

# Generator Unit Owner Contribution #1 1608

Fortis Bull Creek Phase 2 Generator Increase

Project Name: Fortis Bull Creek 2 Generator Increase (Behind-the-Fence)

AESO Project #: 1608

Substation: Hayter 277S substation

Associated Line #'s: Fortis Distribution lines 464L feeder relay

Market Participant Name: FortisAlberta Inc.

Date: September 2, 2015

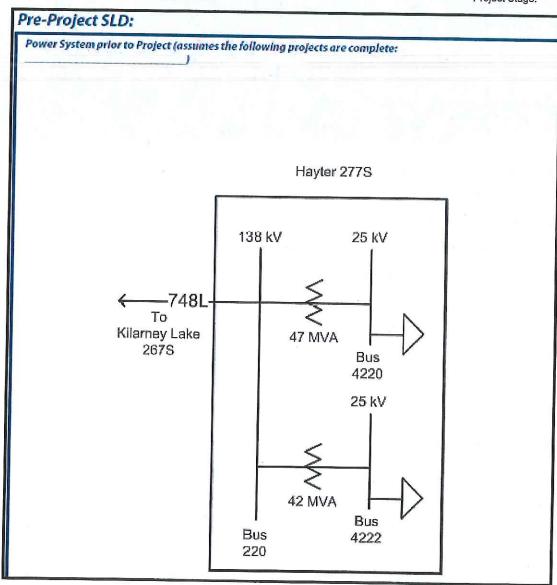
Estimate Type: GUOC (+/-30% Estimate)

Project Type: STS

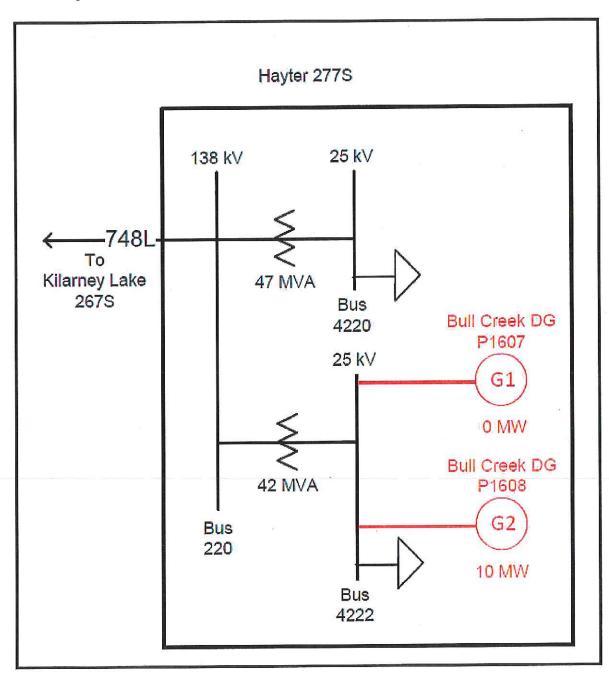
Prepared By: Anita Patel

#### **Project Overview:**

- FortisAlberta Inc. (Fortis) has requested 10MW of STS to connect BluEarth Renewables Inc. (BluEarth) generating unit on the Fortis distribution lines that are tied to Hayter 277S substation via 25kV distribution feeder 464L. Project 1607 Fortis Bull Creek Phase 1 Generator Increase is being connected to distribution feeder 2187L, however, there is no STS contract being requested.
- Hayter 277S substation is an existing substation that is being modified on the distribution side of the substation, adding distribution modules, protection relays and an anti-islanding scheme on the feeder relays.
- Existing and proposed DTS for this substation is 29.30MW and the proposed STS is 10MW for the 464L distribution feeder, with no change in DTS.
- Target In-Service Date is December 6, 2015
- This is the first GUOC CCD being completed to produce a GUOC invoice for the project.



#### Post-Project SLD:



Pro	iact	Mumber	

Project Name:

Project Stage:

#### **Contribution Policy:**

Permit and Licence: Not Applicable

Contribution Policy Applied: 2013 per Commission Decision 2013-325, effective October 1, 2013

#### **Proposed Commercial Terms:**

Reference: +/-30% Project Estimate Summary, dated August 14, 2015

#### 1. Generating Unit Owner's Contribution

Per subsection 3 of section 10 of the ISO Tariff, Generating Unit Owner's Contribution (per MW) applicable to this project is located on line (r) of Attachment A2.

Generating Unit Owner's Contribution is refundable over 10 years from the Commercial Operation Date as outlined in ISO Rule 9.5)

Please indicate resource type below:

Resource Type	
Coal	
Natural Gas — Base Load	百
Natural Gas — Peaking	百
Hydro	Ħ
Wind	茵
Biomass & Waste	

Fortis is applying on behalf of BluEarth, as they are installing distribution generating units that will connect to distribution lines at the Hayter 277S substation.

Project Number:

Project Name:

Project Stage:

#### Sign-off

Note: STS or Maximum Capability estimates provided in the Project Estimate Summary identified in this GUOC have been used to determine the Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this GUOC by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided in the Project Estimate Summary.

**Project Manager** 

September 21,201

Manager, Tariff Applications

(Lee Ann Kerr)

Date

Director, Tariff Applications

(LaRhonda)

#### **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Cost estimate

#### **Attachment A1: Costs and Contract Details**

Participant:

Prepared by:

FortisAlberta Inc.

Project:

Fortis Bull Creek Phase 2 Generator Increase

Number:

1608

Anita Patel

Type:

DTS and STS (Dual-Use)

Date:

Sep 2, 2015

Tariff:

Doforce

To:

**AESO 2014** Effective: 1 Jul 2015

Current Version: 2014.0.0

#### PROJECT DETAILS

(a)	New Service or Expansion of Existing Service?	
(b)	Is Service at New or Existing Substation?	E
(c)	Will Primary Service Credit Apply to Service?	
(d)	Any Other Market Participant(s) at Substation2	

Expansion Existing Substation No

No

#### **COST OF CONNECTION PROJECT**

1+1	One has New Town and the Town		Reference
(e)	Cost of New Transmission Facilities:	\$344,000	+/- 30% Estimate
(f)	Shared Cost of Existing Transmission Facilities:	Against the state of the state	o o o Louinato
10.30.409	Least Cost of Externing Transform admitted.	\$0	
(g)	Less: System-Related Costs:	\$0	
(h)	Participant-Related Costs:	\$344,000	
(i)	Less: Facilities in Excess of Good Practice:	\$0	
(j)	Less: Reduction for Replaced Transformer:	\$0	
(k)	Polongo of Participant Palata LO		
1000	Balance of Participant-Related Costs:	\$344,000	
(I)	Estimated Operations and Maintenance:	\$0	

#### CONTRACT DETAILS

	VIRACIDETAILS	Reference
(m)	Date of Commission Permit and Licence:	Oct 1, 2015 BTF project-start of constr.
	Date of AESO Energization Authorization:	Dec 1, 2015
(o)	Date of Commercial Operation of Project:	Feb 1, 2016
(p)	Maximum Investment Term (years):	20
(q)	Discount Rate for Incremental Capacity:	6.14%
(r)	Prior Contribution (for Final Costs or Adjustment):	\$0

Contract Stages			Contract Capacities at Substation (MW)						
				cted After P	roject		ted Prior to	Project	
	Start	Duration	This Part	icipant	Other	This Parti		Other	
No	Date	Months	DTS	STS	Participant	DTS	STS	Participant	
(1)	Feb 2016	240	29.30	10.00		29.30	0.00		
	Total	240							

#### GENERATING UNIT OWNER'S CONTRIBUTION

(s)	Planning Region Where Unit Will be Located:
(t)	Contribution Amount Dates to be Used:
(u)	Owner's Contribution Previously Paid (If Any):

Reference

Central 2014-2015

#### **Attachment A2: Contribution Determination**

Participant:

FortisAlberta Inc.

Fortis Bull Creek Phase 2 Generator Increase

Tariff:

**AESO 2014** 

Project: Number:

1608

Type: DTS and STS (Dual-Use)

To:

Effective: 1 Jul 2015 Current

Prepared by: Anita Patel

Date: September 2, 2015

Version: 2014.0.0

Line	Description	Reference	Amount	Section
(a)	Cost of New Facilities	+/- 30% Estimate	\$344,000	8:2
(b)	Plus: Shared Cost of Existing Facilities		\$0	8:3(2)(c)
(c)	Less: System-Related Costs		\$0	8:3(3)
(d)	Participant-Related Costs	(a) + (b) - (c)	\$344,000	8:3(2)
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)
(g)	Balance of Participant- Related Costs	(d) - (e) - (f)	\$344,000	8:6(1)

		Γ	Required	Facilities	In Excess	
			Demand-	Supply-	of Good	
Line	Description	Reference	Related	Related	Practice	Section
(h)	Participant-Related Costs	From (g) and (e)	\$3	44,000	\$0	8:6(3)
(i)	Operations and Maintenance Charge	Estimated by Market Participant	NA		\$0	8:9
(J)	Total Costs Allocated to Market Participant	(h) + (i)	\$344,000		\$0	8:6
(k)	Substation Fractions	Other Participant NA	0.00000	1.00000	NA	8:6(3)
(1)	Allocated Costs (j) × (k)	Other Participant NA	\$0	\$344,000	\$0	8:6
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8
(n)	Construction Contribution Required	(l) – (m)	\$0	\$344,000	\$0	8:7
(0)	Total Construction Contr	-	\$344,000		8:7	

			Generating	Unit Owner's C	ontribution	
Line	Description	Region/Policy	STS MW	Amount/MW	Contribution	Section
1 (1)	Owner's Contribution to	Central 2014-2015	10.00	\$22,400	\$224,000	10:3
1 (1)	Owner's Contribution to be Paid	Central 2014-2015	10.00	\$22,400	\$224,000	1

#### **Attachment A3: Allocation of Costs and Substation Fractions**

Participant:

FortisAlberta Inc.

Project:

Fortis Bull Creek Phase 2 Generator Increase

Tariff:

**AESO 2014** 

Number:

1608

Type: DTS and STS (Dual-Use) To:

Effective: 1 Jul 2015 Current

#### ALLOCATION OF COSTS TO SERVICES AT SUBSTATION

Participant-Related Costs of Required Facilities

\$344,000

Contract Stages		Increment	Incremental Contract Capacity			Incremental Substation Fractions			
	Start	Duration	This Part	icipant	Other	This Parti		Other	
No	Date	Years	DTS	STS	Participant	DTS	STS	Participant	
(1)	Dec 2015	20.00	0.00	10.00		0.00000	1.00000	11/1/8/8/8/8/8	
	·								
				***************************************			n result.		
	Total	20.00	Dura	tion-Weigh	ted Average	0.00000	1.00000	0.00000	

Allocation of Participant-Related Costs

\$0 \$344,000

#### SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

	Contract S	tages	Contract C	Contract Capacity After Project			Substation Fractions After Project			
	Start	Duration			Other	This Parti		Other		
No	Date	Years	DTS	STS	Participant	DTS	STS	Participant		
(1)	Dec 2015	20.00	29.30	10.00	///////////////////////////////////////	0.74555	0.25445	////8/888888		
							;			
<del></del>	Total	20.00					<u> </u>			

#### **Attachment A4: Investment Determination**

Participant:

FortisAlberta Inc.

Fortis Bull Creek Phase 2 Generator Increase

Tariff:

AESO 2014 Effective: 1 Jul 2015

Project: Number:

Type:

DTS and STS (Dual-Use)

To:

Current

#### Demand-Related Costs of This Participant Eligible for Investment:

\$0

Investment Amounts From Subsection 8(4) of Section 8 of 2014 ISO Tariff								
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)			
Investment	\$76,050	\$30,800	\$19,300	\$13,450	\$8,700			
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year			

St	age	Tier (a)	Tier (b) MW	Tier (c) MW	Tier (d) MW	Tier (e) MW	Total
No	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW
(1)	20.00		0.00	0.00	0.00	0.00	0.00
				THE RESERVE OF THE PARTY OF THE			
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			}				
			<u>}</u>			,	
						· · · · · ·	
				1			
NEW PROPERTY.							

Stag	e/Year	Nomir	nal Investme	nt per Year o	finvestment	Term	Discounted	Cumulative
No	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)	1	\$0	\$0	· \$0	\$0	\$0	\$0	Investment
(1)	2	\$0	\$0	\$0	\$0	\$0	\$0	term must be
(1)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(1)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(1)	5.	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	7	\$0	\$0	\$0	\$0	\$0	. \$0	\$0
(1)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	13	\$0	\$0	\$0	\$0	. \$0	\$0	\$0
(1)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	16	\$0	\$0	\$0	\$0	\$0	\$0	. \$0
(1)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1) ~	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): Investment Term Required to Minimize Construction Contribution:

Investment Term Begins on: Investment Term ends on:

\$0 20 years Dec 1, 2015 Nov 30, 2035



# Stage 6 Construction Contribution Decision #1 1495 Fortis Hayter 277S 42 MVA Transformer and 25 kV Breaker Add

Project Name: Fortis Hayter 277S 42 MVA Transformer and 25 kV Breaker Add

AESO Project #: 1495

Substation: 277S Hayter

Market Participant Name: FortisAlberta Inc.

**Date: March 8, 2016** 

Estimate Type: Final Cost

Project Type: DTS

Prepared By: Ilice Tan

#### **Project Overview:**

FortisAlberta Inc. ("Fortis") had submitted a System Access Service Request to add a 138/25KV 25/33/42 MVA transformer and a 25kV feeder breaker at Hayter substation, 277S, located in 37 Provost planning area. Hayter substation upgrade is needed to address capacity and reliability issues for distribution systems supplied by the Hayter 277S, Kilarney Lake 267S and Provost 545 substations.

There will be no DTS capacity change at 277S POD.

The project was in service on September 16, 2015.

The difference between this CCD and previous CCD is this CCD reflects the Construction Contribution based on the actual final cost; see Attachment B for the cost estimate.

See Attachment C for the single line diagram.

#### **Contribution Policy:**

Permit and Licence: P&L received on February 9, 2015
Contribution Policy Applied: 2013 per Commission Decision 2013-325, effective October 1, 2013

#### **Proposed Commercial Terms:**

Reference: NA

Proprietary R7-2016-02-03

Transmission Project Delivery

Page 1

Project Number:

Project Name:

Project Stage:

#### 1. Project Cost

Project cost is located on line (e) of Attachment A1.

#### 2. Shared Facilities Cost

There are no shared facilities.

#### 3. System Related Cost

There is no system related cost.

#### 4. Facilities In Excess of Good Electric Industry Practice

There are no facilities in Excess of Good Electric Industry Practice.

#### 5. Construction Contribution

- Participant related cost is located on line (h) of Attachment A1.
- The Construction Contribution is estimated to be as stated on line (o) of Attachment A2. Please see Attachments A1, A2, A3 and A4 for details of these calculations and the resulting Construction Contribution.
- This Construction Contribution is subject to change based on the following items:
  - Changes to contract capacity or term
  - Changes to estimated costs or resulting from final costs
  - Changes to the classification of system-related and market participant -related costs
  - Development of the transmission system as it relates to this project, including sharing of facilities with other market participants.

#### 6. Primary Service Credit

• The transformation facilities for this service are owned and operated by the transmission facility owner, and the Primary Service Credit does not apply.

Project Number:

Project Name:

Project Stage:

#### Sign-off

Note: Cost estimates provided in the Final Cost submission identified in this CCD have been used to determine the Construction Contribution and/or Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this CCD by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided in the Connection Proposal.

Project Manager/Coordinator

Date

Tariff Manager (Lee Ann Kerr)

Date

Manager, Tariff Applications

(LaRhonda Papworth)

Director, Transmission Regulatory

(Doyle Sullivan)

Arc 4 16 Date

#### **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Cost estimates
- Attachment C: Single Line Diagram
- Attachment D: Previous or related Construction Contribution Decision

#### **Attachment A1: Costs and Contract Details**

**AESO 2013** Tariff: Participant: FortisAlberta Inc. Effective: 1 Oct 2013 Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add Project: DTS Only To: Current Number: 1495 Type: Prepared by: Ilice Tan Date: March 8, 2016 Version: 2013.0.1

#### **PROJECT DETAILS**

(a)	New Service or Expansion of Existing Service?	Expansion
(b)	Is Service at New or Existing Substation?	Existing Substation
(c)	Will Primary Service Credit Apply to Service?	No
(d)	Any Other Market Participant(s) at Substation?	No

**COST OF CONNECTION PROJECT** Reference (e) Cost of New Transmission Facilities: \$4,998,437 **Final Cost Report** Shared Cost of Existing Transmission Facilities: \$0 (f) Less: System-Related Costs: \$0 (g) \$4,998,437 (h) Participant-Related Costs: \$0 Less: Facilities in Excess of Good Practice: (i) \$0

(i) Less: Facilities in Excess of Good Practice:

(j) Less: Reduction for Replaced Transformer:

(k) Balance of Participant-Related Costs:

(l) Estimated Operations and Maintenance:

\$0
\$4,998,437

#### CONTRACT DETAILS

901	TITALES		
(m)	Commercial Operation Date of Project:	September 16, 2015	
(n)	Maximum Investment Term (years):	20	
(o)	Discount Rate for Incremental Capacity:		
(p)	Prior Contribution (for Final Costs or Adjustment):	\$6,042,411	

	<b>Contract S</b>	tages	Contract Capacities at Substation (MV				
			Contracted	Contra	cted Prior to	Project	
	Start	Duration	This Participal	nt Other	This Pa	Other	
No	Date	Months	DTS /////	Participant	DTS	//// <i>/</i> ///////////////////////////////	Participant
(1)	Sep 2015	240	29.30		29.30		
	Total	240	· · · · · · · · · · · · · · · · · · ·	THE CONTRACTOR OF THE PERSON O			

Attachment to Contribution Calculator for 2013 Tariff (AESO ID No. 2013-007T) Filename: 1495\_CCD Calculator 2013.xls — Page 1 of 4

Reference

#### **Attachment A2: Contribution Determination**

Participant:

FortisAlberta Inc.

Project:

Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add

Tariff: Effective: 1 Oct 2013

**AESO 2013** 

Number:

1495

Type: DTS Only

To:

Prepared by: Ilice Tan

Date: March 8, 2016

Current Version: 2013.0.1

Line	Description	Reference	Amount	Section
(a)	Cost of New Facilities	Final Cost Report	\$4,998,437	8:2
(b)	Plus: Shared Cost of Existing Facilities	19638	\$0	8:3(2)(c)
(c)	Less: System-Related Costs		\$0	8:3(3)
(d)	Participant-Related Costs	(a) + (b) - (c)	\$4,998,437	8:3(2)
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)
(g)	Balance of Participant- Related Costs	(d) - (e) - (f)	\$4,998,437	8:6(1)

			Required Facilities		In Excess	i)	
Line			Demand- Related	Supply- Related	of Good Practice	Section	
(h)	Participant-Related Costs	From (g) and (e)	\$4,99	98,437	\$0	8:6(3)	
(i)	Operations and Maintenance Charge	Estimated by Market Participant	1155.011	NA	\$0	8:9	
(j)	Total Costs Allocated to Market Participant	(h) + (i)	\$4,99	8,437	\$0	8:6	
(k)	Substation Fractions	Other Participant NA	1.00000	0.00000	NA	8:6(3)	
(l)	Allocated Costs (j) × (k)	Other Participant NA	\$4,998,437	\$0	\$0	8:6	
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8	
(n)	Construction Contribution Required	(l) – (m)	\$4,998,437	\$0	\$0	8:7	
(0)	<b>Total Construction Contr</b>	ibution Required		\$4,998,437		8:7	
(p)	(p) Construction Contribution Previously Paid for Project		\$6,042,411			5:2(8) or 9:2(2)	
(q)	Construction Contributio	n to be Refunded		(\$1,043,974)		5:2 or 9:4	

#### **Attachment A3: Allocation of Costs and Substation Fractions**

Participant:

FortisAlberta Inc.

