.

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[20] The former is calculated based on the incremental cost from the segment metric tables, $3.6 million, plus the additional costs for the A92 to B50 portion, $2.8 million. The latter is calculated by taking the $10.5 million overall cost difference, subtracting the $5 million difference for ATCO's preferred route and adding the incremental cost of the crossover route relative to the preferred, $3.9 million, from AltaLink's segment metric tables.

[21] For ease of the reader, the additional variants have been ignored.

[22] Exhibit 26145-X0167, ATCO-AUC IR Responses to AUC (1-17), PDF page 22.

[23] Exhibit 26145-X0456, AML Undertaking 011 (Update Costs of Route Segment Tables), PDF page 8.

62. The Commission observes that ATCO's route comparison costs include material, structure foundations, structure assembly and erection, and conductor stringing but do not include construction mobilization and demobilization, brushing and access, matting, surveying, engineering, and right-of-way planning. ATCO's costs may be somewhat understated as a result of the factors not included; but as discussed earlier in the context of the significant difference between its segment cost estimates and its bottom-up cost estimates, there is also evidence in the proceeding that indicates that AltaLink's segment costs are understated.

63. The fact that AltaLink and ATCO proposed different transmission structures and conductors for transmission lines 333L and 7L333 only exacerbated the difficulty in comparing routes, as AltaLink's proposal to predominantly use steel monopole structures and ATCO's proposal to use wooden H-frame structures may be a contributing factor in these cost differences.

64. Both the CCA and the Commission asked many information requests and hearing questions about the reasons why the TFOs arrived at different solutions. In testimony, AltaLink outlined some of the differences in the TFOs' line optimization studies that may have contributed to the different outcomes. These included differences in the assumed price of steel, assumed land costs, assumed ruling span limits, and that the bedrock layer in ATCO's service territory was likely not conducive to the use of screw pile foundations. AltaLink also eliminated wood structures early in its consideration, citing concerns about the difficulty of procuring wood poles of the required size in large quantity. ATCO stated that it did not anticipate issues in procuring wood poles but did note that its line length was shorter than AltaLink's and would consequently require fewer wood poles.[24] AltaLink appeared to place greater weight on landowner preference and that monopoles would reduce agricultural impacts, while ATCO appeared to place greater weight on annual structure payments compensation for any additional impacts.

65. Despite considerable time spent on the topic, the Commission never received a satisfying answer for why the TFOs arrived at different solutions. Nevertheless, the Commission acknowledges that some of the factors identified for the discrepancy are legitimate, and that the TFOs' conclusions may ultimately be reasonable.

66. It is unclear whether the degree of cost variance between AltaLink and ATCO for similar length routes is driven by different structures and conductors, by different cost estimating practices, or by something else. In contrast, the Commission recognizes that elsewhere on the record, the applicants provided per-kilometre costs that were much more in line with each other.[25] Should AltaLink and ATCO's cost estimates continue to have significant variances for similar length routes when they re-apply, the Commission expects that they will clearly outline the reasons for the differences.

67. The Commission has been put in the difficult position of having to choose a superior route, in many cases between two alternatives with comparable impacts, using cost information that appears to be inaccurate to such a degree as to be useless.

[24] Transcript, Volume 5, page 775, lines 11-18.

[25] ATCO estimated the per kilometre cost as $1.1 million; Exhibit 26145-X0167, ATCO-AUC IR Responses to AUC (1-17), PDF page 18. When AltaLink estimated the costs of an intervener-proposed route, the per kilometre cost, excluding the dead-end structures required for the route, was approximately $1.16 million. Exhibit 26145-X0454, AML Undertaking 009 (Breakdown of $4.4M in Reply Evidence).

68. The Commission understands that the cost estimates are just that, estimates; and that the costs of a route are subject to change as the project moves forward, as new and better information is determined or as unforeseen circumstances arise. It has always considered cost estimates in facility applications and relied on them to make its decisions. However, in this case, there is evidence to suggest a much higher level of inaccuracy than the Commission typically sees. Further, in order to make a decision here, the Commission has to compare and contrast, and in certain instances, combine costs estimates from the two applicants to assess the routes. This is not possible, given the issues identified. Without the ability to rely on the cost estimates, or the ability to assume that the TFOs' estimates are comparable, the Commission cannot discharge its mandate to determine which routes are in the public interest.

