



ENMAX Power Corporation

Highway 8 Transmission Line 138-7.82L Relocation Project

April 22, 2020

Alberta Utilities Commission

Decision 24831-D01-2020

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Highway 8 Transmission Line 138-7.82L Relocation Project

Proceeding 24831

Application 24831-A001

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1 Decision summary

1. In this decision, the Alberta Utilities Commission considers whether to approve an application from ENMAX Power Corporation to alter and operate Transmission Line 138-7.82L near Highway 8 in the southwest quadrant of the city of Calgary.

2. After consideration of the record of the proceeding, and for the reasons outlined in this decision, the Commission finds that approval of ENMAX's preferred route is in the public interest, having regard to the social and economic effects of the project and its effect on the environment, in accordance with Section 17 of the *Alberta Utilities Commission Act*.

2 Introduction and background

2.1 Application

3. ENMAX, pursuant to Permit and Licence 22083-D02-2016,¹ is the owner of the 138-kilovolt (kV) Transmission Line 138-7.82L from ENMAX No. 7 Substation to AltaLink Management Ltd.'s Sarcee 42S Substation in the city of Calgary. Transmission Line 138-7.82L is located in the Calgary transportation and utility corridor (TUC) and its current location conflicts with the construction and planned infrastructure of the West Calgary Ring Road (WCRR). Alberta Transportation directed ENMAX to relocate certain portions of the line to accommodate the WCRR construction.

4. ENMAX applied to the Commission for approval under sections 14, 15 and 21 of the *Hydro and Electric Energy Act* to alter, remove and relocate a portion of Transmission Line 138-7.82L near Highway 8 in the city of Calgary. The application was registered as Application 24831-A001 on August 23, 2019.

5. ENMAX applied for approval of one of its two proposed routes, the south-central route and the north route, as shown in Figure 1 below, as the proposed preferred and alternate routes, respectively.²

¹ Transmission Line Permit and Licence 22083-D02-2016, Proceeding 22083, Application 22083-A001, October 27, 2016.

² Excerpted from Exhibit 24831-X0015, Appendix D – Project Maps and Diagrams, PDF page 1.

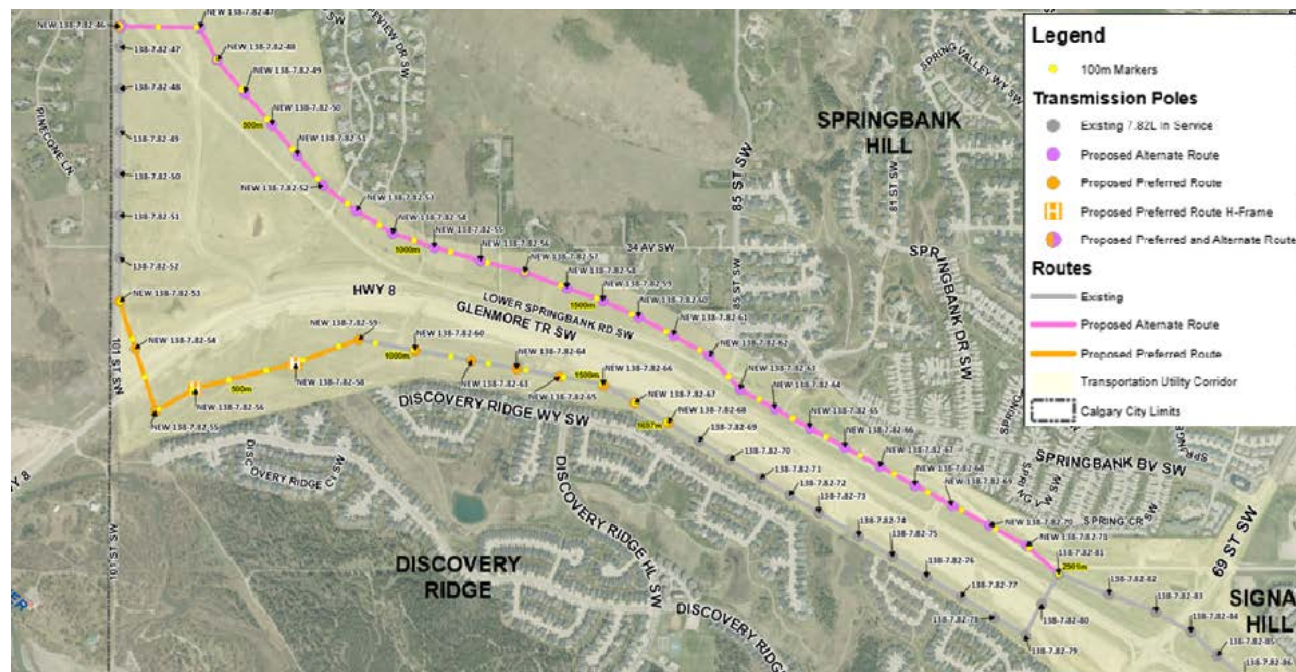


Figure 1. Proposed transmission line relocation: south-central and north routes³

6. ENMAX designated the south-central route as its preferred route based on its assessment of impacts on stakeholders and the environment. For the south-central route, ENMAX requested approval to remove 16 existing wood poles, from Structure 138-7.82-53 to Structure 138-7.82-68, to construct approximately 1.8 kilometres of overhead single-circuit 138-kV line, and to install 13 new steel structures. Of these 13 new structures, 11 would be single-circuit self-supporting steel monopoles and two would be H-frame specialty structures that would be required to cross a water feature.

7. ENMAX designated the north route as its alternate route. For the north route, ENMAX requested approval to remove 34 structures of the existing line, 32 wood and two steel, from Structure 138-7.82-47 to Structure 138-7.82-80, to construct approximately 2.9 kilometres of overhead single-circuit 138-kV line from existing Structure 138-7.82-47 to existing Structure 138-7.82-71 and to install 25 new single-circuit self-supporting steel monopoles.

8. The proposed structures on both routes would range in height from 18 to 33 metres, resulting in an increase in height from the existing wood poles, which are between 19 and 26 metres tall.

9. ENMAX estimated the cost of the south-central route at \$3.91 million, and the estimated cost of the north route at \$6.24 million.⁴

2.2 Interventions

10. The Commission provided notice of ENMAX's application in accordance with Rule 001: *Rules of Practice*, and received statements of intent to participate from local residents

³ Exhibit 24831-X00015, Appendix D – Project Maps and Diagrams, PDF page 1, modified by Commission staff by zooming in and moving legend location.

⁴ Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, PDF page 7, paragraph 5.

and landowners, and from the Slopes Community Association (SCA), the Springbank Hill Community Association (SBHCA), the Discovery Ridge Community Association (DRCA) and the Pinebrook Estates Homeowners Association.

11. The issues raised in the statements of intent to participate mainly focused on the routing of the relocated line and residential impacts.

2.3 Standing and public hearing

12. The Commission granted standing to a number of individuals living north and south of Highway 8 (see Appendix A) as well as to the SCA, the SBHCA, the DRCA, and the Pinebrook Estates Homeowners Association.⁵ The Pinebrook Estates Homeowners Association joined with landowner Donald Mortimer to form the Mortimer Pinebrook Group. The SCA and the SBHCA participated together as the SCA/SBHCA group.

13. The individuals living north of Highway 8 and the SCA/SBHCA group submitted interventions that opposed the north route. The SCA/SBHCA group retained Trevor Cline to provide evidence on its behalf. In addition to providing a summary of the concerns of the SCA/SBHCA's members, Mr. Cline took the position that ENMAX could retain the existing line route by using a temporary line section or a temporary alternate supply connection during WCRR construction. He also proposed a modification to the design of the proposed south-central route that in his view would allow ENMAX to retain the existing poles and pole heights for a portion of the route.⁶

14. The individuals living south of Highway 8, the DRCA and the Mortimer Pinebrook Group submitted interventions that opposed the south-central route. The DRCA retained Veritas Litigation Support to obtain drone footage to illustrate the current landscape along the south-central route.⁷ The Mortimer Pinebrook Group retained Pablo Argenal of Nican International Consulting Ltd. to prepare evidence on its behalf, which included a historical review of Transmission Line 138-7.82L. Mr. Argenal stated that the need for a future substation in the TUC indicated that the north route is preferable for the line relocation.⁸

15. The Commission held a public hearing from January 20th to 23rd, 2020, in Calgary, Alberta. The hearing was attended by ENMAX, members of the DRCA, the SCA/SBHCA and the Mortimer Pinebrook Group, and by Pratap Varshney who participated with the SCA/SBHCA's witnesses. No other interveners registered appearances at the public hearing. A list of hearing participants is included in Appendix B.

2.4 The Commission's consideration of the application

16. Relevant to the Commission's consideration of this application are sections 14, 15, 19 and 21 of the *Hydro and Electric Energy Act*. In accordance with Section 17 of the *Alberta Utilities Commission Act*, the Commission must assess whether the project is in the public interest, having regard to its social, economic, environmental and other effects.

