Nicole McKenna

From: Spencer Campbell <scampbell@stewartmckelvey.com>
Sent: Tuesday, July 25, 2017 12:41 PM
To: Nicole McKenna
Cc: Tom Matheson
Subject: MECL - COS correspondence
Attachments: Radial lines estimate.xlsx; Campbell.let.May 10, 2017 170510.pdf

Categories: IRAC

Nicole: Ryan's letter of May 10 is attached. My response of June 30 is below (and attached).

Spencer

From: Spencer Campbell
Sent: Friday, June 30, 2017 2:34 PM
To: Ryan MacDonald <ryan.macdonald@keymurraylaw.com>
Subject: Response to May 10 Correspondence

Ryan:

I'm responding to yours of May 10, 2017.

The latest inquiries from the City of Summerside can be broken down into two categories:

- accuracy of the PEI transmission system geographical map versus the one-line diagram sent in January 2017; and
- accounting treatment of existing transmission facilities.

Accuracy of PEI transmission system

The differences between MECL's geographical map of the PEI transmission system and the associated one-line diagram are a matter of timing. The geographical map did not include the most up-to-date information and is used to show the geographical location of transmission system facilities.

The one-line diagram is considered to be accurate in its portrayal of the system, except for the missing tap from line T-1 to the pending Bagnall Road substation (formerly referred to as the 'New Glasgow' substation), and the depiction of the Dingwells Mills tap. The Bagnall Road substation was not included as final details were unknown at the time. An updated version of the one-line diagram – including the final configuration of the Bagnall Road substation as well as a proper depiction of the Dingwells Mills tap – will be drawn up and provided to the City of Summerside.

Accounting Treatment of Existing Transmission Facilities

MECL uses a pooled accounting method for its transmission facilities. Amortization is applied to the entire basket of facilities, and not to each individual facility. The pooled accounting method is common across the electric utility industry.

In addition, individual poles and portions of lines have been replaced over the years due to vehicle collisions, storm damage, equipment failure, or to accommodate roadway construction. Breaking out the exact remaining value of each asset listed by the City of Summerside is impossible since the accounting has not been undertaken in an amenable manner.

In spite of the forgoing, attached is a high level estimate of the impact of removing radial lines from the OATT facilities. It has been developed as an alternative response to Summerside's request for detailed cost data on the radial portions of the transmission system.

The basic idea in the attached workbook is to estimate the construction cost new for all the transmission lines. Radial lines' total cost is then applied to the 2014 costs for OATT facilities lines in order to break out an estimated cost for radial lines. For year 2014 costs, removing radial lines from the OATT facilities would result in Maritime Electric customers paying approximately $ 200,000 more annually, with corresponding decreases of $ 50,000 for Summerside and $ 150,000 for the West Cape wind farm.

Summerside has also asked for a forecast of detailed cost data for the radial portions of the transmission system for future years. A similar calculation was done based on indicative 2017 costs. The estimated cost shifting that would result from removing radial lines is similar to that for the 2014 system.

I trust the foregoing is satisfactory for your purposes.

Spencer

Radial lines estimate
17-06-28

Estimated breakdown of Transmission Lines portion of 2014 OATT Costs

		2014 OATT costs for transmission lines	
		(%)	($ x 1,000)
OATT facilities (non-radial lines)		70.6%	$2,698
MECL radial lines (T3, T4, T5, part of T8, T10, T21)		28.7%	$1,097
COS radial lines (T11)		0.7%	$25
		100.0%	$3,820

This excludes cost of new interconnection as well as costs associated with Y104, which were not included in 2014 OATT filing.

Changes to OATT Facilities costs with radial lines broken out

	2014 Postage Stamp OATT facilities costs	Estimated radial lines portion		2014 OATT facilities costs with radial lines removed
	($ x 1,000)	(%)	($ x 1,000)	($ x 1,000)
Interconnection	$748	0%	$0	$748
Substations	$2,352	0%	$0	$2,352
Lines	$3,820	29.4%	$1,122	$2,698
Communications	$214	0%	$0	$214
OATT Administration	$172	0%	$0	$172
Total	$7,307	29.4%	$1,122	$6,184

Annual Cost Changes by Transmission user ($ x 1,000)

	2014 usage	Relative Usage of System	Removal of costs for Radial Lines	Reallocation of costs for radial lines	Change in costs
	(MW)		($ x 1,000)	($ x 1,000)	($ x 1,000)
MECL customers	189.0	78.9%	$886	$1,097	$211
Summerside	16.7	7.0%	$78	$25	($53)
West Cape	33.7	14.1%	$158	$0	($158)
Total	239.4		$1,122	$1,122	$0