Tariff:

**AESO 2013** 

Project: Number: Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add 1495

Type: DTS Only Effective: 1 Oct 2013 To:

Current

#### **ALLOCATION OF COSTS TO SERVICES AT SUBSTATION**

Participant-Related Costs of Required Facilities

\$4,998,437

	Contract S	tages	Incremental Contract Capacity			Incremental Substation Fraction		
	Start	Duration	This Pa	rticipant	Other	This Pa	Other	
No	Date	Years	DTS	V////848////	Participant	DTS	////888////	Participant
(1)	Sep 2015	20.00	0.00	/////8/36	///////////////////////////////////////	1.00000	7///25/00/00/00	///////////////////////////////////////
1								
,								
			141					
	****		2 - 4 11					
	1107110							
						110 - 100 -		
			1.000					
	Total	20.00	Du	ration-Weig	hted Average	1.00000	0.00000	0.00000

Allocation of Participant-Related Costs

\$4,998,437

#### SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

	Contract S	Stages	Contract C	Contract Capacity After Project			Substation Fractions After Project			
	Start	Duration	This Part	icipant	Other	This Pa	rticipant	Other		
No	Date	Years	DTS	///884///	<b>Participant</b>	DTS	///////////////////////////////////////	Participant		
(1)	Sep 2015	20.00	29.30 🖔	////////////	1//////////////////////////////////////	1.00000	////%/\$\\$\\$\\$\\$\\$	//////0/00000		
			8							
			8			>>>>				
			8							
	Total	20.00	11100							

#### **Attachment A4: Investment Determination**

DTS Only

Participant:

FortisAlberta Inc.

1495

Project: Number: Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add Type:

Tariff: **AESO 2013** Effective: 1 Oct 2013

To:

Current

#### Demand-Related Costs of This Participant Eligible for Investment:

\$4,998,437

Investment /	Amounts Fro	m Subsectio	n 8(4) of Sect	tion 8 of 2011	ISO Tariff
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)
Investment	\$52,000	\$35,350	\$13,050	\$7,900	\$4,250
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year

		ncremental	Rate DTS Cor	ntract Capaci	ty Eligible for	Investment	
St	age	Tier (a)	Tier (b) MW	Tier (c) MW	Tier (d) MW	Tier (e) MW	Total
No.	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW
(1)	20.00		0.00	0.00	0.00	0.00	0.00
						-200	11328
					1.75		37
					######################################		****
					10.30		
			1		7//		
				7-7-	1111		

Stag	e/Year	Nomin	al Investmer	t per Year of	Investment	Term .	Discounted	Cumulative
No.	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)	1	\$0	\$0	\$0	\$0	\$0	\$0	Investment
(1)	2	\$0	\$0	\$0	\$0	\$0	\$0	term must be
(1)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(1)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(1)	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): Investment Term Required to Minimize Construction Contribution:

	\$0
20	years

#### **Ilice Tan**

From:

Scott, Tarra < Tarra. Scott@AltaLink.ca>

Sent:

Wednesday, March 09, 2016 8:27 AM

To:

Ilice Tan

Cc:

Navarre, Luis

Subject:

RE: 1495\_Hayter277sTsf+25kVBkrAdd: Contribution currently being held by AML

\*\*\* EXTERNAL email. Please be cautious and evaluate before you click on links, open attachments, or provide credentials.\*\*\*

Please note that AltaLink is currently holding \$6,042,411 in security for Hayter.

Thank you,

Tarra

Sr. Account Representative AltaLink Management Ltd.

P: (403) 267-6149 C: (403) 479-2503 E: tarra.scott@altalink.ca

'Find what you would die for, and live for it!'
Cpl Nathan Hornburg

From: Ilice Tan [mailto:Ilice.Tan@aeso.ca]
Sent: Tuesday, March 08, 2016 4:58 PM
To: Scott, Tarra < Tarra.Scott@AltaLink.ca>
Cc: Navarre, Luis < Luis.Navarre@AltaLink.ca>

Subject: 1495\_Hayter277sTsf+25kVBkrAdd: Contribution currently being held by AML

Hi Tarra,

Could you please advise how much in contribution is currently held by AML on this project?

Thanks and regards,

Ilice

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This e-mail message contains confidential information. The contents of this message are the property of AltaLink Management Ltd. the general partner of AltaLink, L.P. If you have received this e-mail in error, please return it to the sender and delete the message immediately.

Attachment B

# Final Cost Report

yter 277S	ant Ltd	re/Kyle Harry	
Project Name: D.0543 Hayter 277S	TFO: AltaLink Management Ltd	Prepared by: Luis Navarre/Kyle Harry	Date: March 1, 2016

Personal Material Costs S  Total Material and Labour \$ 5  Total Material and Labour \$ 5  Total Labour Costs \$ 5  Total Material and Labour \$ 5  Total Mater	Actual A	Variance \$ 5	PPS Estimate	Actual		PPS	Actival	Verdence five in marking
Total Material Costs   \$  Total Material and Labour   \$  Total Labour Costs   \$  Total Material and Labour   \$  Total Material Costs   \$  Total Labour Costs   \$  Total Labour Costs   \$  Total Material and Labour   \$	w w w w			The state of the s	Variance	Esumine	1900	H
Total Material Costs \$ Total Material Costs \$ Total Labour Costs \$ Total Labour Costs \$ Total Labour Costs \$ Total Labour Costs \$ Total Material and Labour \$ Total Material and Labour \$  Total Material and Labour \$  Total Material and Labour \$	w w w			Transmission Line Costs	e Costs			
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Total-Material and Labour \$  Total Material and Labour \$  Total Material and Labour \$  Total Material and Labour \$  Total-Material and Labour \$  Total-Material and Labour \$  Total-Material and Labour \$			99	5	S	\$	125 (58) (500 GHZ 1	
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Total Material Gosts \$  Total Material and Labour \$  Owner's Cost \$	s s	25	Hayter	77s St	Facilities Cost			
Total Labour Costs 5 Total Material and Labour 5 Total Material Costs 5 Total Material and Labour 5 Owner's Cost 5	S	Vi.	- \$ 2,359,000	1,917,174 \$	\$ (441,826) \$	\$ 2,359,000 \$	7,917,174   \$	(44), 226 There were savings on the transformer cost and on the cost of the circuit breakers. Also, the cost of the use of a mobile substation was avoided in the execution of the project.
Total Labour Costs \$ Total Material and Labour \$ Total Labour Costs \$ Total Labour Costs \$ Total Material and Labour \$  Owner's Cost \$	S					П		
Total-Material and Labour   \$  Total Material Costs   \$  Total Labour Costs   \$  Total-Material and Labour   \$  Owner's Cost   \$	8	un.	- \$ 1,794,000	S				(82,063)
Total Material Costs \$ Total Labour Costs \$ Total-Material and Labour \$ Owner's Cost \$		8	- \$ 4,153,000	3,629,111 \$	\$ (523,889) \$	\$ 4,153,000 \$	3,629,111 \$ (52	(523)889)
Total Material Costs \$ Total-Material and Labour   \$ Total-Material and Labour   \$				Telecommunications	ations			
Total Labour Costs S Total-Material and Labour S Owner's Cost S		\$	S		e.	S - S		
Total-Material and Labour   \$ Total-Material and Labour   \$ Owner's Cost   \$								
	S	8	5		9	so.	9	
	. 8		. \$	. 5		\$		
				Owner Costs	ş			
	\$ .	8	- \$ 195,000	so.	\$ 33,844	\$ 195,000 \$	228,844 \$	33,844. The regulatory process for the project required more work that eathmated originally (13s and maps for the AUC).
				Distributed Costs	osts			
Distributed Costs S	us-	8	- \$ 1,757,400	\$ 850,837	\$ (906,103) \$	\$ 1,757,000 \$	850,897 \$ (90	(906,103) 1. Approximately \$350k of Contringency was not used.  2 Abo, there were savings in project management, project controls and construction management as the project durit toquire these axias costs.
				Salyade				
Salvage Costs 5	. \$		. 8	- 18	2	· \$1. 以死所可能多.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	京の大学のW. 公司を選出の事項である事は、例如
				Other Costs	\$			
09		59	- 8		S	\$	S	
283		6	354,000	\$ 289,585	\$ (64,415) \$	\$ 354,000 \$	289,585   \$ ((	(64,415) The E&S cost reduction is related to a reduction of the loverall direct costs of the project.
Total - Overheads   \$	\$	\$	- \$ 354,000 \$	0 \$ 289,585 \$	\$ (64,415) \$	\$ 354,000 \$	\$ 583,585	(64,415)
TOTAL PROJECT COSTS	S	65	-   \$ 6,459,000   \$		\$ (1,460,563)	4,998,437 \$ (1,460,563) \$ 6,459,000   \$	4,998,437 \$ (1,460,563)	(563)

Attachment C

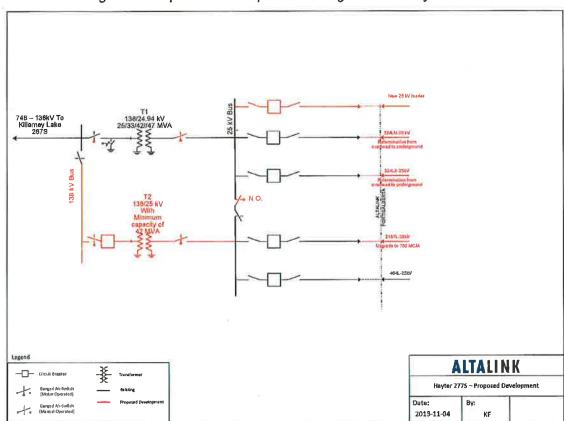


Figure 4: Proposed Development Arrangement at Hayter 277S



## Stage 2 Construction Contribution Decision #1 1782 Fortis Provost Reliability

Project Name: Fortis Provost Reliability

AESO Project #: 1782

Associated Line #s: new 138 kV line 398L as well as existing lines 715L, 748L, 749L

Substations: Provost 545S, Hayter 277S, Killarney Lake 267S, Edgerton 899S, Metiskow 648S,

Handsman Lake 650S

Market Participant Name: FortisAlberta Inc.

Date: September 12, 2016

Estimate Type: +/- 50%

Project Type: DTS

Prepared By: Tana Lailan

#### **Project Overview:**

- On April 19, 2016 FortisAlberta Inc. ("FortisAlberta") submitted a SASR to address the distribution reliability concerns in the Provost area (AESO Planning Area Edmonton 60).
- The preferred alternative involves a transmission upgrade at the Provost area and construction of a new 138 kV transmission line connection between Hayter 277S substation and Provost 545S substation.
- The requested In-Service Date (ISD) for the Provost Area transmission upgrade is October 1, 2018.
- No Demand Transmission Services (DTS) change is requested at the Edgerton 899S, Hayter 277S, Killarney Lake 267S, Metiskow 648S, and Provost 545S substations.
- This CCD is issued to capture the OOM level estimated project cost of \$35,201,000.00 (in 2016\$) with accuracy of +50/-50% (Attachment B).
- Once Service Proposal is submitted by AML, Stage 3 CCD calculations are to be completed for each of the substations involved (transmission line and distributed labor costs will to be allocated to each of the substations).
- The cost of this project is 100% customer cost. The additional line proposed between Hayter and Provost is not required for transmission system reliability purposes and is only required by the market participant for distribution reliability concerns.
- There is not any system NIDs being contemplated for this project.
- There is not any N-1 or RAS associated with the preferred alternative
- A Single Line Diagram is included in the Attachment C.

#### **Contribution Policy:**

Proprietary R8-2016-08-22 Project Number: 1782

Project Name: Fortis Provost Reliability

Project Stage: 2

Permit and Licence: not yet filed

Contribution Policy Applied: 2016 per Commission Decision 21302-D01-2016, effective April 1, 2016.

#### **Proposed Commercial Terms:**

Reference: Draft Connection Proposal dated August 19, 2016

#### 1. Project Cost

Project cost is located on line (e) of Attachment A1.

#### 2. Shared Facilities Cost

There are no shared facilities.

#### 3. System Related Cost

· There is no system related cost.

#### 4. Facilities In Excess of Good Electric Industry Practice

There are no facilities in Excess of Good Electric Industry Practice.

#### 5. Construction Contribution

- Participant related cost is located on line (h) of Attachment A1.
- Based on contract details listed in Attachment A1, the maximum local investment is located on line (m) of Attachment A2.
- The Construction Contribution is estimated to be as stated on line (o) of Attachment A2. Please see Attachments A1, A2, A3 and A4 for details of these calculations and the resulting Construction Contribution.
- This Construction Contribution is subject to change based on the following items:
  - Changes to contract capacity or term
  - Changes to estimated costs or resulting from final costs
  - Changes to the classification of system-related and market participant -related costs
  - Development of the transmission system as it relates to this project, including sharing of facilities with other market participants.

#### 6. Primary Service Credit

 The transformation facilities for this service are owned and operated by the transmission facility owner, and the Primary Service Credit does not apply. Project Number:1782

#### Sign-off

Note: Cost estimates provided in the Connection Proposal identified in this CCD have been used to determine the Construction Contribution and/or Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this CCD by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided in the Connection Proposal.

Project Manage (Tana Lailan)	er/Cordinator
(Tana Lailan)	0

Program Manager (Jasmin Judge)

6	12	2016
SEP	10	00/0
Data //		

Sept. 13/2016

Т	ariff	Mar	nager
			Korr)

Manager, Tariff Applications Design

Manager, Tariff Applications Design (CaRhonda Papworth)

Director, Fransmission Regulatory
(Doyle Sullivan) Market and Tariff Design

Date

Oct. 6, 2019

Date

Date

#### **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Cost estimates
- Attachment C: Project SLDs

#### Attachment A1: Costs and Contract Details

Participant:

FortisAlberta Inc.

Fortis Provost Reliability

Tariff:

**AESO 2016** 

Project: Number:

Prepared by:

1782

DTS Only Type:

Effective: 1 Apr 2016 To:

Sep 12, 2016

Current

PROJECT DETAILS

(a) New Service or Expansion of Existing Service?

Date:

Existing Substation 5 substations

Expansion

(b) Is Service at New or Existing Substation? (c) Will Primary Service Credit Apply to Service?

Tana Lailan

(d) Any Other Market Participant(s) at Substation?

No No

\$0

**COST OF CONNECTION PROJECT** 

(e) Cost of New Transmission Facilities:

\$35,201,000

Reference

Shared Cost of Existing Transmission Facilities: (f)

\$0

Cost Estimate in CP

Less: System-Related Costs: (g)

Participant-Related Costs:

\$35,201,000

(h) (i)

Less: Facilities in Excess of Good Practice: Less: Reduction for Replaced Transformer: \$0 \$0

Balance of Participant-Related Costs:

\$35,201,000

Estimated Operations and Maintenance: (I)

\$0

**CONTRACT DETAILS** 

(j)

Reference Not yet applied for

(m) Date of Commission Permit and Licence:

Oct 1, 2018

(n) Date of AESO Energization Authorization: (o) Date of Commercial Operation of Project:

Oct 1, 2018

(p) Maximum Investment Term (years):

20

(q) Discount Rate for Incremental Capacity:

5.78% AML rate of Sep 1, 2016

Prior Contribution (for Final Costs or Adjustment): (r)

12.00	Contract S	tages		Contra	act Capacities a	t Substation (MW)		
			Contra	cted After P	roject	Contra	cted Prior to	Project
	Start	Duration	This Part	icipant	Other	This Par	rticipant	Other
No	Date	Months	DTS	////848////	Participant	DTS	///////////////////////////////////////	Participant
(1)	Oct 2018	240	96.90	96.90		96.90		
	Total	240				}		X/////////////////////////////////////

#### **Attachment A2: Contribution Determination**

Participant: FortisAlberta Inc.

Project:

Fortis Provost Reliability

Tariff:

**AESO 2016** 

Number:

1782

Effective: 1 Apr 2016

Prepared by: Tana Lailan

Date:

Type: DTS Only

September 12, 2016

To: Current

Line	Description	Reference	Amount	Section
(a)	Cost of New Facilities	Cost Estimate in CP	\$35,201,000	8:2
(b)	Plus: Shared Cost of Existing Facilities		\$0	8:3(2)(c)
(c)	Less: System-Related Costs		\$0	8:3(3)
(d)	Participant-Related Costs	(a) + (b) - (c)	\$35,201,000	8:3(2)
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)
(g)	Balance of Participant- Related Costs	(d) - (e) - (f)	\$35,201,000	8:6(1)

			Required	Facilities	In Excess	
			Demand-	Supply-	of Good	
Line	Description	Reference	Related	Related	Practice	Section
(h)	Participant-Related Costs	From (g) and (e)	\$35,2	01,000	\$0	8:6(3)
(i)	Operations and Maintenance Charge	Estimated by Market Participant	NA		\$0	8:9
(j)	Total Costs Allocated to Market Participant	(h) + (i)	\$35,201,000		\$0	8:6
(k)	Substation Fractions	Other Participant NA	1.00000	0.00000	NA	8:6(3)
<b>(</b> I)	Allocated Costs (j) × (k)	Other Participant NA	\$35,201,000	\$0	\$0	8:6
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8
(n)	Construction Contribution Required	(l) – (m)	\$35,201,000	\$0	\$0	8:7
(0)	Total Construction Contr	ibution Required		\$35,201,000		8:7

#### **Attachment A3: Allocation of Costs and Substation Fractions**

Participant:

FortisAlberta Inc.

Project: Number: **Fortis Provost Reliability** 

Type:

DTS Only

Tariff:

AESO 2016 Effective: 1 Apr 2016

To:

Current

#### ALLOCATION OF COSTS TO SERVICES AT SUBSTATION

Participant-Related Costs of Required Facilities

\$35,201,000

	Contract S	tages	Incremen	tal Contract	Capacity	Incremental Substation Fractions		
	Start	Duration	This Par	ticipant	Other	This Par	This Participant	
No	Date	Years	DTS	////848////	Participant	DTS	////>	Participant
(1)	Oct 2018	20.00	0.00	///////////////////////////////////////	///////////////////////////////////////	1.00000	///10/00/00/00/	////8/800000/
						É		
						8		
						É		
	Total	20.00	Dur	ation-Weig	nted Average	1.00000	0.00000	////0/00000

Allocation of Participant-Related Costs

\$35,201,000

#### SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

	Contract S	tages	Contract (	Capacity Aft	er Project	Substation Fractions After Project This Participant Other		
	Start	Duration	This Participant		Other	This Part	This Participant	
No	Date	Years	DTS	///////////////////////////////////////	Participant	DTS	////898/////	<b>Participant</b>
(1)	Oct 2018	20.00	96.90	///////////////////////////////////////	///////////////////////////////////////	1.00000	///8/9/8/9/9/9/	////Ø/ØØØØØØ
			į.					
			8					
			8			8		
	Total	20.00				*//		

#### **Attachment A4: Investment Determination**

Participant:

FortisAlberta Inc.