3.3 Failure to iteratively assess routes

69. The applications were initially placed in abeyance due to what the Commission considered a material deficiency and to allow routing alternatives to be finalized. The Commission considers it prudent for applicants to continue to consult with parties even after the application is filed, and recognizes that application amendments may arise in an attempt to mitigate parties' concerns or as a result of new information. Here, it appears as if the applicants knowingly filed applications they knew were incomplete or subject to change. The Commission questions whether time pressure to move the project forward resulted in the applicants, AltaLink in particular, cutting short the iterative routing process and finalizing routes prematurely.

70. When asked whether AltaLink had enough time to fine-tune routes, AltaLink's witness indicated that it had adequate time to adjust routes from the time it was directed by the AESO to file an application, notwithstanding some of the impacts that were felt in 2020. The AltaLink witness also noted some late-arriving route suggestions from landowners, which required additional time to assess and consult on and ultimately drove AltaLink's amendments.[26]

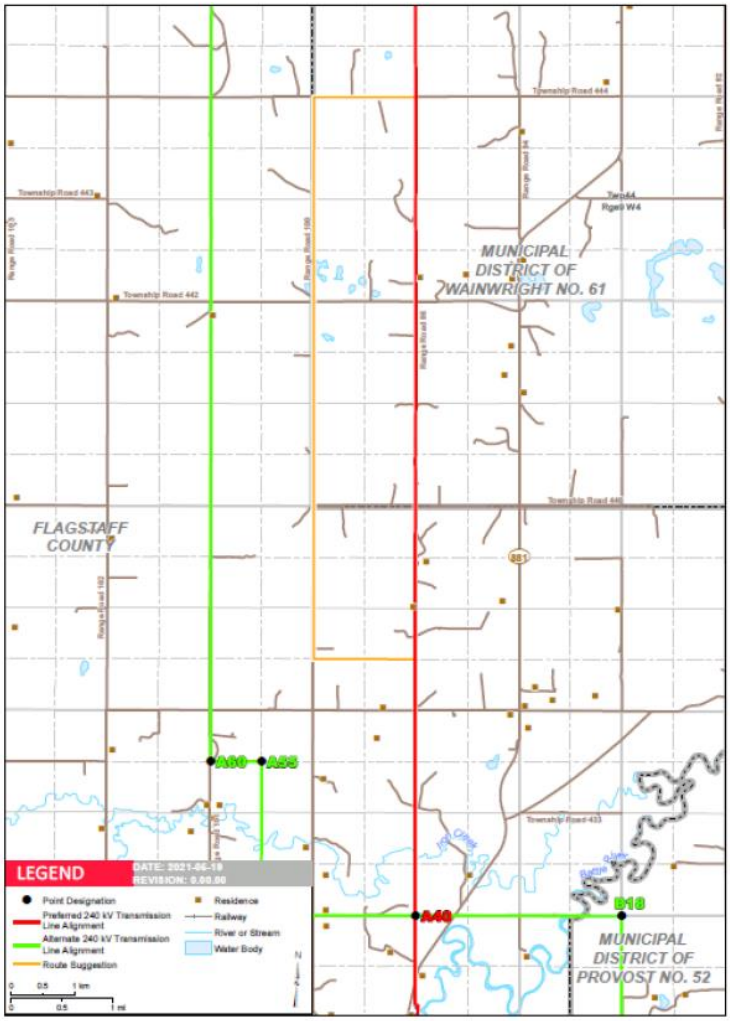
71. As previously discussed in Section 3.1.4 (and as shown in figures 7 and 8) the Commission questions whether AltaLink considered one of those amendments too narrowly, considering it only in the context of an amendment to the preferred route rather than as a potential route for the area more generally.

72. Routing near the Stuarts in AltaLink's central segment is another example of where AltaLink may have failed to properly consider route options. The Commission acknowledges that generally speaking, the preferred route within this segment is a low-impact, viable route that is entirely within road allowance and parallels an existing transmission line, and understands why AltaLink would immediately identify this as a potential route. All transmission routes have impacts of some kind, and in this area the preferred route may well be the option that best balances the overall impacts and costs, even taking into account its impacts on the Stuarts. But in this particular case, the Commission's concerns with AltaLink's routing process have led it to the conclusion that AltaLink failed to properly assess whether there were lower-impact alternatives in this area.

73. One such potentially lower-impact alternative was proposed by the Stuarts themselves (shown in orange in Figure 11), along Range Road 100. And during examination, the Commission also presented to AltaLink a potential variation to the Stuarts' route alternative.