⁵ Exhibit 24831-X0108, AUC ruling on standing; Exhibit 24831-X0166, AUC ruling on standing of Pinebrook Estates Homeowners Association.

⁶ Exhibit 24831-X0196, Evidence of T. Cline – SCA and SBHCA – December 3, 2019.

⁷ Exhibit 24831-X0197, Veritas Drone Video Evidence.

⁸ Exhibit 24831-X0185, Expert Report of Nican International Consulting Ltd.

17. As noted, ENMAX requested approval to alter, remove and relocate a portion of Transmission Line 138-7.82L near Highway 8 using one of its two proposed routes, the preferred south-central route or the alternate north route.

18. The Commission considers that the public interest will be largely met if an application complies with existing regulatory standards and the project's public benefits outweigh its negative impacts.⁹ The Commission must also determine whether an applicant has met the requirements of Rule 007. An applicant must obtain all approvals required by other applicable provincial or federal legislation.

3 Routing

3.1 Criteria and methodology

19. ENMAX retained Maskwa Environmental Consulting Ltd. to conduct the routing assessment for the project and identify potential routes with the lowest impact. The siting methodology employed by Maskwa was designed to “recognize and incorporate land use planning principles, technical requirements for the project, as well as a variety of information provided by ENMAX internal resources, regulatory agencies, and other stakeholders.”¹⁰

20. ENMAX stated that the methodology used was staged to allow for ongoing route refinement as required. The stages of route development were as follows:

- Route Corridor Development Stage (Conceptual Routing Stage) - November 2018
- Preliminary Route Development Stage - November 2018
- Detailed Route Development Stage - December 2018 – March 2019
- Final Route Development Stage - March 2019 – August 2019¹¹

21. Project-specific considerations that informed the development of the individual preliminary route segments included:

- following the existing alignment,
- paralleling linear features such as pipelines,
- utilizing the components (areas) within the TUC allocated by AI [Alberta Infrastructure] including the utilities component, powerline component or unassigned components,¹² and
- avoiding conflicts with existing and planned road infrastructure.¹³

⁹ EUB Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation 490-MW Genesee Power Plant Expansion, Application 2001173, December 21, 2001, page 4.

¹⁰ Exhibit 24831-X0018, Appendix G: Routing, PDF page 6.

¹¹ Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, PDF page 20, paragraph 63.

¹² Alberta Infrastructure provides guidance for where specific utilities components may be placed within a TUC.

¹³ Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, PDF page 22, paragraph 67.

22. Maskwa stated that it identified and refined three potential routes as it moved through the stages of route development: the north route, the south route and the south-central route. These are shown in Figure 2.



Figure 2. Routing comparison¹⁴

¹⁴ Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, PDF page 28.

23. Maskwa stated that it compared quantitative and qualitative impact metrics for each of these three routes, including residential impacts, environmental impacts, electrical/technical considerations, visual impacts and special constraints.¹⁵ Maskwa concluded that the south route had higher overall impacts relative to the south-central and north routes, and as a result, the south route was retired from consideration.¹⁶

3.2 ENMAX's preferred and alternate routes

24. Maskwa determined the south-central route to be the preferred route based on its lower overall impacts when compared to the north route. The north route was identified as the alternate route.

25. Maskwa stated that the primary considerations for selecting the south-central route as the preferred route included:

1. Low potential for residential impacts due to the ability to utilize more of the existing transmission line alignment:
 - a. most first-row residences would be the same distance as they currently are from the existing line,
 - b. there would be no residences within 50 metres of a new build area, and
 - c. it would result in the fewest residences within 100 metres and 150 metres of the new build area.
2. Low potential for electrical effects as no induction mitigation is required,
3. No sensitive environmental features (species at risk or sensitive vegetation) were noted/identified along the route.
4. Low potential for impact to cultural features as *Historical Resources Act* clearance was granted for the route.
5. Lower estimated costs.
6. Ability to mitigate short term special constraints through the application of Project-specific construction practices.¹⁷

26. Maskwa stated that the primary considerations for selecting the north route as the alternate route included:

1. Similar low impacts to residences.
 - a. There would be no residences within 50m of a new build section and a lower number of first row residences when considering both the new build and rebuild areas than the Preferred Route.

¹⁵ In Exhibit 24831-X0018, Appendix G: Routing, Table 5 on PDF page 63, Maskwa listed the special constraints for the project as: a treed area within 20 metres; the centreline within the TUC power line component; the number of structures within 20 metres of planned driving surface; and the length of the route that would be within the construction exclusion envelope.

¹⁶ Exhibit 24831-X0018, Appendix G: Routing, PDF page 67.

¹⁷ Exhibit 24831-X0018, Appendix G: Routing, PDF page 68.

2. Low potential for land use planning impacts as the route would utilize more of the TUC powerline component.
3. No sensitive environmental features (species at risk or sensitive vegetation) were noted/identified along the route.
4. Low potential for impact to cultural features as *Historical Resources Act* clearance was granted for the route.
5. Higher estimated costs.¹⁸
6. Induction on the parallel ATCO Gas and Pipelines Ltd. (ATCO) pipeline, although it is considered to be mitigable following an induction study.
7. Ability to mitigate short term special constraints through the application of Project-specific construction practices.¹⁹

27. Maskwa stated that both routes would require components of the existing line to be salvaged and that potential impacts posed by salvage activities would primarily be short-term and construction-related, such as noise and dust. ENMAX concluded that both routes are viable and comparable, avoid or minimize potential negative impacts and are located within the TUC.²⁰

3.3 Temporary options to retain the existing line

3.3.1 Views of the Slopes Community Association/Springbank Hill Community Association

28. Mr. Cline, on behalf of the SCA/SBHCA, prepared a report that concluded that ENMAX could retain the existing line route by either: (a) constructing a temporary line for use during WCRR construction, or (b) constructing a temporary alternate connection to supply customers during WCRR construction. Mr. Cline stated that he conducted a power system analysis and concluded that both temporary alternatives would adequately maintain system reliability during construction of the WCRR.

29. Mr. Cline stated that he is an expert in transmission design, system planning, route selection and stakeholder involvement, but less so in route selection and stakeholder involvement.²¹ The SCA/SBHCA submitted that his education and work experience support his expertise in technical areas including design, potential for bypass, line clearances, fibre optics, and transmission project management and construction, costing and pipeline transmission mitigation, and that his evidence on those matters should be considered and weighed as expert opinion evidence.²²

30. Mr. Cline acknowledged that the section of the existing line from Structure 52 to Structure 60 must be removed to accommodate construction activities for the WCRR. Instead of relocating the line on a permanent basis, Mr. Cline proposed two temporary alternatives: a temporary bypass and a temporary supply. Mr. Cline's proposed temporary bypass alternative

¹⁸ The north route has higher estimated cost than the south-central route.

¹⁹ Exhibit 24831-X0018, Appendix G: Routing, PDF page 68.

²⁰ Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, page 7.

²¹ Transcript, Volume 3, page 415, lines 22 to 25 and page 416, line 1.

²² Transcript, Volume 4, page 641, lines 4 to 14.

would be a 950-metre line that would use a small conductor and follow the existing route between structures 53 and 60. His proposed temporary supply alternative would be a new 150-metre line that would tap off of existing Transmission Line 150L to supply the section of Transmission Line 138-7.82L north of Highway 8.

31. Mr. Cline explained that if either the temporary bypass or temporary supply alternative were approved, Transmission Line 138-7.82L could be restored to the same or a similar alignment as the existing line after the WCRR construction is complete, subject to the potential need for a small deviation to cross the future Stoney Trail and Highway 8 interchange. He also stated that regardless of whether the existing line route is followed or a new alignment is selected to cross the interchange, the height of the poles will have to be increased from what is in place today and the WCRR interchange will require contouring of the ground to elevate the interchange bridge across the WCRR. He submitted that the visual impact of the poles will be compounded by the extensive ground contour changes.²³

32. Mr. Cline submitted that the temporary bypass could be constructed using a smaller conductor than the 1590 ACSR²⁴ currently installed on the line, resulting in cost savings. He indicated that the cost of the temporary bypass could be further reduced by not installing an overhead shield wire because the probability of a lightning strike over the life of the temporary line is close to zero. Further, Mr. Cline stated that the temporary bypass would likely avoid the cost of the special structures ENMAX proposed to cross the stormwater ponds.

33. Mr. Cline confirmed that he did not discuss the proposed temporary supply alternative with ENMAX or with AltaLink, the owner of Transmission Line 150L.²⁵

34. Mr. Cline testified that his proposed temporary options were developed before ENMAX completed its final route design, and that the options did not take into account ENMAX's addition of the south-central route. He indicated that the introduction of the south-central route made his temporary options less beneficial²⁶ and that he had not spoken to any residents along the south-central route about his temporary options.