Project:

Fortis Provost Reliability

Number: 17

1782

Type:

DTS Only

Tariff: AESO 2016 Effective: 1 Apr 2016

To: Current

Demand-Related Costs of This Participant Eligible for Investment:

\$35,201,000

Investment /	Amounts Fro	m Subsectio	n 8(4) of Sect	ion 8 of 2015	ISO Tariff
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)
Investment	\$78,350	\$31,750	\$19,900	\$13,850	\$8,950
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year

energy.		Incremental I	Rate DTS Cor	ntract Capaci	ty Eligible for	Investment	
St	age	Tier (a)	Tier (b) MW	Tier (c) MW	Tier (d) MW	Tier (e) MW	Total
No	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW
(1)	20.00		0.00	0.00	0.00	0.00	0.00

Stag	e/Year	Nomir	nal Investmen	t per Year of	Investment 7	Гerm	Discounted	Cumulative
No	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)	1	\$0	\$0	\$0	\$0	\$0	\$0	Investment
(1)	2	\$0	\$0	\$0	\$0	\$0	\$0	term must be
(1)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(1)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(1)	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	10	\$0	\$0	\$0	\$0	\$0	\$0.	\$0
(1)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): Investment Term Required to Minimize Construction Contribution:

Investment Term Begins on:

Investment Term ends on:

\$0 20 years Oct 1, 2018 Sep 30, 2038

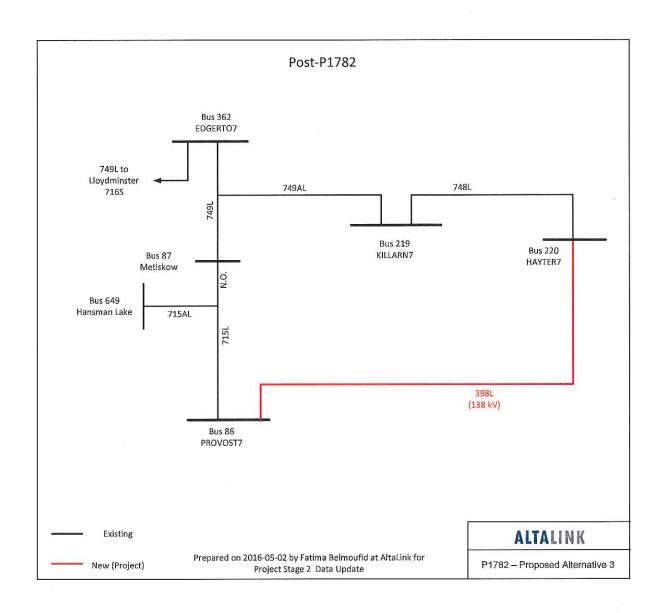
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7	
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Pregrace Use   Pregration   Pregrate Use   Pregrate   Preg	Project Name & No.	Fortis Provost Reliability		D,0626 / P1782	
NIA   Estimate Basis   COM   Estimate Basis   COM   Estimate Basis   COM   COM   Estimate Basis   COM   COM   Estimate   COM	Prepared by:				
National	AACE Class: (future use)	A/N	Estimate Basis	OOM	TRANSMISSION PROJECT ESTIMATE SUMMARY
test:         August 16, 2016         Base Vear Used         2016           NE         SYSTEM         CUSTOMER         TOTAL           NE         2,561,000         \$         2,561,000           SSION LINE         \$         2,561,000         \$         7,721,000           SSION LINE         \$         1,265,000         \$         7,721,000           SSION LINE         \$         1,265,000         \$         1,724,000           SSION LINE         \$         1,724,000         \$         1,724,000           NATON         \$         1,724,000         \$         1,724,000           NATON         \$         1,724,000         \$         1,744,000           NATON         \$         1,754,000         \$         1,744,000           NATON         \$         1,754,000         \$         1,744,000           NATON         \$         1,754,000         \$         1,744,000           NATON         \$ <td>High Range</td> <td>20%</td> <td>Low Range</td> <td>-20%</td> <td></td>	High Range	20%	Low Range	-20%	
SYSTEM   CLISTOMER   TOTAL	Date of Estimate:	August 16, 2016	Base Year Used	2016	
New Part					
NE   S		SYSTEM	CUSTOMER	TOTAL	ASSUMPTIONS
S	TRANSMISION LINE				
SSION LINE   S	Material		s		
SEION LINE   S	Labour		69		
SECON LINE   S	Supply & Install		<del>(s)</del>	69	
S	TOTAL TRANSMISSION LINE		49	49	
S	SUBSTATION				
S	Material		₩ €		
No.     2	Complete		A U		
S	TOTAL SIBSTATION		9 4	÷ •	
S	TELECOMMINICATION		*	•	日の日になっているところとの · 中でであるころのない。 小田田田田である
S	Material		e		
Continue	Material				
MAUNICATIONS   \$	Simply & Install		e 4.		
Service   Serv	TOTAL TELECOMMINICATIONS		· 4		
Service   Service   S	OWNERS	SALES CONTRACTOR OF SALES	*		
ide Service         \$         275,000         \$         275,000           ninglance         \$         2,195,000         \$         2,195,000           ninglance         \$         -         \$         2,195,000         \$         2,195,000           ninglance         \$         -         \$         424,000         \$         2,195,000           Claims         \$         -         \$         424,000         \$         424,000           no         \$         -         \$         -         \$         -         \$         1,000           no         \$         -         \$         -         \$         -         \$         -         1,000           no         \$         -         \$         -         \$         -         \$         - </td <td>Day Doo Soot</td> <td></td> <td>4</td> <td></td> <td></td>	Day Doo Soot		4		
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sements         \$         10,000         \$         10,000           sements         \$         -         \$         424,000         \$         10,000           continue         \$         -         \$         424,000         \$         424,000           none         \$         -         \$         -         \$         424,000         \$         424,000           none         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -	Flobusal to Flowing Service	÷ &	0		
Seminaria   Semi	Pacifity Applications Peginatory Compliance	→ <del>(</del>			
S	and Rights - Fasements	) (C.	7	7	
S	Land - Damage Claims	, .			
COST         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         \$         -         1.448,000         -         -         -         -         -	Land - Acquisitions	69	- 8	•	
COST         \$         3,084,000         \$         3,084,000           nagement         \$         175,000         \$         175,000           nent         \$         1,448,000         \$         1748,000           nagement         \$         3,078,000         \$         1,448,000           nagement         \$         -         \$         1,448,000         \$         1,448,000           nagement         \$         -         \$         1,441,000         \$         1,448,000           nagement         \$         -         \$         1,514,000         \$         1,514,000           nate Labour         \$         -         \$         -         \$         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	Other		€		
nagement	TOTAL OWNERS COST	\$			
Inagement         \$         175,000         \$         175,000         \$         175,000         \$         175,000         \$         174,000         \$         174,000         \$         174,000         \$         174,000         \$         174,000         \$         174,000         \$         174,000         \$         174,000         \$         174,1000         \$         \$         174,1000         \$         \$         174,1000         \$ </td <td>DISTRIBUTED</td> <td></td> <td></td> <td></td> <td></td>	DISTRIBUTED				
nent         \$         1,448,000         \$         1,448,000         \$         1,448,000         \$         1,448,000         \$         1,448,000         \$         1,448,000         \$         1,448,000         \$         1,418,000         \$         1,418,000         \$         4,141,000         \$         4,14	Procurement Management	Ф		69	
S	Project Management	€9			
TRED	Construction Management		<del>50</del> 6		
TFD   S	Contingency		9 4	9 64	
Te Labour	TOTAL DISTRIBUTED		· <del>(A</del>	S	
re Labour         \$         -	SALVAGE				
urr         \$         -         -	Transmission Line Labour	69		- \$	roject cost excludes \$18,000 of Transmission Line salvage labour
on and Reclamation     \$     -     \$     -     \$       \$     -     \$     -     \$     -       \$     -     \$     -     \$     -       \$     -     \$     -     \$     -       \$     -     \$     -     \$     -       \$     -     \$     2,037,000     \$     2,037,000       \$     -     \$     2,037,000     \$     2,037,000       \$     -     \$     2,037,000     \$     2,037,000       \$     -     \$     2,037,000     \$     2,037,000	Substation Labour	6	- 8	lane	roject cost excludes \$98,000 of Substation salvage labour
on and Reclamation         \$         -         \$	Telecom Labour	69		- \$	roject cost excludes \$30,000 of Telecom salvage labour
\$   -   \$   -   \$   -   \$   \$     \$	Land Remediation and Reclamation	\$		· ·	
\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -		69		ક	
\$ -   \$ -   \$   \$   \$   \$   \$   \$   \$			€	69	
\$ - \$ - \$ - \$ 5	TOTAL SALVAGE		₩.	4	
\$ - \$ - \$ - \$ 5   \$   \$   \$   \$   \$   \$   \$   \$   \$	OTHER COSTS				
\$ - \$ 2.037,000 \$ \$ - \$ 2,037,000 \$ CT \$ 35,201,000 \$	AFUDC		es.		
ST - \$ 2,037,000 \$ - 5 35,201,000 \$ 35	E&S/Overhead		69		
\$ 35,201,000	TOTAL OTHER		e e	A 4	
	TOTAL PROJECT		<b>9</b>	A	

D.0626 Fortis Provost Reliability-OOM-AESO Submission-Alt3-R3 20160817 AESO (Rounded) Summary no bd

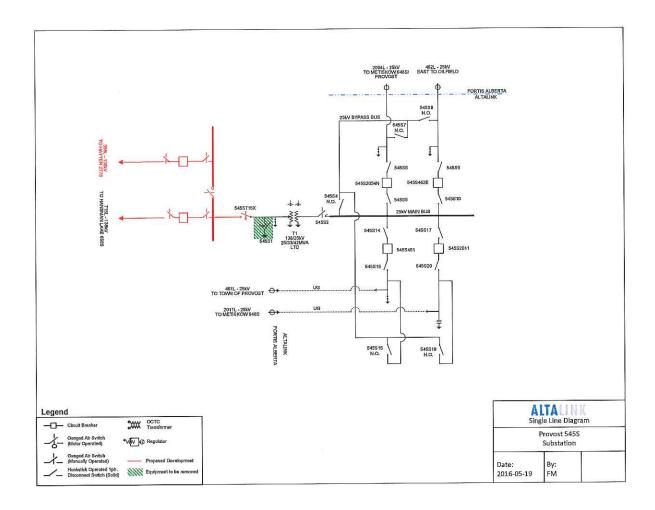
#### Fortis Provost Reliability Project (Project No. 1782) - PDUP [2]

#### 2. After the Project SLD



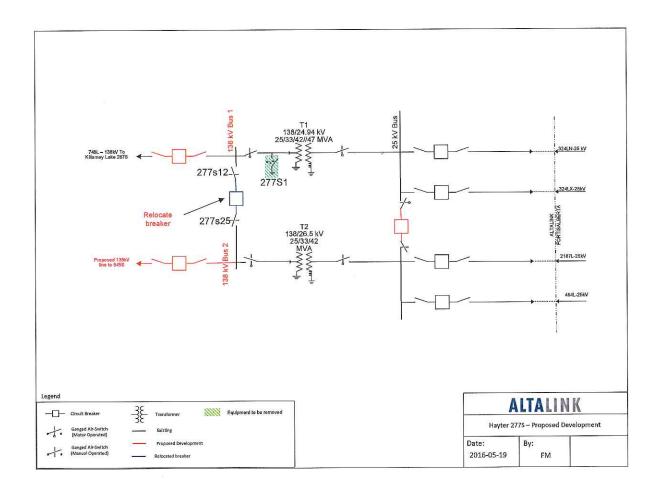


#### 6.0 PROPOSED SLD AT PROVOST 545S



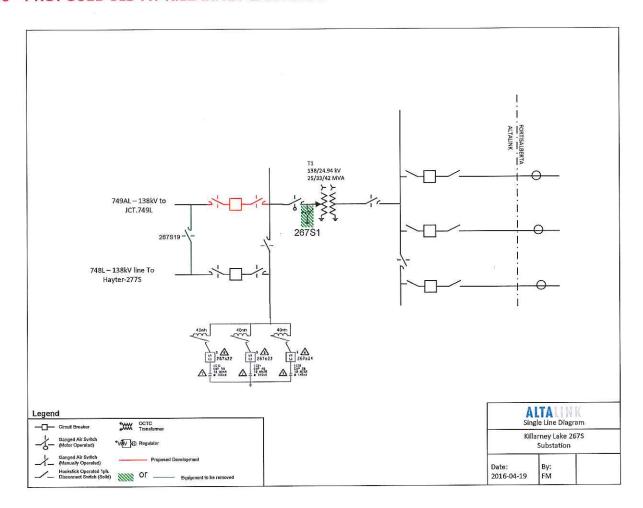


#### 8.0 PROPOSED SLD AT HAYTER 277S





#### 10.0 PROPOSED SLD AT KILLARNEY LAKE 267S





### Stage 6 Construction Contribution Decision/GUOC #1 1607/1608 Fortis Bull Creek Phase 1 & 2 Generator Increase

Project Name: Fortis Bull Creek Phase 1 & 2 Generator Increase

AESO Project #: P1607/P1608 (P1495 Stage 6, CCD#1 carried forward to adjust contract amounts)

Substation: Hayter 277S

Market Participant Name: FortisAlberta Inc.

Date: May 4, 2017

Estimate Type: Final Cost

Project Type: STS

Prepared By: Ilice Tan

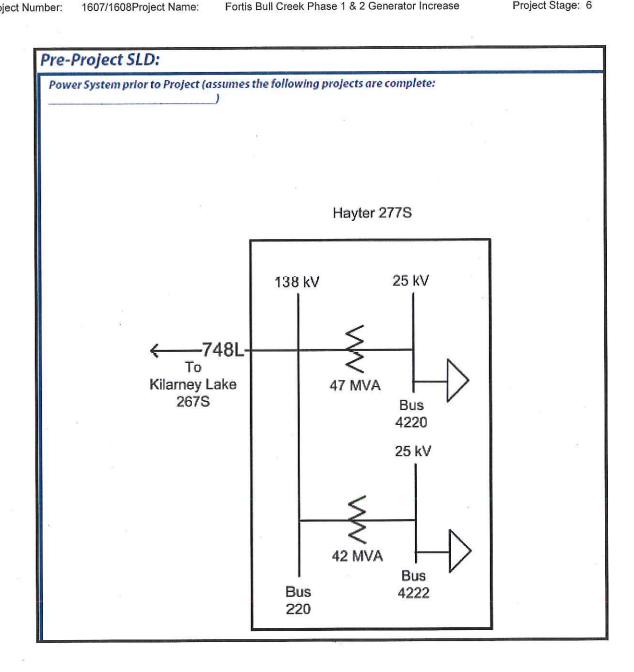
#### **Project Overview:**

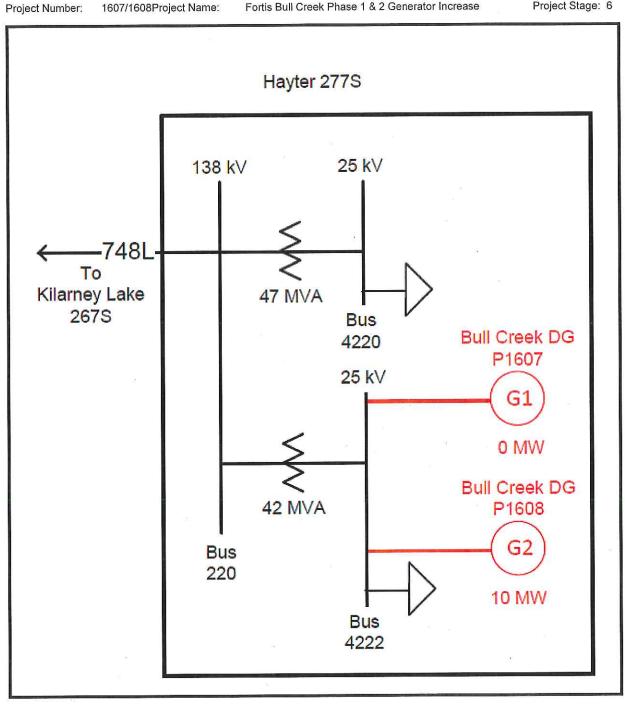
- FortisAlberta Inc. (Fortis) has requested a 10 MW of STS to connect BluEarth Renewables Inc. (BluEarth) generating units on the Fortis distribution lines that are tied to Hayter 277S. Project 1607 Fortis Bull Creek Phase 1 Generator (Maximum Capacity of 13.5 MW) is connected to distribution feeder 2187L. Project 1608 Fortis Bull Creek Phase 2 Generator (Maximum Capacity of 16 MW) is connected to distribution feeder 464L.
- There are no new facilities required for this project. However, a contract adjustment is required to add a STS contract amount of 10 MW. Therefore, the past project P1495 Stage 6 CCD (transformer and breaker addition - ISD September 15, 2015 - CCD signed on March 2016) staging has been adjusted to reflect this new STS contract.
- The ISD for Fortis Bull Creek Phase 1 & 2 was Dec 5, 2015.
- The difference between this CCD and the previous P1607/1608CCD (signed October 2015) is to reflect this carry forward of the P1495 CCD rather than the CCD reflecting \$344,00 project costs which was incorrectly identified as "Cost of New Facilities". There are no new facilities required for P1607/P1608.
- There is no system NIDs being contemplated for this project.
- There is no N-1 or RAS associated with the preferred alternative.
- The pre and post project SLDs are shown below:

V11 FINAL 2017-02-10 Page 1

Transmission Projects

Proprietary





# **Contribution Policy:**

Permit and Licence: P&L received on February 9, 2015
Contribution Policy Applied: 2013 per Commission Decision 2013-325, effective October 1, 2013

# **Proposed Commercial Terms:**

Reference: NA

# 1. Project Cost

Project cost is located on line (e) of Attachment A1.

### 2. Shared Facilities Cost

• There are no shared facilities.

# 3. System Related Cost

· There is no system related cost.

# 4. Facilities In Excess of Good Electric Industry Practice

• There are no facilities in Excess of Good Electric Industry Practice.

# 5. Construction Contribution

- Participant related cost is located on line (h) of Attachment A1.
- Participant related cost is divided between demand related and supply related on line (I) of Attachment A2.
- Based on contract details listed in Attachment A1, the maximum local investment is located on line (m) of Attachment A2.
- The Construction Contribution is estimated to be as stated on line (o) of Attachment A2. Please see Attachments A1, A2, A3 and A4 for details of these calculations and the resulting Construction Contribution.
- This Construction Contribution is subject to change based on the following items:
  - Changes to contract capacity or term
  - Changes to estimated costs or resulting from final costs
  - Changes to the classification of system-related and market participant -related costs
  - Development of the transmission system as it relates to this project, including sharing of facilities with other market participants.

# 6. Generating Unit Owner's Contribution

V11 FINAL 2017-02-10 Page 4

Transmission Projects
Proprietary

Project Number: 1607/1608Project Name: Fortis Bull Creek Phase 1 & 2 Generator Increase Project Stage: 6

Per subsection 3 of section 10 of the ISO Tariff, Generating Unit Owner's Contribution (per MW) applicable to this project is located on line (r) of Attachment A2.

Generating Unit Owner's Contribution is refundable over 10 years from the Commercial Operation Date as outlined in ISO Rule 9.5)

Please indicate resource type below:

Resource Type

Coal

Natural Gas — Base Load

Natural Gas — Peaking

Coal

Natural Gas — Base Load

Natural Gas — Peaking

Hydro

Wind

Solar

Biomass & Waste

# 7. Primary Service Credit

 The transformation facilities for this service are owned and operated by the transmission facility owner, and the Primary Service Credit does not apply.

V11 FINAL 2017-02-10 Page 5

Transmission Projects
Proprietary

lay 5/2017

# Sign-off

Note: Cost estimates provided in the Final Cost submission identified in this CCD have been used to determine the Construction Contribution and/or Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this CCD by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided in the Final Cost submission.

Project Manager/Coordinator

Date

Program Manager

Date

Tariff Manager (Lee Ann Kerr) Date

Manager, Tariff Design (LaRhonda Papworth) Date

Director) Tariff Design (Doyle Sullivan)

### **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Cost estimates
- Attachment C: Previous and related Construction Contribution Decisions

# **Attachment A1: Costs and Contract Details**

Participant:

Prepared by:

Fortis Alberta Inc.

Project: Number: Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add

1607/1608 from P1495.

Type: Date: DTS and STS (Dual-Use)

May 4, 2017

Tariff:

**AESO 2013** 

Effective: 1 Oct 2013

Current To: Version: 2013.0.1

PROJECT DETAILS

(a) New Service or Expansion of Existing Service?

