

August 14, 2014

Wade Vienneau
Executive Director, Facilities Division
Alberta Utilities Commission
Fifth Avenue Place
4th Floor, 425 – 1st Street SW
Calgary, Alberta T2P 3L8

Dear Mr. Vienneau:

Re: Blackie Amendment to the Alberta Utilities Commission (Commission) Southern Alberta Transmission System Reinforcement (SATR) Approval No. U2014-138 (SATR NID Approval)

1. Pursuant to the *Electric Utilities Act*, S.A. 2003, c. E-5.1 (EUA) and the *Alberta Utilities Commission Act*, S.A. 2007, c. A-37.2 (AUCA), the Alberta Electric System Operator (AESO) is applying to the Commission for approval to amend the SATR NID Approval regarding the new Blackie 138 kV transmission line, as more particularly described below (Application).
2. In preparation of this Application, the AESO issued various directions to AltaLink Management Ltd. (AltaLink), as the legal owner of transmission facilities (TFO), including direction to assist the AESO in preparing this Application.

Organization of this Application

3. This Application is organized in the following manner:
 - Background – SATR NID Approval
 - Existing SATR NID Approval Transmission Development to be Amended
 - Proposed Amendment
 - Rationale for Proposed Amendment
 - Related Information
 - The Need for SATR Has Not Changed
 - Technical Considerations
 - Economic Considerations

- AESO Participant Involvement Program
- Information in Regards to Rule 007, Section 6.1 - NID13
- Request to Combine this Application with the Facility Proposal for Consideration in a Single Process
- Request for Approval
- Attachment 1 – AltaLink Cost Estimates
- Attachment 2 – AESO Participant Involvement Program Summary
- Attachment 3 - AltaLink Confirmation Regarding Rule 007, Section 6.1 - NID13

Background – SATR NID Approval

4. On December 30, 2008, the AESO applied to the Commission for approval of a needs identification document for transmission reinforcement in southern Alberta (SATR NID). The Commission approved the SATR NID in *Decision 2009-126* and Approval No. U2009-340.
5. Pursuant to *Decision 2009-126*¹, the AESO filed the finalized SATR milestones and monitoring process with the Commission on December 7, 2009. The Commission approved the finalized milestones and monitoring process in *Decision 2010-343* and Approval No. U2010-264.
6. Subsequent amendments to Approval No. U2010-264 have culminated in the current SATR NID Approval No. U2014-138.

Existing SATR NID Approval Transmission Development to be Amended

7. The SATR NID Approval reflects a three-stage approach to the SATR, and specific development activities are described in the SATR NID Approval under each stage. Stage II includes the following specific transmission development:

SATR NID Approval, Stage II – Paragraph 8

“8. A new 138-kV transmission line from Blackie 253S substation to Queenstown 504S substation with modifications at Blackie 253S substation and Queenstown 504S substation.”

¹ Paragraph 116

Proposed Amendment

8. For the reasons provided below, the AESO proposes to amend the SATR NID Approval by deleting Stage II, Paragraph 8 in its entirety and replacing with the following :

SATR NID Approval, Stage II – Paragraph 8

“8. A 138-kV transmission **circuit and a replacement circuit for the existing 852L, carried in double-circuit configuration** from Blackie 253S substation to Queenstown 504S substation, with modifications at Blackie 253S substation and Queenstown 504S substation.”

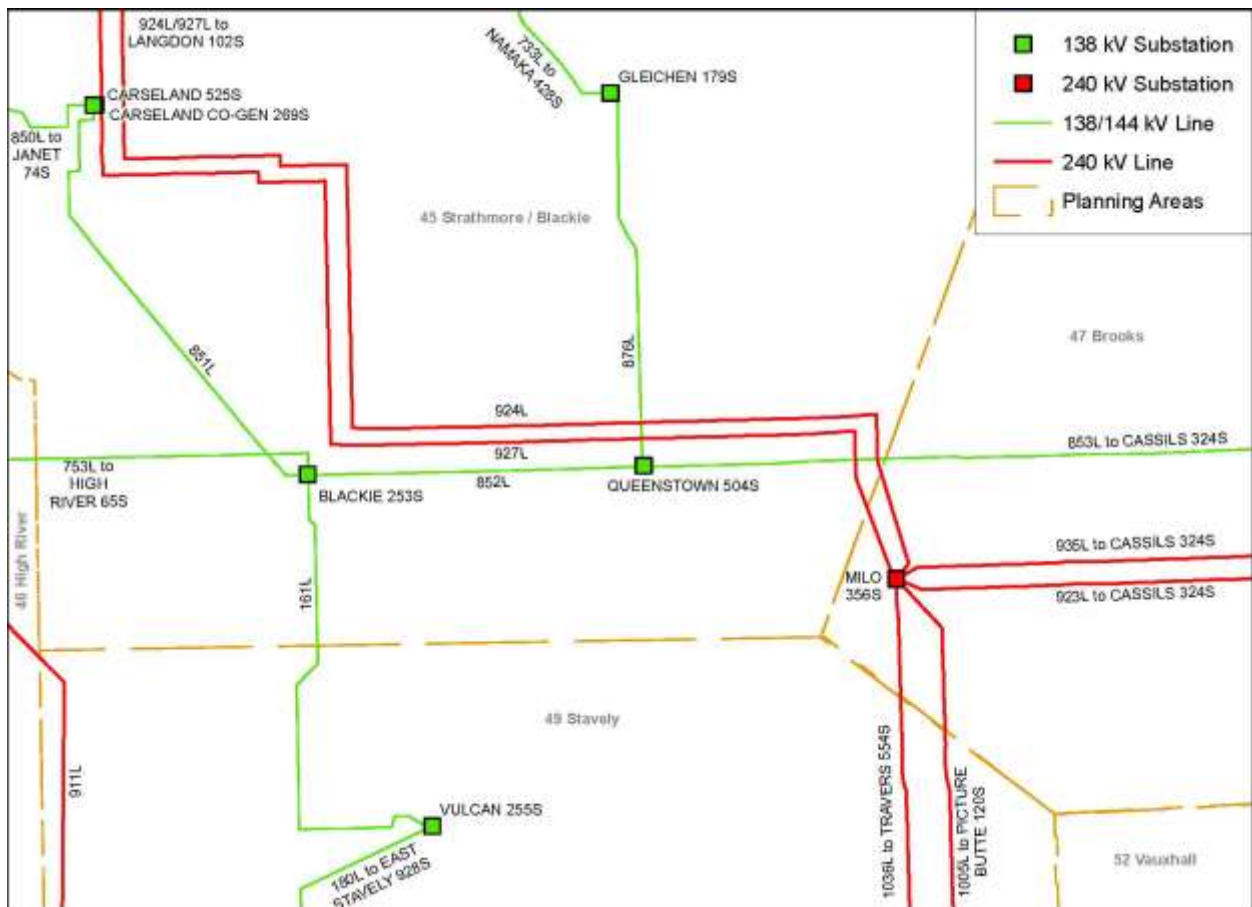
Rationale for Proposed Amendment

9. In the SATR NID, the AESO recommended, and the Commission approved, the Blackie Area 138 kV Upgrades described as “1X477 kcmil ACSR D/C line with one side strung (24 km)” (Original Development).²
10. Prior to filing the SATR NID, AltaLink advised the AESO of transmission line right of way congestion in the area between the Blackie 253S and Queenstown 504S substations and recommended consolidating the existing 852L and the proposed new 138 kV circuit into a double-circuit configuration. The AESO confirmed that this consolidated configuration served the same purpose described in the SATR NID which was to create a direct connection between Blackie 253S and Gleichen 179S and prevent 138 kV thermal constraints during contingency conditions.³
11. Consequently, the AESO intended that AltaLink use the open side of the new Blackie area double circuit 138 kV line to replace the existing 852L between Blackie and Queenstown. This would have resulted in a new 138 kV double circuit line with both sides strung and removal of the existing 852L (Amended Development). However, the SATR NID did not reflect this configuration.
12. Therefore, the AESO is proposing to amend the SATR NID Approval to reflect the intended reconfiguration of the 138 kV system between the Blackie 253S and Queenstown 504S substations and to provide associated cost estimates. For clarity, single line diagrams of the Blackie Area exiting transmission system and Amended Development are provided below.

