

# **Prepared For: Alberta Electric System Operator**

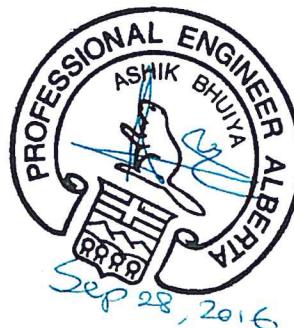
## **Rider E Calibration Factor Calculation for the Fourth Quarter of 2016**

Prepared by:

Teshmont Consultants LP  
1190 Waverley Street  
Winnipeg, Manitoba, Canada R3T 0P4  
[www.teshmont.com](http://www.teshmont.com)



2016 September 28



|   |              |
|---|--------------|
| <b>PERMIT TO PRACTICE</b>   |              |
| TESHMONT CONSULTANTS LP   |              |
| Signature   |              |
| Date  | 28 Sept 2016 |
| <b>PERMIT NUMBER: P 03012</b>   |              |
| The Association of Professional Engineers,<br>Geologists and Geophysicists of Alberta |              |

**CURRENT YEAR MONTHLY DETAIL**

$$2016 \text{ Fourth Quarter Calibration Factor \%} = \frac{\text{Carryforward}_{\text{Dec 31, 2015}} + [(\text{Cost of Losses} - \text{Loss Revenues}) - \text{Rider E Revenues}]_{\text{Jan 1 - Dec 31, 2016}}}{[\text{Hourly Loss Factor Customer Volumes} \times \text{Hourly Pool Price}]_{\text{Oct 1 - Dec 31, 2016}}}$$

The following table provides a summary of the AESO's projected year-end losses account balance for Rider E for January to December 2016.

| Period  | Data Source | Calibration Factor Calculation Inputs |   |   |   |   | Other Information                 |   |                                   |
|---|-------------|---------------------------------------|---|---|---|---|-----------------------------------|---|-----------------------------------|
|   |             | Numerator Values                      |   |   | Denominator Value                         |   | Average Monthly Pool Price \$/MWh | Monthly Loss Factor Customer Volumes millions MWh | Monthly Loss Volumes millions MWh |
|   |             | 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 |                                   |   |                                   |
| <b>Carryforward Dec 31, 2015</b>  |             |                                       |   |   |   |   |                                   |   |                                   |
| January 2016  | Actual      | 5.0                                   | 4.7   | 0.3   | (0.1)                                     | 0.2   | NA                                | 22.25   | 5.63                              |
| February 2016   | Actual      | 3.2                                   | 3.3   | (0.1)   | (0.1)                                     | (0.1)   | NA                                | 17.22   | 5.03                              |
| March 2016  | Actual      | 2.6                                   | 2.7   | (0.1)   | (0.1)                                     | (0.1)   | NA                                | 14.79   | 5.11                              |
| April 2016  | Actual      | 2.3                                   | 2.3   | (0.1)   | (0.3)                                     | (0.3)   | NA                                | 13.63   | 4.65                              |
| May 2016  | Actual      | 2.6                                   | 2.7   | (0.1)   | (0.3)                                     | (0.4)   | NA                                | 15.89   | 4.70                              |
| June 2016   | Actual      | 2.7                                   | 2.8   | (0.1)   | (0.3)                                     | (0.4)   | NA                                | 15.44   | 4.80                              |
| July 2016   | Actual      | 3.4                                   | 3.6   | (0.2)   | (0.5)                                     | (0.7)   | NA                                | 18.21   | 5.24                              |
| August 2016   | Forecast    | 3.2                                   | 3.6   | (0.3)   | (0.5)                                     | (0.8)   | NA                                | 17.90   | 5.15                              |
| September 2016  | Forecast    | 6.0                                   | 6.4   | (0.4)   | (0.9)                                     | (1.3)   | NA                                | 31.28   | 5.15                              |
| October 2016  | Forecast    | 4.4                                   | 4.5   | (0.1)   | 0.0                                       | (0.1)   | 117.64                            | 21.52   | 5.43                              |
| November 2016   | Forecast    | 5.3                                   | 4.9   | 0.4   | 0.0                                       | 0.4   | 131.05                            | 24.51   | 5.30                              |
| December 2016   | Forecast    | 5.9                                   | 5.7   | 0.1   | 0.0                                       | 0.1   | 150.58                            | 26.42   | 5.61                              |
| Annual 2016   |             | 46.7                                  | 47.2  | (0.6)   | (3.0)                                     | (3.5)   | 399.26                            | 19.92   | 61.81                             |
| Total Balance   |             |                                       |   |   |   | 1.1   | 399.26                            |   | 2.23                              |
| <b>Calibration Factor Calculation Outputs: Rider E Calibration Factor Q4 2016</b> |             |                                       |   |   |   |   |                                   |   |                                   |
|   |             |                                       |   |   |   | 0.28%   | (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 Q4 remained in place during Q4, it would collect the variance between cost of losses and revenues by the end of 2016, 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.
9. The 2016 Q4 Calibration Factor reflects charges and credits totaling \$2.6 million arising from system level metering adjustments for periods from December 2008 to December 2015 that were implemented in 2016. The charges and credits were allocated over April to December of 2016, consistent with the existing methodology which allocates outstanding variance amounts over the remaining months in the calendar year.