Is Service at New or Existing Substation? (b) Will Primary Service Credit Apply to Service? (c)

Ilice Tan

(d) Any Other Market Participant(s) at Substation?

Expansion **Existing Substation** 

> No No

COST OF CONNECTION PROJECT

Cost of New Transmission Facilities:

Shared Cost of Existing Transmission Facilities; (f)

Less: System-Related Costs: (g)

(h) Participant-Related Costs:

Less: Facilities in Excess of Good Practice: (i)

Less: Reduction for Replaced Transformer: (j)

Balance of Participant-Related Costs: (k)

Estimated Operations and Maintenance:

Reference

P1495 Final Cost Report

\$0

\$0

\$4,998,437

\$0 \$0

\$4,998,437

\$4,998,437

**CONTRACT DETAILS** 

(m) Commercial Operation Date of Project:

Maximum Investment Term (years):

Discount Rate for Incremental Capacity: (o)

Prior Contribution (for Final Costs or Adjustment): (p)

Reference

September 16, 2015

20

6.14% \$4,998,437

Wall.	<b>Contract S</b>	tages		Contra	act Capacities a	t Substation	(MW)	
			Contra	cted After P	roject	Contract	ed Prior to	Project
	Start	Duration	This Part	icipant	Other	This Parti	cipant	Other
No	Date	Months	DTS	STS	Participant	DTS	STS	Participant
(1)	Sep 2015	3	29.30	0.00		29.30	0.00	
(2)	Dec 2015	237	29.30	10.00		29.30	0.00	
· /								
		A	- 3					

### **GENERATING UNIT OWNER'S CONTRIBUTION**

Planning Region Where Unit Will be Located:

Contribution Amount Dates to be Used: (r)

Owner's Contribution Previously Paid (If Any):

Reference

Central 2014-2015 \$224,000

# **Attachment A2: Contribution Determination**

Participant:

FortisAlberta Inc.

Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add

Type:

Tariff:

**AESO 2013** Effective: 1 Oct 2013

Project: Number:

1607/1608 from P1495

DTS and STS (Dual-Use)

To:

Current

Prepared by: Ilice Tan

Date:

May 4, 2017

Version: 2013.0.1

Line	Description	Reference	Amount	Section
(a)	Cost of New Facilities	P1495 Final Cost Report	\$4,998,437	8:2
(b)	Plus: Shared Cost of Existing Facilities		\$0	8:3(2)(c)
(c)	Less: System-Related Costs		\$0	8:3(3)
(d)	Participant-Related Costs	(a) + (b) – (c)	\$4,998,437	8:3(2)
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)
(g)	Balance of Participant- Related Costs	(d) – (e) – (f)	\$4,998,437	8:6(1)

		Γ	Required I	Facilities	In Excess	
Line	Description	Reference	Demand- Related	Supply- Related	of Good Practice	Section
(h)	Participant-Related Costs	From (g) and (e)	\$4,9	98,437	\$0	8:6(3)
(i)	Operations and Maintenance Charge	Estimated by Market Participant		NA	\$0	8:9
(j)	Total Costs Allocated to Market Participant	(h) + (i)	\$4,99	98,437	\$0	8:6
(k)	Substation Fractions	Other Participant NA	0.01250	0.98750	NA	8:6(3)
(l)	Allocated Costs (j) × (k)	Other Participant NA	\$62,480	\$4,935,957	\$0	8:6
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8
(n)	Construction Contribution Required (I) – (m)		\$62,480	\$4,935,957	\$0	8:7
(0)	Total Construction Contribution Required		\$4,998,437			8:7
(p)	Construction Contribution I Project	Previously Paid for	\$4,998,437			5:2(8) or 9:2(2)
(q)	Construction Contribution	on to be Refunded		\$0		5:2 or 9:4

			Generating	Unit Owner's C	ontribution	
Line	Description	Region/Policy	STS MW	Amount/MW	Contribution	Section
(r)	Owner's Contribution to be Paid	Central 2014-2015	10.00	\$22,400	\$224,000	10:3
(s)	Generating Unit Owner's Contribution Previously Paid for Project \$224,000					10:3
(t)	Generating Unit Owner's	Contribution to be F	Refunded		\$0	10:3

### **Attachment A3: Allocation of Costs and Substation Fractions**

Participant:

FortisAlberta Inc.

Project:

Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add

Tariff:

**AESO 2013** 

Number:

1607/1608 from P1495

DTS and STS (Dual-Use) Type:

Effective: 1 Oct 2013 To:

Current

# ALLOCATION OF COSTS TO SERVICES AT SUBSTATION

Participant-Related Costs of Required Facilities

\$4,998,437

	Contract S	tages	Increment	al Contract	Capacity	Incrementa	I Substation	Fractions
	Start	Duration	This Part	icipant	Other	This Parti	COMPRESSION CONTRACTOR	Other
No	Date	Years	DTS	STS	Participant	DTS	STŞ	Participant
(1)	Sep 2015	0.25	0.00	0.00	///////////////////////////////////////	1.00000	0.00000	/////8/80808
(2)	Dec 2015	19.75	0.00	10.00		0.00000	1.00000	///////////////////////////////////////
	· · · · · · · · · · · · · · · · · · ·							
		, , , , , , , , , , , , , , , , , , ,						
	Total	20.00	Dura	tion-Weigh	ted Average	0.01250	0.98750	0.00000

Allocation of Participant-Related Costs

\$62,480 \$4,935,957

# SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

	Contract S	itages	Contract C	apacity Aft	er Project	Substation	Fractions Af	ter Project
	Start	Duration	This Part	icipant	Other	This Parti		Other
No	Date	Years	DT\$	STS	Participant	DTS	STS	Participant
(1)	Sep 2015	0.25	29.30	0.00	///////////////////////////////////////	1.00000	0.00000	/////8/88888/
(2)	Dec 2015	19.75	29.30	10.00		0.74555	0.25445	77/10/00/00/00/00/00/00/00/00/00/00/00/00/
				···				
					<i>{{///////////////////////////////////</i>			
	Total	20.00						

# **Attachment A4: Investment Determination**

Participant:

Project:

Number:

FortisAlberta Inc.

Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add 1607/1608 from P1495 Type:

DTS and STS (Dual-Use)

Tariff:

**AESO 2013** Effective: 1 Oct 2013

To:

Current

# **Demand-Related Costs of This Participant Eligible for Investment:**

\$62,480

Investment	Amounts Fro	m Subsectio	n 8(4) of Sect	tion 8 of 2011	ISO Tariff
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)
Investment	\$52,000	\$35,350	\$13,050	\$7,900	\$4,250
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year

		ncremental l	Rate DTS Cor				
St	age	Tier (a)	Tier (b) MW	Tier (c) MW	Tier (d) MW	Tier (e) MW	Total
No.	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW
(1)	0.25		0.00	0.00	0.00	0.00	0.00
(2)	19.75		0.00	0.00	0.00	0.00	0.00
						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							

Stage	e/Year	Nomi	nal Investmer	nt per Year o	finvestment	Term	Discounted	Cumulative
No.	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)-(2)	1	\$0	\$0	\$0	\$0	\$0	\$0	Investment
(2)	2	\$0	\$0	\$0	\$0	- \$0	\$0	term must be
(2)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(2)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(2)	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	. 6	\$0	\$0	\$0	. \$0	\$0	\$0	\$0
(2)	7	\$0	\$0	\$0	\$0	\$0	\$0	. \$0
(2)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(2)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): Investment Term Required to Minimize Construction Contribution:

\$0 20 years

Attachment B

# Final Cost Report

Finject Mattie: Dinoss Hayter 2/15	TFO: AltaLink Management Ltd	Prepared by: Luis Navarre/Kyle Harry	Date, March 4 2046

		System Portion		-		Customer Partion		1711.12.E
	Sdd			ľ				
	CSIIIIare	Actual	Variance	-	Estimate	Actual	Variance	Estimate Actual Variance Variance Variance Explanation
					5	Transmission Line Costs		
l otal Material Costs &		- 2	89	69	¥ <del>)</del>	3	£	- 18 10 10 10 10 10 10 10 10 10 10 10 10 10
Total Labour Costs \$	-	S	59	45	1		v	1. Principles of the food of t
Total-Material and Labour, S.		U	_	_			*	e -
		•		er a	<i>Α</i>	*	•	
					Hayter 27	Hayter 277's Substation Facilities Cost	Facilities Cost	
Total Material Gosts \$		ب چه	us.	<del>сэ</del>	2,359,000 \$	1,917,174	ts-	(441,826) \$ 72359,000 \$ 7197,74 \$ 7441826 There were sevings on the transformer sestand on the control treaters. Also, the cost of the use of a cost of a
Labour	The state of the s							Iproject
Total Labour Costs	\$	\$	9	c/s	1,794,000   \$	1,711,937	(82.063)	(8) DRSI ISAMIRRA SIZDA (IIII) SAMBAR PER ZALI OCI TI SERVICE IN INCOME CONTROLLE CONT
Totai-Material and Labour \$		. 5			4,153,D00 \$	3,629,111		3.629.111 \$
Total Material Costs		3	٥		-	elecommun		
Labour		<b>–</b> €	⊸!	A	7	<del>9</del>		- (\$ ) (1) (\$ ) (1) (1) (1) (1) (1) (1) (1) (1) (1) (
Total Labour Costs \$		69	\$	69	4	-	5	
Total-Material and Labour \$		· ·	-	-	1			
								Commence of the commence of th
						Owner Costs	ţ;	
Owner's Cost	·	н •	φ.	Lip.	195,000 \$	ĺ	33,844	\$ 738.44 \$ 33.844 The regulatory process for the project required more with the project regulators from the project from the professional project from the pro
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and the state of t						Distributed Costs	sts	
Distributed Costs	<del>u</del>	(A)	<b>↔</b>	<del>.</del>	1,757,000 \$	850,897	\$ (906,103)   5	\$ 7757.000 \$ 100.807 \$ 1906.100 11 Approximately \$380 c.f.Contingency, was highly set of the contingency was highly set of the contingency of the continue of the contin
						Salyage		
Salvage Costs \$		•	40	69	1			
						Other Costs	w	
AFUDC	9	L 69	ш-	\$ -	-		\$	(S)
2001	69	89	69	1	354,000 \$	289,585	\$ (64,416) \$	254,000 \$ 289,585 \$ (64,415)
Total - Overheads \$	•	r -	\$	<i>6</i> 3-	354,000 \$	289,585	\$ (54,415) \$	\$
TOTAL PROJECT COSTS	5	\$	<del>5</del>	67°	6,459,000 \$	4,998,437	\$ (1,450,563)	(1,460,563) [\$ 6,459]000]  \$ 4,998,437  \$ (1,460,563)



# Generator Unit Owner Contribution #1 1921 FortisAlberta Hayter STS Increase

Project Name: FortisAlberta Hayter STS Increase

AESO Project #: 1921

Substation: Hayter 277S

Market Participant Name: FortisAlberta Inc.

Date: Jun 2, 2017

Estimate Type: GUOC

Project Type: STS

Prepared By: Ilice Tan

# **Project Overview:**

- FortisAlberta Inc. (Fortis) had submitted a SASR, on Mar 9, 2017, for a STS increase at Hayter 277S substation to 20 MW from 10 MW. The previously distribution-connected BluEarth's Bull Creek 1 wind farm and Bull Creek 2 wind farm, at the Hayter substation, has a Maximum Capacity (MC) of 13.5 MW and 16 MW, respectively. Fortis currently has a DTS contract at Hayter 277S for 29.3 MW.
- The STS contract increase effective date is November 1, 2017.
- This is the first CCD for Project 1921.

# **Contribution Policy:**

Permit and Licence: P&L received on February 9, 2015

Contribution Policy Applied: 2013 per Commission Decision 2013-325, effective October 1, 2013

# **Proposed Commercial Terms:**

Reference: NA

# 1. Generating Unit Owner's Contribution

Proprietary R5-2013-11-29 Project Number: Project Name: Project Stage:

Per subsection 3 of section 10 of the ISO Tariff, Generating Unit Owner's Contribution (per MW) applicable to this project is located on line (r) of Attachment A2.

Generating Unit Owner's Contribution is refundable over 10 years from the Commercial Operation Date as outlined in ISO Rule 9.5)

Please indicate resource type below:

Resource Type

Coal
Natural Gas — Base Load
Natural Gas — Peaking
Hydro
Wind

Biomass & Waste

Proje	ct Nu	ımber:
-------	-------	--------

Project Name:

Project Stage:

# Sign-off

<u>Note</u>: STS or Maximum Capability estimates identified in this GUOC have been used to determine the Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this GUOC by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided in the Connection Proposal.

Project Manager/Coordinator

(Ilice Tan)

Program Manager (Jasmin Judge)

Manager, Tariff Design (ŁaRhonda Papworth)

Director, Tariff Design (Doyle Sullivan) - Own

Date

Date

Date

### **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Previous or related Construction Contribution Decisions

# Attachment A1: Costs and Contract Details

Participant:

FortisAlberta Inc.

Project:

STS Increase Fortis Hayter 277S

Number: Prepared by:

1921 Ilice Tan Type:

DTS and STS (Dual-Use)

Date:

April 27, 2017

AESO 2013

Effective: 1 Oct 2013 Current

To:

Tariff:

Version: 2013.0.1

**PROJECT DETAILS** 

(a) New Service or Expansion of Existing Service?

Is Service at New or Existing Substation? (b)

Will Primary Service Credit Apply to Service? (c)

Any Other Market Participant(s) at Substation?

Expansion **Existing Substation** No

No

COST OF CONNECTION PROJECT

Cost of New Transmission Facilities:

Shared Cost of Existing Transmission Facilities: (f)

Less: System-Related Costs: (g)

Participant-Related Costs: (h)

Less: Facilities in Excess of Good Practice:

(i) Less: Reduction for Replaced Transformer: (j)

Balance of Participant-Related Costs: (k)

Estimated Operations and Maintenance: (1)

Reference

P1495 Final Cost Report

\$4,998,437 \$0

\$0 \$4,998,437

\$0

\$0

\$4,998,437

**CONTRACT DETAILS** 

(m) Commercial Operation Date of Project:

Maximum Investment Term (years):

Discount Rate for Incremental Capacity: (o)

Prior Contribution (for Final Costs or Adjustment): (p)

Reference

September 16, 2015

20

6.14%

\$4,998,437

19127	Contract S	tages	Contract Capacities at Substation (MW)						
	Contract	Lugoo	Contracted After Project Contracted					d Prior to Project	
	Start	Duration	This Part		Other	This Parti	cipant	Other	
No	Date	Months	DTS	STS	Participant	DTS	STS	Participant	
(1)	Sep 2015		29.30	0.00		29.30	0.00		
(2)	Dec 2015		29.30	10.00		29.30	0.00		
(3)	Nov 2017	214	29.30	20.00		29,30	0.00		
							-		
	Total	240		- Internet	<u> </u>		ati in .	Carlotte L. L. Land Carlotte Street	

# GENERATING UNIT OWNER'S CONTRIBUTION

Planning Region Where Unit Will be Located: (q)

Contribution Amount Dates to be Used: (r)

Owner's Contribution Previously Paid (If Any):

Reference

Central 2014-2015 \$224,000

# **Attachment A2: Contribution Determination**

Participant:

FortisAlberta Inc.

Project:

STS Increase Fortis Hayter 277S

Number:

1921

Type: DTS and STS (Dual-Use)

Tariff:

**AESO 2013** Effective: 1 Oct 2013

To:

Current Version: 2013.0.1

	. ) ;	
Prepared by: Ilice Tan	Date:	April 27, 2017

Line	Description	Reference	Amount	Section
(a)	Cost of New Facilities	P1495 Final Cost Report	\$4,998,437	8:2
(b)	Plus: Shared Cost of Existing Facilities		\$0	8:3(2)(c)
(c)	Less: System-Related Costs		\$0	8:3(3)
(d)	Participant-Related Costs	(a) + (b) - (c)	\$4,998,437	. 8:3(2)
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)
(1111	Balance of Participant- Related Costs	(d) - (e) - (f)	\$4,998,437	8:6(1)

		Į	Required	Facilities	In Excess	
Line	Description	Reference	Demand- Related	Supply- Related	of Good Practice	Section
(h)	Participant-Related Costs	From (g) and (e)	\$4,998,437		\$0	8:6(3)
(i)	Operations and Maintenance Charge	Estimated by Market Participant	** HANA	NA .	\$0	8:9
(j)	Total Costs Allocated to Market Participant	(h) + (i)	\$4,998,437		\$0	8:6
(k)	Substation Fractions	Other Participant NA	0.01250	0.98750	NA	8:6(3)
(l)	Allocated Costs (j) × (k)	Other Participant NA	\$62,480	\$4,935,957	\$0	8:6
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8
(n)	Construction Contribution Required	(l) (m)	\$62,480	\$4,935,957	\$0	8:7
(0)	Total Construction Contr	\$4,998,437			8:7	
(p)	Construction Contribution F Project	\$4,998,437			5:2(8) or 9:2(2)	
(q)	Construction Contributio	n to be Refunded		\$0		5:2 or 9:4

<del></del>			Generating	Unit Owner's C		
Line		Region/Policy	STS MW			Section
(r)	Owner's Contribution to be Paid	Central 2014-2015	20.00	\$22,400	\$448,000	10:3
(s)	Generating Unit Owner's C	\$224,000	10:3			
(t)	Additional Generating Un	\$224,000	10:3			

# **Attachment A3: Allocation of Costs and Substation Fractions**

Participant: Project:

Number:

FortisAlberta Inc.

1921

STS Increase Fortis Hayter 277S

Type:

DTS and STS (Dual-Use)

Tariff:

AESO 2013 Effective: 1 Oct 2013

To:

Current

# ALLOCATION OF COSTS TO SERVICES AT SUBSTATION

Participant-Related Costs of Required Facilities

\$4,998,437

	Contract S	tages	Increment	al Contract	Capacity	Control of the Contro	l Substation	
	Start	Duration	This Part	icipant	Other	This Part		Other
No	Date	Years	DTS	STS	Participant	DTS	STS	Participant
(1)	Sep 2015	0.25	0,00	0.00		1.00000	0.00000	
(2)	Dec 2015	1.92	0.00	10.00	(//////8/88/2	0.00000	1.00000	(///3/39999)
(3)	Nov 2017	17.83	0.00	20.00	1/////8/88	0.00000	1.00000	<i>{////9/9</i> /9/9/9/9/
(-/_							1.5.1	
-								
,								
	- ,							
						.,,,,		
		00.00		otion Mojak	ited Average	0.01250	0.98750	V////0.00000
	Total	20.00	Dur	ation-weigi	tred Wacinde	0,0120		* * * * * * * * * * * * * * * * * * * *

Allocation of Participant-Related Costs

\$62,480 \$4,935,957

# SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

	Contract S	tages	Contract C	Capacity Aft	er Project		Fractions Af	
	Start	Duration		This Participant		This Parl		Other
No	Date	Years	DTS	STS	Participant	DTS	STS	Participant
(1)	Sep 2015	- 0.25	29.30	0.00		1.00000	0.00000	
(2)	Dec 2015	1.92	29.30	10.00		0.74555	0.25445	/////9/9999
$\frac{(2)}{(3)}$	Nov 2017	17.83	29.30	20.00		0.59432	0.40568	(////3/39999)
	1107 2011							
	<u></u>			*			no 116	
							. F. 1 444 Table	
	-		4.0					
	ļ <u>.</u>	1						
	Total	20.00			3,1,2			

# **Attachment A4: Investment Determination**

Participant:

FortisAlberta Inc.