3.3.2 Views of ENMAX

35. ENMAX stated that the project was designed to resolve the conflict between the WCRR and the existing transmission line and to avoid an exclusion zone prescribed by Alberta Transportation.²⁷ It explained that the exclusion zone identifies areas where ENMAX cannot place transmission structures and that the footprint of the exclusion zone spans the bulk of the TUC in this particular area, meaning that the project must be routed near the outside boundaries of the zone. ENMAX added that Alberta Transportation stated specifically that some of the existing transmission poles are in conflict with the exclusion zone.

36. ENMAX submitted that both temporary options proposed by Mr. Cline are premised on the assumption that Alberta Transportation's exclusion zone will only exist during the construction phase of the WCRR, such that Transmission Line 138-7.82L could be relocated in

²³ Exhibit 24831-X0196, Evidence of T. Cline -SCA and SBHCA – December 3, 2019, PDF page 16, paragraph 28.

²⁴ ACSR refers to aluminum conductor steel reinforced.

²⁵ Transcript, Volume 3, page 450, lines 17 to 24.

²⁶ Transcript, Volume 3, page 434 line 18 to page 435 line 6.

²⁷ Exhibit 24831-X0131, EPC-DRCA-2019OCT28-007 Attachment 1.

the same or a similar alignment as the existing line after the WCRR construction is completed. Based on its communication with Alberta Transportation, ENMAX indicated that the exclusion zone will remain in effect post-construction. It therefore concluded that a permanent line cannot be located along the existing alignment after construction of the WCRR is complete.

37. ENMAX disagreed with Mr. Cline's assertion that Transmission Line 138-7.82L could be routed through the WCRR interchange after the WCRR is constructed. It explained that its practice is to avoid major interchanges unless no alternative route is available. ENMAX added that Alberta Transportation indicated that it would not consider a line routed through or in close proximity to the interchange.

38. ENMAX stated that both of Mr. Cline's temporary options would be subject to the same regulatory approval regime and governing standards as the subject application, including Rule 007 participant involvement program requirements, which might trigger opposition and a full public hearing process. ENMAX explained that it would take eight to 12 months to submit a new application if the Commission were to direct ENMAX to investigate either of the temporary options.

39. ENMAX disagreed with Mr. Cline that the overhead shield wire could be excluded from the proposed temporary line to reduce costs. ENMAX pointed to Section 14(2) of the Alberta Electric System Operator (AESO) Rule 502.2: *Bulk Transmission Line Technical Requirements*, which states that shield wires must be installed on all 138-kV transmission lines. ENMAX submitted that not installing the overhead shield wire would present an unacceptable risk to the safe and efficient operation of the transmission line and the safety of nearby stakeholders.

40. ENMAX disagreed with Mr. Cline's conclusion that both the temporary bypass alternative and the temporary supply alternative would result in cost savings compared to its line relocation proposal. Noting that Mr. Cline did not state the cost to construct the temporary line alternative, ENMAX estimated that that cost would be in the order of \$1.6 million, based on the limited information in Mr. Cline's report.²⁸ ENMAX also noted that Mr. Cline ignored the cost associated with the temporary supply alternative in his report; however, ENMAX expected that the construction cost would be in the order of \$500,000 (not including costs associated with the protection scheme changes and land acquisition).²⁹ ENMAX submitted that in any case, expenditures on temporary measures would be wasted once a permanent line was constructed following completion of the WCRR.

41. ENMAX expressed additional concerns with the feasibility of the temporary supply alternative, including increased risk to system reliability, an increase in operational complexity, the requirement and delay for the AESO to complete a needs identification document (NID) and the need to engage AltaLink as the owner of Transmission Line 150L. It also observed that a section of the 150-metre temporary supply line would have to be located on Mr. Mortimer's property and, given the concerns he had already raised, it expected there would be objections from him, and potentially other stakeholders, if ENMAX applied for approval of the temporary supply alternative.

²⁸ Exhibit 24831-X0215, 2020-01-13-EPC-Reply Evidence with Appendices, page 16.

²⁹ Exhibit 24831-X0215, 2020-01-13-EPC-Reply Evidence with Appendices, page 18.

3.3.3 Commission findings

42. The temporary supply alternative suggested by Mr. Cline would constitute a change in system configuration and as such could not be approved and constructed without the AESO first submitting a NID application for the Commission's approval. In the Commission's view, the possibility of a new NID is not justified by any gains that may be achieved by a project of such limited and temporary scope when there are viable permanent options that do not require a NID.

43. Both temporary alternatives identified by Mr. Cline would require portions of the permanent line route, including structures, to be located in the exclusion zone within which Alberta Transportation specifically stated transmission structures are not permitted. The result is that the temporary measures intended to preserve the existing line route for the long term are misguided because the existing alignment is not viable in either the short or the long term. In the Commission's view, it would not be in the public interest to approve either temporary solution when the permanent solution upon which each is premised is not viable.

44. Given the shortcomings of the proposed temporary alternatives described above and the Commission's finding that neither is a viable proposal, the Commission rejects the options and will not consider them further in this decision.

3.4 All-dielectric self-supporting proposal

3.4.1 Views of SCA/SBHCA

45. Mr. Cline proposed a modification to the south-central route to address stakeholder concerns about visual impacts related to the larger and taller poles proposed for structures 55 to 68. He stated that the height of the poles is governed by the all-dielectric self-supporting (ADSS) fibre-optic cable because it is the lowest cable on the structures. He suggested that removing the ADSS cable from the poles and burying it underground would result in the lowest transmission conductor governing pole height, which would allow for an approximately 1.5-metre reduction in the height of the structures. Mr. Cline further indicated that this approach would allow the continued use of the existing poles between structures 61 and 68, except Structure 66, to meet the Alberta Electrical Utility Code and ENMAX's clearance requirements.³⁰ Mr. Cline's evidence pertaining to Structure 66 was that it would have to be replaced with a self-supporting pole that by his estimate would have to be 0.5 metres taller than the existing pole.

46. Mr. Cline stated that the net cost to bury the ADSS cable would not be significant because burying the cable would eliminate the need for some of the replacement structure materials specified in ENMAX's proposal. He estimated that the total cost to relocate the ADSS cable would be less than \$100,000. He submitted that avoiding the cost to replace some structures and the reduced cost of a new Structure 66 would more than offset the cost to bury the ADSS cable. He added that the height of structures 56, 58 and 59 would be reduced by approximately six metres with the ADSS proposal. He stated that relative to ENMAX's proposed solution, the combination of the reduced pole height and the change in configuration would reduce the cost of the structures required to cross the stormwater pond by 22 per cent.

47. Mr. Cline stated that he did not consult with Shaw Communications Inc., the owner of the ADSS cable, about the feasibility or cost of the ADSS proposal.

³⁰ Exhibit 24831-X0196, Evidence of T. Cline – SCA and SBHCA – December 3, 2019, pages 6 to 7.

3.4.2 Views of ENMAX

48. ENMAX submitted that the ADSS proposal creates a number of unacceptable risks related to reliability, constructability and costs. It noted that the industry standard for fibre-optic cable is overhead construction. It explained that burying a section of the cable would require overhead-to-underground and underground-to-overhead transition points in the communication system that do not exist today and that each transition point would create a potential point of failure that is not present in the overhead ADSS design. ENMAX also submitted that rocky soils and relatively large boulders present in the area would make ploughing the cable into the ground difficult.

49. ENMAX stated that Shaw advised that the average installation cost of an underground fibre-optic cable is in the order of \$715 per metre, which equates to \$1.43 million for the ADSS proposal. ENMAX noted that this amounts to approximately 35 per cent of the total cost to construct the south-central route.

50. ENMAX indicated that the height of a transmission structure is governed by a combination of ground clearance requirements for both the ADSS cable and phase conductors, and safe limits of approach distances. It calculated that structure heights could potentially be reduced by 1.3 metres if the ADSS cable were to be relocated, adding that this reduction is not a material change relative to the heights of the structures, which range between 18 and 33 metres, and that the reduction could not be perceived from ground level. ENMAX also calculated that the cost savings of the ADSS proposal would only account for up to two per cent of the total project cost.

3.4.3 Commission findings

51. The Commission accepts ENMAX's assertion that burying the ADSS cable would increase the risk to customer reliability, given the additional transition points that would be required in the system.

52. Mr. Cline's estimate of the cost to bury the ADSS cable, which is less than 10 per cent of the cost estimated by ENMAX, was not supported by a detailed cost breakdown. In addition, he did not consult with Shaw about the feasibility of his proposal or the cost to underground the ADSS cable. Consequently, the Commission cannot reasonably rely on Mr. Cline's estimate.

53. In any event, the Commission considers that the relatively modest savings suggested by Mr. Cline would not justify the increase in risk to customer reliability that would result if the ADSS cable were buried. In the context of the WCCR construction and resulting changes to the viewscape, the Commission does not consider the reductions in height to the structures estimated by either Mr. Cline or ENMAX to represent a material change in the visual impacts of the project.