## PRIOR YEARS MONTHLY DETAIL

The following table provides a summary of the AESO's losses account balance for Rider E for the period 2006 to 2015.

Prepared For: Alberta Electric System Operator  
 Rider E Calibration Factor Calculation  
 For the Fourth Quarter of 2016  
 Page 2 of 2

| Period              | Data Source | Calibration Factor Calculation Inputs |   |   |   |   | Other Information                 |   |                                   |
|---------------------|-------------|---------------------------------------|---|---|---|---|-----------------------------------|---|-----------------------------------|
|                     |             | Numerator Values                      |   |   | Denominator Value                         |   | Average Monthly Pool Price \$/MWh | Monthly Loss Factor Customer Volumes millions MWh | Monthly Loss Volumes millions MWh |
|                     |             | 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 |                                   |   |                                   |
| Annual 2006 to 2012 |             | 1,227.61                              | 1,289.67                                    | (62.1)  | 67.0                                      | 4.98  | NA                                | NA  | NA                                |
| January 2013        | Actual      | 11.9                                  | 12.2  | (0.4)   | 0.1                                       | (0.2)   | NA                                | NA  | NA                                |
| February 2013       | Actual      | 5.0                                   | 5.6   | (0.6)   | 0.1                                       | (0.6)   | NA                                | NA  | NA                                |
| March 2013          | Actual      | 19.6                                  | 20.3  | (0.7)   | 0.2                                       | (0.4)   | NA                                | NA  | NA                                |
| April 2013          | Actual      | 24.7                                  | 24.9  | (0.2)   | (1.1)                                     | (1.3)   | NA                                | NA  | NA                                |
| May 2013            | Actual      | 23.4                                  | 22.9  | 0.4   | (1.0)                                     | (0.6)   | NA                                | NA  | NA                                |
| June 2013           | Actual      | 17.4                                  | 17.6  | (0.2)   | (0.8)                                     | (1.0)   | NA                                | NA  | NA                                |
| July 2013           | Actual      | 10.8                                  | 11.0  | (0.3)   | (0.9)                                     | (1.2)   | NA                                | NA  | NA                                |
| August 2013         | Actual      | 15.8                                  | 16.4  | (0.6)   | (1.3)                                     | (1.9)   | NA                                | NA  | NA                                |
| September 2013      | Actual      | 22.8                                  | 21.2  | 1.6   | (1.8)                                     | (0.2)   | NA                                | NA  | NA                                |
| October 2013        | Actual      | 12.8                                  | 12.6  | 0.2   | 1.3                                       | 1.5   | NA                                | NA  | NA                                |
| November 2013       | Actual      | 6.8                                   | 6.1   | 0.6   | 0.6                                       | 1.2   | NA                                | NA  | NA                                |
| December 2013       | Actual      | 12.0                                  | 11.8  | 0.2   | 1.2                                       | 1.4   | NA                                | NA  | NA                                |
| Annual 2013         |             | 182.8                                 | 182.8                                       | 0.1   | (3.4)                                     | (3.4)   | NA                                | NA  | NA                                |
| January 2014        | Actual      | 9.7                                   | 9.1   | 0.5   | 0.3                                       | 0.8   | NA                                | NA  | NA                                |
| February 2014       | Actual      | 16.6                                  | 17.0  | (0.4)   | 0.6                                       | 0.2   | NA                                | NA  | NA                                |
| March 2014          | Actual      | 9.5                                   | 8.8   | 0.6   | 0.3                                       | 0.9   | NA                                | NA  | NA                                |
| April 2014          | Actual      | 6.2                                   | 5.8   | 0.4   | 0.2                                       | 0.6   | NA                                | NA  | NA                                |