1921

Project: Number: STS Increase Fortis Hayter 277S

Type:

DTS and STS (Dual-Use)

Tariff:

. AESO 2013 Effective: 1 Oct 2013

To: Current

# Demand-Related Costs of This Participant Eligible for Investment:

\$62,480

Investment	Amounts Fro	m Subsectio	n 8(4) of Sec	tion 8 of 201	LISO Tariff
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)
Investment	\$52,000	\$35,350	\$13,050	\$7.900	\$4,250
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/vear

		Incremental I	Rate DTS Cor	ntract Capaci	ty Eligible fo	Investment	
St	age	Tier (a)	Tier (b) MW	Tier (c) MW	Tier (d) MW	Tier (e) MW	Total
No.	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW
(1)	0.25		0.00	0.00	0.00	0.00	0.00
(2)	1.92		0.00	0.00	0.00	0.00	0.00
(3)	17.83		0.00	0.00	0.00	0.00	0.00
****							
-						- Vinit -	
	<u> </u>			23/10			
			\W			***************************************	
dest.		<i>/////////////////////////////////////</i>	-	-		•	
	<u> </u>						

	e/Year	Nomi	nal investme	nt per Year o	f Investment	Term	Discounted	Cumulative
No.	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)-(2)		\$0	\$0	\$0	\$0	\$0	\$0	Investment
(2)	2	\$0	\$0	\$0	\$0	\$0	\$0 \$0	term must be
(2)- $(3)$	3	\$0	\$0	\$0	\$0	\$0	\$0 \$0	
(3)	4	\$0	\$0	\$0	\$0	\$0	\$0 \$0	a minimum of
(3)	5	\$0	\$0	\$0	\$0	\$0	\$0 \$0	5 years
(3)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(3)	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(3)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(3)	9	\$0	\$0	\$0	\$0	\$0		\$0
(3)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(3)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(3)	12	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0
(3)	13	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0
(3)	14	\$0	\$0	\$0	\$0		\$0	\$0
(3)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(3)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(3)	17	\$0	\$0	\$0	<b>\$</b> 0	\$0	\$0	\$0
(3)	18	\$0	\$0	\$0		\$0	\$0	\$0
(3)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(3)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Ψ0	ΨΟ	φU	\$0	\$0	\$0 ∤	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): Investment Term Required to Minimize Construction Contribution:

\$0 20 years



# Stage 2 Generator Unit Owner Contribution/Construction Contribution Decision #1 1988 FortisAlberta 277S Hayter Contract Change

Project Name: FortisAlberta 277S Hayter Contract Change

AESO Project #: 1988

Substation: Hayter 277S

Market Participant Name: FortisAlberta Inc.

Date: Oct 17, 2017

Estimate Type: GUOC

Project Type: STS

Prepared By: Ilice Tan

# **Project Overview:**

- FortisAlberta Inc. (Fortis) had submitted a SASR for a Supply Transmission Service (STS) increase of 5.3 MW at Hayter 277S substation. This will bring the STS after this project to 25.3 MW. The current STS is 10 MW. After project 1921 FortisAlberta Hayter STS Increase, the STS will be 20 MW. The scheduled In-Service Date (ISD) for Project 1921 is December 1, 2017. The current Maximum Capacity (MC) for BluEarth's Bull Creek 1 wind farm (BC1) and Bull Creek 2 wind farm (BC2), at the Hayter substation, is 13.5 MW and 16 MW, respectively.
- The scheduled ISD for this project is August 1, 2018.
- This is the 1<sup>st</sup> GUOC/CCD for Project 1988.
- There is no N-1 or RAS associated with this project and system NIDs is not being contemplated for this project.

# **Contribution Policy:**

Permit and Licence: NA for Project 1988

Contribution Policy Applied: 2017 per Commission Decision 22093-D02-2017, effective January 1, 2017.

# Proposed Commercial Terms:

Reference: NA

V11 FINAL 2017-02-10 Page 1

Transmission Projects

Proprietary

_		2	20.		5
P	rn	art	N	um	ber:

Project Name:

Project Stage:

# 1. Project Cost

Project cost is located on line (e) of Attachment A1.

# 2. Generating Unit Owner's Contribution

Per subsection 3 of section 10 of the ISO Tariff, Generating Unit Owner's Contribution (per MW) applicable to this project is located on line (r) of Attachment A2.

Generating Unit Owner's Contribution is refundable over 10 years from the Commercial Operation Date as outlined in ISO Rule 9.5)

Please indicate resource type below:

Res	ource Type	
	Coal	
	Natural Gas — Base Load	
	Natural Gas — Peaking	
	Hydro	П
	Wind	$\overline{\boxtimes}$
	Solar	Ħ
	Biomass & Waste	П

# Sign-off

Note: STS identified in this GUOC have been used to determine the Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this GUOC by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided.

	-//1	
Project Man	agér/Co	ordinator

(Ilice Tan)

Program Manager (Jasmin Judge)

Tariff Manager (Lee Ann Kerr)

Manager, Tariff Design (LaRhonda Papworth)

Director, Tariff Design (Doyle Sullivan)

oct. 19/2017

Date

Date

### **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Previous or related Construction Contribution Decisions

# **Attachment A1: Costs and Contract Details**

Participant:

FortisAlberta Inc.

Project:

FortisAlberta 277S Hayter Contract Change

Number:

1988

Type:

DTS and STS (Dual-Use)

Prepared by:

Ilice Tan

Date:

Oct 16, 2017

Tariff:

**AESO 2017** Effective: 1 Jan 2017

To:

Current Version: 2017.0.1

PROJECT DETAILS

(a) New Service or Expansion of Existing Service? (b) Is Service at New or Existing Substation?

Will Primary Service Credit Apply to Service? (c)

(d) Any Other Market Participant(s) at Substation?

Expansion **Existing Substation** 

> No No

COST OF CONNECTION PROJECT

(e) Cost of New Transmission Facilities:

Shared Cost of Existing Transmission Facilities: (f)

Less: System-Related Costs: (g)

Participant-Related Costs: (h)

Less: Facilities in Excess of Good Practice:

(i) Less: Reduction for Replaced Transformer: (j)

Balance of Participant-Related Costs: (k)

Estimated Operations and Maintenance:

Reference

1495 Final Cost Repport

\$0

\$0

\$4,998,437

\$4,998,437

\$0

\$0

\$4,998,437

CONTRACT DETAILS

(m) Date of Commission Permit and Licence:

Date of AESO Energization Authorization:

Date of Commercial Operation of Project: (o)

Maximum Investment Term (years): (p)

Discount Rate for Incremental Capacity: (q)

Prior Contribution (for Final Costs or Adjustment): (r)

Reference

NA for Project 1988

Aug 1, 2018 Aug 1, 2018

20

\$4,998,437

Contract Stages			Contract Capacities at Substation (MW)					
	oominate c		Contra	cted After P		Contract	ed Prior to	Project
	Start	Duration	This Parti		Other	This Parti	cipant	Other
No	Date	Months	DTS	STS	Participant	DTS	STS	Participant
(1)	Aug 2018	240	29.30	25.30		29.30	20.00	
	Total	240						

# GENERATING UNIT OWNER'S CONTRIBUTION

- (s) Planning Region Where Unit Will be Located:
- Contribution Amount Dates to be Used: (t)
- (u) Owner's Contribution Previously Paid (If Any):

Reference

Central 2014-2015 \$0

# **Attachment A2: Contribution Determination**

Participant:

FortisAlberta Inc.

Project:

FortisAlberta 277S Hayter Contract Change

Number:

1988

Prepared by: Ilice Tan

Type: DTS and STS (Dual-Use)

Date: October 16, 2017

Tariff: Effective: 1 Jan 2017

**AESO 2017** 

To: Version:

Current 2017.0.1

Line	Description	Reference	Amount	Section
(a)	Cost of New Facilities	1495 Final Cost Repport	\$4,998,437	8:2
(b)	Plus: Shared Cost of Existing Facilities		\$0	8:3(2)(c)
(c)	Less: System-Related Costs		\$0	8:3(3)
(d)	Participant-Related Costs	(a) + (b) – (c)	\$4,998,437	8:3(2)
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)
1111	Balance of Participant- Related Costs	(d) – (e) – (f)	\$4,998,437	8:6(1)

			Required	Facilities	in Excess	]
Line	Description	Reference	Demand- Related	Supply- Related	of Good Practice	Section
(h)	Participant-Related Costs	From (g) and (e)	\$4,9	98,437	\$0	8:6(3)
(i)	Operations and Maintenance Charge	Estimated by Market Participant		NA	\$0	8:9
(j)	Total Costs Allocated to Market Participant	(h) + (i)	\$4,9	98,437	\$0	8:6
(k)	Substation Fractions	Other Participant NA	0.00000	1.00000	NA	8:6(3)
(1)	Allocated Costs (j) × (k)	Other Participant NA	\$0	\$4,998,437	\$0	8:6
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8
(n)	Construction Contribution Required	(l) – (m)	\$0	\$4,998,437	\$0	8:7
(0)	<b>Total Construction Contr</b>	bution Required		\$4,998,437		8:7
(p)	Construction Contribution F Project	reviously Paid for	44.1	\$4,998,437	195.	5:2(8) or 9:2(2)
(q)	Construction Contribution	n to be Refunded		\$0		5:2 or 9:4

<del></del>			Generating	Unit Owner's C	ontribution	
Line		Region/Policy	STS MW	Amount/MW	Contribution	Section
(r)	Owner's Contribution to be Paid	Central 2014-2015	5.30	\$22,400	\$118,720	10:3

# **Attachment A3: Allocation of Costs and Substation Fractions**

Participant:

FortisAlberta Inc.

Tariff:

**AESO 2017** 

Project: Number:

1988

FortisAlberta 277S Hayter Contract Change Type:

DTS and STS (Dual-Use)

To:

Current

Effective: 1 Jan 2017

# ALLOCATION OF COSTS TO SERVICES AT SUBSTATION

Participant-Related Costs of Required Facilities

\$4,998,437

	Contract Stages Incremental Contract Capacity			Capacity	AND AND ADDRESS OF THE PARTY OF	Substation Fractions		
	Start	Duration	This Parti	icipant	Other	This Parti		Other
No	Date	Years	DTS	STS	Participant	DTS	STS	Participant
(1)	Aug 2018	20.00	0.00	5.30		0.00000	1.00000	
						100		
		-						
	Total	20.00	Dura	ation-Weigh	ited Average	0.00000	1.00000	////0/00000

Allocation of Participant-Related Costs

\$0 \$4,998,437

# SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

	Contract Stages Contract Capacity After			er Project	Substation Fractions After Project			
	Start	Duration	This Part		Other	This Parti	icipant	Other
No	Date	Years	DTS	STS	Participant	DTS	STS	Participant
(1)	Aug 2018	20.00	29.30	25.30	8/890	0.53663	0.46337	8.90000
	Total	20.00						

Attachment to Contribution Calculator for 2014 Tariff (AESO ID No. 2014-012T) Filename: 1988\_ID-2017-016T-Contribution-Calculator.xlsx — Page 3 of 4

# **Attachment A4: Investment Determination**

Participant:

FortisAlberta Inc.

Project:

FortisAlberta 277S Hayter Contract Change

Number: 1988 Type:

DTS and STS (Dual-Use)

Tariff:

**AESO 2017** Effective: 1 Jan 2017

To:

Current

# Demand-Related Costs of This Participant Eligible for Investment:

 \$0

Investment /	Amounts Fro	m Subsectio	n 8(4) of Sect	tion 8 of 2015	ISO Tariff
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)
Investment	\$80,150	\$32,450	\$20,350	\$14,200	\$9,150
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year

		Incremental I	Rate DTS Cor	ntract Capaci	tv Eligible fo	'Investment	
St	age	Tier (a)	Tier (b) MW	Tier (c) MW	Tier (d) MW	Tier (e) MW	Total
No	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW
(1)	20.00		0.00	0.00	0.00	0.00	0.00
							***************************************
	ļ		rs.				
							·····
	<u> </u>						

Stag	e/Year	Nomir	nal Investmer	it per Year of	Investment	Гегт	Discounted	Cumulative
No	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)	1	\$0	\$0	\$0	\$0	\$0	\$0	Investment
(1)	2	\$0	\$0	\$0	\$0	\$0	\$0	term must be
(1)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(1)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(1)	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
(1)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
(1)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
(1)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
(1)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
(1)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): Investment Term Required to Minimize Construction Contribution:

Investment Term Begins on: Investment Term ends on:

\$0 20 years Aug 1, 2018 Jul 31, 2038



# Stage 3 Construction Contribution Decision #1 1782B Fortis Provost Reliability

Project Name: Fortis Provost Reliability

AESO Project #: 1782

Associated Line #s: new 138 kV line 398L as well as existing lines 715L, 748L, 749L

Substations: Hayter 277S

Market Participant Name: FortisAlberta Inc.

Date: November 7, 2017

Estimate Type: Service Proposal +20%/- 10%

Project Type: DTS

Prepared By: Tana Lailan

# **Project Overview:**

- On April 19, 2016 FortisAlberta Inc. ("FortisAlberta") submitted a SASR to address the distribution reliability concerns in the Provost area (AESO Planning Area Edmonton 60).
- The preferred alternative involves a transmission upgrade at the Provost area and construction of a new 138 kV transmission line connection between Hayter 277S substation and Provost 545S substation.
- The requested In-Service Date (ISD) for the Provost Area transmission upgrade is May 1, 2020.
- No Demand Transmission Services (DTS) change is requested at Hayter 277S substation.
- As part of the Service Proposal submission and in accordance with the current Tariff requirements, AML provided cost allocations per Point of Delivery (transmission line and distributed labor costs were allocated to each of the substations). (Attachment B).
- This CCD is issued to capture the Service Proposal estimates allocated to Hayter 277S substation in the amount of \$18,073,889 (in 2017\$) with accuracy of +20/-10%.
- The cost of this project is 100% customer cost. The additional line proposed between Hayter and Provost is not required for transmission system reliability purposes and is only required by the market participant for distribution reliability concerns.
- There is not any system NIDs being contemplated for this project.
- There is not any N-1 or RAS associated with the preferred alternative
- A Single Line Diagram is included in the Attachment C.

# **Contribution Policy:**

Permit and Licence: not yet filed

Contribution Policy Applied: 2017 per Commission Decision 22093-D02-2017, effective January 1,

Proprietary R8-2016-08-22 Project Number: 1782B Project Name: Fortis Provost Reliability Project Stage: 3

### **Proposed Commercial Terms:**

Reference: Service Proposal dated October 27, 2017

### 1. Project Cost

Project cost is located on line (e) of Attachment A1.

### 2. Shared Facilities Cost

There are no shared facilities.

# 3. System Related Cost

• There is no system related cost.

# 4. Facilities In Excess of Good Electric Industry Practice

There are no facilities in Excess of Good Electric Industry Practice.

### 5. Construction Contribution

- Participant related cost is located on line (h) of Attachment A1.
- Based on contract details listed in Attachment A1, the maximum local investment is located on line (m) of Attachment A2.
- The Construction Contribution is estimated to be as stated on line (o) of Attachment A2. Please see Attachments A1, A2, A3 and A4 for details of these calculations and the resulting Construction Contribution.
- This Construction Contribution is subject to change based on the following items:
  - Changes to contract capacity or term
  - Changes to estimated costs or resulting from final costs
  - Changes to the classification of system-related and market participant -related costs
  - Development of the transmission system as it relates to this project, including sharing of facilities with other market participants.

### 6. Primary Service Credit

• The transformation facilities for this service are owned and operated by the transmission facility owner, and the Primary Service Credit does not apply.

# Sign-off

<u>Note</u>: Cost estimates provided in the Connection Proposal identified in this CCD have been used to determine the Construction Contribution and/or Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this CCD by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided in the Connection Proposal.

Project Manager (Tana Lailan)	Date Nov 7, 2017
Program Manager (Jasmin Judge)	Nov. (5(17)
Tariff Manager (Lee Ann Kerr)	Nev 21 2017  Date
Manager, Tariff Design (LaRhonda Papworth)	Date
ht / Su	Nov 24, 2017

Date

### **Attachments**

(Doyle Sullivan)

Director, Tariff Design

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Cost estimates
- Attachment C: Project SLDs

### **Attachment A1: Costs and Contract Details**

Participant:

FortisAlberta Inc.

Fortis Provost Reliability - Hayter 277S

Tariff:

**AESO 2017** 

Project:

(i) (j)

(k)

Type:

DTS Only

To:

Effective: 1 Jan 2017 Current

Number: Prepared by: 1782B Tana Lailan

Date:

Nov 7, 2017

Version: 2017.0.1

PROJECT DETAILS

(a) New Service or Expansion of Existing Service?

Expansion

(b) Is Service at New or Existing Substation?

**Existing Substation** 

(c) Will Primary Service Credit Apply to Service?

No

(d) Any Other Market Participant(s) at Substation?

No

**COST OF CONNECTION PROJECT** 

\$18,073,889

Cost of New Transmission Facilities: (f) Shared Cost of Existing Transmission Facilities:

\$0

Less: System-Related Costs: (g)

\$0

Participant-Related Costs: (h)

\$18,073,889

Less: Facilities in Excess of Good Practice:

\$0

Less: Reduction for Replaced Transformer:

\$0

Balance of Participant-Related Costs:

\$18,073,889

Estimated Operations and Maintenance:

Reference

Reference

**CONTRACT DETAILS** 

(m) Date of Commission Permit and Licence:

not yet filed

Date of AESO Energization Authorization:

May 1, 2020

Date of Commercial Operation of Project:

May 1, 2020 20

Maximum Investment Term (years): (p) Discount Rate for Incremental Capacity: (q)

6.26% AML rate as of Nov 1, 2017

Prior Contribution (for Final Costs or Adjustment):

Contract Stages			Contract Capacities at Substation (MW)					
	Start		Contracted After Project			Contr	acted Prior to	Project
		Duration	This Participant		Other	This Pa	This Participant Of	
No	Date	Months	DTS	/////	Participant	DTS	V////89X////	Participant
(1)	May 2020	240	29.30			29.30		
			7/2					
			.01.2					
		_						
	Total	240						

### **Attachment A2: Contribution Determination**

Participant:

FortisAlberta Inc.

Project:

Fortis Provost Reliability - Hayter 277S

Number:

1782B

Prepared by: Tana Lailan

Type: DTS Only

Tariff:

**AESO 2017** 

Effective: 1 Jan 2017

Current

Date: November 7, 2017

To:

Version: 2017.0.1

Line	Description	Reference	Amount	Section
(a)	Cost of New Facilities	CH .	\$18,073,889	8:2
(b)	Plus: Shared Cost of Existing Facilities	e	\$0	8:3(2)(c)
(c)	Less: System-Related Costs		\$0	8:3(3)
(d)	Participant-Related Costs	(a) + (b) – (c)	\$18,073,889	8:3(2)
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)
(g)	Balance of Participant- Related Costs	(d) - (e) - (f)	\$18,073,889	8:6(1)

		Î	Required I	Facilities	In Excess	
Line	Description	Reference	Demand- Related	Supply- Related	of Good Practice	Section
(h)	Participant-Related Costs	From (g) and (e)	\$18,073,889		\$0	8:6(3)
(i)	Operations and Maintenance Charge	Estimated by Market Participant	NA		\$0	8:9
(j)	Total Costs Allocated to Market Participant	(h) + (i)	\$18,073,889		\$0	8:6
(k)	Substation Fractions	Other Participant NA	1.00000	0.00000	NA	8:6(3)
(I)	Allocated Costs (j) × (k)	Other Participant NA	\$18,073,889	\$0	\$0	8:6
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8
(n)	Construction Contribution Required	(l) – (m)	\$18,073,889	\$0	\$0	8:7
(0)	Total Construction Contr	ibution Required		\$18,073,889	1	8:7

### **Attachment A3: Allocation of Costs and Substation Fractions**

Participant:

FortisAlberta Inc.

