

- Preamble:** First, while 240 kV line ratings were provided in the Excel spreadsheet, the spreadsheet did not indicate the dates covered by summer ratings versus winter ratings. Moreover, there was no indication whether the ratings were normal ratings, long-term emergency ratings or short-term emergency ratings.
- Request:**
- (a) It would be appreciated if AESO would identify the specific dates during a calendar year that the summer ratings apply versus the winter ratings.
 - (b) In addition, it would be appreciated if AESO would provide a complete set of line ratings for each 240 kV line (i.e., normal, short-term emergency and long-term emergency).
 - (c) Also, it would be appreciated if AESO would identify the ratings each 240 kV line would have if it were only limited by line conductor and clearance limitations (i.e., CT ratio and terminal equipment was not limiting).
 - (d) Finally, it would be appreciated if AESO could identify whether any of the effective line ratings (i.e., considering CT ratio and terminal equipment ratings) cannot be realized in practice due to more restrictive voltage or stability limitations.
- Response:**
- (a) Summer ratings apply in the months April through September, and winter ratings apply in the months October through March
 - (b-c) The effective ratings provided by the AESO are used for planning purposes and should not be considered to be operating parameters such as emergency ratings. The ratings used for planning purposes are based on constraints for either the line or terminal equipment, and the constraint may result from clearance restrictions or equipment temperature limitations.
 - (d) The effective line ratings are often not realized in practice due to voltage or stability limitations. Please refer to the qualitative descriptions of transmission facility constraining factors and their causes on pages 7-8 of the 2006 Cost Causation Study Preliminary Report.

Preamble: Second, it appears either we were not clear enough or AESO misunderstood our questions ADC.AESO-008 and ADC.AESO-009(e). We would presume that AESO plans the Alberta bulk power system such that the bulk power system can withstand a single contingency within the bounds of thermal, voltage and stability limitations. We would also presume that in operation of the bulk power system AESO security constrains its generation dispatch or redispatches generation such that the bulk power system can withstand a single contingency within the bounds of thermal, voltage and stability limitations.

Request:

- (a) With this in mind, for each of the paths for the transmission lines listed in the table on pages 7-8 of the preliminary report, please provide the hours in which AESO constrained the generation dispatch or redispatched generation on a pre-contingency basis due to the forecasted post-contingency power flows that would result following a single contingency.
- (b) In addition, with the aforementioned clarification, as a follow-up to ADC.AESO-009(e), please identify the hours in 2005 when generation redispatch was required on a post-contingency basis following a single contingency.

Response: (a-b) When generation is dispatched on as the result of a transmission limitation, it is referred to as Transmission Must Run (TMR). TMR is generation required to be on-line and operating at specific levels in particular parts of the AIES in order to ensure system security. TMR agreements provide the AESO with dispatch rights to TMR generation to ensure adequate voltages are maintained following transmission or generation contingencies on the system. TMR service is normally not required in Alberta except in the Northwest area. TMR hours are not tracked in the manner requested.

The AESO notes that requirements for TMR service are generally considered an operating concern, whereas transmission lines are generally planned to accommodate load without requiring on-going use of TMR service.

The AESO furthermore does not consider generation dispatch impacts to be material to the bulk system analysis. If a TMR generator is dispatched to ensure system security, it provides energy which would otherwise be provided by another generator on the AIES, and the bulk system line interconnecting the TMR generator may see a change in loading which would otherwise have occurred on the bulk system line interconnecting the other generator. Although the change in loading on individual bulk system lines may change, the net impact over all bulk system lines would generally not be affected. The net impact would also not be expected to

affect the results of the Preliminary Report, which is based on analysis of the bulk system in total.

Preamble: Third, in AESO's response to ADC.AESO-006(a-c), we are surprised to discover hourly load data on a Southern Alberta system, Central Alberta system and Northern Alberta system basis has not been compiled. We would think it important to examine the correlation of line flows with these subareas of the overall Alberta system.

Request: Please explain why such a correlation analysis was not undertaken and whether such hour subarea load data can be compiled. We believe this data should be available by examining the integral data from related Points of Delivery. We realize that the regional loads were not utilized in Mr. Reimer's analysis, but there is no reason we can see for not making the data for those regional loads available for inclusion in the analysis performed by other parties.

