

March 26, 2010

Alberta Loss Factor Stakeholder Group

Re: Summary of 2014 Loss Factor Estimates

The AESO is pleased to present a summary of 2014 Loss Factor Estimates as agreed to by stakeholders during the Loss Factor Rule development. The purpose of the fifth year non-binding estimates is to provide a simple ‘what-if’ forecast of loss factors to assist business planning for generator proponents. Since the loss factor process only provides binding loss factors for one year, proponents wished to have an indication of loss factors five years out.

Attached is a summary of the loss factor estimates for 2014 (the fifth year, based on the 2010 Generic Stacking Order or GSO and generation projects) for the Alberta Interconnected Electric System (AIES). New generation and the 2014 load are included in the calculation of the 2014 loss factor estimates. Retired generation has been removed.

In order to provide an assessment of the possible range of 2014 loss factors, the following five scenarios were evaluated:

- A. 2014, original base cases
- B. 2014, no 500 kV HVDC (high voltage direct current, monopole mode) lines from either Edmonton to Calgary or Fort Saskatchewan to West Brooks
- C. 2014 wind generation south of Calgary reduced by 500 MW.
- D. 2014 Wabamun Lake/Edmonton area coal generation reduced by 500 MW.
- E. 2014 with Saddlebrook generation dispatched

As has been the practice in previous years, base cases will not be provided for the fifth year. The GSO for 2014 was used as the basis for dispatching generation.

The following assumptions were used in the original base cases to develop the loss estimates for 2014 (AESO Long-term Transmission System Plan - 2009 was used as a basis):

- Major transmission upgrades (240 kV) were included in the southeast, southwest and northwest.
- The 500 kV HVDC lines from Edmonton to Calgary and Fort Saskatchewan to West Brooks, except in scenario B.
- All loss factor assessments are made on raw loss factors evaluations and then normalized and compressed as necessary based on the existing rule effective until December 31 2008.
- Wind Generation additions are consistent with the AESO Long-term Transmission System Plan.

Conditions and Details. Please note the information used to calculate these loss factor estimates will likely change over the next five years, specifically:

- All Critical Transmission Infrastructure projects are included in the base cases as per the best information available (except for Scenario B).
- All existing 2010 generation has been included in the 2014 cases, with the exception of any retired generation.
- The 2009 Long Term Load Forecast was used in the base case development
- All topology in the 2014 cases is as per the best information available from the AESO Long-term Transmission System Plan, on the AESO web site.
- All proposed generation in the 2014 GSO have not been approved by the AUC. Generators used in the analysis have been logged in AESO's project list as project inquiries. This information was used to build the base cases. The AESO Long Term Generation Scenarios are used as an input to build the 2014 base cases.
- Major transmission enhancements in the cases following 2010, with the exception of several 240 kV connections and the 500 kV connections due in 2014, have not been approved by the AUC. As a result, the transmission system may also change.

Please note individual loss factors will not be presented.

A background map of Alberta along with area loss factor ranges (Figure 1) is attached for your reference.

If you have any questions contact the AESO at lossfactor@aeso.ca.

Yours truly,

Original signed by

Robert Baker, P.Eng.
Manager, Forecasting Services

Figure 1: 2014 Loss Factor Estimate Map

Version 1

March 26, 2010