Fortis Provost Reliability - Hayter 277S

Tariff: Effective: 1 Jan 2017

**AESO 2017** 

Project: Number:

1782B

Type:

DTS Only

To:

Current

### ALLOCATION OF COSTS TO SERVICES AT SUBSTATION

Participant-Related Costs of Required Facilities

\$18,073,889

	Contract S	tages	Incremen	tal Contrac	t Capacity	Incrementa	al Substation	Fractions
	Start	Duration	This Participant		Other	This Participant Othe		Other
No	Date	Years	DTS	///////////////////////////////////////	Participant	DTS	////>	Participant
(1)	May 2020	20.00	0.00	///////////////////////////////////////		1.00000	///0/000000/	///////////////////////////////////////
			8			į.		
			į.					
	Total	20.00	Dur	ation-Weigl	hted Average	1.00000	0.00000	0.00000

Allocation of Participant-Related Costs

\$18,073,889 ////////\$9

### SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

I Se VII	Contract S	tages	Contract	Contract Capacity After Project			Substation Fractions After Project			
	Start	Duration	This Par	ticipant	Other	This Participant		Other		
No	Date	Years	DTS	////888////	Participant	DTS	/////888/////	Participant		
(1)	May 2020	20.00	29.30	///////////////////////////////////////	X/////////////////////////////////////	1.00000	////%/\$\\$\$\$\$\$	/////8/88/86/66		
			·							
		4								
	Total	20.00						tantantustantantantustanlanlanlanlanlanlanlanlanlan		

### **Attachment A4: Investment Determination**

Participant:

FortisAlberta Inc.

Project:

Fortis Provost Reliability - Hayter 277S

Number:

1782B

Type:

DTS Only

Tariff:

**AESO 2017** 

Effective: 1 Jan 2017

To:

Current

### **Demand-Related Costs of This Participant Eligible for Investment:**

\$18,073,889

Investment Amounts From Subsection 8(4) of Section 8 of 2015 ISO Tariff									
Tier Tier (a) Tier (b) Tier (c) Tier (d) Tier									
Investment	\$80,150	\$32,450	\$20,350	\$14,200	\$9,150				
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year				

By TAE	Incremental Rate DTS Contract Capacity Eligible for Investment									
St	age	Tier (a)	Tier (b) MW	Tier (c) MW	Tier (d) MW	Tier (e) MW	Total			
No	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW			
(1)	20.00		0.00	0.00	0.00	0.00	0.00			
						10	0			

Stag	e/Year	Nomin	al Investmer	Term	Discounted	Cumulative		
No	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)	1	\$0	\$0	\$0	\$0	\$0	\$0	Investment
(1)	2	\$0	\$0	\$0	\$0	\$0	\$0	term must be
(1)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(1)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(1)	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): Investment Term Required to Minimize Construction Contribution:

Investment Term Begins on:

Investment Term ends on:

\$0 20 years May 1, 2020 Apr 30, 2040



# Stage 3 Construction Contribution Decision #2 1782B Fortis Provost Reliability

Project Name: Fortis Provost Reliability

AESO Project #: 1782

Associated Line #s: new 138 kV line 398L as well as existing lines 715L, 748L, 749L

Substations: Hayter 277S

Market Participant Name: FortisAlberta Inc.

Date: August 2, 2018

Estimate Type: Service Proposal +20%/- 10%

<u>Project Type</u>: DTS / STS

Prepared By: Tana Lailan

# **Project Overview:**

- On April 19, 2016 FortisAlberta Inc. ("FortisAlberta") submitted a SASR to address the distribution reliability concerns in the Provost area (AESO Planning Area Edmonton 60).
- The preferred alternative involves a transmission upgrade at the Provost area and construction of a new 138 kV transmission line connection between Hayter 277S substation and Provost 545S substation.
- The requested In-Service Date (ISD) for the Provost Area transmission upgrade is May 1, 2020.
- No Demand Transmission Services (DTS) change is requested at Hayter 277S substation.
- No Supply Transmission Services (STS) change is requested at the Hayter 277S substation.
- As part of the Service Proposal submission and in accordance with the current Tariff requirements, AML provided cost allocations per Point of Delivery (transmission line and distributed labor costs were allocated to each of the substations). (Attachment B).
- This CCD is issued to capture the Supply Transmission Services (STS) change occurred at Hayter 277S substation as of August 1, 2018 under the project P1988.
- The cost of this project is \$18,073,889 (in 2017\$) with accuracy of +20/-10% and is 100% customer cost. The additional line proposed between Hayter and Provost is not required for transmission system reliability purposes and is only required by the market participant for distribution reliability concerns.
- There is not any system NIDs being contemplated for this project.
- There is not any N-1 or RAS associated with the preferred alternative
- A Single Line Diagram is included in the Attachment C.

# **Contribution Policy:**

Permit and Licence: not yet filed

Contribution Policy Applied: 2017 per Commission Decision 22093-D02-2017, effective January 1,

# **Proposed Commercial Terms:**

Reference: Service Proposal dated October 27, 2017

# 1. Project Cost

Project cost is located on line (e) of Attachment A1.

### 2. Shared Facilities Cost

There are no shared facilities.

# 3. System Related Cost

There is no system related cost.

# 4. Facilities In Excess of Good Electric Industry Practice

There are no facilities in Excess of Good Electric Industry Practice.

### 5. Construction Contribution

- Participant related cost is located on line (h) of Attachment A1.
- Allocation of participant-related costs by contract capacity in order to deem demand-related and supply-related required facilities in line (k) are per subsections 6(4) and 6(5) of Section 8, Construction Contributions for Connection Projects, of the ISO tariff.
- Based on contract details listed in Attachment A1, the maximum local investment is located on line (m) of Attachment A2.
- The Construction Contribution is estimated to be as stated on line (o) of Attachment A2. Please see Attachments A1, A2, A3 and A4 for details of these calculations and the resulting Construction Contribution.
- This Construction Contribution is subject to change based on the following items:
  - Changes to contract capacity or term
  - Changes to estimated costs or resulting from final costs
  - Changes to the classification of system-related and market participant -related costs
  - Development of the transmission system as it relates to this project, including sharing of facilities with other market participants.

# 6. Primary Service Credit

 The transformation facilities for this service are owned and operated by the transmission facility owner, and the Primary Service Credit does not apply.

# Sign-off

<u>Note</u>: Cost estimates provided in the Connection Proposal identified in this CCD have been used to determine the Construction Contribution and/or Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this CCD by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided in the Connection Proposal.

601

<b>Pr</b> oject	Manager /
(Tana/	Lailan)

Program Manager (Steve Muenchrath)

Ana	2	RNICO	
100	-1/	1-0.8	
)ata	53		

Aug 2, 2018

Tariff	Mar	nager
(Lee	Ann	Kerr)

Manager, Tariff Design (LaRhonda Papworth)

Director, Tariff Design (Doyle Sullivan) Date

August 3, 2018

August 3, 2018

# **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Cost estimates
- Attachment C: Project SLDs

### **Attachment A1: Costs and Contract Details**

Participant:

FortisAlberta Inc.

Fortis Provost Reliability - Hayter 277S

Tariff:

**AESO 2018** 

Project: Number:

(i)

(j)

1782B

Type:

DTS and STS (Dual-Use)

To:

Effective: 1 Jan 2018 Current

Prepared by:

Tana Lailan

Date:

Aug 2, 2018

Version: 2018.0.0

**PROJECT DETAILS** 

New Service or Expansion of Existing Service?

Is Service at New or Existing Substation? (b)

**Existing Substation** 

(c) Will Primary Service Credit Apply to Service? No

Expansion

(d) Any Other Market Participant(s) at Substation?

No

COST OF CONNECTION PROJECT

\$18,073,889

Shared Cost of Existing Transmission Facilities: (f)

\$0

Less: System-Related Costs: (g)

(e) Cost of New Transmission Facilities:

\$0

Participant-Related Costs: (h)

\$18,073,889

Less: Facilities in Excess of Good Practice:

\$0

Less: Reduction for Replaced Transformer:

\$0

Balance of Participant-Related Costs:

(k)

\$18,073,889

Estimated Operations and Maintenance:

**CONTRACT DETAILS** 

Reference

Reference

(m) Date of Commission Permit and Licence:

filed on Feb 13, 2018

Date of AESO Energization Authorization: (n)

May 1, 2020 May 1, 2020

Date of Commercial Operation of Project: (o) Maximum Investment Term (years): (p)

20

(g) Discount Rate for Incremental Capacity:

6.26%

Prior Contribution (for Final Costs or Adjustment): (r)

\$0

Contract Stages			Contract Capacities at Substation (MW)					
	Start		Contracted After Project			Contracted Prior to Project		
		Duration	This Participant		Other	This Participant		Other
No	Date	Months	DTS	STS	Participant	DTS	STS	Participant
(1)	May 2020	240	29.30	25.30		29.30	25.30	
			0	-				
	19							
51							ii	
	Total	240						

### **GENERATING UNIT OWNER'S CONTRIBUTION**

Reference

(s) Planning Region Where Unit Will be Located:

Central 2014-2015

Contribution Amount Dates to be Used: (t)

Owner's Contribution Previously Paid (If Any):

### **Attachment A2: Contribution Determination**

Participant:

FortisAlberta Inc.

Fortis Provost Reliability - Hayter 277S

Tariff:

**AESO 2018** 

Project: Number:

1782B

Type: DTS and STS (Dual-Use)

To: Version:

Current 2018.0.0

Effective: 1 Jan 2018

Prepared by: Tana Lailan

Date: August 2, 2018

Amount Section Description Reference Line Cost of New Facilities \$18,073,889 8:2 (a) Plus: Shared Cost of \$0 8:3(2)(c)(b) **Existing Facilities** Less: System-Related \$0 8:3(3) (c) Costs \$18,073,889 8:3(2) Participant-Related Costs (a) + (b) - (c)(d) Less: Facilities in Excess \$0 8:4 (e) of Good Practice Less: Reduction for \$0 8:5(2) (f) Replaced Transformer Balance of Participant-(d) - (e) - (f)\$18,073,889 8:6(1) (g) **Related Costs** 

			Required Facilities		In Excess	
Line	Description Reference		Demand- Related	Supply- Related	of Good Practice	Section
(h)	Participant-Related Costs	From (g) and (e)	\$18,073,889		\$0	8:6(3)
(i)	Operations and Maintenance Charge	Estimated by Market Participant	NA		\$0	8:9
(j)	Total Costs Allocated to Market Participant	(h) + (i)	\$18,073,889		\$0	8:6
(k)	Substation Fractions	Other Participant NA	0.50000	0.50000	NA	8:6(3)
(l)	Allocated Costs (j) × (k)	Other Participant NA	\$9,036,945	\$9,036,945	\$0	8:6
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8
(n)	Construction Contribution Required	(l) – (m)	\$9,036,945	\$9,036,945	\$0	8:7
(0)	Total Construction Contr		\$18,073,889		8:7	

			Generating			
Line	Description	Region/Policy	STS MW	Amount/MW	Contribution	Section
(r)	Owner's Contribution to be Paid	Central 2014-2015	0.00	\$22,400	\$0	10:3

# **Attachment A3: Allocation of Costs and Substation Fractions**

Participant:

FortisAlberta Inc.

Tariff:

**AESO 2018** 

Project:

Fortis Provost Reliability - Hayter 277S

Effective: 1 Jan 2018

Number:

1782B

Туре:

DTS and STS (Dual-Use)

To:

Current

### ALLOCATION OF COSTS TO SERVICES AT SUBSTATION

Participant-Related Costs of Required Facilities

\$18,073,889

Contract Stages			Incremental Contract Capacity			Incremental Substation Fractions			
	Start Date May 2020	Duration Years	This Participant		Other	This Participant		Other	
No			DTS	STS	Participant	DTS	STS	Participant	
(1)			0.00	0.00	1//////////////////////////////////////	0.50000	0.50000	////\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
							0		
						Ti.			
				¥)					
Total 20.00			Dura	Duration-Weighted Average		0.50000	0.50000	0.00000	

Allocation of Participant-Related Costs

\$9,036,945 \$9,036,945

### SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

Contract Stages			Contract Capacity After Project			Substation Fractions After Project			
	Start Date	Duration Years	This Participant		Other	This Participant		Other	
No			DTS	STS	Participant	DTS	STS	Participant	
(1)	May 2020	20.00	29.30	25.30	///////////////////////////////////////	0.53663	0.46337	////ø/ø/ø/ø/ø/	
	81								
				•					
			88						
							20		
	Total	20.00							

#### **Attachment A4: Investment Determination**

Participant:

FortisAlberta Inc.

Project: Number: 1782B

Fortis Provost Reliability - Hayter 277S

DTS and STS (Dual-Use)

**AESO 2018** Effective: 1 Jan 2018

To:

Tariff:

Current

#### **Demand-Related Costs of This Participant Eligible for Investment:**

\$9,036,945

Investment Amounts From Subsection 8(4) of Section 8 of 2015 ISO Tariff								
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)			
Investment	\$78,500	\$31,800	\$19,900	\$13,900	\$9,000			
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year			

		Incremental I	Rate DTS Cor	ntract Capaci	ty Eligible for	Investment	
St	age	Tier (a)	Tier (a) Tier (b) MW		Tier (d) MW	Tier (e) MW	Total
No	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW
(1)	20.00		0.00	0.00	0.00	0.00	0.00
					2		
						al .	
						£	
							li .
The second							

Type:

Stag	e/Year	Nomir	nal Investmen	t per Year of	Investment 7	Геrm	Discounted	Cumulative
No	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)	1	\$0	\$0	\$0	\$0	\$0	\$0	Investment
(1)	2	\$0	\$0	\$0	\$0	\$0	\$0	term must be
(1)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(1)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(1)	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): **Investment Term Required to Minimize Construction Contribution:** 

Investment Term Begins on:

Investment Term ends on:

\$0 20 years May 1, 2020 Apr 30, 2040



## Stage 2 Generator Unit Owner Contribution/Construction Contribution Decision #2 1988 FortisAlberta 277S Hayter Contract Change

Project Name: FortisAlberta 277S Hayter Contract Change

AESO Project #: 1988

Substation: Hayter 277S

Market Participant Name: FortisAlberta Inc.

Date: October 15, 2018

Estimate Type: Contract change - GUOC and CCD adjustment

Project Type: STS

Prepared By: Ilice Tan/LaRhonda Papworth

This construction contribution decision is intended solely for the use of the market participant, for the purpose of detailing the calculations required under the provisions of Section 8, Construction Contributions for Connection Projects, and Section 9, Changes to System Access Service After Energization, of the ISO tariff.

#### **Project Overview:**

- FortisAlberta Inc. (Fortis) had submitted a SASR for a 5.3 MW Supply Transmission Service (STS) addition at Hayter 277S substation that will increase the STS from 20.0 MW to 25.3 MW. The In-Service Date (ISD) for this contract change was August 1, 2018.
  - Fortis had requested previous SASR's for STS additions of 10 MW (from 0 to 10 MW, Project 1607/08) with an effective date of December 1, 2015 and a further 10 MW (from 10 MW to 20 MW, Project 1921) with an effective date of December 1, 2017
  - o Fortis' end-use generation customer is Blue Earth; the Maximum Capacity (MC) for BluEarth's Bull Creek 1 wind farm (BC1) and Bull Creek 2 wind farm (BC2), at the Hayter 277S substation, is 13.5 MW and 16 MW, respectively, both wind farms were connected to the AIES on December 1, 2015.
- An initial GUOC/CCD for Project 1988 was issued prior to this GUOC/CCD and resulted in a GUOC payment for the incremental 5 MW Rate STS increase of \$112,000, for a total GUOC payment of \$566,720. Therefore, the GUOC charge will not be adjusted in this GUOC/CCD as total amounts have been collected previously.

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Transmission Projects
Proprietary

- However, this 2<sup>nd</sup> GUOC/CCD corrects to add the staging of Rate STS and corrected the demand-related and supply-related allocated ratios to account for the pro-rated contract values over time of Rate DTS and Rate STS at the Hayter 277S substation. This results in a recalculation of the deemed demand-related and supply-related required facilities at Hayter 277S resulting from the previous project, P1495 (Fortis Hayter 277S Transformer and Breaker Addition) with total project costs of \$4,991,412. There is a calculated change in the construction contribution amounts from previous CCDs for Project 1495 resulting from the AML's discontinuance of CWIP and addition of AFUDC. No refund of construction contribution is due. See 1. Project Cost below.
- There is no N-1 or RAS associated with this project and system NIDs is not being contemplated for this project.

#### **Contribution Policy:**

Permit and Licence: NA for Project 1988

Contribution Policy Applied: 2013 per Commission Decision 2013-325, effective October 1, 2013.

#### **Proposed Commercial Terms:**

Reference: NA

#### 1. Project Cost

Project cost is \$4,991,412 and is located on line (e) of Attachment A1. This CCD updates the project costs from previous final cost report (\$4,998,437) to \$4,991,412 as of July 19, 2017. The update results from AML's discontinuance of CWIP and the addition of AFUDC. As the change in contribution is less than \$10,000, no refund is due to the market participant as per subsection 7(5) of Section 9, Changes to System Access Service After Energization.

#### 2. Generating Unit Owner's Contribution

Per subsection 3 of section 10 of the ISO Tariff, Generating Unit Owner's Contribution (per MW) applicable to this project is located on line (r) of Attachment A2.

Generating Unit Owner's Contribution is refundable over 10 years from the Commercial Operation Date as outlined in ISO Rule 9.5)

Please indicate resource type below:

Resource Type	
Coal	
Natural Gas — Base Load	
Natural Gas — Peaking	
Hydro	
Wind	$\overline{\boxtimes}$
Solar	Ī
Biomass & Waste	

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Page 2

Transmission Projects
Proprietary

#### Sign-off

Note: STS identified in this GUOC have been used to determine the Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this GUOC by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided.

Proi	ct Mana	ger/Coordinator

(Ilice Tan)

Program Manager (Steve Muenchrath) Nov 5, 2018

Date

Nov 5, 2018

Date

Senior Tariff Lead (Lee Ann Kerr)

Manager, Tariff Design (LaRhonda Papworth)

Director, Tariff Design (Doyle Sullivan) Date

November 5, 2018

Date

Date

#### **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Previous or related Construction Contribution Decisions

#### **Attachment A1: Costs and Contract Details**

Participant:

FortisAlberta Inc.

Project:

Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add

Number: Prepared by: 1495/1607/1608/1921/1988

Type: Date:

DTS and STS October 15, 2018 Tariff:

**AESO 2013** Effective: 1 Oct 2013

Current

To: Version: 2013.0.1

**PROJECT DETAILS** 

(a) New Service or Expansion of Existing Service?

(b) Is Service at New or Existing Substation?

Ilice Tan

(c) Will Primary Service Credit Apply to Service?

(d) Any Other Market Participant(s) at Substation?

Expansion **Existing Substation** 

No No

COST OF CONNECTION PROJECT

(e) Cost of New Transmission Facilities:

Shared Cost of Existing Transmission Facilities: (f)

Less: System-Related Costs: (g)

(h) Participant-Related Costs:

Less: Facilities in Excess of Good Practice: (i)

Less: Reduction for Replaced Transformer: (j)

Balance of Participant-Related Costs: (k)

Estimated Operations and Maintenance:

Reference

P1495 Tx and Breaker Add. FCR July 19, 2017

\$4,991,412 \$0

\$0

\$4,991,412 \$0

\$0

\$4,991,412

CONTRACT DETAILS

(m) Commercial Operation Date of Project:

(n) Maximum Investment Term (years):

(o) Discount Rate for Incremental Capacity:

(p) Prior Contribution (for Final Costs or Adjustment):

Reference

September 16, 2015 20

6.14%

\$4,998,437

Total L	Contract S	tages	A STATE OF THE STA	Contract Capacities at Substation (MW)							
			Contracted After Project			Contracted Prior to Project					
	Start	Duration	Ouration This Participant		Other	This Participant		Other			
No	Date	Months	DTS	STS	Participant	DTS	STS	Participant			
(1)	Sep 2015	3	29.30	0.00		29.30	0.00				
(2)	Dec 2015	23	29.30	10.00		29.30	0.00				
(3)	Nov 2017	9	29.30	20.00		29.30	0.00				
(4)	Aug 2018	205	29.30	25.30		29.30	0.00				
. ,		111111111111111111111111111111111111111					Ш				
1 20											
-	Total	240									

GENERATING UNIT OWNER'S CONTRIBUTION

Planning Region Where Unit Will be Located: (q)

Contribution Amount Dates to be Used: (r)

Owner's Contribution Previously Paid (If Any):

Reference

Central 2014-2015 \$566,720

#### **Attachment A2: Contribution Determination**

Participant: FortisAlberta Inc.