54. Given the shortcomings of the ADSS option described above, the Commission rejects the proposal and will not consider it further in this decision.

3.5 Need for future Substation 45

3.5.1 Views of the Mortimer Pinebrook Group

55. The Mortimer Pinebrook Group retained Pablo Argenal of Nican International Consulting Ltd. to prepare a report that included a historical review of publicly available transmission and

distribution planning information relating to Transmission Line 138-7.82L. Mr. Argenal concluded that since approximately 1993, ENMAX has been aware of the need for a future substation, referred to as Substation 45, to be located in proximity to the proposed project.

56. Mr. Argenal referenced the 1993 application from the City of Calgary Electric System (CCES), the predecessor to ENMAX, for the original approval to construct and operate Transmission Line 138-7.82L (the line was originally known as Transmission Line 36.82L). He identified that in the 1993 application, CCES stated that the line would be used to support two future substations, one of them being Substation 45.³¹

57. Mr. Argenal submitted that Substation 45 will be required to provide sufficient backup through the distribution system if there is an N-1 or N-2 outage at an existing substation. According to Mr. Argenal, the open spaces and areas of developable land west of the existing Calgary residential communities indicate that final load levels at existing substations have not been reached and the need for Substation 45 will increase as development saturation occurs. He also stated that the relocation of Transmission Line 138-7.82L provides a timely opportunity to plan for the future construction of Substation 45 in the location originally identified in 1993, by relocating the line to the north route. Mr. Argenal submitted that the north route aligns well with the previously identified Substation 45 location and that this is a relevant factor in favour of approval of the north route.³²

58. Mr. Argenal confirmed that he did not undertake any power system or load flow analysis of the current transmission and distribution system to support the conclusions in his report.³³

3.5.2 Views of ENMAX

59. ENMAX addressed the historical transmission and distribution plans that Mr. Argenal referenced, and submitted that the Commission's public interest mandate requires the Commission to recognize that circumstances and plans can change. Specifically, ENMAX confirmed that while CCES's 1993 application referred to a second substation that may be required in the west Calgary area, the requirement for a second substation was uncertain at the time and the substation was ultimately determined to be unnecessary.

60. ENMAX stated that Substation No. 7 was built in 2004 with a 30-megavolt ampere (MVA) transformer, and that a second 30-MVA transformer was added in 2007. In 2018/2019, these transformers were replaced with two 50-MVA transformers. It submitted that load in the area will be sufficiently supplied for the next 10 years, and added that if additional capacity is required after 10 years, a new 138/25-kV transformer could be installed at existing Substation No. 28, and beyond that, an additional transformer could be installed at existing Substation No. 36.

61. ENMAX stated that if a new substation is required in the area in the future, there are no land use, technical, constructability or operational reasons that would prevent a line in the south-central route from interconnecting with a substation located in the power line component of the TUC. It submitted that, in any event, the potential location of a future substation in the project area should not dictate the appropriate route for the project.

³¹ Exhibit 24831-X0185, Expert Report of Nican International Consulting Ltd., page 4.

³² Transcript, Volume 2, page 63, line 21 to page 69, line 20.

³³ Transcript, Volume 2, page 355, lines 12 to 24.

3.5.3 Commission findings

62. The Commission has considered Mr. Argenal's assertion that there will be a need for a future substation in the TUC to serve increasing load levels in the west Calgary area and that this need should favour the north route for the relocation of Transmission Line 138-7.82L. However, the Commission is satisfied that ENMAX has a plan to reliably serve area load for the next 10 years, including by undertaking the recent upgrades to Substation No. 7. It is also satisfied that ENMAX has reasonably considered other options for serving load growth beyond the 10-year period that do not require a new substation within the TUC. Furthermore, no technical analysis was performed or submitted to challenge ENMAX's evidence on this issue.

63. The Commission also accepts ENMAX's evidence that it could connect a future substation located in the TUC from a transmission line in either the north route or the south-central route. The Commission is therefore not persuaded that there is a demonstrated need for an additional substation in the TUC, or that the mere possibility that such a need might arise in the future should influence the decision in this proceeding on the relocation of Transmission Line 138-7.82L.

3.6 Historical approval of the line route

3.6.1 Views of the Discovery Ridge Community Association

64. The DRCA referred to two policy documents that describe the different components of a TUC, including the power line component that is defined in one document as, "an area within a TUC designated for the use of major electrical transmission lines (69 kV and above)."³⁴ The DRCA stated that the power line component of this portion of the TUC is located north of Highway 8, and generally coincides with the proposed north route.

65. The DRCA submitted that in 1993, CCES applied for approval to construct the existing line south of the highway rather than in the power line component to the north because the government had not yet acquired all of the privately owned land required to complete the TUC and the closest residences to the proposed line were on the north side of the highway. The DRCA referred to a letter dated June 18, 1993, from Alberta Environmental Protection to the Energy Resources Conservation Board, which stated:

While alignments within the TUC that are not within the Utilities/Powerline Component can occur over the short term, eventually these sections will have to be moved. At the time of Ring Road construction, if it is determined that the CCES 138 kV line interferes with roadway development, the line will have to be relocated to the Utilities/Powerline Component at the operator's expense. CCES has indicated that it would be willing to relocate portions of the line if necessary, however, how this would take place has not been identified in the application. As the attached letter from Harvey Alton to Lyle Ward indicates, an agreement has been implemented between Alberta Transportation and Utilities and the City of Calgary to allow CCES to locate, temporarily, their 138 kV line on the south side of Highway 8. As the conditions within the letter indicate, the line can occupy space within the TUC adjacent to the roadway until such time as future roadway development requires the space. At that time the line will be relocated at the expense of

³⁴ Exhibit 24831-X0226, Ex. 226 - TUC Program Policy, April 2004, PDF page 14.

CCES. The Land Use Branch of Alberta Environmental Protection does not object to this temporary arrangement.³⁵

66. The DRCA also referred to a 1993 agreement between The City of Calgary and Alberta Transportation and Utilities (the letter from Harvey Alton to Lloyd Ward that is referred to in the quotation above), which included the following terms:

Our agreement with the temporary alignment is conditional upon:

1. City of Calgary Electric System will relocate the conflicting sections of the transmission line when required because of future road development. The primary areas of conflict are expected to be the Highway 8 interchanges at 69 Street S.W. and at the future Stoney Trail.
2. The positioning of the relocated line shall be subject to the approval of those having authority over the TUC and Highway 8 at the time of the required relocation(s).³⁶

67. The DRCA submitted that the documentary evidence clearly indicated that the trigger for relocating the line from the south side of Highway 8 and into the power line component of the TUC on the north side of the highway, was the construction of the ring road. It also submitted that the justification for originally placing the line south of the highway had disappeared due to the fact that the government had secured all the private land needed to complete the TUC and that most of the residential development had occurred south of Highway 8 since the line was originally approved.

68. The DRCA also filed a copy of a 2007 letter from Alberta Infrastructure and Transportation to residents of a property in Discovery Ridge. Although the letter concerned a different transmission line project, the DRCA noted that the letter referred to Transmission Line 138-7.82L as encumbering the space between Highway 8 and Discovery Ridge and possibly needing to be relocated to the north section of the TUC prior to the widening of Glenmore Trail and the construction of the Highway 8/Stoney Trail interchange.³⁷ The DRCA submitted that this letter supports the legitimate expectation DRCA members have that the line will be relocated to the north side of the highway when the ring road is constructed.

3.6.2 Views of the SCA/SBHCA

69. The SCA/SBHCA submitted that the DRCA's and the Mortimer Pinebrook Group's position that the line was always destined to be relocated to the north of Highway 8 was based on planning documents and arrangements made more than 15 years ago, and failed to recognize that circumstances, planning and TUC components change over time.

70. The SCA/SBHCA referred to the Government of Alberta's functional planning study for the WCRR, dated June 2010, which indicated that all utility companies that would be affected by

³⁵ Exhibit 24831-X0193, Tab B – City of Calgary Electric System, ERCB App. No. 930711 for 138-36.8, PDF page 50.

³⁶ Exhibit 24831-X0190, Tab E - Letter dated Feb 4, 1993 from H. Alton, Alberta Transportation to L. Ward, City of Calgary, PDF page 2.