Impact on OATT Rates

OATT Facilities 2014 Annual Cost	$7,307	($ x 1,000)	Per MECL OATT filing
Reduction in Cost with Radials Removed	$1,122	($ x 1,000)	
Reduction in OATT Rates for trans service	15.4%		
Firm OATT Rate with Radials Removed	$25,836	($ / MW-year)	

Radial lines estimate
17-06-28

Per Unit Costs of New Construction:

	$ x 1,000 / km
69kV roadside	100
69kV offroad	125
138kV roadside	110
138kV H Frame	175
138kV Steel Tower	500

Maritime Electric Transmission System Lines									Construction	Postage Stamp allocation - 2014 system			Allocation with radial lines broken out - 2014 system			
From Bus Name	To Bus Name	Line designation	Voltage (kV)	Conductor size (MCM)	Line length (km)	Location	MECL owned?	Contribution?	cost new ($ x 1,000)	OATT facilities ($ x 1,000)	For MECL generation ($ x 1,000)	For Summerside ($ x 1,000)	OATT facilities ($ x 1,000)	For MECL generation ($ x 1,000)	MECL radial ($ x 1,000)	Summerside radial ($ x 1,000)
Murray Corner	Richmond Cove	Cable 1	138	475 cu.	21.3		N	N								
Murray Corner	Richmond Cove	Cable 2	138	475 cu.	21.3		N	N								
Richmond Cove	Bedeque	Y101	138	954 ASCR	9.5		N	N								
Richmond Cove	Bedeque	Y103	138	954 ASCR	9.5		N	N								
West Royalty	Scotchfort	Y104	138	740.8 AAAC	83.0	Roadside	Y	N								
Bedeque	Sherbrooke	Y105	138	477 ASCR	15.7	H Frame	Y	N	2,748	2,748			2,748			
Borden	Bedeque	Y107	138	477 ASCR	8.3	Tower & H Frame	Y	N	1,528	1,528			1,528			
Harmony Rd	Hermanville	Y108	138		10.3	Roadside	Y	N	1,133		1,133			1,133		
Bedeque	West Royalty	Y109	138	740.8 ASC	40.9	Tower & H Frame	Y	N	7,758	7,758			7,758			
Bedeque	West Royalty	Y111	138	740.8 ASC	40.9	Tower & H Frame	Y	N	7,758	7,758			7,758			
Church Rd	Eastern Kings Wind Farm	Y112	138		34.6	Roadside	Y	N	3,806		3,806			3,806		
Borden	Sherbrooke	Y113	138	477 ASCR	23.6	Tower & H Frame	Y	N	4,356	4,356			4,356			
Sherbrooke	West Cape	Y115	138	740.8 AAAC	85.0	Cross Country	Y	Y	14,350							
Sherbrooke	West Royalty	T1	69	477 ASCR	54.3	Cross Country	Y	N	6,788	6,788			6,788			
Charlottetown	Lorne Valley	T2	69	477 ASCR	36.3	Roadside	Y	N	3,993	3,993			3,993			
Borden	McCain Foods	T3	69	4/0 ASCR	4.8	Roadside	Y	N	480	480					480	
Scotchfort	Lorne Valley	T4	69	4/0 ASCR	20.7	X-C and Roadside	Y	N	2,270	2,270			2,270			
Sherbrooke	Wellington	T5	69	2/0 ASCR	20.6	Roadside	Y	N	2,060	2,060					2,060	
Lorne Valley	Cardigan	T8	69	477 ASCR	4.8	Roadside	Y	N	480	480					480	
Cardigan	Georgetown	T8	69	4/0 ASCR	6.2	Roadside	Y	N	619	619					619	
Cardigan	Dingwells Mills	T8	69	477 ASCR	20.5	Roadside	Y	N	2,050	2,050					2,050	
Dingwells Mills	Church Road	T8	69	477 ACSR	8.1	Roadside	Y	N	810		810			810		
Dingwells Mills	Souris	T8	69	4/0 ASCR	16.0	Roadside	Y	N	1,600	1,600					1,600	
Lorne Valley	Victoria Cross	T10	69	4/0 ASCR	13.6	Roadside	Y	N	1,360	1,360					1,360	
Victoria Cross	Dover	T10	69	4/0 ASCR	19.4	Roadside	Y	N	1,940	1,940					1,940	
Sherbrooke	Summerside	T11	69	2/0 ASCR	3.6	X-C and Roadside	Y	N	360	360						360
West Royalty	UPEI	T13	69	477 ASCR	3.5	Roadside	Y	N	350	350			350			
UPEI	Charlottetown	T13	69	477 ASCR	2.6	Roadside	Y	N	260	260			260			
West Royalty	Charlottetown	T15	69	477 ASCR	12.5	Roadside	Y	N	1,250	1,250			1,250			
Wellington	O'Leary	T21	69	477 ASCR	33.6	Roadside	Y	N	3,360	3,360					3,360	
O'Leary	Alberton	T21	69	4/0 ASCR	19.3	Roadside	Y	N	1,930	1,930					1,930	
Alberton	Christ.Cross	T23	69	4/0 ASCR	18.0		N	N								
Christ.Cross	North Cape	T23	69	4/0 ASCR	10.0		N	N								
Christ.Cross	Norway	T25	69	4/0 ASCR	4.3		N	N								
Norway	WEICAN	T25	69	4/0 ASCR	2.9		N	N								
										55,296	5,749	-	39,057	5,749	15,879	360
								% of Construction Cost New		100.0%			70.6%		28.7%	0.7%