Project: Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add

Tariff: AESO 2013
Effective: 1 Oct 2013
To: Current

Number: 1495/1607/ Prepared by: Ilice Tan

1495/1607/1608/1921/1988

Type: DTS and STS Date: October 15, 2018

To: Current Version: 2013.0.1

Line	Description	Reference	Amount	Section	
(a)	Cost of New Facilities	P1495 Tx and Breaker Add. FCR	\$4,991,412	8:2	
(b)	Plus: Shared Cost of Existing Facilities		\$0	8:3(2)(c)	
(c)	Less: System-Related Costs		\$0	8:3(3)	
(d)	Participant-Related Costs	(a) + (b) - (c)	\$4,991,412	8:3(2)	
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4	
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)	
(g)	Balance of Participant- Related Costs	(d) – (e) – (f)	\$4,991,412	8:6(1)	

Required Facilities In Excess Demand-Supplyof Good Line Description Reference Related Related **Practice** Section Participant-Related Costs (h) From (g) and (e) \$4,991,412 \$0 8:6(3) Operations and Estimated by (i) NA \$0 8:9 Maintenance Charge Market Participant **Total Costs Allocated to** (j) (h) + (i)\$4,991,412 \$0 8:6 **Market Participant** Other Participant (k) Allocated Ratio 0.56461 0.43539 NA 8:6(3) Allocated Costs Other Participant (l) \$2,818,185 \$2,173,227 \$0 8:6  $(j) \times (k)$ NA Less: Maximum Local Investment Term (m) \$0 NA NA 8:8 Investment of 20 Years Construction Contribution (n) (l) - (m)\$2,818,185 \$2,173,227 \$0 8:7 Required (o) **Total Construction Contribution Required** \$4,991,412 8:7 Construction Contribution Previously Paid for 5:2(8) or (p) \$4,998,437 Project 9:2(2) Construction Contribution to be Refunded (q) (\$7,025)5:2 or 9:4

			Generating	ontribution		
Line	Description	Region/Policy	STS MW	Amount/MW	Contribution	Section
(r)	Owner's Contribution to be Paid	Central 2014-2015	25.30	\$22,400	\$566,720	10:3
(s)	Generating Unit Owner's C	ontribution Previously	Paid for Project	ot .	\$566,720	10:3
(t)	Generating Unit Owner's	Contribution to be F	Refunded		\$0	10:3

#### **Attachment A3: Allocation of Costs and Substation Fractions**

Participant:

FortisAlberta Inc.

Tariff: Effective: 1 Oct 2013

**AESO 2013** 

Project: Number: Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add 1495/1607/1608/1921/1988

Type:

DTS and STS (

To:

Current

#### **ALLOCATION OF COSTS TO SERVICES AT SUBSTATION**

Participant-Related Costs of Required Facilities

\$4,991,412

	<b>Contract S</b>	tages	Incremen	tal Contract	Capacity	Incrément	Incremental Substation Fractions		
	Start	Duration	This Par	This Participant		This Par	ticipant	Other	
No	Date	Years	DTS	STS	Participant	DTS	STS	Participant	
(1)	Sep 2015	0.25	0.00	0.00	///////////////////////////////////////	1.00000	0.00000	///////////////////////////////////////	
(2)	Dec 2015	1.92	0.00	10.00		0.00000	1.00000	<i>(////9/9</i> /9/9/9/	
(3)	Nov 2017	0.75	0.00	20.00	(//////////////////////////////////////	0.00000	1.00000	////3/300000	
(4)	Aug 2018	17.08	0.00	25.30	<i>/////////////////////////////////////</i>	0.00000	1.00000	(////3/3/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5	
							***		
4,4				ANG. 1111, pt. 1					
	Total 20.00 Duration-Weight			ted Average	0.01250	0.98750	0.00000		

Allocation of Participant-Related Costs

\$62,393 \$4,929,019 /////////

#### SUBSTATION FRACTIONS FOR DETERMINATION OF MAXIMUM INVESTMENT

	Contract S	tages	Contract 0	Sapacity Aft	er Project	Substation Fractions After Project			
	Start	Duration	This Par	ticipant	Other	This Part	ticipant	Other	
No	Date	Years	DTS	STS	Participant	DTS	STS	Participant	
(1)	Sep 2015	0.25	29.30	0.00		1.00000	0.00000	(////9/399999/	
(2)	Dec 2015	1.92	29.30	10.00		0.74555	0.25445	/////9/99/99/9/	
(3)	Nov 2017	0.75	29.30	20.00		0.59432	0.40568	////9/20000	
(4)	Aug 2018	17.08	29.30	25.30		0.53663	0.46337	////8/8/99/98/	
			33333						
			. 041			-/			
L	Total	20.00	Dur	ation-Weigh	ted Average	0.56461	0.43539	0,96980	

\$2,173,227 \$2,818,185

#### **Attachment A4: Investment Determination**

Participant:

FortisAlberta Inc.

1495/1607/1608/1921/1988

Project: Number:

Fortis Hayter 277S 42MVA Transformer and 25kV Breaker Add

Type:

DTS and STS

Tariff:

**AESO 2013** Effective: 1 Oct 2013

To:

Current

#### Demand-Related Costs of This Participant Eligible for Investment:

\$62,393

Investment	Amounts Fro	m Subsectio	n 8(4) of Sec	ion 8 of 2011	ISO Tariff
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)
Investment	\$52,000	\$35,350	\$13,050	\$7,900	\$4,250
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year

		Incremental	Rate DTS Cor	ntract Capaci	ty Eligible for	Investment	
St	age	Tier (a)			Tier (d) MW		Total
No.	Years	Sub Frac	7.5 × SF		23 × SF	Remaining	MW
(1)	0.25		0.00	0.00	0.00	0.00	0.00
(2)	1.92		0.00	0.00	0.00	0.00	0.00
(3)	0.75		0.00	0.00	0.00	0.00	0.00
(4)	17.08		0.00	0.00	0.00	0.00	0.00
						W. Hohman	
~. 2000.						· · · · · · · · · · · · · · · · · · ·	

Stage	/Year	Nomii	nal investmer	nt per Year o	f Investment	Term	Discounted	Cumulative
No.	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)-(2)	1	\$0	\$0	\$0	\$0	\$0	\$0	Investment
(2)	2	\$0	\$0	\$0	\$0	\$0	\$0	term must be
(2)-(4)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(4)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(4)	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(4)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): **Investment Term Required to Minimize Construction Contribution:** 

\$0 20 years



## Stage 3 Construction Contribution Decision #3 1782B FortisAlberta Provost Reliability

Project Name: FortisAlberta Provost Reliability

AESO Project #: 1782

Associated Line #s: new 138 kV line 398L as well as existing lines 715L, 748L, 749L

Substations: Hayter 277S

Market Participant Name: FortisAlberta Inc.

Date: November 1, 2018

Estimate Type: Service Proposal +20%/- 10%

Project Type: Connection Project with no contract change

Prepared By: Tana Lailan/LaRhonda Papworth

This construction contribution decision is intended solely for the use of the market participant, for the purpose of detailing the calculations required under the provisions of Section 8, Construction Contributions for Connection Projects, and Section 9, Changes to System Access Service After Energization, of the ISO tariff.

#### **Project Overview:**

- On April 19, 2016 FortisAlberta Inc. ("FortisAlberta") submitted a SASR to address the distribution reliability concerns in the Provost area (AESO Planning Area Provost 37).
- The preferred alternative involves transmission additions and upgrade in the Provost area which
  includes construction of a new 138 kV transmission line connection between Hayter 277S
  substation and Provost 545S substation and associated substation upgrades to accommodate
  the new line
- The requested In-Service Date (ISD) for the Provost Area transmission upgrade is May 1, 2020.
- No Demand Transmission Services (DTS) change is requested at Hayter 277S substation.
- No Supply Transmission Services (STS) change is requested at the Hayter 277S substation as part of this project. Note however that an STS increases has been requested at Hayter-277S via a different SASR and was effective on August 1, 2018.

- The total cost of the upgrades at Hayter 277S and a portion of the new 138 kV transmission line (and associated other upgrades) is \$19,394,495 (in 2017\$) with accuracy of +20/-10% and is 100% participant-related cost and is comprised of the following;
  - o Hayter 277S upgrade costs at \$10,070,698
  - O The total 138 kV line costs (and associated costs) are \$16,006,382, of which 58.25% will be assigned to Hayter 277S at \$9,323,797. The percent calculation is based on a prorata allocation of the highest of the STS or DTS contracted amounts between Hayter 277S and Provost 545S (detail in Attachment B1)
  - The costs were provided by AML in a Service Proposal submission provided in Attachment B.
- This CCD is issued to capture the capital additions under this project and the Supply Transmission Services (STS) increase to 25.3 MW that occurred at Hayter 277S substation as of August 1, 2018 under the project P1988. The increased Rate STS to 25.3 MW results in a deemed demand-related and supply related required facilities of 54%/46% to reflect the relative weighting of Rate DTS and Rate STS contract amounts at Hayter 277S..
- The additional line proposed between Hayter 277S and Provost 545S is not required for transmission system reliability purposes and is only required by the market participant for distribution reliability concerns.
- There are no system NIDs being contemplated for this project.
- There is no N-1 or RAS associated with the preferred alternative
- · A Single Line Diagram is included in the Attachment C.

#### **Contribution Policy:**

Permit and Licence: Filed on February 13, 2018

Contribution Policy Applied: 2018 per Commission Decision 23065-D01-2017, effective January 1,

2018

#### **Proposed Commercial Terms:**

Reference: Service Proposal dated October 27, 2017

#### 1. Project Cost

Project cost is located on line (e) of Attachment A1 and further detailed in Attachments B and B1.

#### 2. Shared Facilities Cost

- There are no shared facilities.
- 3. System Related Cost
- There is no system related cost.

#### 4. Facilities In Excess of Good Electric Industry Practice

There are no facilities in Excess of Good Electric Industry Practice.

#### 5. Construction Contribution

- Participant related cost is located on line (h) of Attachment A1.
- Allocation of participant-related costs by contract capacity in order to deem demand-related and supply-related required facilities in line (k) are per subsections 6(4) and 6(5) of Section 8, Construction Contributions for Connection Projects, of the ISO tariff.
- Based on contract details listed in Attachment A1, the maximum local investment is located on line (m) of Attachment A2.

Project Number: 1782B

Project Name: Fortis Provost Reliability

Project Stage: 3

- The Construction Contribution is estimated to be as stated on line (o) of Attachment A2. Please see Attachments A1, A2, A3 and A4 for details of these calculations and the resulting Construction Contribution.
- This Construction Contribution is subject to change based on the following items:
  - Changes to contract capacity or term
  - Changes to estimated costs or resulting from final costs
  - Changes to the classification of system-related and market participant -related costs
  - Development of the transmission system as it relates to this project, including sharing of facilities with other market participants.

#### 6. Primary Service Credit

• The transformation facilities for this service are owned and operated by the transmission facility owner, and the Primary Service Credit does not apply.

#### Sign-off

<u>Note</u>: Cost estimates provided in the Connection Proposal identified in this CCD have been used to determine the Construction Contribution and/or Generating Unit Owner's Contribution applicable to the Project based on the information and calculations outlined herein. Signing of this CCD by the AESO approves only the application of the Tariff provisions applicable to the Project and is not intended to imply endorsement of any third party information (i.e. cost estimates) provided in the Connection Proposal.

1 013	Nov 5, 2018
Project Manager	Date
(Tarra Lailan)	Nou 5,20(8)
Program Manager	Date
(Steve Muenchrath)  Senior Tariff Lead	Date
(Lee Ann Kerr)	
Karlh Park Manager, Tariff Design	Nurember 5, 2018  Date
(LaRhonda Papworth)	
Oct of	Nov 5,70 %
Director, Tariff Design	Date
(Doyle Sullivan)	

#### **Attachments**

- Attachment A1: Costs and Contract Details
- Attachment A2: Contribution Determination
- Attachment A3: Allocation of Costs and Substation Fractions
- Attachment A4: Investment Determination
- Attachment B: Cost estimates
- Attachment B1: Substation breakout of cost estimates
- Attachment C: Project SLDs

3

#### **Attachment A1: Costs and Contract Details**

Participant:

Prepared by:

FortisAlberta Inc.

Project:

(i)

Fortis Provost Reliability - Hayter 277S

Number:

1782B

Tana Lailan

Type: Date:

DTS and STS Sep 20, 2018

Tariff:

**AESO 2018** Effective: 1 Jan 2018

To: Current

Version: 2018.0.0

**PROJECT DETAILS** 

New Service or Expansion of Existing Service?

(b) Is Service at New or Existing Substation? (c) Will Primary Service Credit Apply to Service?

(d) Any Other Market Participant(s) at Substation?

Expansion **Existing Substation** 

No No

COST OF CONNECTION PROJECT

Cost of New Transmission Facilities: Shared Cost of Existing Transmission Facilities: (f)

Less: System-Related Costs: (g)

(h) Participant-Related Costs:

Less: Facilities in Excess of Good Practice:

Less: Reduction for Replaced Transformer: (j)

Balance of Participant-Related Costs: (k)

Estimated Operations and Maintenance:

Reference

\$19,394,495 Attached \$0

\$0 \$19,394,495

\$0 \$0

\$19,394,495

**CONTRACT DETAILS** 

(m) Date of Commission Permit and Licence:

Date of AESO Energization Authorization: (n) Date of Commercial Operation of Project:

(o) (p) Maximum Investment Term (years):

Discount Rate for Incremental Capacity: (q)

Prior Contribution (for Final Costs or Adjustment): (r)

Reference

filed on Feb 13, 2018

May 1, 2020 May 1, 2020

> 20 6.26%

> > \$0

	Contract S	tages		Contra	act Capacities a	t Substation	(MW)	
			Contra	cted After F	roject	Contract	ted Prior to	Project
	Start	Duration	This Parti	icipant	Other	This Parti	icipant	Other
No	Date	Months	DTS	STS	Participant	DTS	STS	Participant
(1)	May 2020	240	29.30	25.30		29.30	25.30	
		2						
						3		
	The state of the s							
	Total	240						

#### GENERATING UNIT OWNER'S CONTRIBUTION

Planning Region Where Unit Will be Located:

Contribution Amount Dates to be Used: (t)

(u) Owner's Contribution Previously Paid (If Any): Reference

Central 2014-2015

#### **Attachment A2: Contribution Determination**

Participant:

FortisAlberta Inc.

Project:

Fortis Provost Reliability - Hayter 277S

**AESO 2018** Tariff:

Effective: 1 Jan 2018

Number:

1782B

Prepared by: Tana Lailan

Type: DTS and STS

Date: September 20, 2018

To:

Current Version: 2018.0.0

Line	Description	Reference	Amount	Section
(a)	Cost of New Facilities	Attached	\$19,394,495	8:2
(b)	Plus: Shared Cost of Existing Facilities		\$0	8:3(2)(c)
(c)	Less: System-Related Costs		\$0	8:3(3)
(d)	Participant-Related Costs	(a) + (b) - (c)	\$19,394,495	8:3(2)
(e)	Less: Facilities in Excess of Good Practice		\$0	8:4
(f)	Less: Reduction for Replaced Transformer		\$0	8:5(2)
(g)	Balance of Participant- Related Costs	(d) - (e) - (f)	\$19,394,495	8:6(1)

		ĺ	Required	Facilities	In Excess	
Line	Description	Reference	Demand- Related	Supply- Related	of Good Practice	Section
(h)	Participant-Related Costs	From (g) and (e)	\$19,3	94,495	\$0	8:6(3)
(i)	Operations and Maintenance Charge	Estimated by Market Participant		NA	\$0	8:9
(j)	Total Costs Allocated to Market Participant	(h) + (i)	\$19,3	94,495	\$0	8:6
(k)	Allocated Ratio	Other Participant NA	0.53663	0.46337	NA	8:6(3)
(l)	Allocated Costs (j) × (k)	Other Participant NA	\$10,407,669	\$8,986,826	\$0	8:6
(m)	Less: Maximum Local Investment	Investment Term of 20 Years	\$0	NA	NA	8:8
(n)	Construction Contribution Required	(l) – (m)	\$10,407,669	\$8,986,826	\$0	8:7
(0)	Total Construction Contr	ibution Required		\$19,394,495		8:7

			Generating	Unit Owner's C	ontribution	
Line	Description	Region/Policy	STS MW	Amount/MW	Contribution	Section
(r)	Owner's Contribution to be Paid	Central 2014-2015	0.00	\$22,400	\$0	10:3

#### **Attachment A4: Investment Determination**

Participant:

FortisAlberta Inc.