³⁷ Exhibit 24831-X0228, Ex. 228 - August 20, 2007 Letter from AT to B. Lester, page 1.

the WCRR project were contacted for assistance in selecting the most appropriate place to relocate within the TUC. The SCA/SBHCA noted that the study stated:

The transmission line running east-west in the vicinity of the Highway 8 / Glenmore Trail SW systems interchange is impacted, and should be relocated along the south boundary of the Transportation and Utility Corridor in accordance with the approved December 2008 “Southwest Calgary Ring Road – Functional Planning Study.”³⁸

3.6.3 Views of ENMAX

71. ENMAX stated that the location of TUC components does not dictate a routing and siting analysis and that existing and planned infrastructure within the TUC is not consistent with the components identified in policy documents. It also stated that the TUC components are not continuous and, in any case, it would not be possible for the relocated line to follow the power line component for the entire north route.³⁹ As examples, ENMAX referred to an ATCO pipeline located within the power line component and road infrastructure that is planned to overlay the power line component. ENMAX stated that Alberta Infrastructure has not raised any concerns about either of ENMAX’s proposed routes, including concerns that the south-central route would not be within the power line component of the TUC.⁴⁰

3.6.4 Commission findings

72. The Commission understands that when the routing of current Transmission Line 138-7.82L was originally proposed in 1993, Alberta Transportation and Utilities (then, the TUC administrator) agreed to the alignment with the express reservation that portions of the line would have to be relocated if they conflicted with future roadway development. This is clearly stated in the letter agreement dated February 4, 1993, from Deputy Minister Alton to Commissioner Ward. The letter also states that “the positioning of the relocated line shall be subject to the approval of those having authority over the TUC and Highway 8 at the time of the required relocation(s).”⁴¹

73. The Commission acknowledges that some of the historical documentation filed in this proceeding contains statements by government representatives that Transmission Line 138-7.82L may be relocated north of Highway 8 to accommodate future roadway development. However, it considers those statements to be presumptive only; although the statements reflect an assumption that the line would be relocated north of the highway, neither is a decision on that point, nor do they bind the government or ENMAX to that course of action. To find otherwise would conflict with the language used in those documents and with the statement made by the TUC administrator who originally approved the current routing that the positioning of the relocated line will be decided by authorities at the time relocation is required.

74. Also notable is the 2010 functional planning study for the WCRR prepared by Alberta Transportation’s engineering and planning consultant, which restates a recommendation

³⁸ Exhibit 24831-X0101, 2010 Functional Planning Study, Calgary, PDF page 69.

³⁹ Exhibit 24831-X0018, Appendix G: Routing, at PDF page 67 Maskwa stated “[t]he North Route most closely follows the Powerline component of the TUC with approximately one kilometre being located within the component.”

⁴⁰ Exhibit 24831-X0215, 2020-01-13-EPC-Reply Evidence with Appendices, page 9.

⁴¹ Exhibit 24831-X0190, Tab E - Letter dated Feb 4, 1993 from H. Alton, Alberta Transportation to L. Ward, City of Calgary, PDF page 2.

from a December 2008 planning study that the line be relocated along the south boundary of the TUC.

75. Considering the foregoing, the Commission rejects the assertion that the decision has already been made by authorities that Transmission Line 138-7.82L must be routed north of Highway 8 when its relocation is required for WCCR construction. While it is clear that the TUC administrator was concerned about preserving the legal right and planning flexibility to move the line if it conflicted with roadway development, it is also clear that any decision about the exact relocation of the line was to be made at the time roadway development occurred and in the context of actual development plans.

76. Furthermore, Alberta Infrastructure, the legal authority responsible for the TUC, provided a letter of non-objection to the project on June 26, 2019:

Alberta Infrastructure, as owner and administrator of the Calgary TUC, does not object to an application to the Alberta Utilities Commission to relocate the existing 138kV transmission power line along the proposed route, as shown in in [sic] the attached plans. The proposed 138kV transmission power line relocation is consistent with the mandate of the TUC program to provide right of way for transmission power lines, and relocation is necessary to allow Alberta Transportation to construct the West Calgary Ring Road project.⁴²

77. The Commission therefore finds that ENMAX has established that the south-central and north routes are both acceptable to Alberta Infrastructure, the TUC administrator, and that the Commission is able to approve either route subject to the Minister of Infrastructure granting consent as required by the *Calgary Restricted Development Area Regulations*.

4 Residential impacts

4.1 Views of ENMAX

78. ENMAX stated that the south-central and north routes have comparable residential impacts but that the south-central route was preferred primarily as a result of the following considerations:

- a. low potential for residential impacts due to the ability to utilize more of the existing transmission line alignment:
 - most first-row residences would be the same distance as they currently are from the existing line,
 - there would be no residences within 50 metres of a new build section, and
 - it would result in the fewest residences within 100 metres and 150 metres of a new build section.
- b. low potential for electrical effects as no induction mitigation is required,
- c. no sensitive environmental features (species at risk or sensitive vegetation) were noted/identified along the route,

⁴² Exhibit 24831-X0003.01, Appendix A: Direction Letter and Letter of Non Objection, PDF page 4.

- d. low potential for impact to cultural features as *Historical Resources Act* clearance was granted for the route,
- e. low estimated costs, and
- f. ability to mitigate short term special constraints through the application of project specific construction practices.⁴³

79. ENMAX stated that the north route was determined to have higher overall impacts when compared to the south-central route. It indicated that the primary considerations supporting the selection of the north route as the alternate route for the project were:

- a. similar lower potential impacts to residences:
 - there would be no residences within 50 metres of the new build section and a lower number of first row residences that [*sic*] the south-central route when considering both the new build and rebuild sections.
- b. low potential for land use planning impacts as the route would utilize more of the TUC power line component,
- c. no sensitive environmental features (species at risk or sensitive vegetation) were noted/identified along the route,
- d. low potential for impact to cultural features as *Historical Resources Act* clearance was granted for the route,
- e. higher estimated costs,
- f. induction on the parallel ATCO pipeline, although ENMAX is [*sic*] considered that to be mitigable following an induction study, and
- g. ability to mitigate short term impacts associated with special constraints through the application of project-specific construction practices.⁴⁴

80. Although ENMAX acknowledged that the viewscape will be different as a result of the project, it added that visual impacts are only one consideration in a routing analysis that must be balanced against other factors when determining appropriate transmission line routing. It stated that visual impacts are subjective and site-specific and that this was evident in the different positions taken by the various interveners. ENMAX indicated that its practice is to work with stakeholders to attempt to address concerns by adjusting routing or pole locations where possible, and that refinements were made throughout the route development process to avoid or reduce potential impacts where practicable.

81. ENMAX submitted that the potential visual impacts associated with either the south-central or north route must be considered in the context of the project's location within the TUC, the planned ring road infrastructure and the resulting future viewscape, and the existing Transmission Line 138-7.82L and other above-ground utilities in the area.⁴⁵ ENMAX

⁴³ Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, page 34.

⁴⁴ Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, pages 34 and 35.

⁴⁵ Exhibit 24831-X0224, 2020-01-17-EPC Highway 8 Opening Statement, page 3.

emphasized that the incremental impact of the project is what is relevant to the Commission's analysis.

82. Maskwa stated that approximately 950 metres of the south-central route would be rebuilt within the existing line alignment, while the north route uses a new alignment on the north side of Highway 8. As a result, Maskwa submitted that the south-central route has low potential for visual impacts because it reuses most of the existing alignment.⁴⁶

83. Maskwa also expressed the view that visual impacts tend to be subjective in nature, based on the varying perspectives held by individuals and their specific values. It stated:

Stakeholders with a southern facing mountain view routinely commented on their concern with the height of the poles and conductors obscuring their view. Alternatively, stakeholders on the south with a view of the hillside often commented on the potential impacts of the poles being silhouetted against the background of the sky.⁴⁷

84. ENMAX stated that it is not aware of any land use plans that would be affected by the project, on either the south-central or north route, and that both routes would be located entirely within the TUC. It also stated that no precedent exists for applying any special consideration or setback from an area with development plans. It added that although transmission facilities do not require approval under the *Municipal Government Act*, the planning process recognizes the need to minimize potential impacts on development plans where reasonable.⁴⁸

85. ENMAX stated that previous Commission decisions have established that the potential impact of a transmission line on property values is difficult to quantify.⁴⁹ It submitted, as a general observation, that interveners asserting property value impacts must present specialized expertise and evidence that is specific to the project at issue, and that no such evidence was filed in this proceeding. And more specifically concerning Mr. Cline's assertion that there will be potential adverse impacts on property values in the order of 10 per cent or more if the project is approved, ENMAX submitted that Mr. Cline did not include any supporting analysis for that conclusion in his report or otherwise.⁵⁰

86. ENMAX submitted that if the north route is approved it will work with ATCO to conduct an AC mitigation study on ATCO's pipeline during the detailed design of the transmission line, and negotiate a proximity agreement with ATCO after completion of the study. It also stated that ATCO would be responsible for the construction of any pipeline mitigation and for providing a construction supervisor to monitor ENMAX's work on the transmission line undertaken in proximity to ATCO's facilities.⁵¹ ENMAX also confirmed that it had consulted with ATCO and that ATCO expressed no concerns with the north route.

⁴⁶ Exhibit 24831-X0018, Appendix G, Routing, PDF page 66.

⁴⁷ Exhibit 24831-X0018, Appendix G, Routing, PDF page 66.

⁴⁸ Exhibit 24831-X0215, 2020-01-13-EPC-Reply Evidence with Appendices, page 7, paragraphs 22 and 23.

