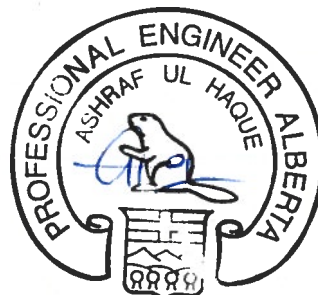# Prepared For: Alberta Electric System Operator

Rider E Calibration Factor Calculation for the First Quarter of 2019

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2018 December 19

Dec 19, 2018

PERMIT TO PRACTICE
TESHMONT CONSULTANTS LP

Signature _____

Date _____ 2018 DEC 18

PERMIT NUMBER: P 03012

The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

CURRENT YEAR MONTHLY DETAIL

2019 First Quarter Calibration Factor % = $\dfrac{\text{Carryforward}_{\text{Dec 31, 2018}} + [(\text{Cost of Losses} - \text{Loss Revenues}) - \text{Rider E Revenues}]_{\text{Jan 1 - Dec 31, 2019}}}{[\text{Hourly Loss Factor Customer Volumes} \times \text{Hourly Pool Price}]_{\text{Jan 1 - Dec 31, 2019}}}$

The following table provides a summary of the AESO's projected year-end losses account balance for Rider E for January to December 2019.

		Calibration Factor Calculation Inputs					Denominator Value		Other Information		
		Numerator Values									
Period	Data Source	Cost of Losses	Revenues Collected Loss Factors	Costs Less Revenue (Over Collected) / Under Collected	Rider E Refunded/ (Collected)	Outstanding Variance (Over Collected) / Under Collected	Monthly Loss Factor Customer Volumes × Pool Price	Average Monthly Pool Price	Monthly Loss Factor Customer Volumes	Monthly Loss Volumes
		$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$/MWh	millions MWh	millions MWh
Carryforward Dec 31, 2018						(2.4)				
January 2019	Forecast	9.4	10.3	(1.0)	0.0	(1.0)	304.99	53.05	5.55	0.17
February 2019	Forecast	7.2	8.4	(1.2)	0.0	(1.2)	251.33	49.37	5.02	0.14
March 2019	Forecast	6.0	7.0	(1.1)	0.0	(1.1)	208.34	39.39	5.20	0.15
April 2019	Forecast	10.4	13.2	(2.8)	0.0	(2.8)	379.22	72.19	5.04	0.14
May 2019	Forecast	10.4	12.1	(1.7)	0.0	(1.7)	362.69	67.94	5.06	0.14
June 2019	Forecast	7.9	8.3	(0.4)	0.0	(0.4)	261.84	50.49	4.97	0.14
July 2019	Forecast	15.9	18.6	(2.7)	0.0	(2.7)	575.00	100.36	5.32	0.14
August 2019	Forecast	8.2	9.3	(1.0)	0.0	(1.0)	297.16	53.86	5.29	0.14
September 2019	Forecast	7.6	8.1	(0.4)	0.0	(0.4)	260.43	51.63	4.92	0.14
October 2019	Forecast	4.1	4.8	(0.7)	0.0	(0.7)	154.54	28.04	5.46	0.15
November 2019	Forecast	6.1	7.1	(1.0)	0.0	(1.0)	190.41	38.06	4.90	0.16
December 2019	Forecast	13.9	15.9	(1.9)	0.0	(1.9)	442.74	83.82	5.21	0.16
Annual 2019		107.2	123.2	(16.0)	0.0	(16.0)	3688.69	57.35	61.92	1.78
Total Balance						**(18.4)**	**3,688.69**			
Calibration Factor Calculation Outputs: Rider E Calibration Factor Q1 2019						**(0.50%)**		(Refund)/Charge		

Notes:
1. The Rider E Calibration Factor will apply to all loss factor customers receiving service under Rates STS, DOS, XOS, and IOS as provided on the Rider E rate sheet.
2. If the Rider E Calibration Factor for Q1 remained in place during Q1, Q2, Q3 and Q4, it would collect the variance between cost of losses and revenues by the end of 2019, as currently forecasted.
3. Forecast amounts in the above table and calculation reflect the AESO's best estimates at the time of preparation. The values represent forecasts and estimates only, and final values will differ.
4. Actual amounts in the above table are subject to revision in future periods due to interim and final settlement and to other adjustments.
5. The calibration factor calculation itself is based on summing hourly costs, revenues, and loss factor customer volumes x pool price, and the same result will not be obtained by using the monthly values presented.
6. Numbers may not add due to rounding.
7. "NA" means "not applicable".
8. The revenue, cost and Rider E amounts are shown on a production month basis.