Response: The organization of transmission lines under southern, central, and northern Alberta headings in the table on pages 7-8 of the Preliminary Report primarily reflected the geographical areas of responsibility of system planning managers at the AESO when interviews were conducted, and not subareas planned as discrete systems. As indicated by the table, bulk system lines are evaluated as specific elements in the context of the transmission system as a whole. The load on a transmission line does not necessarily relate to how much load is in a geographic area, but to how much load is electrically connected to that line and where the load is electrically located in relation to the line and to the system as a whole. Simple compilation of POD level data is not helpful in understanding what stresses the bulk system and what drives the requirement to upgrade a bulk system line.

Even more importantly, the correlation between load in a geographic area and total AIL was not compiled because it is not useful. The DTS rate is required by legislation to be the same throughout Alberta; there is no opportunity for geographic variation. It therefore serves no useful purpose for rate design to assess load correlation on a geographic basis.

The analysis conducted for the Preliminary Report examined the relationship in time between load on bulk system lines and total AIL, to refine the coincidence demand component of the DTS bulk system charge. The analysis therefore did not investigate correlations for subarea load.



BRUBAKER & ASSOCIATES, INC.

1215 Fern Ridge Parkway, Suite 208
St. Louis, Missouri 63141
Tel. (314) 275-7007
Fax (314) 275-7036
E-Mail: bai@consultbai.com
Website: <http://www.consultbai.com>

Via: E-Mail

May 25, 2006

Mr. John Martin
Manager, Regulatory Affairs
Alberta Electric System Operator
2500, 330 - 5th Avenue SW
Calgary, AB T2P 0L4

Re: AESO 2007 Rates Consultation

Dear John:

We would like to thank AESO for responding on May 18, 2006 to Alberta Direct Connect Consumer Association's (DCA) request for additional information related to the 2006 cost causation study. Upon review of the provided information, we have determined we have some additional questions and concerns.

First, while 240 kV line ratings were provided in the Excel spreadsheet, the spreadsheet did not indicate the dates covered by summer ratings versus winter ratings. Moreover, there was no indication whether the ratings were normal ratings, long-term emergency ratings or short-term emergency ratings. It would be appreciated if AESO would identify the specific dates during a calendar year that the summer ratings apply versus the winter ratings. In addition, it would be appreciated if AESO would provide a complete set of line ratings for each 240 kV line (i.e., normal, short-term emergency and long-term emergency). Also, it would be appreciated if AESO would identify the ratings each 240 kV line would have if it were only limited by line conductor and clearance limitations (i.e., CT ratio and terminal equipment was not limiting). Finally, it would be appreciated if AESO could identify whether any of the effective line ratings (i.e., considering CT ratio and terminal equipment ratings) cannot be realized in practice due to more restrictive voltage or stability limitations.

Second, it appears either we were not clear enough or AESO misunderstood our questions ADC.AESO-008 and ADC.AESO-009(e). We would presume that AESO plans the Alberta bulk power system such that the bulk power system can withstand a single contingency within the bounds of thermal, voltage and stability limitations. We would also presume that in operation of the bulk power system AESO security constrains its generation dispatch or redispatches generation such that the bulk power system can withstand a single contingency within the bounds of thermal, voltage and stability limitations. With this in mind, for each of the paths for the transmission lines listed in the table on pages 7-8 of the preliminary report, please provide the hours in which AESO constrained the generation dispatch or redispatched generation on a pre-contingency basis due to the forecasted post-contingency power flows that would result following a single contingency. In addition, with the aforementioned clarification, as a follow-up to ADC.AESO-009(e), please identify the hours in 2005 when generation redispatch was required on a post-contingency basis following a single contingency.



Mr. John Martin
Alberta Electric System Operator
May 25, 2006
Page 2

Third, in AESO's response to ADC.AESO-006(a-c), we are surprised to discover hourly load data on a Southern Alberta system, Central Alberta system and Northern Alberta system basis has not been compiled. We would think it important to examine the correlation of line flows with these subareas of the overall Alberta system. Please explain why such a correlation analysis was not undertaken and whether such hour subarea load data can be compiled. We believe this data should be available by examining the integral data from related Points of Delivery. We realize that the regional loads were not utilized in Mr. Reimer's analysis, but there is no reason we can see for not making the data for those regional loads available for inclusion in the analysis performed by other parties.

If you have any questions or would like any further clarification, please do not hesitate to contact us.

Sincerely,

BRUBAKER & ASSOCIATES, INC.

Alan Rosenberg

Alan Rosenberg

James R. Dauphinais

James R. Dauphinais