[26] Transcript, Volume 3, page 529.

Figure 11. Stuart variant[27]



74. While AltaLink did not specifically include it in its applications, it did consider a route along Range Road 100, which it rejected on the basis of higher environmental and residential impacts than other routes. However, these impacts pertained to locations along Range Road 100 either south or north of the portion used for the Stuart variant. While the Commission agrees with AltaLink's rationale for rejecting a route along Range Road 100 as a whole, it considers that AltaLink should have revisited a portion of that route once it understood the level and nature of the impacts to the Stuarts.

75. The Commission emphasizes that its concerns lie with AltaLink's routing process, which reveals a failure to assess potentially lower-impact alternatives, not with the preferred route itself. The Commission acknowledges that despite the impacts to the Stuarts, it is certainly viable and may ultimately be the best option in the area. That said, it is incumbent upon applicants to ensure that they consider all available options through a robust routing process.

76. The Commission acknowledges that both AltaLink and ATCO have a high level of expertise in routing. In this instance, the evidence on this record, including the lack of

[27] Exhibit 26145-X0373, AML Reply Evidence, PDF page 8.

consideration of potentially viable route options and the lack of an overall route assessment, caused the Commission to question their practices and proposed routes. It is unclear what exactly drove these errors and omissions, but the Commission is left wondering if adherence to deadlines to file the applications or to attempt to meet an established in-service date was a contributing factor.

4 Assignment of project to both transmission facility owners resulted in increased costs

77. The Commission is of the view that not only did the assignment of the project to two TFOs and the lack of co-ordination result in issues with routing, it also resulted in unnecessary costs.

78. While the AESO is responsible for determining who is eligible to apply for transmission facilities based on the TFOs' service territories under Section 24 of *Transmission Regulation*,[28] that section nonetheless gives the AESO the discretion to assign projects to a TFO other than on the basis of geographic areas. Although Section 24 does not specifically mention when or why the AESO might use such an exception, it seems to the Commission that a project crossing a service territory boundary would be an obvious candidate for the AESO to use such discretion. This is consistent with the ISO Rules, Part Two, Section 9.1.1.2, which specifically contemplates an exception for projects spanning service territory boundaries:

> …
>
> e) With respect to a Project that is located in more than one service area, where the TFOs in those service areas have entered into an arrangement or agreements, with respect to the Project,
>
> i) whereby the Project is to be constructed or operated or both by one or more of the TFOs or by a separate entity created for the purpose of the Project and wholly owned, directly or indirectly, by one or more of:
>
> (A) the TFOs;
>
> (B) the direct or indirect owners of the TFOs; and
>
> (C) entities that are directly or indirectly wholly owned by the owners of the TFOs; and
>
> ii) which would result in the safe, reliable and efficient operation of the transmission system and such arrangement or agreement has been filed with the Commission.
>
> the ISO may issue a Direction in respect of the Project to one or more of the TFOs in accordance with such arrangement or agreement, and one or more of the TFOs, or the entity created for the purpose of the Project, is eligible to apply for the construction or operation, or both, of the transmission facilities.

79. The AESO could have assigned this project, or at the very least the entirety of the 240-kV transmission line from the Nilrem to Drury substations, to a single TFO, rather than splitting the

[28] *Transmission Regulation*, Alta Reg 86/2007, Section 24(1); *Hydro and Electric Energy Act*, RSA 2000, c H-16, sections 28 and 29, and ISO Rules, Part Two, Section 9.1.1.2, PDF page 334.

project at the service territory boundary. Neither AltaLink nor ATCO disputed this. As the AESO is not a party to this proceeding, the Commission is unable to know whether the AESO considered assigning the entirety of the project to a single TFO, or if it did, its rationale for rejecting that idea. Nonetheless, the TFOs both confirmed that they did not have any discussions with each other or the AESO about the project being assigned to a single TFO.

80. Both TFOs also stated that they co-ordinated with each other, had a history of executing projects effectively and efficiently, and it would not have been more efficient to have a single TFO responsible for this project. The Commission is not convinced. The record reflects that there was significant, avoidable duplication of work that would not have occurred if a single TFO had been responsible for the project (or potentially, if the applicants had more effectively co-ordinated).