Radial lines estimate
17-06-28

	2014 Postage Stamp OATT facilities costs ($ x 1,000)	Indicative additional annual costs by 2017						Indicative 2017 Postage Stamp OATT facilities costs ($ x 1,000)
		Replenish Cables Contingncy Fund ($ x 1,000)	NB Power Schedule 9 for new cables ($ x 1,000)	O&M for new cables ($ x 1,000)	Y-104 in service ($ x 1,000)	T-1 tap for New Glasgow Substation ($ x 1,000)	T-15 tap for Airport Substation ($ x 1,000)	
Interconnection	748	300	1,575	100				2,723
Substations	2,352				300			2,652
Lines	3,820				580	81	30	4,511
Communications	214							214
OATTAdministration	172							172
	7,307							10,272

Radial lines estimate
17-06-28

Estimated breakdown of Transmission Lines portion of indicative 2017 OATT Costs

		2017 indicative OATT costs for lines	
		(%)	($ x 1,000)
OATT facilities (non-radial lines)		72.9%	$3,288
MECL radial lines (T3, T4, T5, part of T8, T10, T21)		26.5%	$1,198
COS radial lines (T11)		0.6%	$26
		100.0%	$4,511

Changes to OATT Facilities costs with radial lines broken out

	2017 indicative Postage Stamp OATT facilities costs	Estimated radial lines portion		2017 OATT facilities costs with radial lines removed
	($ x 1,000)	(%)	($ x 1,000)	($ x 1,000)
Interconnection	$2,723	0%	$0	$2,723
Substations	$2,652	0%	$0	$2,652
Lines	$4,511	27.1%	$1,223	$3,288
Communications	$214	0%	$0	$214
OATT Administration	$172	0%	$0	$172
Total	$10,272	27.1%	$1,223	$9,049

Annual Cost Changes by Transmission user ($ x 1,000)

	2014 usage	Relative Usage of System	Removal of costs for Radial Lines	Reallocation of costs for radial lines	Change in costs
	(MW)		($ x 1,000)	($ x 1,000)	($ x 1,000)
MECL customers	189.0	78.9%	$966	$1,198	$232
Summerside	16.7	7.0%	$85	$26	($60)
West Cape	33.7	14.1%	$172	$0	($172)
Total	239.4		$1,223	$1,223	$0

Impact on OATT Rates

OATT Facilities 2017 indicative annual cost	$10,272	($ x 1,000)
Reduction in Cost with Radials Removed	$1,223	($ x 1,000)
Reduction in OATT Rates for trans service	11.9%	
Firm OATT Rate with Radials Removed	$37,797	($ / MW-year)

Radial lines estimate
17-06-28

Per Unit Costs of New Construction:

	$ x 1,000 / km
69kV roadside	100
69kV offroad	125
138kV roadside	110
138kV H Frame	175
138kV Steel Tower	500