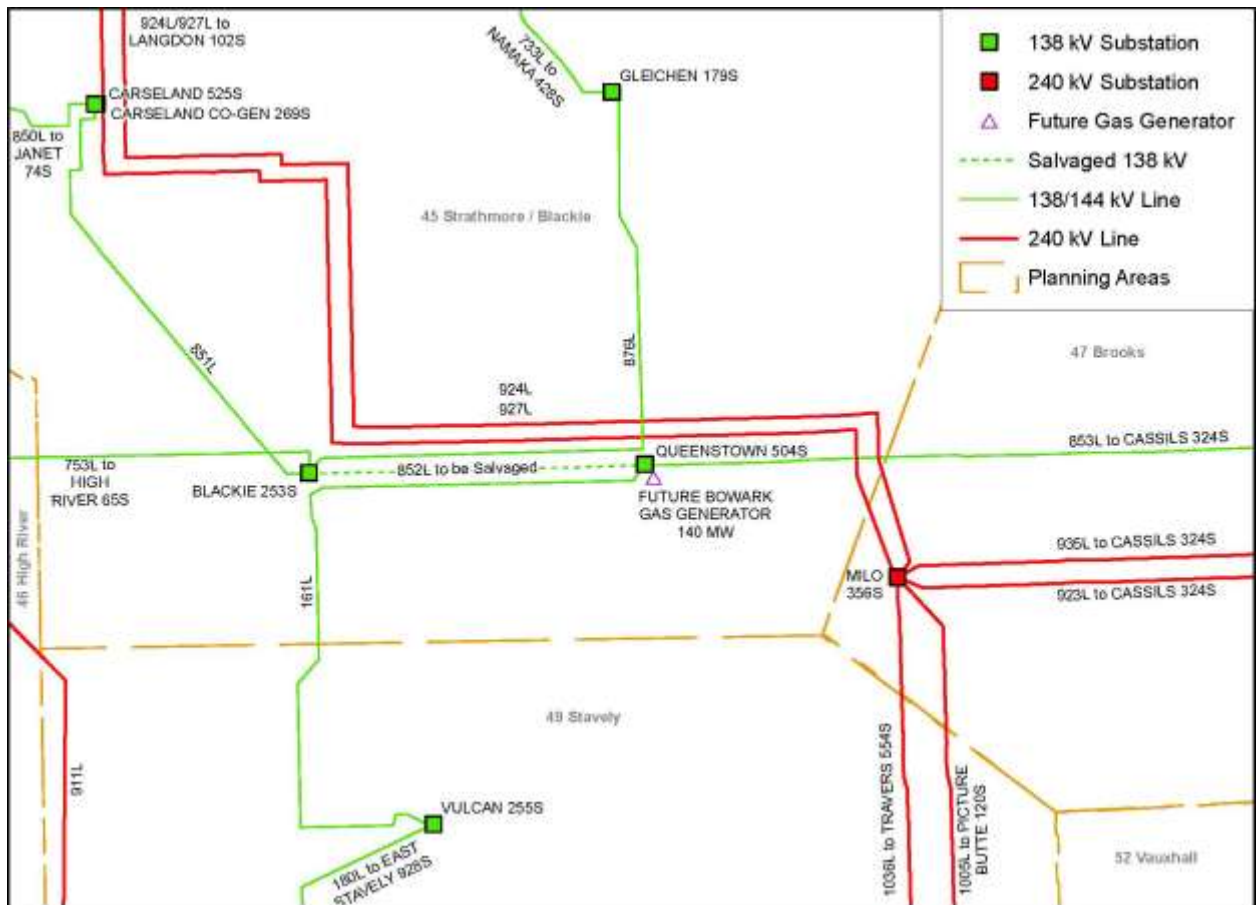
² SATR NID, Table 7-2, Item II-14

³ SATR NID, Section 7.1.10

Blackie Area Existing Transmission System



Blackie Area Post SATR with Amended Development



Related Information

The Need for SATR Has Not Changed

13. In the SATR NID, the AESO explained that the need for transmission reinforcement in southern Alberta is driven predominantly by the forecast development of wind generation and the limited capability of the transmission system to deliver additional generation on a firm basis to the AIES.⁴
14. This Application seeks to amend specific components of the SATR NID Approval and does not change the need for the expansion or enhancement of the capability of the transmission system described in the SATR NID.

Technical Considerations

15. This Application is consistent with the AESO's long-term transmission system plans for the area and does not change the AESO engineering study and conclusions described in the SATR NID.⁵

Economic Considerations

16. AltaLink estimated the cost of the Amended Development to be in the order of \$39 million (+30/-30%, 2016\$) and the cost of the Original Development to be in the order of \$30 million (+30/-30%, 2016\$).
17. AltaLink has further refined the cost of the Amended Development to be in the order of \$41 million (+20/-10%, 2016\$). A copy of the AltaLink cost estimates and explanation of the cost differences, are included in Attachment 1.

AESO Participant Involvement Program

18. The AESO conducted a participant involvement program (PIP) in accordance with the requirements of NID14 and Appendix A of Commission Rule 007. The AESO notified stakeholders of its Application including industry and landowners, occupants, residents and agencies in the area of the Original Development and the Amended Development. The AESO is not aware of any concerns related to the Application. A report summarizing the AESO's PIP is included as Attachment 2.

⁴ SATR NID Executive Summary, page i

⁵ SATR NID, Section 5, Appendix B Existing System Power Flow Analysis, Appendix D Alternatives Steady State Technical Analysis, and Appendix E Transient Stability Analysis.

Information in Regards to Rule 007, Section 6.1 - NID13

19. The AESO has been advised that AltaLink's related Facility Proposal will address the major aspects listed in Commission Rule 007, Section 6.1 – NID13. In consideration of that fact, and as the filing of this Application is combined with AltaLink's Facility Proposal, the AESO has not undertaken a separate assessment of the sort contemplated in Commission Rule 007, Section 6.1 – NID13. A copy of AltaLink's confirmation letter is included as Attachment 3.

Request to Combine this Application with the Facility Proposal for Consideration in a Single Process

20. Pursuant to Subsection 35(1) of the EUA, the AESO has directed AltaLink to prepare a Facility Proposal in accordance with this Application. The AESO understands that AltaLink's Facility Proposal will be filed shortly. The AESO requests, and understands that AltaLink will also request, that this Application be combined with the Facility Proposal for consideration by the Commission in a single process. This request is consistent with Section 15.4 of the *Hydro and Electric Energy Act* and Section 6 of Commission Rule 007.
21. While it is believed that this Application and the Facility Proposal will be materially consistent, the AESO respectfully requests that in its consideration of both, the Commission be mindful of the fact that the documents have been prepared separately and for different purposes. The purpose of this Application is to obtain approval of the SATR NID Approval amendment. In contrast, the Facility Proposal will contain more detailed engineering and designs for the Amended Development and seek approval for the construction and operation of specific facilities.

Request for Approval

22. Having regard to:

- the relevant provisions of the EUA and the AUCA;
- the transmission responsibilities of the AESO as set out in the EUA and the *Transmission Regulation*;
- the estimated cost of the Amended Development;
- the AESO's PIP; and
- the AESO's long-term transmission system plans,

it is the conclusion of the AESO that its assessment of the proposed amendment is technically complete and is in the public interest.

23. The AESO requests that the Commission:

- (a) approve the Application, and
- (b) grant such further relief as may be necessary to give effect to such approval.

Please address all correspondence concerning this Application to:

Melissa Mitchell
Regulatory Coordinator
need.applications@aeso.ca
403-539-2874

Yours very truly,



Doyle Sullivan, P. Eng.
Director, Regulatory Services

BLACKIE AMENDMENT TO THE SATR NID APPROVAL

ATTACHMENT 1 – ALTALINK COST ESTIMATES

May-23, 2014

Mr. Dale Bergman

Project Manager, Transmission Project Delivery,
Alberta Electric System Operator (AESO)
2500, 330-5th Avenue SW
Calgary, Alberta T2P 0L4

**Subject: SATR Blackie Area 138KV Line Reconfiguration (Project No.1038)
Cost Comparison of the Original 2008 NID Estimate with (+30/-15%)
accuracy to an amended 2014 NID Estimate with (+30/-30%) accuracy**

Dear Mr. Bergman,

Please find the attached documentation to support the request by the AESO to generate an updated NID estimate for the Blackie Project. This documentation includes the following:

- 1.) Cost Comparison Letter containing explanations for the cost difference between the original NID estimate completed in 2008 and the amended NID estimate completed in 2014.
- 2.) Appendix A – Original 2008 NID estimate updated to 2016 dollars.
- 3.) Appendix B – Amended NID estimate in 2016 dollars.
- 4.) Appendix C – 2014 PPS estimate in 2016 dollars.

Based on the AESO's request not to use the 2014 PPS estimate as a reference point to compare the 2008 NID estimate to but to generate a separate NID estimate, AltaLink utilized the existing AESO "Cost Benchmarking" website data to generate the unit cost pricing for the amended 2014 NID estimate. Please contact Sandeep Sharma, Project Manager, Regional and Customer Projects at 403-365-7612 if you have any questions or if you require further information. Thank you for your consideration.

Yours truly,



Ed Rihn
VP- Projects

Project:

Blackie 138kV Re-configuration as a part of the Southern Alberta Transmission Reinforcement Project – AESO Project No. 1038 (the "Project")

Purpose:

This letter is in response to the AESO request for AltaLink to provide a cost estimate comparison between the original SATR NID Approved scope and new amended scope for the Project.