81. Perhaps the simplest example is the increased costs of the regulatory process. The Commission's process was essentially doubled, from application materials, to information responses, to both applicant and intervener evidence, to witness panels at the hearing. The Commission's review was also unnecessarily lengthened by having to piece together the separate applications to assess an overall route. The Commission regularly encourages interveners to form groups and work together to reduce the duplication of information, as evident in Rule 009: *Rules on Local Intervener Costs*. It considers this principle to be equally applicable to applicants.

82. Moreover, each applicant completed its own line optimization study which, compared to the scenario where a single TFO would design and construct the entire line, is a clear duplication of work. The fact that the applicants arrived at different conclusions for conductor and structure type only exacerbated the issue, as it took time and effort to reconcile through the information request and hearing process, also resulting in increased hearing and regulatory costs. It also increased confusion for stakeholders.

83. Additionally, the TFOs each conducted their own participant involvement program, which resulted in inefficiencies and confusion for stakeholders, particularly those who own land on both sides of the service territory boundary. The evidence of Ron Bourgeault clearly demonstrates his frustration with having to deal with both applicants, made worse by the fact that they had selected separate preferred routes which did not connect, and proposed different types of structures. While AltaLink and ATCO stated that they ultimately arranged to meet with R. Bourgeault together to resolve this issue, this should have been considered at the outset. Given the inability of either TFO to speak on behalf of the other, the Commission considers that having a single TFO responsible for the project would have eliminated this particular concern.

84. There was bound to be some duplication of effort by the TFOs as a result of the AESO's decision to assign the project to multiple TFOs. However, the Commission also concludes that the TFOs' ineffective co-ordination resulted in the costs and impacts of this project being greater than they otherwise would have been. This is evident by the TFOs' proposal to install immediately adjacent dead-end structures at the service territory boundary. As explained by ATCO:

> ATCO and AltaLink will each construct a structure at the end of their respective transmission line, which will be located on the service boundary. ATCO will construct a 3-pole wood deadend structure and AltaLink will construct a 2-pole steel deadend structure. ATCO and Altalink have agreed that the conductor interconnecting ATCO's and Altalink's transmission line will be owned by ATCO.[29]

85. Had a single TFO been assigned to the project, there would be no need for a second dead-end structure along the service territory boundary. That said, it is not clear to the Commission why AltaLink and ATCO did not themselves endeavour to co-ordinate to use a single dead-end structure. The Commission understands that having two dead-end structures may be an attractive option for the TFOs from a design, scheduling, and liability perspective, but this comes at the expense of ratepayers, who have to pay for the extra structure, and landowners at the service territory boundary, who would be subject to the additional impacts of a second dead-end structure that need not exist.

86. While the Commission understands that generally speaking, there are merits to having TFOs construct and operate facilities within their respective service territories (for instance, they may have existing relationships with landowners that would make consulting easier or more efficient), it is not convinced that the benefits outweighed the costs in this instance.

87. Co-ordination between the applicants appears to the Commission to have only been attempted where absolutely necessary (e.g. identifying interconnection points) rather than pursued as an overarching goal to try and find efficiencies and cost savings.

88. Significant costs have already been incurred as a result of the decision to assign the project to two TFOs. This cannot be remedied by sending the project back to be designed and applied for by a single TFO; doing so at this stage would only result in additional costs. Instead, the Commission wishes to emphasize that the AESO should use its discretion in assigning future projects that cross service territory boundaries. Large projects with significant infrastructure in each service territory may be well suited to be assigned to multiple TFOs. But projects that are for the majority proposed to be located within a single TFO's service territory may be more efficiently executed by a single TFO. Here, for example, approximately 85 per cent of the Nilrem to Drury transmission line length, or approximately 75 per cent of the length of the overall project, inclusive of the 7L65/7L205 transmission line, is within AltaLink's service territory.

89. In conclusion, the Commission wishes to emphasize that where a transmission line is assigned to multiple TFOs, the TFOs must strive to co-ordinate to reduce the costs and impacts of the project. It is not convinced that AltaLink and ATCO successfully did so in this instance, and this failure to properly co-ordinate may result in the Commission deeming costs to be improper or imprudent at a later date.

5 Other concerns

90. The CCA raised a number of concerns about the cost consequences of various decisions made by the TFOs. The Commission has outlined some of the CCA's recommendations and its

[29] Exhibit 26145-X0167, ATCO-AUC IR Responses to AUC (1-17), PDF page 6.

findings in this section, but finds that many of the CCA's recommendations were either vague or unsupported by any evidence.