| May 2014            | Actual      | 10.0                                  | 9.4   | 0.6   | 0.4                                       | 1.0   | NA                                | NA  | NA                                |
| June 2014           | Actual      | 7.7                                   | 7.3   | 0.4   | 0.3                                       | 0.7   | NA                                | NA  | NA                                |
| July 2014           | Actual      | 23.5                                  | 22.5  | 1.0   | (1.0)                                     | (0.1)   | NA                                | NA  | NA                                |
| August 2014         | Actual      | 9.0                                   | 8.7   | 0.3   | (0.4)                                     | (0.0)   | NA                                | NA  | NA                                |
| September 2014      | Actual      | 5.6                                   | 4.6   | 0.9   | (0.2)                                     | 0.8   | NA                                | NA  | NA                                |
| October 2014        | Actual      | 6.4                                   | 5.4   | 1.0   | (1.0)                                     | 0.1   | NA                                | NA  | NA                                |
| November 2014       | Actual      | 8.5                                   | 7.5   | 1.0   | (1.4)                                     | (0.4)   | NA                                | NA  | NA                                |
| December 2014       | Actual      | 6.9                                   | 5.8   | 1.1   | (1.0)                                     | 0.0   | NA                                | NA  | NA                                |
| Annual 2014         |             | 119.5                                 | 111.9                                       | 7.6   | (2.9)                                     | 4.7   | NA                                | NA  | NA                                |
| January 2015        | Actual      | 7.5                                   | 7.5   | (0.1)   | 0.0                                       | (0.1)   | NA                                | NA  | NA                                |
| February 2015       | Actual      | 6.4                                   | 6.2   | 0.1   | 0.0                                       | 0.2   | NA                                | NA  | NA                                |
| March 2015          | Actual      | 4.1                                   | 4.1   | 0.0   | 0.0                                       | 0.0   | NA                                | NA  | NA                                |
| April 2015          | Actual      | 3.7                                   | 3.7   | 0.0   | 0.0                                       | 0.0   | NA                                | NA  | NA                                |
| May 2015            | Actual      | 8.1                                   | 9.2   | (1.1)   | 0.1                                       | (1.0)   | NA                                | NA  | NA                                |
| June 2015           | Actual      | 16.6                                  | 17.7  | (1.2)   | 0.1                                       | (1.1)   | NA                                | NA  | NA                                |
| July 2015           | Actual      | 4.6                                   | 4.6   | 0.0   | (0.2)                                     | (0.2)   | NA                                | NA  | NA                                |
| August 2015         | Actual      | 6.5                                   | 6.8   | (0.3)   | (0.3)                                     | (0.6)   | NA                                | NA  | NA                                |
| September 2015      | Actual      | 4.3                                   | 4.2   | 0.1   | (0.2)                                     | (0.0)   | NA                                | NA  | NA                                |
| October 2015        | Actual      | 4.6                                   | 4.5   | 0.2   | 0.1                                       | 0.3   | NA                                | NA  | NA                                |
| November 2015       | Actual      | 4.4                                   | 4.3   | 0.1   | 0.1                                       | 0.3   | NA                                | NA  | NA                                |
| December 2015       | Actual      | 5.0                                   | 4.5   | 0.5   | 0.1                                       | 0.6   | NA                                | NA  | NA                                |
| Annual 2015         |             | 75.8                                  | 77.4  | (1.6)   | (0.1)                                     | (1.6)   | NA                                | NA  | NA                                |

Carryforward Dec 31, 2015