Description of Amended Project Scope:

The SATR NID Approval (the "2008 NID") includes a new 138 kV transmission line from Blackie 253S substation to Queenstown 504S substation. In the SATR NID, the AESO incorrectly described this new transmission development as a double circuit 138 kV line with one side strung. Since there is an existing 138 kV single circuit line between the Blackie 253S and Queenstown 504S substations, the approved 138 kV line would have resulted in two separate 138 kV transmission lines in the area. Therefore, the AESO is applying to the AUC for an amendment to the SATR NID Approval (the "Amended NID") to replace the existing 138 kV transmission line with a double circuit 138 kV transmission line with both circuits strung and connecting these two circuits to the transmission system.

NID level estimate for original 2008 project scope:

Appendix A is the original 2008 NID estimate escalated to 2016 dollars. The total estimated cost is **\$30,411,696** (+30/-30%, 2016\$).

NID level estimate for the Amended NID project scope:

Appendix B is the Amended NID project scope & estimate escalated to 2016 dollars. The total estimated cost of the amended scope is **\$39,494,480** (+30/-30%, 2016\$). The estimate was developed using unit cost data for "like-for-like" project scope from the AESO cost bench marking website.

PPS level estimate:

Appendix C is the 2014 Proposal to Provide Service (PPS) estimate in 2016 dollars for the amended NID scope. The total cost of this estimate is **\$41,453,650** (+20/-10%, 2016\$).

NID level cost comparison:

The delta between the original 2008 NID estimate (\$30,411,696, +30/-30%) and the amended NID scope estimate (\$39,494,480, +30/-30%) is **\$9.08M**.

The delta of \$9.08M is a result of additional costs associated with new scope added to the original 2008 estimate and variances in the original estimate assumptions. The details for these two cost deltas are as follows:

1. The estimated cost for the new scope added to the 2008 NID is **\$5.34M** and is made up of following:
 - (1.1) The 2008 NID identified the need to construct a new 138kV D/C transmission line with one side strung. The amended NID identifies the need to construct a new 138kV D/C transmission line with both sides strung. An increase of **\$2.10M** is required to facilitate material procurement, engineering and construction of a two sided strung D/C 138kV transmission line;
 - (1.2) The 2008 NID assumed the Protection and Control scope required at Blackie, Queenstown, Gleichen and Vulcan would be identical. The 2008 NID applied equal costs for material, engineering and construction across all four substations listed above. The amended NID has determined the scope was underestimated and varies considerably between each substation. Protection and Control scope variance is **\$2.36M**;
 - (1.3) The 2008 NID did not include scope for Telecommunications. The amended NID has determined Telecommunication scope is required at a variance is **\$884K**; and
 - (1.4) The 2008 NID did not include costs associated with modifications to TransAlta's Gleichen substation. The additional cost of this scope is **\$839K**.

2. Remaining cost difference is **\$3.73M** as per **the** following:
 - (2.1) Distributed costs have increased by **\$1.70M** compared to the 2008 NID estimate. The increase reflects engineering, procurement, project management, construction management and contingency associated with the new scope added to the 2008 NID estimate and escalation applied to bring the 2008 estimate to 2016 costs;
 - (2.2) The Amended NID project scope requires more salvage work than the original NID scope. The additional salvage cost is **\$251K**;
 - (2.3) The 2008 NID estimate underestimated the time required and associated costs for development of the PPS estimate and AUC Facility Application

proposal. Consultation and regulatory requirements to support both the PPS and Facility Application requires more time and resources in 2014 compared to 2008. Furthermore, additional land requirements to facilitate construction were included in the amended NID project scope. The cost associated with this difference is **\$1.63M**.

- (2.4) Six years has elapsed since the 2008 NID estimate was developed and AML program E&S costs have increased. The variance of **\$144K** reflects this increase.

Appendix-A - Blackie Original NID 2008 in 2016\$

Estimate Summary for Need Identification Document (NID)

Project Name: SATR Blackie Area 138KV Line Reconfiguration
 Project no. 1038
 Date: April 22, 2014
 Accuracy: +/-30%

	Original NID - 2008\$		Original NID - 2016\$	
	System Portion	Customer Portion	System Portion	Customer Portion
	Original NID - 2008\$	Original NID - 2008\$	Original NID - 2016\$	Original NID - 2016\$
Transmission Lines Costs				
Line 1	760L Med Hat 2 to Medicine Hat 41S			
	24 kms of DC 138KV line with one side strung using 1x477 mcm ACSR Hawk conductors to become 876L	\$ 9,473,920	\$ -	\$ 15,916,408
	Switches/Airbreaks	\$ -	\$ -	\$ -
	Misc	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 9,473,920	\$ -	\$ 15,916,408
Line 2	Replacement of 852L with DIC			
	24 kms of DC 138KV line with one side strung using 1x477 mcm ACSR Hawk conductors to become 161L	\$ 1,531,992	\$ -	\$ 2,573,783
	Switches/Airbreaks	\$ -	\$ -	\$ -
	Misc	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 1,531,992	\$ -	\$ 2,573,783
	Total - Transmission Line Project Cost	\$ 11,005,912	\$ -	\$ 18,490,191
Substation Facilities Cost				
Sub 1	Blackie 253S			
	Transformers <number, size, and voltage>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -	\$ -
	Reactor Bank	\$ -	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ -	\$ -	\$ -
	Protection, control, metering	\$ 16,800	\$ -	\$ 28,224
	SCADA	\$ -	\$ -	\$ -
	Material	\$ 16,800	\$ -	\$ 28,224
	Labor	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 16,800	\$ -	\$ 28,224
Sub 2	Gleichen 179S			
	Transformers <number, size, and voltage>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -	\$ -
	Reactor Bank	\$ -	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ -	\$ -	\$ -
	Protection, control, metering	\$ 16,800	\$ -	\$ 28,224
	SCADA	\$ -	\$ -	\$ -
	Material	\$ 16,800	\$ -	\$ 28,224
	Labor	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 16,800	\$ -	\$ 28,224
Sub 3	Vulcan 255S			
	Transformers <number, size, and voltage>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -	\$ -
	Reactor Bank	\$ -	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ -	\$ -	\$ -
	Protection, control, metering	\$ 16,800	\$ -	\$ 28,224
	SCADA	\$ -	\$ -	\$ -
	Material	\$ 16,800	\$ -	\$ 28,224
	Labor	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 16,800	\$ -	\$ 28,224
Sub 4	Queenstown 504S			
	Transformers <number, size, and voltage>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -	\$ -
	Reactor Bank	\$ -	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ -	\$ -	\$ -
	Protection, control, metering	\$ 16,800	\$ -	\$ 28,224
	SCADA	\$ -	\$ -	\$ -
	Material	\$ 16,800	\$ -	\$ 28,224
	Labor	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 16,800	\$ -	\$ 28,224
	Total - SubStation Facilities Cost	\$ 67,200	\$ -	\$ 112,896
Telecommunication Cost				
Teil 1	Blackie 253S			
	Tower/Antenna	\$ -	\$ -	\$ -
	Fiber (km)	\$ -	\$ -	\$ -
	Radio Equipment	\$ -	\$ -	\$ -
	Building (if substation building not utilized)	\$ -	\$ -	\$ -
	<Misc.>	\$ -	\$ -	\$ -
	Material	\$ -	\$ -	\$ -
	Labor	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ -	\$ -	\$ -
Teil 2	Gleichen 179S			
	Tower/Antenna	\$ -	\$ -	\$ -
	Fiber (km)	\$ -	\$ -	\$ -
	Radio Equipment	\$ -	\$ -	\$ -
	Building (if substation building not utilized)	\$ -	\$ -	\$ -
	<Misc.>	\$ -	\$ -	\$ -
	Material	\$ -	\$ -	\$ -
	Labor	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ -	\$ -	\$ -
Teil 3	Vulcan 255S			
	Tower/Antenna	\$ -	\$ -	\$ -
	Fiber (km)	\$ -	\$ -	\$ -
	Radio Equipment	\$ -	\$ -	\$ -
	Building (if substation building not utilized)	\$ -	\$ -	\$ -
	<Misc.>	\$ -	\$ -	\$ -
	Material	\$ -	\$ -	\$ -
	Labor	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ -	\$ -	\$ -
Teil 4	Queenstown 504S			
	Tower/Antenna	\$ -	\$ -	\$ -
	Fiber (km)	\$ -	\$ -	\$ -
	Radio Equipment	\$ -	\$ -	\$ -
	Building (if substation building not utilized)	\$ -	\$ -	\$ -
	<Misc.>	\$ -	\$ -	\$ -
	Material	\$ -	\$ -	\$ -
	Labor	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ -	\$ -	\$ -
	Total-Telecom Material and Labour	\$ -	\$ -	\$ -
	Total Facilities Cost	\$ 11,073,112	\$ -	\$ 18,603,089
Owner Costs				
	Preliminary Engineering	\$ 40,000	\$ -	\$ 67,201
	Stiling	\$ 250,000	\$ -	\$ 420,006
	Protection setting	\$ 120,000	\$ -	\$ 201,603
	Land	\$ 134,760	\$ -	\$ 226,400
	Metering	\$ -	\$ -	\$ -
	Owner Costs	\$ 544,760	\$ -	\$ 915,210
Distributed Costs				
	Distributed Costs	\$ 1,817,979	\$ -	\$ 3,063,744
	Contingency	\$ 2,793,510	\$ -	\$ 4,693,162
	Escalation	\$ -	\$ -	\$ -
	Distributed Costs	\$ 4,611,489	\$ -	\$ 7,746,907
	Total Direct Costs	\$ 16,229,062	\$ -	\$ 27,265,205
Salvage				
	Salvage Costs	\$ 532,000	\$ -	\$ 893,772
Other Costs				
	AFUDC	\$ -	\$ -	\$ -
	EAS	\$ 1,340,885	\$ -	\$ 2,252,718
	Total - Other Costs	\$ 1,340,885	\$ -	\$ 2,252,718
Total Indirect Costs				
	Total Indirect Costs	\$ 1,872,885	\$ -	\$ 3,146,491
	Total Project Costs	\$ 18,101,947	\$ -	\$ 30,411,696