PRIOR YEARS MONTHLY DETAIL

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For the First Quarter of 2019
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The following table provides a summary of the AESO's losses account balance for Rider E for the period 2006 to 2018.

| | | Calibration Factor Calculation Inputs | | | | | Denominator Value | Other Information | | |
| | | Numerator Values | | | | | | | | |
Period	Data Source	Cost of Losses	Revenues Collected Loss Factors	Costs Less Revenue (Over Collected) / Under Collected	Rider E Refunded/ (Collected)	Outstanding Variance (Over Collected) / Under Collected	Monthly Loss Factor Customer Volumes × Pool Price	Average Monthly Pool Price	Monthly Loss Factor Customer Volumes	Monthly Loss Volumes
		$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$/MWh	millions MWh	millions MWh
Annual 2006 to 2015		**1,605.8**	**1,661.7**	**(56.0)**	**60.6**	**4.6**	NA	64.02	587.37	25.27
January 2016	Actual	5.0	4.7	0.3	(0.1)	0.2	NA	22.25	5.63	0.21
February 2016	Actual	3.2	3.3	(0.1)	(0.1)	(0.1)	NA	17.22	5.03	0.18
March 2016	Actual	2.6	2.7	(0.1)	(0.1)	(0.1)	NA	14.79	5.11	0.17
April 2016	Actual	2.3	2.3	(0.1)	(0.3)	(0.3)	NA	13.63	4.65	0.16
May 2016	Actual	2.7	2.7	(0.0)	(0.3)	(0.4)	NA	15.89	4.70	0.16
June 2016	Actual	2.7	2.8	(0.1)	(0.3)	(0.4)	NA	15.44	4.80	0.17
July 2016	Actual	3.4	3.6	(0.2)	(0.5)	(0.7)	NA	18.21	5.24	0.18
August 2016	Actual	3.4	3.6	(0.2)	(0.5)	(0.8)	NA	17.90	5.45	0.18
September 2016	Actual	3.3	3.4	(0.2)	(0.5)	(0.7)	NA	17.70	5.17	0.17
October 2016	Actual	4.6	5.0	(0.4)	(0.4)	(0.8)	NA	25.37	5.26	0.16
November 2016	Actual	3.2	3.4	(0.2)	(0.2)	(0.4)	NA	16.32	5.27	0.19
December 2016	Actual	5.0	5.3	(0.3)	(0.4)	(0.7)	NA	24.33	5.90	0.20
Annual 2016		41.3	42.8	(1.5)	(3.7)	(5.2)	NA	18.26	62.21	2.13
January 2017	Actual	5.2	4.8	0.4	0.1	0.5	NA	23.96	5.83	0.21
February 2017	Actual	4.0	4.0	0.1	0.1	0.2	NA	22.18	5.11	0.18
March 2017	Actual	4.2	4.1	0.2	0.1	0.3	NA	21.01	5.44	0.20
April 2017	Actual	3.7	3.4	0.3	0.1	0.4	NA	19.10	4.92	0.19
May 2017	Actual	4.4	4.0	0.5	0.1	0.6	NA	21.90	5.04	0.20
June 2017	Actual	3.3	3.0	0.2	0.1	0.3	NA	16.78	4.91	0.18
July 2017	Actual	4.8	4.9	(0.1)	0.0	(0.1)	NA	26.96	5.43	0.17
August 2017	Actual	4.3	4.5	(0.2)	0.0	(0.2)	NA	24.57	5.47	0.17
September 2017	Actual	3.7	3.8	(0.0)	0.0	(0.0)	NA	22.11	5.23	0.16
October 2017	Actual	3.7	3.6	0.1	0.1	0.2	NA	20.45	5.24	0.17
November 2017	Actual	5.0	4.9	0.1	0.1	0.2	NA	25.03	5.49	0.20
December 2017	Actual	4.0	4.4	(0.3)	0.1	(0.3)	NA	21.99	5.84	0.18
Annual 2017		50.4	49.3	1.1	0.8	2.0	NA	22.17	63.96	2.21
January 2018	Actual	7.4	8.2	(0.9)	(0.1)	(1.0)	NA	40.83	5.72	0.18
February 2018	Actual	4.9	5.6	(0.7)	(0.1)	(0.7)	NA	31.32	5.24	0.15
March 2018	Actual	5.2	6.0	(0.8)	(0.1)	(0.9)	NA	32.27	5.43	0.16
April 2018	Actual	6.6	7.2	(0.7)	(0.1)	(0.8)	NA	40.55	5.04	0.16
May 2018	Actual	10.8	11.9	(1.1)	(0.2)	(1.3)	NA	63.77	5.06	0.15
June 2018	Actual	10.4	11.0	(0.6)	(0.2)	(0.8)	NA	63.44	4.97	0.15
July 2018	Actual	9.6	10.6	(1.0)	0.3	(0.7)	NA	58.45	5.32	0.14
August 2018	Actual	11.2	12.5	(1.3)	0.4	(0.9)	NA	68.80	5.29	0.14
September 2018	Actual	5.1	5.5	(0.4)	0.2	(0.2)	NA	36.11	4.92	0.14
October 2018	Actual	9.5	10.8	(1.3)	2.9	1.6	NA	63.48	5.46	0.14
November 2018	Forecast	9.2	11.1	(1.9)	2.5	0.6	NA	59.21	4.90	0.15
December 2018	Forecast	12.2	14.1	(1.9)	3.3	1.4	NA	73.90	5.21	0.16
Annual 2018		102.0	114.5	(12.5)	8.7	(3.8)	NA	52.68	62.55	1.84

Carryforward Dec 31, 2018   (2.4)