5.1 Transmission structure selection and costs

91. As previously discussed, each applicant proposed different types of structures for its portion of the project. The CCA submitted that line optimization studies should not be used to prematurely reject viable transmission line structure and foundation options; they should be used for the purpose intended, for conductor selection, or alternatively, the design definition requirements should be enhanced to support structure and foundation selection. Although the Commission agrees with this statement, and never received a satisfying answer why different structure types were chosen, it is not convinced that viable options were prematurely ruled out in this proceeding.

92. The CCA questioned whether AltaLink's choices for structures and foundations were optimal and recommended that if actual costs are 20 per cent over estimates, the excess costs should be scrutinized in a deferral account application and should be at a significant risk of disallowance. Given that in all cases the Commission scrutinizes project costs in its deferral account application process, it considers this recommendation to be of little value.

93. The CCA recommended that costs be tracked according to an agreed code of accounts and in the level of detail commensurate with that of the estimate. The Commission is not prepared to direct AltaLink and ATCO to report project costs based on a new common code of accounts in a future application. It has already approved the level of detail that must generally be provided by the TFOs in their respective deferral account proceedings.[30]

94. The CCA further submitted that major components that are not supplied by reputable and proven manufacturers should undergo batch testing in Canadian laboratories to confirm material specifications. It stated that if problems with components are not detected early, they can result in significant costs when they have to be replaced. The Commission was not convinced by this argument. The CCA neither brought nor identified any evidence to suggest that, had the project been approved, TFOs would purchase equipment or components from unproven or unreputable manufacturers. The Commission also recognizes AltaLink's comments that it already typically completes batch testing for hardware and that batch testing for structures is uncommon due to the cost and availability of full-scale testing facilities.[31]

5.2 Schedule management and cost-benefit analysis of major decisions

95. The CCA submitted, and the Commission agrees, that the AESO and the TFOs must proactively and continuously manage the project in-service date to avoid construction in time frames when unnecessary costs will be incurred and meeting an in-service date provides little or

[30] Decision 21206-D01-2017: ATCO Electric Ltd. - 2013 and 2014 Transmission Deferral Accounts and Annual Filing for Adjustment Balances, Proceeding 21206, September 20, 2017, paragraph 243; Decision 3585-D03-2016: AltaLink Management Ltd. - 2012 and 2013 Deferral Accounts Reconciliation Proceeding 3585, Application 1611090-1, June 6, 2016, paragraphs 35-318.

[31] While the CCA's final recommendation was general, its evidence and argument focused more on AltaLink than on ATCO. Accordingly, the lack of inclusion of a similar statement from ATCO is driven by ATCO not responding to the CCA's evidence, and does not suggest that ATCO lacks similar processes.

no benefit. The AESO and TFOs' responsibility to proactively manage scheduling is particularly critical in light of the denial of these applications.

96. Staunch adherence to an in-service date can result in significant cost increases. Early communication between the TFOs and the AESO on the potential for additional costs is therefore critical. The AESO may determine that additional costs are necessary depending on the urgency of the need and the impacts of a delay, but it must be given the necessary information to be able to assess the costs and benefits of doing so.

97. While the Commission recognizes that in the midst of this proceeding, the AESO delayed the project's in-service date from December 2022 to March 2023, which appears to demonstrate that the TFOs and AESO are communicating and the AESO is willing to alter the in-service dates of projects, the Commission has also already described its concerns that the applications appeared unnecessarily rushed.

98. The CCA submitted that there should be a cost-benefit analysis conducted of any key decisions relating to the proposed facility additions to ensure proposed project designs and associated expenditures will add adequate and optimized value to ratepayers. Again, the Commission agrees.

99. In this regard, AltaLink stated that the number of access/rig mats will depend on the weather, terrain, and environmental conditions, and that this could require up to an additional 30,000 mats at a cost of approximately $15.4 million.[32] This would represent a significant increase in costs and provides a clear example of where a cost-benefit analysis may be required. If the need for a significant number of additional mats is driven by the lack of frozen ground conditions, AltaLink should engage with the AESO to assess the additional costs of using access/rig mats versus delaying further construction until ground conditions are more suitable. AltaLink confirmed that it would follow such a process. ATCO also stated that it conducts an analysis when determining whether to proceed through adverse conditions or demobilize for a period of time.