Appendix-B - Blackie Amended NID in 2016\$

Estimate Summary for Need Identification Document (NID)

Project Name: SATR Blackie Area 138KV Line Reconfiguration
 Project no. 1038
 Date April 22, 2014
 Accuracy 30%/-30%

		System Portion	Customer Portion	Total
		Amended NID - 2016\$	Amended NID - 2016\$	
Transmission Lines Costs				
Line 1	Blackie to Queenstown (876/161L)			
	*24.2" km of D/C line using 1x266 ACSR Partridge conductor type that is c/w or w/o underbuild	\$ 19,591,200	\$ -	\$ 19,591,200
	Switches / Airbreaks/Taps	\$ -	\$ -	\$ -
	-Misc->	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 19,591,200	\$ -	\$ 19,591,200
Line 2	Blackie-Gleichen (876L)			
	Cutover of the 876 Line between Blackie 253S and Gleichen 174S	\$ 500,000	\$ -	\$ 500,000
	Switches / Airbreaks/Taps	\$ -	\$ -	\$ -
	-Misc->	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 500,000	\$ -	\$ 500,000
Line 3	Queenstown-Vulcan (161L)			
	Cutover of the 876 Line between Blackie 253S and Gleichen 174S	\$ 500,000	\$ -	\$ 500,000
	Switches / Airbreaks/Taps	\$ -	\$ -	\$ -
	-Misc->	\$ -	\$ -	\$ -
	Total-Material and Labour	\$ 500,000	\$ -	\$ 500,000
Total - Transmission Line Project Cost		\$ 20,591,200	\$ -	\$ 20,591,200
Substation Facilities Cost				
Sub 1	Blackie 253S			
	Transformers <number, size, and voltage>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -	\$ -
	Reactor Bank	\$ -	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ 107,000	\$ -	\$ 107,000
	Protection, control, metering	\$ 82,000	\$ -	\$ 82,000
	SCADA	\$ 3,300	\$ -	\$ 3,300
	Control	\$ 25,900	\$ -	\$ 25,900
	CT-PT	\$ 27,400	\$ -	\$ 27,400
	Misc- Include FO ductbank	\$ 125,000	\$ -	\$ 125,000
	Engineering	\$ 300,000	\$ -	\$ 300,000
	CM / PM	\$ 300,000	\$ -	\$ 300,000
	Labor	\$ 400,000	\$ -	\$ 400,000
	Total-Material and Labour	\$ 1,178,300	\$ -	\$ 1,178,300
Sub 2	Gleichen 179S			
	Transformers <number, size, and voltage>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -	\$ -
	Reactor Bank	\$ -	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ -	\$ -	\$ -
	Protection, control, metering	\$ 28,000	\$ -	\$ 28,000
	SCADA	\$ 2,200	\$ -	\$ 2,200
	Control	\$ 25,900	\$ -	\$ 25,900
	Engineering	\$ 75,000	\$ -	\$ 75,000
	CM / PM	\$ 100,000	\$ -	\$ 100,000
	Labor	\$ 75,000	\$ -	\$ 75,000
	Total-Material and Labour	\$ 275,900	\$ -	\$ 275,900
Sub 3	Vulcan 255S			
	Transformers <number, size, and voltage>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -	\$ -
	Reactor Bank	\$ -	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ -	\$ -	\$ -
	Protection, control, metering	\$ 28,000	\$ -	\$ 28,000
	SCADA	\$ 2,200	\$ -	\$ 2,200
	Control	\$ 25,900	\$ -	\$ 25,900
	Engineering	\$ 75,000	\$ -	\$ 75,000
	CM / PM	\$ 100,000	\$ -	\$ 100,000
	Labor	\$ 75,000	\$ -	\$ 75,000
	Total-Material and Labour	\$ 275,900	\$ -	\$ 275,900
Sub 4	Queenstown 504S			
	Transformers <number, size, and voltage>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -	\$ -
	Reactor Bank	\$ -	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ 16,700	\$ -	\$ 16,700
	Protection, control, metering	\$ 55,900	\$ -	\$ 55,900
	SCADA	\$ 2,200	\$ -	\$ 2,200
	Control	\$ 25,900	\$ -	\$ 25,900
	Misc- Include FO ductbank	\$ 125,000	\$ -	\$ 125,000
	Engineering	\$ 220,000	\$ -	\$ 220,000
	CM / PM	\$ 250,000	\$ -	\$ 250,000
	Labor	\$ 125,000	\$ -	\$ 125,000
	Total-Material and Labour	\$ 745,900	\$ -	\$ 745,900
Total - SubStation Facilities Cost		\$ 2,476,000	\$ -	\$ 2,476,000
TransAlta Share of Substation Costs			\$ 275,900	
Telecommunication Cost				
Tel 1	Blackie 253S			
	Tower/Antenna	\$ -	\$ -	\$ -
	Fiber (km)	\$ 3,300	\$ -	\$ 3,300
	Radio Equipment	\$ -	\$ -	\$ -
	Building (If substation building not utilized)	\$ -	\$ -	\$ -
	-Misc->	\$ 88,800	\$ -	\$ 88,800
	SCADA / Telcom	\$ 76,100	\$ -	\$ 76,100
	Engineering	\$ 250,000	\$ -	\$ 250,000
	CM / PM	\$ 25,000	\$ -	\$ 25,000
	Labor	\$ 10,000	\$ -	\$ 10,000
	Total-Material and Labour	\$ 361,100	\$ -	\$ 361,100
Tel 2	Gleichen 179S			
	Tower/Antenna	\$ -	\$ -	\$ -
	Fiber (km)	\$ -	\$ -	\$ -
	Radio Equipment	\$ -	\$ -	\$ -
	Building (If substation building not utilized)	\$ -	\$ -	\$ -
	-Misc->	\$ -	\$ -	\$ -
	SCADA / Telcom	\$ 76,100	\$ -	\$ 76,100
	Engineering	\$ 20,000	\$ -	\$ 20,000
	CM / PM	\$ 25,000	\$ -	\$ 25,000
	Labor	\$ 10,000	\$ -	\$ 10,000
	Total-Material and Labour	\$ 131,100	\$ -	\$ 131,100
Tel 3	Vulcan 255S			
	Tower/Antenna	\$ -	\$ -	\$ -
	Fiber (km)	\$ -	\$ -	\$ -
	Radio Equipment	\$ -	\$ -	\$ -
	Building (If substation building not utilized)	\$ -	\$ -	\$ -
	-Misc->	\$ -	\$ -	\$ -
	SCADA / Telcom	\$ 76,100	\$ -	\$ 76,100
	Engineering	\$ 20,000	\$ -	\$ 20,000
	CM / PM	\$ 25,000	\$ -	\$ 25,000
	Labor	\$ 10,000	\$ -	\$ 10,000
	Total-Material and Labour	\$ 131,100	\$ -	\$ 131,100
Tel 4	Queenstown 504S			
	Tower/Antenna	\$ -	\$ -	\$ -
	Fiber (km)	\$ 3,300	\$ -	\$ 3,300
	Radio Equipment	\$ -	\$ -	\$ -
	Building (If substation building not utilized)	\$ -	\$ -	\$ -
	-Misc->	\$ 11,100	\$ -	\$ 11,100
	SCADA / Telcom	\$ 76,100	\$ -	\$ 76,100
	Engineering	\$ 85,000	\$ -	\$ 85,000
	CM / PM	\$ 25,000	\$ -	\$ 25,000
	Labor	\$ 75,000	\$ -	\$ 75,000
	Total-Material and Labour	\$ 261,100	\$ -	\$ 261,100
Total-Telecom Material and Labour		\$ 884,400	\$ -	\$ 884,400
TransAlta Share of Telecommunication Costs			\$ 131,100	
Total Facilities Costs				
Total Facility Costs		\$ 23,951,600	\$ -	\$ 23,951,600
Owner Costs				
Proposal to provide service		\$ 72,000	\$ -	\$ 72,000
Facilities Applications		\$ 2,068,800	\$ -	\$ 2,068,800
Land		\$ 405,600	\$ -	\$ 405,600
Owner Costs		\$ 2,546,400	\$ -	\$ 2,546,400
TransAlta Share of Owner Costs			\$ 76,392	
Distributed Costs				
Distributed Costs		\$ 2,592,000	\$ -	\$ 2,592,000
Contingency		\$ 4,224,000	\$ -	\$ 4,224,000
Escalation		\$ 2,638,080	\$ -	\$ 2,638,080
Distributed Costs		\$ 9,454,080	\$ -	\$ 9,454,080
TransAlta Share of Distributed Costs			\$ 283,622	
Total Direct Costs				
Total Direct Costs		\$ 35,952,080	\$ -	\$ 35,952,080
Salvage				
Salvage Costs		\$ 1,144,800	\$ -	\$ 1,144,800
Other Costs				
AFUDC		\$ -	\$ -	\$ -
E&S		\$ 2,397,600	\$ -	\$ 2,397,600
Total - Other Costs		\$ 2,397,600	\$ -	\$ 2,397,600
TransAlta Share of Other Costs			\$ 71,928	
Total Indirect Costs				
Total Indirect Costs		\$ 3,542,400	\$ -	\$ 3,542,400
Total Project Costs				
Total Project Costs		\$ 39,494,480	\$ -	\$ 39,494,480
TransAlta Share of Total Costs			\$ 838,942	