Project:

Fortis Provost Reliability - Hayter 277S

Number:

Type:

DTS and STS

Tariff:

**AESO 2018** Effective: 1 Jan 2018

To:

Current

#### **Demand-Related Costs of This Participant Eligible for Investment:**

\$9,697,248

Investment /	Amounts Fro	m Subsectio	n 8(4) of Sect	ion 8 of 2015	ISO Tariff
Tier	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)
Investment	\$78,500	\$31,800	\$19,900	\$13,900	\$9,000
Unit	/year	/MW/year	/MW/year	/MW/year	/MW/year

		Incremental I	Rate DTS Cor	ntract Capaci	ty Eligible for	Investment	
St	age	Tier (a)	Tier (b) MW	Tier (c) MW	Tier (d) MW	Tier (e) MW	Total
No	Years	Sub Frac	7.5 × SF	9.5 × SF	23 × SF	Remaining	MW
(1)	20.00		0.00	0.00	0.00	0.00	0.00
*							

Stag	e/Year	Nomir	nal Investmen	t per Year of	Investment 7	Гегт	Discounted	Cumulative
No	Year	Tier (a)	Tier (b)	Tier (c)	Tier (d)	Tier (e)	Increments	Total
(1)	1	\$0	\$0	\$0	\$0	\$0	\$0	Investment
(1)	2	\$0	\$0	\$0	\$0	\$0	\$0	term must be
(1)	3	\$0	\$0	\$0	\$0	\$0	\$0	a minimum of
(1)	4	\$0	\$0	\$0	\$0	\$0	\$0	5 years
(1)	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	11	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	14	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	17	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	18	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(1)	20	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Actual Investment (Not Greater Than Costs Eligible for Investment): **Investment Term Required to Minimize Construction Contribution:** 

Investment Term Begins on: Investment Term ends on:

\$0 20 years May 1, 2020 Apr 30, 2040

### P1782 - FortisAlberta Provost Reliability Attachment B1 - Cost breakout by Substation

**Total Facility Costs** 

#### Project Cost distributed to Provost 545S, Hayter 277S, Killarney Lake 267S

ORIGINAL		Total		Provost 545S		Hayter 277S	Killa	rney Lake 2679
Transmission Line	\$	14,394,382	\$	7,197,191	\$	7,197,191	\$	÷
Substation	\$	7,990,729	\$	3,694,530	\$	2,381,268	\$	1,914,93
Substations (899S, 9532R, 650S, 648S)	\$	1,078,156	\$	539,078	\$	539,078	\$	<u> </u>
Telecommunication	\$	1,423,868	\$	252,656	\$	634,244	\$	536,96
Other Telecommunication (899S, 9532R, 650S	\$	533,844	\$	266,922	\$	266,922	\$	=
Owners	\$	4,183,408	\$	2,016,857	\$	1,917,060	\$	249,49
Distributed	\$	8,887,704	\$	3,955,588	\$	3,698,583	\$	1,233,53
Salvage	\$	94,016	\$	55,068	\$	24,388	\$	14,56
Other costs	\$	3,291,058	\$	1,546,797	\$	1,415,155	\$	329,10
Total Facility Costs	\$	41,877,165	\$	19,524,687	\$	18,073,889	\$	4,278,58
ORIGINAL		Total		Provost 545S		Hayter 277S	Killa	rney Lake 267
Transmission Line		100.00%		50.00%		50.00%		0.00
Substation		100.00%		46.24%		29.80%		23.96
Substations (899S, 9532R, 650S, 648S)		100.00%		50.00%		50.00%		0.00
Telecommunication		100.00%		17.74%		44.54%		37.71
Other Telecommunication (899S, 9532R, 650S		100.00%		50.00%		50.00%		0.00
Owners		100.00%		48.21%		45.83%		5.96
Distributed		100.00%		44.51%		41.61%		13.88
Salvage		100.00%		58.57%		25.94%		15.49
Other costs		100.00%		47.00%		43.00%		10.00
				21 MW		29.3 MW		
			(21	. MW + 29.3 MW)	(21	- DEVELOPE DE VERSE DANS ESTADO		
REVISED by Tariff 2018-11-01		Total		Provost 545S		Hayter 277S	Killa	rney Lake 267
Transmission Line		100.00%		41.75%		58.25%		0.00
Substation		100.00%		46.24%		29.80%		23.96
Substations (899S, 9532R, 650S, 648S)		100.00%		41.75%		58.25%		0.00
Telecommunication		100.00%		17.74%		44.54%		37.71
Other Telecommunication (899S, 9532R, 650S		100.00%		41.75%		58.25%		0.00
Owners		100.00%		48.21%		45.83%		5.96
Distributed		100.00%		44.51%		41.61%		13.88
Salvage		100.00%		58.57%		25.94%		15.49
Other costs		100.00%		47.00%		43.00%		10.00
REVISED by Tariff 2018-11-01		Total		Provost 545S		Hayter 277S	Kills	rney Lake 267
Transmission Line	\$	14,394,382	\$	6,009,583	\$	8,384,799	\$	
Substation	\$	7,990,729	\$	3,694,530	\$	2,381,268	\$	1,914,93
Substations (899S, 9532R, 650S, 648S)	\$	1,078,156	\$	450,125	\$	628,031	\$	2,521,55
Telecommunication	\$	1,423,868		252,656		634,244		536,96
Other Telecommunication (899S, 9532R, 650S)		533,844			100		10.00	330,30
	4			222,877	1000	310,967		240.40
Owners	۶	4,183,408	\$	2,016,857	\$	1,917,060	\$	249,49
Distributed	\$	8,887,704	\$	3,955,588		3,698,583	\$	1,233,53
Salvage	\$	94,016	\$	55,068	\$	24,388	\$	14,56
Other costs Tatal Facility Costs	\$	3,291,058	\$	1,546,797	\$	1,415,155	\$	329,10
Total Facility Costs	ş	41,877,165	\$	18,204,081	\$	19,394,495	Ģ	4,278,58
REVISED by Tariff 2018-11-01		Total		Provost 545S		Hayter 277S	Killa	rney Lake 267
Transmission Line	\$	14,394,382	\$	6,009,583	\$	8,384,799	\$	-
Substation	\$	9,068,885		4,144,655	\$	3,009,299	\$	1,914,93
Telecommunication	\$	1,957,712		475,533	\$	945,211	\$	536,96
Owners	\$	4,183,408	\$	2,016,857	\$	1,917,060	\$	249,49
					1100			100 110 000
	\$	8 887 704		4 444 4XX	-		5	
Distributed	\$	8,887,704	\$	3,955,588 55,068	\$	3,698,583 24,388	\$	
Distributed Salvage	\$	94,016	\$	55,068	\$	24,388	\$	1,233,53 14,56 329 10
Distributed					0000		\$ \$	

41,877,165 \$

18,204,081 \$

4,278,589

19,394,495 \$

AESO Project Name & No.	Fortis Provost Reliability		P1782	
Prepared by:	AltaLink		9	
AACE Class:	N/A	Estimate Basis	Service Proposal	I KANSIMISSION PROJECT
High Range	70%	Low Range	-10%	ESTIMATE SUMMARY
Date of Estimate:	January 14, 2017	Base Year Used	2017	
In Service Date	2020-05-01			22
	SYSTEM	PARTICIPANT	TOTAL	ASSUMPTIONS
TRANSMISSION LINE	NAME OF TAXABLE PARTY.			
Material	\$			
Labour	\$	\$ 11,890,740	\$ 11,890,740	
Supply & Install	€9		22.53	
TOTAL TRANSMISSION LINE	· •	\$ 14,394,381	\$ 14,394,381	
SUBSTATION				
Material	€	\$ 2,341,828	\$ 2,341,828	
Labour	\$	\$ 6,727,056	\$ 6,727,056	
Supply & Install	\$			
TOTAL SUBSTATION	\$	\$ 9,068,885	\$ 9,068,885	
TELECOMMUNICATION				
Material	49	\$ 573,612	\$ 573,612	
Labour	69	\$ 1,384,100	\$ 1,384,100	
Supply & Install	€	4	\$	
TOTAL TELECOMMUNCATIONS	49	1,957,712	\$ 1,957,712	
OWNERS				
Pre-SP Cost		144.037	\$ 144.037	
Service Proposal				
Facility Applications		Υ.		
Regulatory & Compliance		\$ 57,922		
Land Rights - Easements		1,405,949	\$ 1,405,949	
Land - Damage Claims		-		
Land - Acquisitions		- +		
Land - Other	1/4		9	
TOTAL OWNERS COST	€	\$ 4,183,408	\$ 4,183,408	02
DISTRIBUTED				
Procurement Management	€	\$ 247,134	\$ 247,134	
Project Management	\$			
Construction Management	\$			
Contingency	· ·		\$ 2,462,587	
Escalation	ر ج	\$ 1,099,937		
TOTAL DISTRIBUTED	€	\$ 8,887,704	\$ 8,887,704	
SALVAGE				
Transmission Line Labour	\$	led or	\$ 38,376	62.
Substation Labour	\$	\$ 55,640	\$ 55,640	
Telecom Labour	\$	\$	\$	
Land Remediation and Reclamation	변) 5			
TOTAL SALVAGE	\$	\$ 94,016	\$ 94,016	
OTHER COSTS				
AFUDC			\$	
E&S/Overhead				
TOTAL OTHER	φ.	\$ 3,291,057	\$ 3,291,057	
TOTAL DECIECT	6	\$ 41,877,163		



October 27, 2017

Alberta Electric System Operator 2500, 330 – 5<sup>th</sup> Avenue SW Calgary, Alberta T2P 0L4

Attention: Tana Lailan - Project Manager, Transmission Connection Projects

Dear Ms. Lailan,

#### Re: P1782 - Fortis Provost Reliability (the "Project") - Service Proposal Estimate 'Point-of-Delivery' Allocation

The AESO informed AltaLink that according to the 2017 ISO Tariff — Section 8 Construction Contributions for Connection Projects, this Project shall require three (3) Customer Contribution Decisions ("CCD"), one for each Point of Delivery ("POD") identified by the AESO. For this Project the AESO has identified three (3) PODs that shall require a CCD: Provost 545S, Hayter 277S, and Killarney Lake 267S. Therefore, the AESO requested that the Service Proposal Estimate for this Project be allocated to those three Points of Delivery.

This letter provides AltaLink's proposed model for the requested allocation, the rationale for how that model was developed, and AltaLink's assumptions on how this model should be applied throughout the execution of the project.

#### **Proposed Allocation Model**

AltaLink proposes that the submitted Service Proposal Estimate for the Project be allocated to the three PODs as follows:

#### Provost 545S

- 100% of the Provost 5455 Direct Facility Costs (Substation and Telecommunication);
- 50% of the 398L transmission line;
- 50% of the Direct Facility Costs (Substation and Telecommunication) for the other impacted Substations:
   Edgerton 899S, Edgerton Radio 9532R, Hansman Lake 650S, and Metiskow 648S;
- 47% of the Owner's Costs;
- 47% of the Distributed Costs (including Contingency and Escalation);
- 47% of the E&S/Overhead Costs;
- 100% of the Provost 545S Salvage Costs; and
- 50% of the 398L Salvage Costs.

#### Hayter 277S

- 100% of the Hayter 277S Direct Facility Costs (Substation and Telecommunication);
- 50% of the 398L transmission line;
- 50% of the Direct Facility Costs (Substation and Telecommunication) for the other impacted Substations: Edgerton 899S, Edgerton Radio 9532R, Hansman Lake 650S, and Metiskow 648S;
- 43% of the Owner's Costs;
- 43% of the Distributed Costs (including Contingency and Escalation);
- 43% of the E&S/Overhead Costs;
- 100% of the Hayter 277S Salvage Costs; and
- 50% of the 398L Salvage Costs.







#### Killarney Lake 267S

- 100% of the Killarney Lake 267S Direct Facility Costs (Substation and Telecommunication);
- 10% of the Owner's Costs;
- 10% of the Distributed Costs (including Contingency and Escalation);
- 10% of the E&S/Overhead Costs; and
- 100% of the Killarney Lake 267S Salvage Costs.

The following table (Table 1: P1782 Proposed Service Proposal Estimate Allocation) illustrates the proposed allocation model.

	Provost 545S	Hayter 277S	Killarney Lake 267S
	The state of the s	\$7,197,191	\$0
Transmission Line	\$7,197,191	\$2,920,346	\$1,914,931
Substation	\$4,233,608	\$901,167	\$536,968
Telecommunication	\$519,578	\$1,917,060	\$249,491
Owners	\$2,016,857	\$3,698,583	\$1,233,533
Distributed	\$3,955,588	\$24,388	\$14,560
Salvage	\$55,068	\$1,415,155	\$329,106
Other Costs	\$1,546,797	\$18,073,889	\$4,278,588
Total Project (per POD)	\$19,524,686		

Table 1: P1782 Proposed Service Proposal Estimate Allocation

#### **Proposed Allocation Rationale**

The rationale for the proposed allocation model is outlined below:

- Transmission Line: the proposed 389L transmission line will connect the Provost 545S and Hayter 277S substations; therefore, AltaLink proposes that the Direct Facility Costs for the 389L transmission line are shared equally between the Provost 545S POD and the Hayter 277S POD.
- Substation: the Direct Facility Costs (Substation) for each of the three identified POD's (Provost 5455, Hayter 277S, and Killarney Lake 267S) shall be allocated to those PODs.

However, the scope of work required at the other impacted substations (Edgerton 899S, Edgerton Radio 9532R, Hansman Lake 650S, and Metiskow 648S) is primarily associated with Protection and Control, SCADA, and telecommunications for the 398L transmission line. Therefore, AltaLink proposes that the Direct Facility Costs (Substation) for these four substations are allocated using the same methodology as the 398L transmission line costs and are shared equally between the Provost 545S POD and the Hayter 277S POD.

Telecommunication: the Direct Facility Costs (Telecommunication) for each of the three identified POD's (Provost 545S, Hayter 277S, and Killarney Lake 267S) shall be allocated to those PODs.

However, the scope of work required at the other impacted substations (Edgerton 899S, Edgerton Radio 9532R, Hansman Lake 650S, and Metiskow 648S) is primarily associated with Protection and Control, SCADA, and telecommunications for the 398L transmission line. Therefore, AltaLink proposes that the Direct Facility Costs (Telecommunication) for these four substations are allocated using the same methodology as the 398L transmission line costs and are shared equally between the Provost 545S POD and the Hayter 277S POD.







Salvage: the identified salvage scope of work impacts the Provost 545S, Hayter 277S, and Killarney Lake 267S substations. Therefore, AltaLink proposes that the Direct Salvage Costs for each of the three identified POD's (Provost 545S, Hayter 277S, and Killarney Lake 267S) shall be allocated to those PODs.

The transmission line salvage costs are directly related to the 398L transmission line terminations at both Provost 545S and Hayter 277S. Therefore, AltaLink proposes that the transmission line salvage costs are shared equally between the Provost 545S POD and the Hayter 277S POD.

- Owners, Distributed, and Other Costs: AltaLink proposes that the remaining Service Proposal Estimate costs
  (Owners, Distributed, and Other Costs) which are shared costs required to deliver the complete project
  scope are allocated according to the following percentage split:
  - o Provost 545S = 47%
  - o Hayter 2775 = 43%
  - o Killarney Lake 267S = 10%

This allocation was developed through an analysis of the Direct Facility Costs once the allocations proposed above were applied (i.e. the transmission line facility costs were allocated to the Provost 545S and Hayter 277S substations). AltaLink believes this is a fair representation of the required work for this project and allocates the shared costs appropriately to the three Points of Delivery.

The following table (Table 2: P1782 Direct Facility Cost Allocation Ratio) provides the basis for the proposed allocation ratio.

<b>发表起来,并由其中的</b> 多位的是否是被提出了	Provost 545S	Hayter 2775	Killarney Lake 267S
Transmission Line	\$7,197,191	\$7,197,191	\$0
Substation	\$3,694,530	\$2,381,268	\$1,914,931
Substations (899S, 9532R, 650S, 648S)	\$539,078	\$539,078	\$0
Telecommunication	\$252,656	\$634,244	\$536,968
Other Telecommunication (899S, 9532R, 650S, 648S)	\$266,922	\$266,922	\$0
Total Facility Costs (per POD)	\$11,950,377	\$11,018,703	\$2,451,899
Total Facility Costs	\$25,420,978		
Percent Allocation (per POD)	47%	43%	10%

Table 2: P1782 Direct Facility Cost Allocation Ratio

#### **Proposed Allocation Assumptions**

Based on the proposed Point of Delivery allocation provided above, AltaLink is also proposing the following assumptions regarding the execution of the P1782 Fortis Provost Reliability project.

- The AESO has indicated that this project shall maintain a single AESO project number (P1782) and therefore, AltaLink will also maintain a single AltaLink project number for this project. The implication of this is that AltaLink will manage the project as a single project throughout its life-cycle, and the application of this cost allocation will only be calculated for CCD purposes (i.e. project change proposals, estimate updates, and the Final Cost Report).
- 2. AltaLink will submit to the AESO the master estimate file (re-submission from August 2017), plus three separate summary sheets showing the cost split to each of the three substations. The three additional sheets will not include any variance explanations relating to the costs on each category. These costs come from a calculation and will not correlate to accurate material quantities or labor assumptions.







- 3. The Project Change Proposals (PCPs) will be reported against the total project budget in the master estimate file just like any other project. PCPs will be reported in the AESO template and the proposed allocation will not be applied to a PCP. If a PCP requires a CCD revision, then AltaLink, will provide the revised estimate allocation separately.
- AFUDC (if applicable later), will be calculated and allocated using the proposed allocation ratio.
- Purchase Orders and invoices for material and labor will not be allocated (according to the proposed allocation ratio) to the individual PODs. However, for the Final Cost Report, AltaLink would apply the proposed allocation for the Stage 6 CCD.
- Only one monthly report will be prepared and submitted to the AESO; with a single Financial Table providing cost information for the entire project.
- The project will have a single risk register.
- 8. The project will have a single Basis of Estimate (BoE) document.

In order to maintain project schedule, AltaLink requests that the AESO reviews and accepts this proposal by November 24, 2017; or provides an alternative cost allocation that meets the needs of the AESO Tarrif.

If you have any questions or concerns regarding this correspondence, please contact Ghaith Saab at (403) 267-4408 or by email at Ghaith.Saab@AltaLink.ca.

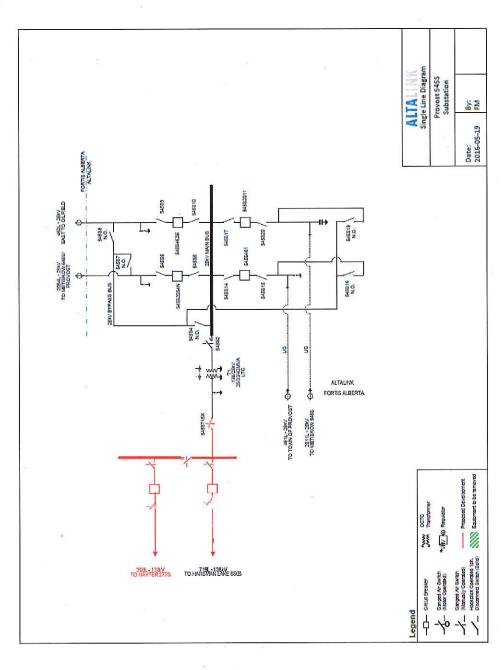
Sincerely,

Lidia Serpas

Director, Customer Projects



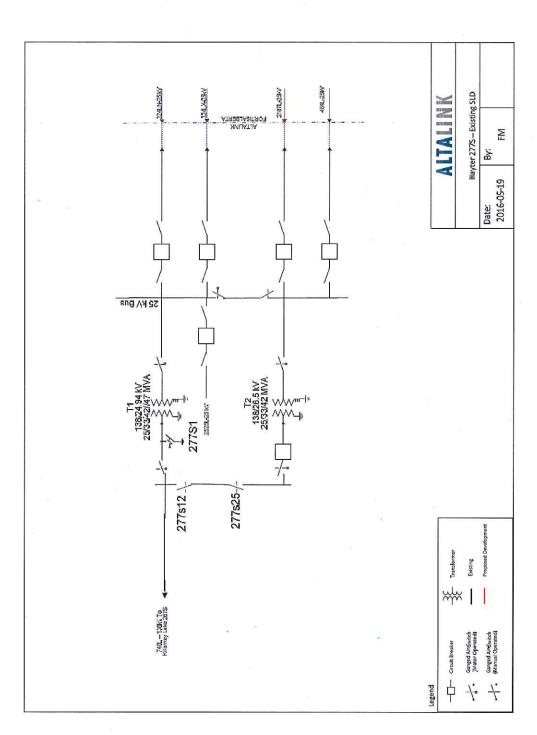




Provost 545S - Proposed

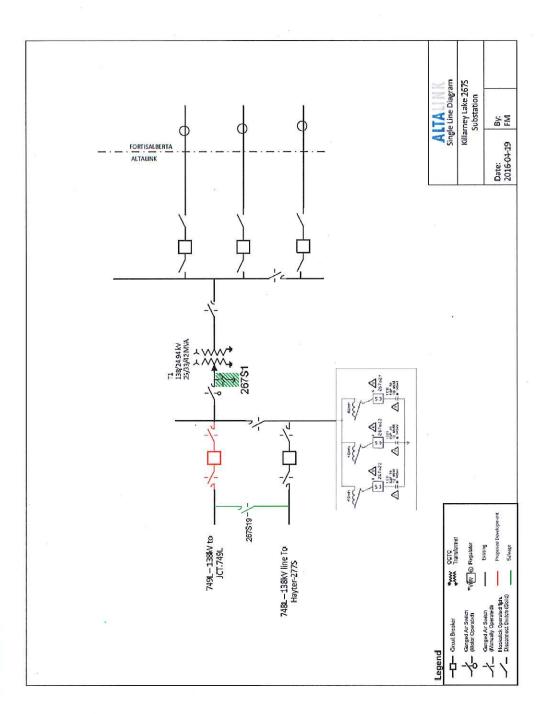
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## Hayter 277S – Existing





# Killarney Lake 2675 - Proposed

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