⁴⁹ Transcript, Volume 4, page 540, line 14 to page 542, line 24, identifies the Commission decisions referred to by ENMAX.

⁵⁰ Exhibit 24831-X0215, 2020-01-13-EPC-Reply Evidence with Appendices, page 24, paragraphs 90 and 91.

⁵¹ Exhibit 23841-X0136, 201-11-06-EPC Responses to SCA.SBHCA IRs Round 2, PDF page 2.

4.2 Views of the Discovery Ridge Community Association

87. The DRCA stated that the south-central route will affect more people than the north route, and that people who will be affected by the south route live closer to the proposed line than residents who would be affected by the north route. The DRCA submitted that the south-central route has 96 residences within 150 metres of 1.8 kilometres of line, resulting in 53.3 residences per kilometre of transmission line. Conversely, the north route has 66 residences within 150 metres of 2.9 kilometres of transmission line, resulting in 22.75 residences per kilometre of transmission line. It stated that a comparison of the densities of residences in proximity to the proposed routes shows that the south-central route has the potential for a greater impact to residents.

88. Ben Lee, a resident of Discovery Ridge and a board member with the DRCA, stated that two of the structures along the existing line are approximately 75 to 80 metres from his property, and that if the south-central route were to be approved they would be replaced with structures approximately 8.5 to 10.5 metres taller than the existing structures. Mr. Lee stated that this would have a significant impact on his current view, and would have a greater impact on residents south of Highway 8 due to the lower elevation of their properties, which results in highlighting of the structures against the sky. Mr. Lee noted that, on average, the south-central route is closer to the Discovery Ridge community boundary compared to the proximity of the north route to the communities north of Highway 8.⁵²

89. The DRCA stated that residents of Discovery Ridge Bay and of Discovery Ridge Boulevard, specifically, were concerned that they would be looking up at new, large and tall H-frame structures if the south-central route were approved. Scott Archibald, a resident of Discovery Ridge Bay, stated that structures 58 and 59 would be replaced with a new H-frame Structure 58. He said that structures 58 and 59 are approximately 200 metres from his property line and are 18 metres tall, while Structure 60 would be 130 metres from his property and 33 metres tall.

⁵² Transcript, Volume 3, page 457, line 16 to page 464, line 12.

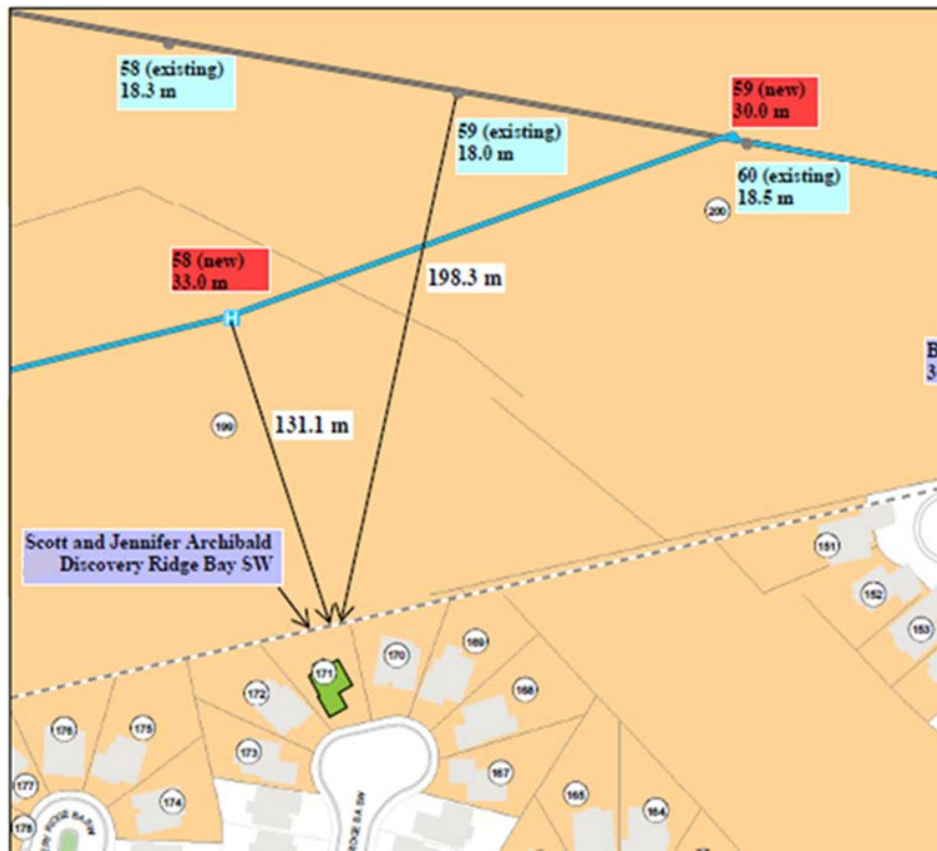


Figure 3. Structures near Mr. Archibald's residence⁵³

90. Mr. Archibald stated that the south-central route would be located in a recreational area behind residences where people currently hike, mountain bike, walk their dogs and fly kites.⁵⁴ He said that residents have observed coyote, deer, moose, bear and birds of prey in the area, and they are concerned that the south-central route would negatively affect these animal populations.

91. Mr. Archibald stated that when he purchased his property, which backs onto the TUC, he was informed that there were plans in place to move the power lines to the north side of Highway 8. Mr. Archibald said that had he been given any indication that the line could move closer to his property, he would have purchased a different lot.⁵⁵

92. In argument, the DRCA noted that the south-central route would span two stormwater ponds while the north route would not cross any water features. It stated that the routing across the stormwater ponds would create the need for two H-frame structures on the south-central route, the tallest structures on either of the proposed routes. The DRCA also submitted that the south-central route would have two major road crossings: the existing one at 69th Street and a new one over Highway 8 at the WCRR interchange, while the north route would have only one major road crossing.

⁵³ Exhibit 24831-X0238, Document supporting the Opening Statements of B. Lee and S. Archibald, page 1, zoomed out by Commission staff.

⁵⁴ Transcript, Volume 3, page 505, lines 9 to 23.

⁵⁵ Transcript, Volume 3, page 467, line 22 to page 471, line 7.

4.3 Views of Mortimer Pinebrook Group

93. The Mortimer Pinebrook Group stated that it is opposed to the south-central route because it is not the lowest impact route.

94. Donald Mortimer is a landowner and resident whose property on the west side of 101st Street is across the roadway from a portion of the existing line that would remain as part of the south-central route if that route is approved. He stated that if the south-central route is approved, it will negatively impact the development potential of his land and the value of his property. He added that Alberta Infrastructure has an online tool that shows that the power line component of the TUC is on the north side of Highway 8, where the north route is proposed. In Mr. Mortimer's view, the transmission line should be located in its proper place in the power line component of the TUC.

95. Mr. Mortimer used drone video to demonstrate the visual impact of a transmission structure against the horizon from different elevations. He stated that a power line viewed from above (from a higher elevation) becomes part of the view, and when viewed from below (from a lower elevation) it becomes the view.⁵⁶ In his opinion, his demonstration showed that the mountain views for upslope residents would not be affected if the poles are below the horizon from their vantage point.

96. The Mortimer Pinebrook Group submitted that ENMAX failed to consider the benefits to residents associated with the salvage of the existing line on the south-central route, if the north route is selected. It stated that the Commission should account for the fact that the impacts of the current transmission line on all of the residents living south of Highway 8 would be eliminated if the line and its structures were removed. The group added that if this change were considered, 159 first-row residences along the south-central route would benefit from the removal of the existing line, not only the 96 residences that were identified by ENMAX as properties that would be adjacent to the new build or rebuild of the existing line., The group submitted that in comparison, there are 85 first-row residences on the north route who would be affected if that route were selected.

97. The Mortimer Pinebrook Group also submitted that residential impacts, including both visual impacts and property value impacts, increase as a transmission line moves closer to a residence. It stated that the south-central route would have more residences within 50 and 100 metres, than the north route.⁵⁷

4.4 Views of the Slopes Community Association/Springbank Hill Community Association

98. The SCA/SBHCA submitted that the south-central route is the most cost-effective, economically equitable and the safest route. It stated that the south-central route has the least overall incremental impacts on residents and has fewer risks of delay or conflicts with future development.

99. The SCA/SBHCA submitted that the Slopes community was developed and designed to take advantage of unobstructed mountain views, and that its members were concerned that the

⁵⁶ Transcript, Volume 2, page 308, line 24 to page 337, line 24.