Appendix - C - Blackie 2014 PPS Estimate in 2016\$
Estimate Summary for Need Identification Document (NID)

Project Name: SAIR Blackie Area 138KV Line Reconfiguration
 Project no: 1038
 Date: April 22, 2014
 Accuracy: 20%/ -10%

	System Portion	Customer Portion	Total
	PPS Estimate -2016\$	PPS Estimate- 2016\$	
Transmission Lines Costs			
Line 1	Blackie to Queenstown (827/816/14)		
	24.2' km of DCL line using 1266 ACSSR Partridge conductor type that is 5/8" or w/p underbult	\$ -	\$ -
	Switches / Airbreaks/Taps	\$ 20,497,058	\$ 20,497,058
	-Misc->	\$ -	\$ -
	Total-Material and Labour	\$ 20,497,058	\$ 20,497,058
Line 2	Blackie-Gleichen (826/1)		
	Cut-over of the 876 Line between Blackie 2535 and Gleichen 1745	\$ 354,548	\$ 354,548
	Switches / Airbreaks/Taps	\$ -	\$ -
	-Misc->	\$ -	\$ -
	Total-Material and Labour	\$ 354,548	\$ 354,548
Line 3	Queenstown-Vulcan (1611)		
	Cut-over of the 876 Line between Blackie 2535 and Gleichen 1745	\$ 368,419	\$ 368,419
	Switches / Airbreaks/Taps	\$ -	\$ -
	-Misc->	\$ -	\$ -
	Total-Material and Labour	\$ 368,419	\$ 368,419
Line 4	852k Temporary cut-over (852L)		
	Temporary cut-over of the 852 Line to new 101 line to allow demolition of the 852 Line at both end	\$ 286,052	\$ 286,052
	Switches / Airbreaks / Taps	\$ -	\$ -
	-Misc->	\$ -	\$ -
	Total-Material and Labour	\$ 286,052	\$ 286,052
	Total - Transmission Line Project Cost	\$ 21,506,077	\$ 21,506,077
Substation Facilities Cost			
Sub 1	Blackie 2535		
	Transformers <number, size, and voltage>	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -
	Reactor Bank	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ 107,094	\$ 107,094
	Protection, control, metering	\$ 65,116	\$ 65,116
	SCADA	\$ 3,329	\$ 3,329
	Material	\$ 192,529	\$ 192,529
	Labor	\$ 853,612	\$ 853,612
	Total-Material and Labour	\$ 1,076,141	\$ 1,076,141
Sub 2	Gleichen 1795		
	Transformers <number, size, and voltage>	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -
	Reactor Bank	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ -	\$ -
	Protection, control, metering	\$ 28,075	\$ 28,075
	SCADA	\$ 2,219	\$ 2,219
	Material	\$ 30,294	\$ 30,294
	Labor	\$ 140,614	\$ 140,614
	Total-Material and Labour	\$ 179,908	\$ 179,908
Sub 3	Vulcan 2555		
	Transformers <number, size, and voltage>	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -
	Reactor Bank	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ -	\$ -
	Protection, control, metering	\$ 28,075	\$ 28,075
	SCADA	\$ 2,219	\$ 2,219
	Material	\$ 30,294	\$ 30,294
	Labor	\$ 136,614	\$ 136,614
	Total-Material and Labour	\$ 165,908	\$ 165,908
Sub 4	Queenstown 826L		
	Transformers <number, size, and voltage>	\$ -	\$ -
	Circuit Breakers <voltage 1>	\$ -	\$ -
	Circuit Breakers <voltage 2>	\$ -	\$ -
	Capacitor Bank <size, voltage>	\$ -	\$ -
	Reactor Bank	\$ -	\$ -
	PT's & CT's <quantity, voltage>	\$ -	\$ -
	Switch Yard and Substation Control Building	\$ 16,646	\$ 16,646
	Protection, control, metering	\$ 65,618	\$ 65,618
	SCADA	\$ 2,219	\$ 2,219
	Material	\$ 74,692	\$ 74,692
	Labor	\$ 453,497	\$ 453,497
	Total-Material and Labour	\$ 595,179	\$ 595,179
	Total - Substation Facilities Cost	\$ 1,747,228	\$ 1,747,228
	TransAlta Share of Substation Costs	\$ 170,908	\$ 170,908
Telecommunication Cost			
Tel 1	Blackie 2535		
	Tower/Antenna	\$ -	\$ -
	Fiber (km)	\$ 3,329	\$ 3,329
	Radio Equipment	\$ -	\$ -
	Building (if substation building not utilized)	\$ -	\$ -
	-Misc->	\$ 88,775	\$ 88,775
	Material	\$ 82,104	\$ 82,104
	Labor	\$ 85,005	\$ 85,005
	Total-Material and Labour	\$ 456,168	\$ 456,168
Tel 2	Gleichen 1795		
	Tower/Antenna	\$ -	\$ -
	Fiber (km)	\$ -	\$ -
	Radio Equipment	\$ -	\$ -
	Building (if substation building not utilized)	\$ -	\$ -
	-Misc->	\$ -	\$ -
	Material	\$ -	\$ -
	Labor	\$ 19,655	\$ 19,655
	Total-Material and Labour	\$ 19,655	\$ 19,655
Tel 3	Vulcan 2555		
	Tower/Antenna	\$ -	\$ -
	Fiber (km)	\$ -	\$ -
	Radio Equipment	\$ -	\$ -
	Building (if substation building not utilized)	\$ -	\$ -
	-Misc->	\$ -	\$ -
	Material	\$ -	\$ -
	Labor	\$ 20,821	\$ 20,821
	Total-Material and Labour	\$ 20,821	\$ 20,821
Tel 4	Queenstown 826L		
	Tower/Antenna	\$ -	\$ -
	Fiber (km)	\$ 3,329	\$ 3,329
	Radio Equipment	\$ -	\$ -
	Building (if substation building not utilized)	\$ -	\$ -
	-Misc->	\$ 11,097	\$ 11,097
	Material	\$ 14,256	\$ 14,256
	Labor	\$ 191,152	\$ 191,152
	Total-Material and Labour	\$ 209,578	\$ 209,578
	Total-Telecom Material and Labour	\$ 682,507	\$ 682,507
	TransAlta Share of Telecommunication Costs	\$ 19,655	\$ 19,655
Total Facilities Costs			
	Total Facility Costs	\$ 23,935,812	\$ 23,935,812
	TransAlta Share of Facility Costs	\$ 190,563	\$ 190,563
Owner Costs			
	Proposal to provide service	\$ 359,899	\$ 371,030
	Facilities Applications	\$ 977,854	\$ 1,008,097
	Land Rights Easements	\$ 28,863	\$ 315,374
	Land Damage Claims	\$ 122,220	\$ 126,000
	Land Applications	\$ 750,713	\$ 763,200
	Owner Costs	\$ 2,039,509	\$ 2,604,701
	TransAlta Share of Owner Costs	\$ 78,141	\$ 78,141
Distributed Costs			
	Distributed Costs	\$ 5,952,771	\$ 6,119,089
	Contingency	\$ 4,016,721	\$ 4,140,949
	Escalation	\$ -	\$ -
	Distributed Costs	\$ 9,952,448	\$ 10,260,038
	TransAlta Share of Distributed Costs	\$ 397,599	\$ 397,599
Total Direct Costs			
	Total Direct Costs	\$ 36,414,828	\$ 36,971,467
Salvage			
	Salvage Costs	\$ 2,488,817	\$ 2,488,817
Other Costs			
	AFUDC	\$ -	\$ -
	EAS	\$ 1,988,076	\$ 1,973,710
	Total - Other Costs	\$ 1,988,076	\$ 1,973,710
	TransAlta Share of Other Costs	\$ 66,635	\$ 66,635
Total Indirect Costs			
	Total Indirect Costs	\$ 4,396,893	\$ 4,462,527
	Total Project Costs	\$ 40,811,721	\$ 41,453,659
	TransAlta Share of Total Costs	\$ 841,929	\$ 841,929

BLACKIE AMENDMENT TO THE SATR NID APPROVAL

**ATTACHMENT 2 – AESO PARTICIPANT INVOLVEMENT PROGRAM
SUMMARY**

Amendment to the Blackie 138 kV Upgrades in the Southern Alberta Transmission Reinforcement Needs Identification Document Approval

1.0 Participant Involvement Program (PIP)

From October 2013 to August 2014, the AESO conducted a Participant Involvement Program (PIP) to assist in preparing its *Amendment to the Blackie 138 kV Upgrades in the Southern Alberta Transmission Reinforcement Needs Identification Document Approval* (Blackie 138 kV Amendment). The AESO directed transmission facility owner (TFO) AltaLink Management Ltd. (AltaLink) to assist the AESO in providing notification in accordance with NID 14 and Appendix A of Alberta Utilities Commission Rule 007.

