

APPENDIX A CAPITAL COST ESTIMATES

Project Name & No.	Sunnybrook & Livock Interconnection with P1655			TRANSMISSION PROJECT ESTIMATE SUMMARY - WEST OPTION
Prepared by:	AltaLink			
AACE Class: (future use)	N/A	Estimate Basis	NID	
High Range	30%	Low Range	-30%	
Date of Estimate:	May 22, 2015	Base Year Used	2015	
	SYSTEM	CUSTOMER	TOTAL	ASSUMPTIONS
TRANSMISSION LINE				
Material	\$ 43,523	\$ 0	\$ 43,523	
Labour	\$ 208,000	\$ -	\$ 208,000	
Supply & Install	\$ -	\$ -	\$ -	
TOTAL TRANSMISSION LINE	\$ 251,523	\$ 0	\$ 251,523	
SUBSTATION				
Material	\$ 12,020,714	\$ -	\$ 12,020,714	
Labour	\$ 8,113,574	\$ -	\$ 8,113,574	
Supply & Install	\$ -	\$ -	\$ -	
TOTAL SUBSTATION	\$ 20,134,288	\$ -	\$ 20,134,288	
TELECOMMUNICATION				
Material	\$ 300,000	\$ -	\$ 300,000	
Labour	\$ 200,000	\$ -	\$ 200,000	
Supply & Install	\$ -	\$ -	\$ -	
TOTAL TELECOMMUNICATIONS	\$ 500,000	\$ -	\$ 500,000	
OWNERS				
Pre-PPS cost			\$ -	
Proposal to Provide Service	\$ 400,000	\$ -	\$ 400,000	
Facility Applications	\$ 400,000	\$ -	\$ 400,000	
Regulatory & Compliance	\$ -	\$ -	\$ -	
Land Rights - Easements	\$ -	\$ -	\$ -	
Land - Damage Claims	\$ -	\$ -	\$ -	
Land - Acquisitions	\$ -	\$ -	\$ -	
Other	\$ -	\$ -	\$ -	
TOTAL OWNERS COST	\$ 800,000	\$ -	\$ 800,000	
DISTRIBUTED				
Procurement Management	\$ 422,680	\$ -	\$ 422,680	
Project Management	\$ 3,138,425	\$ -	\$ 3,138,425	
Construction Management	\$ 1,629,381	\$ -	\$ 1,629,381	
Contingency	\$ 4,031,445	\$ 0	\$ 4,031,445	
Escalation	\$ 2,754,083	\$ -	\$ 2,754,083	
TOTAL DISTRIBUTED	\$ 11,976,014	\$ 0	\$ 11,976,014	
SALVAGE				
Transmission Line Labour			\$ -	
Substation Labour	\$ -		\$ -	
Telecom Labour	\$ -		\$ -	
Land Remediation and Reclamation	\$ -		\$ -	
			\$ -	
			\$ -	
TOTAL SALVAGE	\$ -	\$ -	\$ -	
OTHER COSTS				
AFUDC	\$ 2,019,709		\$ 2,019,709	
E&S/Overhead	\$ 1,854,465		\$ 1,854,465	
TOTAL OTHER	\$ 3,874,174	\$ -	\$ 3,874,174	
TOTAL PROJECT	\$ 37,535,998	\$ 0	\$ 37,535,998	

Assumptions and Risks - WEST OPTION

In Service Date: June 1, 2019

Completion of this work for commencing of commissioning activities Dec. 1, 2018

AltaLink participation in a Facility Application AUC Hearing is not included

Reactor pricing based on manufacturer OOM discussion

All new facilities will be wired into the existing AC control building

No new station service or access roads are required

Outages are available as required

No RAS or other system modifications/studies are included

Escalation:

Base costs on 2015 \$, escalated to 2019 with the exception of Reactor costs up to PO issuance

E&S:

Applied at a rate of 6% for the project

AFUDC:

Applied at a rate of 6% for the project

Project Name & No.	Livock Interconnection		P1655	TRANSMISSION PROJECT ESTIMATE SUMMARY
Prepared by:	ATCO Electric Transmission			
AACE Class: (future use)	N/A	Estimate Basis	NID	
High Range	30%	Low Range	-30%	
Date of Estimate:	July 7, 2015	Base Year Used	2015	
	SYSTEM	CUSTOMER	TOTAL	ASSUMPTIONS
TRANSMISSION LINE				
Material	\$ -	\$ -	\$ -	
Labour	\$ -	\$ -	\$ -	
TOTAL TRANSMISSION LINE	\$ -	\$ -	\$ -	
SUBSTATION				
Material	\$ 263,119	\$ -	\$ 263,119	Apparatus prices were based on the 2014 existing Bulk Purchase Order
Labour	\$ 1,113,190	\$ -	\$ 1,113,190	
Supply & Install	\$ -	\$ -	\$ -	
TOTAL SUBSTATION	\$ 1,376,309	\$ -	\$ 1,376,309	
TELECOMMUNICATION				
Material	\$ -	\$ -	\$ -	
Labour	\$ 157,000	\$ -	\$ 157,000	
Supply & Install	\$ -	\$ -	\$ -	
TOTAL TELECOMMUNICATIONS	\$ 157,000	\$ -	\$ 157,000	
OWNERS				
Pre-PPS Cost	\$ 50,000	\$ -	\$ 50,000	In service date: 1 Dec 2018
Proposal to Provide Service	\$ 61,697	\$ -	\$ 61,697	
Facility Applications	\$ 61,500	\$ -	\$ 61,500	Estimate does not include support services of Land Agents or Landowner Consultation Liason's as no site or substation expansion is required; assumes new noise impact study may be required to ensure compliance with AUC Rule 012
Regulatory & Compliance	\$ -	\$ -	\$ -	
Land Rights - Easements	\$ -	\$ -	\$ -	
Land - Damage Claims	\$ -	\$ -	\$ -	
Land - Acquisitions	\$ -	\$ -	\$ -	No expansion of the Livock 939S substation is required for the addition of the 25 kV breaker or control building
Other	\$ -	\$ -	\$ -	
TOTAL OWNERS COST	\$ 173,197	\$ -	\$ 173,197	
DISTRIBUTED				
Procurement Management	\$ 65,105	\$ -	\$ 65,105	
Project Management	\$ 180,480	\$ -	\$ 180,480	
Construction Management	\$ 73,211	\$ -	\$ 73,211	
Contingency	\$ 221,209	\$ -	\$ 221,209	
Escalation	\$ 149,032	\$ -	\$ 149,032	
TOTAL DISTRIBUTED	\$ 689,037	\$ -	\$ 689,037	
SALVAGE				
Transmission Line Labour	\$ -	\$ -	\$ -	
Substation Labour	\$ 6,600	\$ -	\$ 6,600	Dismantle work for 3 panels
Land Remediation and Reclamation	\$ -	\$ -	\$ -	
TOTAL SALVAGE	\$ 6,600	\$ -	\$ 6,600	
OTHER COSTS				
AFUDC	\$ -	\$ -	\$ -	AFUDC is not included in the above estimate based on the assumption that the AUC will approve that the regulatory treatment under AUC Decision 2013-358 continue past 2014
E&S/Overhead	\$ 237,812	\$ -	\$ 237,812	Applied at a rate of 9.9% for the project
TOTAL OTHER	\$ 237,812	\$ -	\$ 237,812	
TOTAL PROJECT	\$ 2,639,956	\$ -	\$ 2,639,956	

General Assumptions

Considerations for telecommunication paths between AESO, APL, Alta Link and ATCO have been assumed within this estimate based on information provided in the Functional Specification provided by the AESO
Control building expansion not required
Access road exists
Additional four pannels for redundant RTU and replacement of existing RTU to be compatible for redundancy.
The current GE RTU at Livock is at the end of the product life cycle and ATCO Electric has not developed a redundancy configuration for the GE RTU. The GE RTU platform has been replaced by the Cooper RTU as a standard platform by AET and ATCO Electric is currently developing a redundant configuration and setup of the Cooper RTU. As such, the original RTU is being replaced and a marshalling rack is being installed to provide redundant I/O connections from the marshalling rack to the RTU.
Materials for redundant RTU and for replacement of existing RTU to be compatible for redundancy
This includes commissioning work and electrician support for commissioning work. This category has been adjusted with RTU materials being correctly allocated to the Control Building – Structures category
This includes the use of a hot line crew to install the 25 kV breaker to avoid an outage, as well as structural yard work. Safety requirements for an on-site medic are included due to the remote location and not being able to utilize Laracina emergency services for work at the Livock site.
Two 219mm diameter screw piles with 7m embedment will be sufficient for the 25 kV breaker foundations
Forecasted cash flow 4% compounded annually