100. The Commission does not propose to prescribe requirements on the type and timeline for a cost-benefit analysis, nor did the CCA's evidence provide any sort of concrete guidance in this regard. What constitutes a key decision and what level of cost-benefit analysis has to occur can be subjective and case-dependent. The TFOs stated that they conduct cost-benefit analyses and the Commission expects that they will continue to do so, and be able to justify decisions based on those analyses in future applications.

101. Finally, the CCA stated that the schedules and cost estimates the TFOs provided in their applications did not provide sufficient detail. Inadequate schedules pose the potential for unforeseen delays and additional costs; inadequate cost estimates further pose a greater risk of being inaccurate. The TFOs provided more in-depth schedules in response to CCA information requests. The Commission found this additional detail to be useful and the TFOs should endeavour to provide more detailed schedules in future facility applications.

[32] Exhibit 26145-X0045.01, AML PENV Nilrem to Vermilion – Application, PDF page 46.

5.3 Project overhead costs

102. Project overhead costs include distributed costs, that in turn consist of procurement, project management, construction management, and engineering, supervision and general (ES&G) costs. Both AltaLink and ATCO explained that distributed costs vary from project to project depending on the complexity of each project. ES&G costs are a pool of costs that cannot be directly attributed to specific projects, but that are required to be incurred as part of a utility's duty to provide service. ES&G costs are allocated to both AESO direct-assigned projects and to capital maintenance projects based on the proportion of costs that are directly charged to each project.

103. The CCA submitted evidence that the forecast project overhead costs, as a percentage of total project costs, were significantly higher for this project than AltaLink and ATCO have historically incurred for other projects. The CCA argued that the Commission should set the project overhead costs, for both applicants, at 18 per cent of the total project costs and that this would serve as the baseline for justifying any costs incurred above this level in a future deferral account proceeding.

104. The Commission is not persuaded by the CCA's argument. Had the Commission approved the project, it sees no reason why it would have set the overhead costs to an amount equal to 18 per cent of the total project costs. It would not be reasonable to de-link the percentage allocated from the pool of ES&G costs on this project from all other projects. For this project, as with all other transmission projects, the Commission will evaluate all project costs, regardless of the quantum of variance to the proposal to provide service estimate, in its well-established rate-setting process. The Commission has previously advised parties that the prudence review of ES&G costs may be bifurcated between general tariff applications and deferral account reconciliation applications, and that the prudence of indirect costs should be examined in the first proceeding that comes before the Commission.[33]

6 Decision

105. The Commission finds that it is not in the public interest to approve AltaLink's and ATCO's applications as filed, and denies their applications. For the reasons described above, the Commission finds that the applicants' routing process was flawed, and that there were discrepancies in the cost estimates provided that could not be resolved. Because of this, the Commission was unable to properly weigh the impacts of the various route options and to conclude that it was in public interest to approve any of the routes before it, having regard to their social, economic and environmental effects.

106. Given the approved need for this project, AltaLink and ATCO must reapply for the transmission facilities. When they reapply, the Commission expects that:

[33] Decision 26278-D01-2021: AltaLink Management Ltd. - 2016-2018 Deferral Accounts Reconciliation Compliance with Directions from Decision 24681-D01-2020 and Decision 25369-D01-2020, Proceeding 26278, April 27, 2021.

i. AltaLink and ATCO will have conducted an overall assessment of their combined routes and will provide an analysis, including route metrics tables, of the overall routes proposed.

ii. AltaLink and ATCO will jointly identify an overall preferred route. If they are unable to reach an agreement on an overall preferred route, each applicant must identify what it considers to be the overall preferred route and provide the justification for why it believes that to be the case.

iii. AltaLink and ATCO will provide an analysis of each segment within their respective service territories, including route metrics tables and cost estimates for each segment. The Commission expects that the segment cost estimates are to an accuracy of +20/-10 per cent. Where appropriate, the TFOs should consider providing combined segment metric tables crossing service territory boundaries (e.g., C68/B132 to Transmission Line 7L65).

iv. AltaLink and ATCO will investigate a solution that negates the need for immediately adjacent dead-end structures at the service territory boundary and identify the proposed solution in their applications.

v. AltaLink will have investigated additional routes within its northern segment to attempt to find a route that better balances costs, environmental effects, and impacts to landowners.

107. Lastly, in an effort to mitigate the burden on interveners participating in the process, the Commission will consider adopting interveners' evidence from this proceeding in a future proceeding.