The AESO's PIP was designed to notify and provide information to all occupants, residents and landowners within a minimum of 800 meters of the proposed transmission development, as well as to other interested parties, including the following organizations and government agencies:

- Agriculture and Rural Development Farmers' Advocate
- Alberta Culture
- Alberta Environment and Sustainable Resource Development, Fish and Wildlife
- Alberta Environment and Sustainable Resource Development, Public Lands
- Alberta Transportation
- Baytex Energy
- Bowark Energy Ltd
- Centrica Energy (Direct Energy Marketing Limited)
- Coastal Resources Ltd.
- Compton Petroleum Corporation
- ConocoPhillips Canada Resources Corp.
- Devon Canada Corporation
- Ducks Unlimited
- EQUUS
- FortisAlberta Inc.
- Husky Oil Operations Ltd.
- Journey Energy Inc.
- Lightstream Resources
- Nav Canada
- Plains Midstream Canada ULC
- Response Energy Corporation

- Second Wave Petroleum
- Serinus Energy Inc (Winstar Resources Ltd)
- Suncor Energy Inc
- Sunshine Gas Co-op Ltd
- TAQA North Ltd
- TELUS
- TransAlta
- Vermillion Energy Inc.
- Vulcan County

1.1 Description of Participant Involvement Program

The AESO used a variety of methods to notify stakeholders of the Blackie 138 kV Amendment. The AESO developed a one-page amendment overview document that described the amendment. A copy of this document was posted to the AESO website at <http://www.aeso.ca/transmission/24782.html> on October 18, 2013. The October 22, 2013 AESO bi-weekly stakeholder newsletter included a link to the amendment overview. A copy of the AESO's amendment overview is included in Attachment 1.

The amendment overview was also included with AltaLink's project-specific information package mailed on October 15, 2013 to all occupants, residents and landowners within a minimum of 800 meters of the proposed transmission development, as well as to other interested parties, including the government agencies and other organizations noted above. Attachment 2 includes a copy of AltaLink's brochure.

Most recently, the AESO advertised its intention to file the Blackie 138 kV Amendment in the Okotoks Western Wheel, Vulcan Advocate and Strathmore Standard newspapers on Wednesday, July 23, 2014, and in the High River Times and Strathmore Times newspapers on Friday, July 25, 2014. A copy of the final proof has been included as Attachment 3.

As directed by the AESO, the TFO was prepared to direct any inquiries or concerns about the amendment to the AESO. The TFO has indicated that stakeholders have not identified any concerns with the Blackie 138 kV Amendment.

To ensure that stakeholders had the opportunity to provide feedback, the AESO also provided stakeholders with a dedicated, toll-free telephone line (1-888-866-2959) and a dedicated email address (stakeholder.relations@aeso.ca). AESO contact information, along with the AESO's mailing address (2500, 330 5th Ave, SW, Calgary) and website address (www.aeso.ca), and a privacy statement that described how the AESO honours

Alberta's Personal Information Protection Act, were included on all AESO communications related to this application.

1.2 Issues and Concerns Raised

The AESO has received no indication of concern from any party about the Blackie 138 kV Amendment.

1.3 List of Attachments

- Appendix 1 – AESO Amendment Overview
- Appendix 2 – AltaLink's Information Brochure – "*Blackie Area 138 kV Line Reconfiguration*" (October 2013)
- Appendix 3– Notification of Filing Advertisement – Final Proof

Appendix 1 – AESO Amendment Overview

Amendment to the Blackie 138 kV Upgrades in the Southern Alberta Transmission Reinforcement Needs Identification Document Approval

October 2013



Why am I receiving this information?

The Alberta Electric System Operator (AESO) advises you of its intention to file an application with the Alberta Utilities Commission (AUC) to amend the *Southern Alberta Transmission Reinforcement Needs Identification Document* (SATR NID) Approval No. U2011-115 (SATR NID Approval).

The SATR NID Approval includes a new 138 kV transmission line from Blackie 253S substation to Queenstown 504S substation. In the SATR NID, the AESO incorrectly described this new transmission development as a double circuit 138 kV line with one side strung. Since there is an existing 138 kV single circuit line between the Blackie 253S and Queenstown 504S substations, the approved 138 kV line would have resulted in two separate 138 kV transmission lines in the area. Therefore, the AESO is applying to the AUC for an amendment of the SATR NID Approval to replace the existing 138 kV transmission line with a double circuit 138 kV transmission line with both circuits strung and connecting these two circuits to the transmission system. No other changes are proposed to the SATR NID Approval.

The AESO is providing this information to stakeholders, including landowners, occupants and residents in the area that may be affected by the change in transmission development. The AESO intends to file the amendment with the AUC in Q1 2014. The amendment will be available at <http://www.aeso.ca/transmission/24781.html> at the time of the AESO's application to the AUC.

Background

In December 2008, the AESO filed the SATR NID with the AUC to address the need for transmission system reinforcement in southern Alberta. SATR is needed to alleviate existing system constraints and to integrate southern Alberta wind generation with the transmission system. As part of the regulatory process, the AESO consulted on the need for SATR and its plan to address the need from October 2007 to October 2008. A public hearing was held to consider the SATR NID application in June 2009. The AUC approved the SATR NID in September 2009 in Decision 2009-126 and further approved certain amendments in Decision 2011-102 and Approval No. U2011-115. For more information on the need for SATR, please visit <http://www.aeso.ca/transmission/16869.html>

Who is the AESO?

Alberta's transmission system, sometimes referred to as the Alberta Interconnected Electric System (AIES), is planned and operated by the AESO. The transmission system comprises the high-voltage lines, towers and equipment (generally 69 kV and above) that transmit electricity from generators to lower voltage systems that distribute electricity to cities, towns, rural areas and large industrial customers.

The AESO's role is to maintain the safe, reliable and economic operation of the AIES. The AESO's planning responsibility includes determining the need for transmission system development and the manner in which that need is met. The AESO is also mandated to facilitate the interconnection of qualified market participants to the AIES. The AESO is regulated by the AUC and must apply to the AUC for approval of its needs identification documents.

How is AltaLink Management Ltd. involved?

AltaLink is the transmission facilities owner in the Blackie area. While the AESO is responsible for identifying that transmission system development is needed, AltaLink is responsible for detailed siting and routing, constructing, operating and maintaining the associated transmission facilities. The AESO has directed AltaLink to provide information to stakeholders on this need and to file a facility proposal application with the AUC, which will include a detailed description and location of the proposed transmission development.

For More Information

The AESO believes anyone potentially affected by transmission planning should have the opportunity to participate in the process and provide input. The AESO appreciates your views on the need for transmission system development and encourages your comments and participation.

For further information, the SATR NID Approval can be found on the AUC website at: <http://www.auc.ab.ca/applications/orders/utility-orders/Utility%20Orders/2011/U2011-115.pdf>

Please contact Megan Harris through stakeholder.relations@aeso.ca or call our stakeholder relations toll-free line at 1-888-866-2959 if you have any questions or suggestions.

**Appendix 2 – AltaLink’s Information Brochure – “*Blackie Area
138 kV Line Reconfiguration*” (October 2013)**

Electric system improvements near you

Blackie Area 138 kV Line Reconfiguration

DID YOU KNOW?

According to the Canadian Electricity Association, Canada's electricity grid was built for a population of about 20 million, but is today servicing around 35 million people. Provinces across Canada, including Alberta, are working to reinforce their aging electric systems so they can continue to provide customers with reliable power.

You are receiving this newsletter because you are near the Blackie Area 138 kV Line Reconfiguration and we want your input about an additional route option we are now proposing for the project.