⁵⁷ Transcript, Volume 4, page 619, line 23 to page 628, line 22.

north route would detract from their enjoyment of their properties, particularly by interfering with their mountain views to the west and southwest. It also stated that due to the sloped nature of the land, visual impacts of the north route would affect homes throughout the development and not only those in the first row from the project. Monique Christofferson, whose property would be adjacent to proposed Structure 52, referenced ENMAX's visual rendering to illustrate that new structures on the north route would be directly in her view of the mountains.^{58,59}

100. The SCA/SBHCA submitted that the Discovery Ridge community residents benefit from access to the Elbow River, Griffith Park and many pathways leading south toward the Elbow River, in the opposite direction from the proposed south-central route. The SCA/SBHCA also submitted that a significant portion of Discovery Ridge residences face or back onto views of the river area terrain or other green spaces within the community.

101. The SCA/SBHCA stated that when comparing the incremental impacts of the two proposed routes, the impacts from the north route would be much greater than those from the south-central route because a 2.9-kilometre portion of the north route would be new build, creating a new impact on 90 residences, while the new build on the south-central route is limited to a 0.9-metre portion that is adjacent to 28 residences. The SCA/SBHCA members also stated that the visual impact of the north route would be greater in comparison to the visual impact of the south-central route because many of the existing wooden poles that would remain on the south-central route would blend into the background.

102. The SCA/SBHCA stated that the most significant economic consideration for the north route would be the effective transfer of wealth from residents on the north side of the TUC to those on the south and west sides of the TUC. The SCA/SBHCA stated that this transfer would occur as a result of the devaluation of properties on the north side with associated windfall gains in property values for members of the DRCA and the Mortimer Pinebrook Group. The SCA/SBHCA submitted that the proximity of Transmission Line 138-7.82L relative to those properties would have been taken into account in the price paid by those homeowners, and that such a wealth transfer would be unjustified.

103. The SCA/SBHCA stated that its members are concerned with the increased safety risk to people and property due to the north route's proximity to a high-pressure pipeline owned by ATCO. It submitted that there are approximately 210 residences along the north route that are within 150 metres of the pipeline. The SCA/SBHCA submitted that although appropriate mitigation measures taken during construction of the line would reduce the probability of a pipeline rupture and subsequent fire, the risk could not be eliminated. The group argued that this risk could be better addressed by routing the transmission line along the south-central route, so that the WCRR would provide separation between the transmission line and the pipeline. Alternatively, the SCA/SBHCA requested that ENMAX be directed to retain an independent expert to conduct a before-and-after quantitative risk assessment of the ATCO high-pressure gas pipeline over the full length of the route, if the north route is approved.

104. The SCA/SBHCA stated that the north route could jeopardize the communities' plan to have a noise berm constructed to reduce noise impacts from the WCRR. The SCA/SBHCA stated that the location of the north route is in direct conflict with the only space available for a

⁵⁸ Transcript, Volume 3, page 448, lines 5 to 8.

⁵⁹ Exhibit 23841-X0155, EPC-DRCA-2019OCT28-002(a)-(d) Attachment, PDF page 14.

noise berm due to the limited space between the ATCO pipeline and the highway along some portions of the Springbank Hill community.

4.5 Commission findings

105. The Commission observes that no party effectively challenged the actual relocation of Transmission Line 138-7.82L to accommodate the construction and operation of the WCRR. Based on the relocation request made by Alberta Transportation to ENMAX, the Commission is therefore satisfied that the relocation is required. The main issue considered in this proceeding was where to relocate the line: the south-central route or the north route.

106. The Commission accepts that in selecting the south-central and north routes for the Commission's consideration, and retiring the south route during route development, ENMAX reasonably took into account relevant factors such as routing the line entirely within the TUC, minimizing the number of residences that would be adjacent or closer to new build (i.e., within first row or within 100 or 150 metres), avoiding sensitive environmental features, and minimizing project costs. The Commission also accepts ENMAX's conclusion that both routes are viable and have low overall impacts compared to other routes that ENMAX evaluated.

107. The Commission has previously determined that routing a transmission line in a TUC, which is publicly owned land that has been created for utility infrastructure and other linear development, will not result in significant impacts to residents along the TUC.⁶⁰ The Commission considers that relocating Transmission Line 138-7.82L within the TUC is consistent with the purpose of the TUC and serves to limit impacts on residents and other land users. While the Commission has nevertheless considered the evidence and arguments in this proceeding on the potential impacts of the project on property owners, it has done so in the context of the line being relocated entirely within the TUC, in either the south-central route or the north route. In this regard, the Commission reiterates that the TUC administrator, Alberta Infrastructure, has confirmed in a letter to ENMAX that it does not object to the line being relocated within the TUC.

108. The Commission accepts ENMAX's conclusion that both routes have comparable but not identical residential impacts, and in particular that no residence would be within 50 metres of a newly built portion of the line on either route. In other respects, the evidence on the number of residences within a given proximity to each proposed route showed a mixed result. For example, the DRCA emphasized that more residences (96) would be within 150 metres of the south-central route than on the north route (66); however, the SCA/SBHCA emphasized that more residences along the north route (90) would be subject to new build than on the south-central route (28).

109. As a further example, Mr. Archibald stated that a new H-frame structure within the south-central route would be 70 metres closer to his property in Discovery Ridge than existing structures. Ms. Christofferson of the SCA stated that a new structure that would be built as part of the north line would be directly in her view of the mountains from the front of her residence in

⁶⁰ Decision 23943-D01-2020: Alberta Electric System Operator and EPCOR Distribution & Transmission Inc., West Edmonton Transmission Upgrade Project, Applications 23943-A001 to 23943-006, Proceeding 23943, March 12, 2020, paragraphs 426 to 428.

the Slopes, whereas structures along the south-central route would be behind residences in Discovery Ridge and in the opposite direction from the SCA views to the west.

110. The Commission has considered the evidence on the proximity of the two proposed routes to residences in the communities of Discovery Ridge, the Slopes and Springbank Hill. Generally speaking, it finds that both routes have comparable but not identical residential impacts in terms of their proximity to residences. As a result, without additional considerations, the evidence on the proximity of each route to homes is not a factor that can materially assist the Commission's determination of which route has lower overall impacts and is in the public interest.

111. The Commission accepts that the south-central route uses more of the existing transmission line alignment than the north route and considers this to be one of the two factors that favours approval of the south-central route. The other factor is the lower cost to construct the south-central route.

112. ENMAX stated that construction of the south-central route would require 0.9 kilometres of new build on a new alignment, 1.0 kilometres of rebuild on the existing alignment, and 1.7 kilometres of existing alignment that would not be affected by the relocation. As discussed in Section 5.3 below, ENMAX estimated that the total project cost for the south-central route is \$3.91 million. ENMAX stated that construction of the north route would require 2.9 kilometres of new build on a new alignment, and estimated a total project cost of \$6.24 million.⁶¹ In the Commission's view, the south-central route's extensive use of the existing alignment and its substantially lower cost (\$2.33 million lower, or 63 per cent of the total cost of the north route) clearly favour its selection over the north route.

113. ENMAX considered other factors pertaining to each route. Such factors included that (i) both routes have low environmental impacts but the south-central route is preferred;⁶² (ii) the south-central route would require longer construction outages; and (iii), the north route would require mitigation of electrical induction on the ATCO pipeline.⁶³ ENMAX indicated that none of these factors changed its conclusion that both routes have low overall impacts and are constructible. While the Commission considers these factors to be relevant, it finds that they do not change the Commission's assessment that the south-central route is preferred because of its use of the existing alignment and its lower cost.

114. A considerable portion of the written and oral evidence in this proceeding addressed the visual impacts of the two routes, in particular the structures and to a lesser extent, the conductor. The DRCA and the Mortimer Pinebrook Group asserted that a transmission structure viewed from a lower elevation would be silhouetted against the sky and would therefore be a greater visual impact (for their members) than the same structure viewed from above, in which case the structure would blend into the background (for the SCA/SBHCA residents). The SCA members stated that they had paid a premium for their properties to have unobstructed views of the

⁶¹ Exhibit 24831-X0004, Appendix B: Cost Breakdown Sheet.

⁶² Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, pages 46 and 47.

⁶³ Exhibit 24831-X0002, 2019-08-23- EPC- Highway 8 Transmission Line 138-7.82L Relocation Project Application, pages 31 and 32.

mountains to the west and would lose both the view and that value if the north route were constructed.

115. The Commission has previously found that visual impacts are subjective and difficult to quantify. The interveners' evidence and argument in this proceeding support that conclusion. Relocating the line in either of the routes proposed by ENMAX would undoubtedly result in a changed viewscape for nearby residents. DRCA members residing near the new build and rebuild portions of the south-central route would see different structures that are generally larger and taller than those of the existing line. SCA/SBHCA members overlooking the north route would see a transmission line where one does not currently exist.

116. In the Commission's view, these visual impacts must be considered and assessed in the larger context, including that the line on either route would be tens or hundreds of metres from residences and located within the same TUC in which the WCRR, a major highway, is being constructed. Hence, in this context (of a comparison of the visual impacts of the routes on residences), the Commission finds that neither route can be preferred over the other; the impacts are essentially comparable.