Maritime Electric Transmission System Lines

From Bus Name	To Bus Name	Line designation	Voltage (kV)	Conductor size (MCM)	Line length (km)	Location	MECL owned?	Contribution?	Construction cost new ($ x 1,000)	Postage Stamp allocation - 2017 system: OATT facilities ($ x 1,000)	Postage Stamp allocation - 2017 system: For MECL generation ($ x 1,000)	Postage Stamp allocation - 2017 system: For Summerside ($ x 1,000)	Allocation with radial lines broken out - 2017 system: OATT facilities ($ x 1,000)	Allocation with radial lines broken out - 2017 system: For MECL generation ($ x 1,000)	Allocation with radial lines broken out - 2017 system: MECL radial ($ x 1,000)	Allocation with radial lines broken out - 2017 system: Summerside radial ($ x 1,000)
Murray Corner	Richmond Cove	Cable 1	138	475 cu.	21.3		N	N								
Murray Corner	Richmond Cove	Cable 2	138	475 cu.	21.3		N	N								
Richmond Cove	Bedeque	Y101	138	954 ASCR	9.5		N	N								
Richmond Cove	Bedeque	Y103	138	954 ASCR	9.5		N	N								
West Royalty	Scotchfort	Y104	138	740.8 AAAC	83.0	Roadside	Y	N	11,000	5,800	5,200		5,800	5,200		
Bedeque	Sherbrooke	Y105	138	477 ASCR	15.7	H Frame	Y	N	2,748	2,748			2,748			
Borden	Bedeque	Y107	138	477 ASCR	8.3	Tower & H Frame	Y	N	1,528	1,528			1,528			
Harmony Rd	Hermanville	Y108	138		10.3	Roadside	Y	N	1,133		1,133			1,133		
Bedeque	West Royalty	Y109	138	740.8 ASC	40.9	Tower & H Frame	Y	N	7,758	7,758			7,758			
Bedeque	West Royalty	Y111	138	740.8 ASC	40.9	Tower & H Frame	Y	N	7,758	7,758			7,758			
Church Rd	Eastern Kings Wind Farm	Y112	138	477 ASCR	34.6	Roadside	Y	N	3,806		3,806			3,806		
Borden	Sherbrooke	Y113	138	477 ASCR	23.6	Tower & H Frame	Y	N	4,356	4,356			4,356			
Sherbrooke	West Cape	Y115	138	740.8 AAAC	85.0	Cross Country	Y	Y	14,350							
Sherbrooke	West Royalty	T1	69	477 ASCR	60.8	Cross Country	Y	N	7,600	7,600			6,788		812	
Charlottetown	Lorne Valley	T2	69	477 ASCR	36.3	Roadside	Y	N	3,993	3,993			3,993			
Borden	McCain Foods	T3	69	4/0 ASCR	4.8	Roadside	Y	N	480	480					480	
Scotchfort	Lorne Valley	T4	69	4/0 ASCR	20.7	X-C and Roadside	Y	N	2,270	2,270					2,270	
Sherbrooke	Wellington	T5	69	2/0 ASCR	20.6	Roadside	Y	N	2,060	2,060					2,060	
Lorne Valley	Cardigan	T8	69	477 ASCR	4.8	Roadside	Y	N	480	480			480			
Cardigan	Georgetown	T8	69	4/0 ASCR	6.2	Roadside	Y	N	619	619					619	
Cardigan	Dingwells Mills	T8	69	477 ASCR	20.5	Roadside	Y	N	2,050	2,050			2,050			
Dingwells Mills	Church Road	T8	69	477 ACSR	8.1	Roadside	Y	N	810	810			810			
Dingwells Mills	Souris	T8	69	4/0 ASCR	16.0	Roadside	Y	N	1,600	1,600					1,600	
Lorne Valley	Victoria Cross	T10	69	4/0 ASCR	13.6	Roadside	Y	N	1,360	1,360					1,360	
Victoria Cross	Dover	T10	69	4/0 ASCR	19.4	Roadside	Y	N	1,940	1,940					1,940	
Sherbrooke	Summerside	T11	69	2/0 ASCR	3.6	X-C and Roadside	Y	N	360	360						360
West Royalty	UPEI	T13	69	477 ASCR	3.5	Roadside	Y	N	350	350			350			
UPEI	Charlottetown	T13	69	477 ASCR	2.6	Roadside	Y	N	260	260			260			
West Royalty	Charlottetown	T15	69	477 ASCR	15.5	Roadside	Y	N	1,550	1,550			1,250		300	
Wellington	O'Leary	T21	69	477 ASCR	33.6	Roadside	Y	N	3,360	3,360					3,360	
O'Leary	Alberton	T21	69	4/0 ASCR	19.3	Roadside	Y	N	1,930	1,930					1,930	
Alberton	Christ.Cross	T23	69	4/0 ASCR	18.0		N	N								
Christ.Cross	North Cape	T23	69	4/0 ASCR	10.0		N	N								
Christ.Cross	Norway	T25	69	4/0 ASCR	4.3		N	N								
Norway	WEICAN	T25	69	4/0 ASCR	2.9		N	N								
										63,018	10,139	-	45,927	10,139	16,731	360
								% of Construction Cost New		100.0%			72.9%		26.5%	0.6%