In our last communication sent to you in June 2012, we anticipated filing an application for this project in summer 2012. Since that time we have been revisiting all of our options for the proposed new **transmission** line in order to find the lowest overall impact solution for the project. In addition to the route we initially communicated to you, located on the north side of the road allowance, we are now proposing a second route option for consideration, on the south side of the road allowance.

If this is the first time you are hearing from us about this project, please refer to our website to see previous materials, including maps, related to this project or contact us for more information. Our contact information is on the front and back pages of this newsletter.

We want to provide you with:

- project details
- information about how you can provide your input
- project schedule
- maps of the proposed development

DEFINITION

Transmission

Transmission lines make up Alberta's electric highway, linking the places where power is generated to where power is used. Transmission lines transport large amounts of power over long distances across the province. The transmission system connects diverse sources of power generation including wind, high-efficiency coal, natural gas and more.

CONTACT US

1-855-520-1923 (toll-free)
stakeholderrelations@altalink.ca

www.altalink.ca/satr

DEFINITION

Alberta Electric System Operator

The Alberta Electric System Operator (AESO) is an independent, not-for-profit organization responsible for the safe, reliable and economic planning and operation of the provincial transmission grid. For more information about why this project is needed, please refer to the AESO's Need Overview included with this package, or visit www.aeso.ca. If you have any questions or concerns about the need for this project you may contact the AESO directly.

DEFINITION

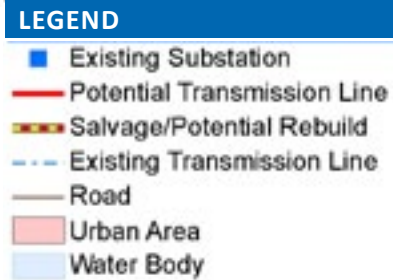
Needs Application

The AESO submits Needs Applications to the AUC for review. A Needs Application describes why a transmission project is required. The AUC may review a Needs Application at the same time it reviews a Facilities Application, or may review each application separately. The AUC must approve a Needs Application before construction can begin.

DEFINITION

Alberta Utilities Commission

The Alberta Utilities Commission (AUC) ensures the fair and responsible delivery of Alberta's utility services. AltaLink submits applications for new transmission projects to the AUC and the AUC reviews them in a public process.



Blackie Area 138 kV Line Reconfiguration

This project is part of a larger area development called the Southern Alberta Transmission Reinforcement (SATR). The SATR includes many proposed projects in southern Alberta that will help meet increasing demand for electricity and ensure homes, farms and businesses in the area continue to have a reliable supply of power for years to come. The Alberta Electric System Operator (AESO) determined the SATR was needed and filed a Needs Application with the Alberta Utilities Commission (AUC). The AUC reviewed and approved the application.

For more information about why this project is needed, please refer to the AESO's updated Need Overview included in this package.

Project details

The proposed project includes upgrades and changes to improve the 138 Kilovolt (kV) transmission system in your area. The proposed transmission developments include:

- removing approximately 24 kilometres (15 miles) of existing single circuit, H-frame 138 kV transmission line called 852L between the Blackie 253S Substation (located east of Blackie), and the Queenstown 504S Substation (located west of Queenstown)
- building approximately 24 kilometres (15 miles) of new double circuit 138 kV transmission line between the Blackie Substation and the Queenstown Substation
 - at the Blackie Substation, one circuit of the proposed transmission line will connect to the existing 161L transmission line, and the other circuit will connect into the Blackie Substation
 - at the Queenstown Substation, one circuit of the proposed transmission line will connect to the existing 876L transmission line, and the other circuit will connect into the Queenstown Substation
- upgrading the existing Blackie and Queenstown substations to accommodate the new connections for the proposed transmission line



Existing Blackie Substation

DEFINITION

Kilovolt (kV)

A kilovolt is equal to one thousand volts and is commonly used when describing transmission and distribution lines. AltaLink's transmission lines range from 69 kV (69,000 volts) to 500 kV (500,000 volts). Light bulbs typically range from 120 to 300 volts.

DEFINITION

Circuit

A circuit is a group of wires that electricity flows through. The wires are strung along power line structures. Transmission line structures can be described as single or double circuit. In a single circuit transmission line, three single or bundled wires are strung along the transmission structures. A double circuit transmission line has six single or bundled wires strung along the structures.

DEFINITION

Substation

Substations are the connection points between power lines of varying voltages and contain equipment that controls and protects the flow of power. Substations include transformers that step down and step up the voltage so power can be transmitted through transmission lines or distributed to your community through distribution lines.

OUR TRANSMISSION LINES TRANSPORT THE POWER YOU USE EVERY DAY

AltaLink's transmission system efficiently delivers electricity to 85% of Albertans. Dedicated to meeting the growing need for electricity, AltaLink connects Albertans to renewable, reliable and low-cost power. With a commitment to community and environment, AltaLink is ensuring the transmission system will support Albertans' quality of life for years to come. Learn more at www.altalink.ca.



What information do we need from you?

When identifying route options, AltaLink takes several factors into consideration in an effort to find routes with low overall impact. Some of the factors we take into consideration include:

Important Criteria		
	Agricultural	<ul style="list-style-type: none"> Impact on crop production Reduced efficiency of field operations
	Residential	<ul style="list-style-type: none"> Proximity to residences Impact on developable lands and constraints on future development
	Environmental	<ul style="list-style-type: none"> Potential effects to environmental resources and features
	Cost	<ul style="list-style-type: none"> Construction cost and land acquisition costs
	Electrical	<ul style="list-style-type: none"> Reliability and reparability of the line
	Visual	<ul style="list-style-type: none"> Visual impact of structures and lines as seen from residences and recreational areas
	Special considerations	<ul style="list-style-type: none"> Electrical interference with radio transmitting stations and other telecommunication equipment etc.

Proposed route options

In order to determine the lowest overall impact solution for this project, we are now proposing two potential route options for the proposed new transmission line:

- building it in-line with the existing 852L transmission line along the north side of the road allowance (this is the option that we previously communicated and consulted on)
- building it along the south side of the road allowance (new option)

After further detailed engineering and planning, we have determined that the south route is a viable route option to consider because it will allow the existing line to stay in operation until the new line is in service, helping to minimize outages during construction.

The existing 852L transmission line is a two-pole H-frame structure located both on private property and in road allowance. We intend to locate the base of the proposed new single-pole structures one metre (three feet) within the road allowance.

Both of the potential route options will be located primarily within road allowance, but there may be some select structures that will require **right-of-way**. This will be determined after further engineering and we will discuss that option with directly affected landowners at those locations.

Please refer to the attached maps for a detailed view of the potential route options. The attached structure comparison diagram provides an idea of what the new structures will look like compared to the existing transmission structures in the area.

If the project is approved, only one route option will be built, and the existing 852L transmission line will be removed. We want to gather your feedback on both of these route options. Based on the feedback we collect, we will identify a preferred route and potentially an alternate route in the application we file with the AUC. A summary of stakeholder comments about our routing will be included in the application, and the AUC will make the final decision about the project.

Proposed transmission structures

The proposed transmission structures for the new transmission line are the same as what was originally proposed for the project.

The proposed structures will be single-pole steel structures and will typically have a:

- height of approximately 22 to 27 metres (70 to 90 feet)
- width at the cross-arm of approximately six to seven metres (20 to 23 feet)
- base diameter of one to two metres (three to six feet)
- distance between structures averaging 160 metres (525 feet)



ACCESS TRAILS AND TEMPORARY WORKSPACE

We are working to identify key access trails along the proposed transmission line routes. Access trails are required in areas where access may be limited for a number of reasons, including surface water, ditches, coulees or other land features that make driving along the right-of-way difficult.

Optional temporary workspace is also needed along the transmission line for the safe construction of the transmission structures including the structure assembly, installation and stringing. Discussions regarding acquiring these spaces will be negotiated on an individual basis with directly affected landowners.

DEFINITION

Right-of-way

The **right-of-way** is a strip of land required for the construction and safe operation of a transmission line. A **right-of-way** refers to the physical space a transmission line encompasses including areas on either side of the line. The majority of the right-of-way can still be used by the landowner. Buildings cannot be placed on the right-of-way, but can be built up to the edge of the right-of-way.

Left: Existing single circuit H-frame structure along the 852L transmission line.

Right: The proposed double circuit single-pole structures will look similar to the structure pictured here.

PRIVACY COMMITMENT

AltaLink is committed to protecting your privacy. Your personal information that is collected will be protected under AltaLink's Privacy Policy and the Freedom of Information and Protection of Privacy Act. As part of the regulatory process for new transmission projects, AltaLink may provide your personal information to the Alberta Utilities Commission (AUC). For more information about how AltaLink protects your personal information, visit our website at www.altalink.ca/privacy or contact us directly via e-mail privacy@altalink.ca or phone at 1-877-267-6760.

Compensation

We believe people with transmission facilities on their property deserve to be fairly compensated. We provide compensation in the form of annual structure payments to landowners with facilities on their property. We review our compensation every five years to ensure that we continue to offer a fair compensation package consistent with the changing market. We welcome your questions about compensation. Please feel free to contact us.

