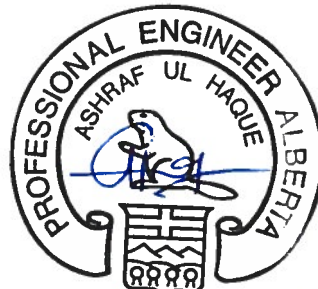


# Prepared For: Alberta Electric System Operator

## Rider E Calibration Factor Calculation for the First Quarter of 2020

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December 17, 2019

2019 December 17

<b>PERMIT TO PRACTICE TESHMONT CONSULTANTS LP</b>	
Signature	<u></u>
Date	<u>2019 DEC 17</u>
<b>PERMIT NUMBER: P 03012</b>	
The Association of Professional Engineers, Geologists and Geophysicists of Alberta	



**CURRENT YEAR MONTHLY DETAIL**

$$2020 \text{ First Quarter Calibration Factor } \% = \frac{\text{Carryforward}_{\text{Dec 31, 2019}} + [(\text{Cost of Losses} - \text{Loss Revenues}) - \text{Rider E Revenues}]_{\text{Jan 1 - Dec 31, 2020}}}{[\text{Hourly Loss Factor Customer Volumes} \times \text{Hourly Pool Price}]_{\text{Jan 1 - Dec 31, 2020}}}$$

The following table provides a summary of the AESO's projected year-end losses account balance for Rider E for January to December 2020.

		Calibration Factor Calculation Inputs					Other Information			
		Numerator Values			Denominator Value					
Period	Data Source	Cost of Losses \$ millions	Revenues Collected Loss Factors \$ millions	Costs Less Revenue (Over Collected) / Under Collected \$ millions	Rider E Refunded/ (Collected) \$ millions	Outstanding Variance (Over Collected) / Under Collected \$ millions	Monthly Loss Factor Customer Volumes x Pool Price \$ millions	Average Monthly Pool Price \$/MWh	Monthly Loss Factor Customer Volumes millions MWh	Monthly Loss Volumes millions MWh
<b>Carryforward</b> Dec 31, 2019						<b>9.5</b>				
January 2020	Forecast	15.9	14.5	1.4	0.0	1.4	518.98	87.54	5.79	0.18
February 2020	Forecast	20.9	20.5	0.4	0.0	0.4	779.87	128.45	5.98	0.16
March 2020	Forecast	5.4	5.3	0.1	0.0	0.1	199.13	34.59	5.75	0.15
April 2020	Forecast	6.1	6.0	0.1	0.0	0.1	203.77	40.80	4.97	0.15
May 2020	Forecast	4.5	4.5	0.0	0.0	0.0	152.48	29.87	5.03	0.15
June 2020	Forecast	4.4	4.1	0.3	0.0	0.3	148.21	29.53	4.94	0.15
July 2020	Forecast	9.2	8.8	0.4	0.0	0.4	326.67	59.54	5.21	0.15
August 2020	Forecast	9.8	8.9	0.9	0.0	0.9	342.41	63.89	5.13	0.14
September 2020	Forecast	7.1	6.5	0.6	0.0	0.6	245.81	48.98	4.92	0.14
October 2020	Forecast	9.2	8.9	0.2	0.0	0.2	309.36	57.86	5.24	0.15
November 2020	Forecast	8.7	8.7	0.0	0.0	0.0	303.90	50.64	5.79	0.17
December 2020	Forecast	8.6	8.7	(0.1)	0.0	(0.1)	315.57	48.97	6.38	0.17
Annual 2020		109.8	105.4	4.4	0.0	4.4	3846.16	56.72	65.12	1.86
<b>Total Balance</b>						<b>13.9</b>	<b>3,846.16</b>			
<b>Calibration Factor Calculation Outputs: Rider E Calibration Factor Q1 2020</b>							<b>0.36%</b>	<b>(Refund)/Charge</b>		

Notes:

- 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.
- 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 2020, as currently forecasted.
- 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.
- Actual amounts in the above table are subject to revision in future periods due to interim and final settlement and to other adjustments.
- 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.
- Numbers may not add due to rounding.
- "NA" means "not applicable".
- 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 2020  
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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 2019.

		Calibration Factor Calculation Inputs					Other Information			
		Numerator Values					Denominator Value			
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 x 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 2016		<b>1,647.0</b>	<b>1,704.6</b>	<b>(57.5)</b>	<b>57.0</b>	<b>(0.5)</b>	NA	59.86	649.58	27.40
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	0.13
October 2018	Actual	9.7	10.7	(1.1)	2.9	1.9	NA	63.48	5.46	0.14
November 2018	Actual	9.7	10.3	(0.7)	2.8	2.1	NA	59.21	5.61	0.16
December 2018	Actual	7.9	8.2	(0.3)	2.3	2.0	NA	43.99	6.13	0.18
Annual 2018		98.3	107.8	(9.5)	8.0	(1.5)	NA	50.19	64.19	1.84
January 2019	Actual	6.7	5.0	1.7	1.1	2.8	NA	37.83	5.69	0.17
February 2019	Actual	17.5	15.0	2.5	3.1	5.6	NA	109.36	5.68	0.16
March 2019	Actual	10.1	8.5	1.6	1.9	3.5	NA	65.04	5.63	0.15
April 2019	Actual	6.0	5.1	0.9	0.8	1.7	NA	40.80	4.86	0.14
May 2019	Actual	12.7	10.8	2.0	1.6	3.6	NA	74.78	4.92	0.16
June 2019	Actual	8.5	6.9	1.6	1.1	2.8	NA	53.52	4.83	0.15
July 2019	Actual	6.4	5.2	1.3	0.2	1.4	NA	40.99	5.12	0.14
August 2019	Actual	6.9	5.5	1.4	0.2	1.6	NA	45.40	5.07	0.14
September 2019	Actual	9.1	6.4	2.7	0.2	2.9	NA	54.45	4.84	0.16
October 2019	Actual	7.1	5.5	1.7	(5.1)	(3.4)	NA	41.86	5.19	0.16
November 2019	Forecast	9.7	8.0	1.6	(7.5)	(5.9)	NA	56.15	5.70	0.17
December 2019	Forecast	9.8	8.6	1.2	(8.2)	(6.9)	NA	55.59	6.23	0.17
Annual 2019		110.8	90.6	20.2	(10.5)	9.6	NA	56.32	63.77	1.88