Dated on September 23, 2021.

Alberta Utilities Commission

(original signed by)

Anne Michaud
Vice-Chair

(original signed by)

Vera Slawinski
Commission Member

Appendix A – Proceeding participants

Name of person or group counsel or representative	Group (If applicable)
AltaLink Management Ltd. Brendan Hunter Bryan Hunter	
Alternate/Alternate Variant Opposition Group W.L. McElhanney A. Yiu	
Howard Arnold	
ATCO Electric Ltd. D. Sheehan T. Machell	
Heather and Jim Barss	Alternate/Alternate Variant Opposition Group
Lyle Barss	
Ron Bourgeault, Tina Bourgeault, Rachelle Bourgeault, and Bourgeault Farms Ltd. R. O'Connor	
Braes REA Ltd. S. Gibbons	
Bill Bryden	
Joel Christensen	Sargeant Group
Consumers' Coalition of Alberta J. Wachowich	
Greg Fischer	Alternate/Alternate Variant Opposition Group
Alfred and Judy Fleming R. O'Connor	

Name of person or group counsel or representative	Group (If applicable)
Barb and John Fleming R. O'Connor	
Teri Griffiths	Alternate/Alternate Variant Opposition Group
Annette and Vernon Haun	Alternate/Alternate Variant Opposition Group
Karen Heinemann	
Darrell Hinkey	
David Kufeldt	
Dianne Kufeldt	
Dayne Larson	Alternate/Alternate Variant Opposition Group
Doug Larson	Alternate/Alternate Variant Opposition Group
Evelyn and Philip Larson	Alternate/Alternate Variant Opposition Group
Mac Loades	
Darryl MacKay	
Garrett Raasok	
Gwenda and Steven Raasok	
Rosyth Area Landowners	
Trisha Rue	Alternate/Alternate Variant Opposition Group
Blaine Sargeant	Sargeant Group
Derek Sargeant	Sargeant Group

Name of person or group counsel or representative	Group (If applicable)
Willie Sargeant	Sargeant Group
Sargeant Group R. Secord	
Carla Schroeder	
Kori Strowger	
Adam and Jennifer Stuart R. O'Connor	
John Stuart R. O'Connor	
Larry Stuart	
Heather Thompson	Alternate/Alternate Variant Opposition Group
Laurel Duncan Thompson	Alternate/Alternate Variant Opposition Group
William Tobman	Alternate/Alternate Variant Opposition Group
Shirley Wonsik	

Appendix B – Oral hearing – registered appearances

Name of organization (abbreviation) counsel or representative	Witnesses
AltaLink Management Ltd. B. Hunter B. Hunter	K. Turriff M. Dorosz J. Gilbert B. Townsend G. Doll G. Mezei J. Power
ATCO Electric Ltd. D. Sheehan T. Machell	K. Burgemeister T. Linder T. McDonnell A. Edeburn G. Mezei R. Telford
Alternate/Alternate Variant Opposition Group W.L. McElhanney A. Yiu	H. Barss D. Larson T. Rue L. Thompson W. Tobman D. Fedoruk P. Heroux C. Lange A. Miller C. Wallis P. Woodlock
Lyle Barss	L. Barss
Ron Bourgeault, Tina Bourgeault, Rachelle Bourgeault, and Bourgeault Farms Ltd. R. O'Connor	R. Bourgeault D. Larson
Braes REA S. Gibbons	
Bill Bryden	B. Bryden
Consumers' Coalition of Alberta J. Wachowich	D. Levson T. Cline J. Phillips N. Tauh

Name of organization (abbreviation) counsel or representative	Witnesses
Alfred and Judy Fleming R. O'Connor	A. Fleming
Barb and John Fleming R. O'Connor	J. Fleming
Rosyth Area Landowners	B. Moser
Sargeant Group R. Secord	J. Christensen B. Sargeant D. Sargeant W. Sargeant C. Wallis
Adam and Jennifer Stuart R. O'Connor	A. Stuart J. Stuart G. Barber
John Stuart R. O'Connor	J. Stuart
Shirley Wonsik	S. Wonsik

Alberta Utilities Commission

Commission Panel
A. Michaud, Vice-Chair
V. Slawinski, Commission Member

Commission Staff
K. Macnab (Commission Counsel)
T. Richards
K. Surgenor
J. Yau