How to provide your input

Stakeholder input is critical to identifying the lowest overall impact route for this project. You can provide your input in any of the following ways.

PARTICIPATE IN A ONE-ON-ONE CONSULTATION

We will contact all occupants, residents and landowners who are on or directly adjacent to the proposed project to gather input through one-on-one consultations.

During the one-on-one process we will document the information you provide and respond to any questions or concerns you may have about the project.

AltaLink is committed to sharing information about its projects and working with the public to gather and respond to stakeholder input and concerns. A summary of stakeholder comments will be incorporated into the application we submit to the AUC.

CONTACT US DIRECTLY

You can contact us by telephone, email, mail or through our website. Our contact information is on the front and back pages of this newsletter.

Next steps

After our consultation process is complete, we will file a [Facilities Application](#) with the AUC. The AUC will review our application through a process in which stakeholders can participate.

To learn more about the AUC process and how you can become involved, please refer to the brochure included in this package titled *Public Involvement in Needs or Facilities Applications*.

Projects in the area

AltaLink is working on several projects in the area to make sure your lights come on at the flick of the switch.

Project name	Description	Status
South Foothills Transmission Project	A new 240 kV (240,000 volts) transmission line proposed to be built from southwest of Fort MacLeod to east of High River.	Project approved
North Foothills Transmission Project	A new 240 kV transmission line to be built from east of High River to southeast of Calgary.	Project approved

Electric and Magnetic Fields (EMF)

AltaLink recognizes that people have concerns about exposure to Electric and Magnetic Fields (EMF) and we take those concerns very seriously. Everyone in our society is exposed to EMF from many sources, including:

- power lines and other electrical facilities
- electrical appliances in your home
- building wiring
- the earth's natural magnetic field

National and international organizations such as the World Health Organization and Health Canada have been conducting and reviewing research about EMF for more than 40 years. Based on this research, these organizations have not recommended the general public take steps to limit their everyday exposure to EMF from high voltage transmission lines. If you have any questions about EMF please contact us.

Website: www.altalink.ca/emf

Email: emfdialogue@altalink.ca

Toll-free phone number: 1 -866-451-7817

DID YOU KNOW?

Modern technologies, like digital recording devices, are a large drain on the power system. Some home entertainment configurations use more power than a new refrigerator. The average home has more and more gadgets continuously drawing power from the grid. Transmission lines bring power from where it's created to where it's needed so you can power your quality of life.

DEFINITION

Facilities Application

AltaLink submits Facilities Applications to the AUC for review. A Facilities Application describes how AltaLink proposes to meet the requirements for a transmission project. It includes routing details, results of the participant involvement program and technical details. Facilities Applications must be approved by the AUC before construction can begin.

INCLUDED IN THIS INFORMATION PACKAGE:

- Project maps
- Structure diagram
- AUC brochure: *Public Involvement in Needs or Facilities Applications*
- AESO Need Overview



Anticipated project schedule

Notify and consult with stakeholders	October 2013 – January 2014
File application with Alberta Utilities Commission (AUC)	February 2014
Start construction if project is approved	August 2014
Complete construction	July 2015

Although we attempt to follow the anticipated project schedule it is subject to change. We will continue to provide you with updated schedule information as the project progresses.

More information

To learn more about the proposed project, please contact:

ALTALINK

AltaLink at 1-855-520-1923 (toll-free)
 Email: stakeholderrelations@altalink.ca

To learn more about Alberta’s electric system and the need for the project, please contact:

Alberta Electric System Operator (AESO) at 1-888-866-2959 (toll-free)
 Email: stakeholder.relations@aeso.ca

To learn more about the application and review process, please contact:

Alberta Utilities Commission (AUC) at 780-427-4903
 (You can call toll-free by dialing 310-0000 before the number.)
 Email: consumer-relations@auc.ab.ca



2611 - 3rd Avenue SE
 Calgary, Alberta T2A 7W7

Let’s talk transmission

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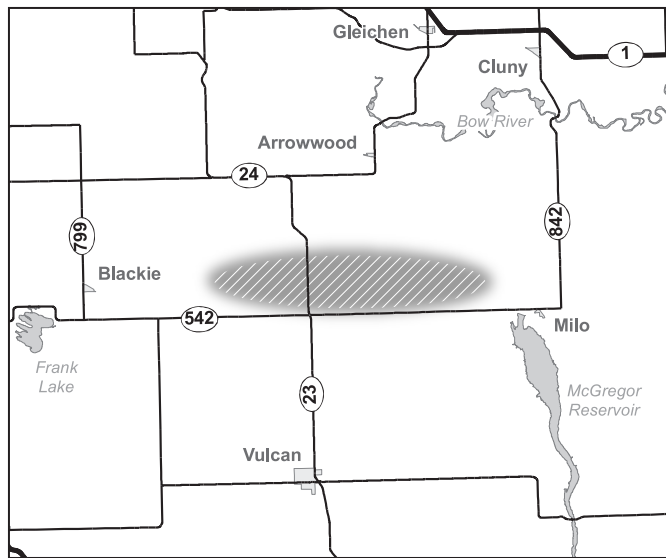


Appendix 3 – Notification of Filing Advertisement – Final Proof

Notification of AESO Regulatory Filing of an Amendment to the Southern Alberta Transmission Reinforcement Needs Identification Document Approval No. U2014-138

The Alberta Electric System Operator (AESO) advises you of its intention to file an application with the Alberta Utilities Commission (AUC) to amend the Southern Alberta Transmission Reinforcement Needs Identification Document (SATR NID) Approval No. U2014-138 (SATR NID Approval), on or after August 11, 2014.

The SATR NID Approval includes a new 138 kV transmission line from Blackie 253S substation to Queenstown 504S substation. Since there is an existing 138 kV single circuit line between the Blackie 253S and Queenstown 504S substations, the approved 138 kV line would have resulted in two separate 138 kV transmission lines in the area. Therefore, the AESO is applying to the AUC for an amendment of the SATR NID Approval to replace the existing 138 kV transmission line with a double circuit 138 kV transmission line with both circuits strung and connecting these two circuits to the transmission system.




The shaded area on the map indicates the approximate area where the amended transmission development is needed. In a separate application called a Facility Application, AltaLink Management Ltd. (AltaLink), the transmission facilities owner in the area, will describe the specific routes and sites for the proposed transmission development and request AUC approval to construct and operate the specific transmission facilities. The specific substation site and transmission line routes applied for by AltaLink may extend beyond the area shown.

The AESO provided notification of the amendment to stakeholders, including residents, occupants and landowners, from October 2013 to July 2014. The AESO has considered feedback gathered from stakeholders, and technical and cost considerations, and will apply to the AUC for approval of the need for this transmission development. Once filed, the NID will be posted on the AESO website at <http://www.aeso.ca/transmission/24782.html>

Please visit our website, www.aeso.ca for more information, or contact the AESO at 1-888-866-2959 or stakeholder.relations@aeso.ca



 <small>Integrated Marketing Communications</small>	
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BLACKIE AMENDMENT TO THE SATR NID APPROVAL

**ATTACHMENT 3 – ALTALINK CONFIRMATION REGARDING
RULE 007, SECTION 6.1 – NID 13**

April 29, 2014

Alberta Electric System Operator
Suite 2500
330 – 5th Avenue SW
Calgary, Alberta, T2P 0L4

Attention: Dale Bergman, Project Manager

Dear Dale Bergman:

RE: Confirmation that the seven AUC Rule 007 NID 13 aspects are being addressed in AltaLink's Blackie Area 138 kV Line Re-configuration Facility Application

The 7 major aspects of AUC Rule 007 NID 13 are addressed throughout AltaLinks' Facility Application (FA) where applicable, and each major aspect is specifically addressed in the sections of the Facility Application outlined below:

- 1. Agricultural Impact**
Is addressed in the FA in Section 4 (Route Determination), and Section 7 (Landowner/Land Use Impacts).
- 2. Residential Impact**
Is addressed in the FA in Section 4 (Route Determination), Section 5 (Participant Involvement Program), and Section 7 (Landowner/Land Use Impacts)
- 3. Environmental Impact**
Is addressed in the FA in Section 6 (Environmental Considerations)
- 4. Cost**
Is addressed in the FA in Section 11 (Economic Assessment)
- 5. Electrical Considerations**
Is addressed in the FA in Section 3 (Project Details)
- 6. Visual Impact**
Is addressed in the FA in Section 7 (Landowner/Land Use Impacts)
- 7. Special Constraints**
Is addressed in the FA in Section 9 (Electrical Considerations)

This Project is not located within the plan boundaries of a regional land use plan in force.

If you have any questions or require clarification regarding the information contained herein, please contact me by telephone at 403-267-6127, or by email to teryn.hamilton@altalink.ca.

Sincerely,



Teryn Hamilton
Right-of-Way Planner
Regional Projects
AltaLink Management Ltd.