

Attachment H: Letter from ATCO Re:
Cordel 755S: Inability to add more than one
(1) 240kV transmission line

May 28, 2018

Royhoyeh Salmeh
Alberta Electric System Operator (AESO)
2500, 330 5 Ave SW
Calgary, AB T2P 0L4

Cc: Ramaiah Divi, AESO
Amir Motamedi, AESO

RE: Cordel 755S: Inability to Add More than One (1) 240 kV Transmission Line

Dear Ms. Salmeh,

On April 12, 2018, the AESO requested ATCO to document the right of way restrictions to gain access for additional 240 kV lines into Cordel 755S. AESO will use this information to exclude Cordel 755S from consideration should more than one 240 kV transmission line or capacity higher than 627/759 MVA summer/winter ratings be required by the AESO Long Term Plan.

Description of Additional Transmission Line Constraints into Cordel 755S

The termination of one additional 240 kV transmission line into Cordel 755S is possible if it can use the existing unstrung side of the 9L20 double circuit structure to exit the substation and surrounding mining area. The capacity of the conductor strung on the existing structures would be limited to bundled Hawk which has a maximum capacity of 627 MVA in the summer and 759 MVA in the winter.

As previously provided to the AESO under P1473 Vermilion-Red Deer and Edgerton – Provost 240 kV Transmission Development (VREPTD) NID Land Impact Assessment, expansion of the Cordel substation is heavily constrained and not viable. The substation is situated within an active mine site. The expansion of the Cordel 755S substation is constrained by existing pipelines to the northeast, proximity of industrial activity, existing transmission lines, and a road to the south.

Along the north and east sides of the substation, the terrain drops off into a valley which would require significant reinforcing of the bank with cut and fill to prevent erosion to accommodate substation expansion. West of Cordel is a mine pit. Expanding Cordel south would require a property expansion past an existing road allowance as well as significant earthworks due to the existing terrain. The north, west and east sides all require complex routing due to the existing transmission lines.

Please refer to Attachment A for Cordel 755S substation plan view and area overview.

Conclusion

ATCO Electric concludes that Cordel 755S cannot accommodate the termination of more than one additional 240 kV transmission line due to ROW restrictions to gain access through the existing mine site.

I trust the information presented here meets your requirements to provide sufficient technical reasoning why additional line terminations into the Cordel 755S substation should be eliminated from future consideration if more than one 240 kV addition will be required or a higher capacity than identified will be required for any new system line addition.

If you have any questions, please feel free to contact me at (780) 508-4761, or by email at Guillaume.Vachon@atco.com.

Regards,



Guillaume Vachon , P.Eng.
Director, Engineering and Project Management