117. As stated above, the Mortimer Pinebrook Group submitted that the north route should be selected because the structures in that route would not be silhouetted against the sky for residents in the Slopes, which would be the case for the Mortimer Pinebrook Group members and for residents of Discovery Ridge if the south-central route were approved. Mr. Mortimer's land and the Pinebrook community are both located west of an existing portion of Transmission Line 138-7.82L that will mostly remain as currently built if the south-central route is approved (i.e., structures 46 to 52), with a smaller portion of the line moving further from their properties (new structures 53 to 55). The Commission finds on this basis that the Mortimer Pinebrook Group members will not be materially affected if the south-central route is approved because most of the portion of the line that is nearest to their properties, and any impacts associated with it, has been in place for several years.

118. Each of the intervenor groups submitted that property values in its community would decrease if the line were relocated in the route nearest to the community. However, no party offered expert evidence to support this assertion. As it has found in a number of other decisions, the Commission finds that in the circumstances of this case, it cannot give any weight to opinion evidence about property values when none of the witnesses offering that evidence has the skill, knowledge and experience needed to establish themselves as an expert in property valuation. Given the lack of expert evidence on the issue, the Commission finds that the interveners' concerns about property value impacts are not substantiated.

5 Participant involvement program

119. ENMAX stated that it conducted two rounds of its participant involvement program. During the first round, it presented stakeholders with the north route and the south route. In response to feedback received in the first round, its second round presented stakeholders with a refined north route, the south route and the south-central route. ENMAX stated that it adapted and refined the proposed routes based on stakeholder feedback, including that from area residents, with the goal of increasing the distance from homes wherever possible.

120. ENMAX stated that it engaged with stakeholders over the course of five months through the distribution of project information packages, face-to-face consultations and four public open houses. According to ENMAX, approximately 310 stakeholders attended the four open houses.

121. ENMAX also stated that it engaged with Alberta Infrastructure and Alberta Transportation about project routing within the TUC. In particular, it sought detailed direction from Alberta Transportation with respect to the placement of structures in proximity to the WCRR as part of its effort to minimize impacts on local residents. ENMAX further engaged with Alberta Transportation with respect to the exclusion zone near the west end of the existing line, which resulted in permission from Alberta Transportation to span the exclusion zone, including the stormwater ponds, and allowed ENMAX to put forward the south-central route.

122. The Commission finds that ENMAX has satisfied the notice and consultation requirements of Rule 007. In addition to consulting with residents in proximity to the project, ENMAX engaged a wide range of non-residential stakeholders with an interest in the project, including Alberta Transportation, Alberta Infrastructure, Shaw and ATCO. The Commission is satisfied that residents along both routes were sufficiently engaged by ENMAX in project development and accepts that ENMAX incorporated stakeholder feedback wherever feasible. For example, the preferred south-central route was developed after feedback from residents and further consultation with Alberta Transportation, and it allowed for a reduction in the relocated line's proximity to residences in the new build portion of the south-central route. That said, the Commission acknowledges that an effective consultation program may not ultimately resolve all landowner concerns.

6 Environmental impacts

123. ENMAX retained Tetra Tech Canada Inc. to assess potential environmental impacts associated with both the north and south-central routes. The assessment considered the following environmental components: terrain and soil, surface water, hydrology and wetlands, vegetation, and wildlife and habitat. Tetra Tech concluded that any residual effects from either route would be insignificant, that the south-central route is the environmentally preferred route, and provided mitigation measures to be implemented during construction of the project. ENMAX committed to incorporating these mitigation measures into its environmental management plan.

124. ENMAX stated that it consulted with Alberta Environment and Parks about potential impacts to the environment associated with both routes and that Alberta Environment and Parks did not identify any concerns.

125. The SCA/SBHCA stated that ENMAX failed to recognize some of the wildlife habitat located near or adjacent to the north route. The SCA/SBHCA was also concerned that the environmental surveys may not fully reflect the ecological features along the north route and the potential risk related to construction, due to the times of year that the surveys were conducted. Additionally, the SCA/SBHCA submitted that 2019 was an abnormally wet year which might have distorted the results of the 2019 survey. The SCA/SBHCA commented that these uncertainties could result in delays and added cost for either route when final mitigation work is undertaken.

126. In response to these concerns, ENMAX confirmed that it would undertake pre-disturbance wildlife surveys prior to any construction activities taking place during the breeding season, to ensure that any occupied nest, den or roost is adequately protected.

127. The Commission finds that both routes would have minimal potential negative impacts to the environment. As previously stated, both routes would be located entirely within the TUC, which is land designated by the Government of Alberta for major linear facilities such as roads and transmission lines. Both routes would be adjacent to existing or planned disturbances, including the WCRR that is currently under construction in the area. No sensitive environmental features such as species at risk or sensitive vegetation were identified on either route.

7 Project cost

128. ENMAX estimated that the project cost would be \$3.9 million and \$6.24 million for the south-central and north route, respectively, based on an accuracy level of plus 30 to minus 20 per cent.⁶⁴ ENMAX provided detailed cost breakdown tables for both routes that indicated that the transmission line cost for the south-central route is approximately \$2.64 million and the transmission line cost for the north route is approximately \$3.8 million.⁶⁵

129. The DRCA submitted that the cost difference between the two routes is not material. It noted that when the range of accuracy of plus 30 per cent to minus 20 per cent is considered, the cost estimate for the south-central route overlaps with the cost estimate for the north route. The DRCA accepted, however, that it is likely that the south-central route will be less expensive than the north route.⁶⁶

130. The Commission understands that the cost estimates (\$3.91 million for the south-central route and \$6.24 million for the north route) were based on ENMAX's recent construction cost experience. Although the Commission acknowledges the DRCA's concerns that ENMAX's cost estimates have an accuracy range of plus 30 to minus 20 per cent, no evidence was presented to show that the actual project costs could result in the south-central route being more expensive than the north route.

131. The Commission accepts ENMAX's cost estimates and observes that the estimate for the south-central route is approximately 38 per cent less than the estimate for the north route. The Commission further understands that the shorter length of new build or rebuild on the south-central route is the most significant factor in the difference in cost estimates between the two routes, and is satisfied that relocating the line to the south-central route would be less costly than relocating it to the north route.

⁶⁴ AACE International is the Association for the Advancement of Cost Engineering.

⁶⁵ Exhibit 24831-X0004, Appendix B: Cost Breakdown Sheet.

⁶⁶ Transcript, Volume 4, page 580, lines 13 to 25.

8 Decision

132. For all the above reasons, the Commission finds that relocating Transmission Line 138-7.82L to the south-central route, including salvaging portions of the existing line, is in the public interest pursuant to Section 17 of the *Alberta Utilities Commission Act*.

133. Pursuant to sections 14, 15, 19 and 21 of the *Hydro and Electric Energy Act*, the Commission approves Application 24831-A001. The facilities in this application would all be located within the TUC. Pursuant to the *Calgary Restricted Development Area Regulations* the Commission cannot issue a permit and licence for the construction and operation of facilities within the TUC without the written consent of the Minister of Infrastructure. The permit and licence for the project will therefore be issued once the written consent of the Minister of Infrastructure has been filed with the Commission.

Dated on April 22, 2020.

Alberta Utilities Commission

(original signed by)

Anne Michaud
Vice-Chair

(original signed by)

Joanne Phillips
Commission Member

(original signed by)

Kristi Sebalj
Commission Member

Appendix A – Individuals granted standing

Monique Christofferson
John Bobenic
Namrata Sudhakar
Pratap Varshney
Mathieu Cousineau
Claudine Cousineau
Suzette Pereira
Sunil Sudhakar
Tristan Schulz
Aidan Kutcher
Litong Zhao
Yanmei Fei
Donald Mortimer
Darren Langille
Robert Weston
Tameem Muhieddine
Amin Jamalomidy
Rachel Thompson
Al Bessel
Justin Koks
Vern Merk
Gerald Merk
Douglas Merk
Johanne Audet
Leon Nellissen
Greg Josiak

Appendix B – Oral hearing – registered appearances

Name of organization (abbreviation) Company name of counsel or representative	Witnesses
ENMAX Power Corporation (ENMAX) K. Slipp N. Bakker	B. Van Elslande M. Dimoff K. Hawrelko R. Desrosiers B. Hensel
Discovery Ridge Community Association (DRCA) G. Fitch, QC	B. Lee S. Archibald
Mortimer Pinebrook Group N. Ramessar	P. Argenal D. Mortimer
Slopes Community Association and Springbank Hill Community Association (SCA/SBHCA) N. McKenzie	T. Cline L. Nellissen E. Cozzi N. Sudhakar P. Varshney M. Christofferson

<p>Alberta Utilities Commission</p> <p>Commission panel A. Michaud, Vice-Chair J. Phillips, Commission Member K. Sebalj, Commission Member</p> <p>Commission staff L. Fukuda S. Jiang G. Perkins (Commission counsel) N. Sawkiw (Commission counsel)</p>
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