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2007 AESO Draft Loss Factors
Stakeholder Questions/Comments and AESO Responses
Oct 27, 2006

We would like to thank those stakeholders who took time to ask questions and provide comments about the 2007 Draft Loss Factors released October 17, 2006. Questions and comments were received from HR Milner.

Stakeholder Question/Comment	AESO Response
In response to Milner's earlier questions, the AESO indicated it would provide the marginal unit in each of the twelve base cases used in the calculation of the 2007 loss factors if desired. This would be helpful. Can the AESO provide the marginal unit in each of the twelve load flow base cases used to calculate the 2007 loss factors?	In the presentation to stakeholders on October 24, 2006, the AESO indicated all generation from the 2007 Generic Stacking order (GSO) was dispatched for 10 of 12 cases. The AESO also supplied as part of its commitment to stakeholders the 2007 Base Cases and associated RAWD cases on our web site. The information was supplied, as promised, on October 6, 2006. The AESO notes the marginal unit information is included in the case information.
In response to Milner's earlier questions, the AESO indicated that, *"No Preliminary generation is included in 2007".* However, in response to a separate question about the Sundance 4 upgrade, the AESO indicated, *"the Sundance 4 project is not a new unit. It will be evaluated initially as per CEA statistics however to assess its output in the first year. It is regarded as preliminary generation as per our latest information."*	At the time of the publishing of the 2007 GSO, the Sundance 4 unit upgrade did not have a CCA but did have an ISD for 2007. Hence, it was regarded as preliminary and posted at the end of the GSO. The Sundance 4 project is an increase in capacity on an existing generator. As the capacity is new to the system, and connected to an existing generator, it represents a unique connection proposal. CEA statistics for performance were applied as per AESO Rules. a.) Sundance 4 is listed correctly as per AESO Rules b.) Sundance 4, at time of publishing, was designated

In response to a third question the AESO indicated, *"Generators are preliminary if they have an ISD for the next year. The unit, may or may not connect. If the unit has a CCA, and construction has commenced, then the unit is added into the GSO rankings as per its' generation type."* Milner's questions are; a.) If the Sundance 4 upgrade is preliminary generation why is it not listed as such in the GSO? b.) If the Sundance 4 upgrade is not preliminary generation, why is it not added into the GSO rankings as per its' generation type (coal). c.) What are the criteria used by the AESO to assess whether new generation is preliminary (and added at the end of the GSO) or not preliminary (and added into the GSO rankings as per its generation type.) d.) Please indicate if the Sundance 4 upgrade shown in the 2007 GSO is dispatched in each of the 12 load flow scenarios used for the 2007 Loss Factor calculations.	preliminary generation c.) The AESO has responded previously to this question d.) As per the response above, 10 of 12 cases were completely dispatched. Hence, Sundance 4 was dispatched in these cases. Please review the posted cases for 2007 for the marginal unit dispatched in the other two cases.
As the twelve base cases are now complete and the AESO has developed draft loss factors for 2007, can the AESO provide the aggregate load in total for each of the twelve scenarios modeled for both the 2007 and 2006 loss factor calculations?	The AESO notes the base cases, provided on October 6, 2006, has all system information including system load in the cases. The load is based on the AESO's latest load forecast. The load information for the 2006 loss factors is supplied on our web site also at: www.aeso.ca > Transmission > Loss Factors > Base Cases and Raw Data > 2006

Can the AESO indicate if the forecast load was scaled down to meet available generation in any of the twelve scenarios used by the AESO for the calculation of the 2007 loss factors? If so can the AESO indicate both the scaled and un-scaled loads for each scenario.	Loads in 10 of 12 cases were scaled down. The load was scaled from the analysis of the latest AESO load forecast.
In response to Milner's earlier question regarding "why is capacity from Sundance 4 upgrade shown in the fall scenarios but not in the winter scenarios for 2007?" the AESO indicated, *"The AESO will clarify the seasonal definitions used in loss factor determination in the GSO support document. The winter season is December (year Y-1), January , and February (year Y)."* The final GSO support document confirms that the generation supply levels refer to December 2006 to November 2007. a.) Is it the intention of the AESO that the 2007 loss factors apply to the December 2006 to November 2007 timeframe? b.) Do not the generation supply levels in the GSO refer to the historical generation that occurred between June 1, 2005 and May 31, 2006? c.) Why cannot the Sundance 4 upgrade be represented in the winter scenario based on anticipated operation for the month of December and not in January and February?	a.) As per the Rules and discussions in the stakeholder work groups, the winter season for the cases consists of December (2006) and January and February (2007). b.) The historical generation data for 2007 was extracted from June 1 2005 to May 31 2006, as per the AESO Rules. c.) As per the AESO Rules, a facility is not included in a season if the expected ISD occurs in the last half of the season. It would not be reasonable to include Sundance 4, with an expected ISD after Oct 15, 2007, in the winter season for 2007.
In the accompanying letter to the draft loss factors the AESO indicated, *"the load used in the base cases is consistent with the latest*	The forum of your questions is regarding loss factors. The AESO will supply consistent information however the first part of your request is more correctly directed to the Ten Year plan

AESO load forecast for 2007" The AESO's presentation at the September 7, 2006 Stakeholder Consultation on the 10-year transmission system plan indicated the AESO would release its detailed load forecast in September. This forecast does not appear to be available on the AESO's website. Can the AESO provide the hourly AIL and AIES load forecast used in the development of the 12 base-case load flows used in the 2007 Loss Factor calculations?	consultation process. As above, the loads used in the base cases for the 2007 loss factors are available on the AESO's web site, location provided above.
What is the forecast volume of transmission losses in 2007 used by the AESO in the calculation of the 2007 loss factors?	The volume of losses used for 2007 is 2,897 GW.hr's.
Can the AESO explain why, *"The Rainbow area generation dispatched in the 2007 cases is higher than what was dispatched in 2006 cases, even though the 2006 GSO values are numerically higher"?*	The Rainbow area was not fully dispatched in most cases in 2006. In 2007, the area was fully dispatched in at least 10 of 12 cases.
In the accompanying letter to the draft loss factors the AESO indicated, *"The (SW) project is not included in the base cases in 2007 as the expected in-service date has moved to 2008. For the 2006 loss factors, the SW development was included."* a.) What transmission additions are reflected in the 2007 base cases that were not in the 2006 base cases? b.) Are there any other transmission projects that were	a.) and b.) The major transmission projects different from 2006 in the 2007 cases are: the Southwest project is not included; Cordell to Metiskow is included; and Michichi to Three Hills is included.

included in the 2006 base cases that are not included in the 2007 base cases?	
In the accompanying letter to the draft loss factors the AESO indicated they had changed the way load was treated in the 2007 base cases. The AESO indicated, *"In re-evaluating the loss factor for 2006, the only real change was to the import, export, and DOS loss factors due to changes in the Shift Factor."* a.) Could the AESO provide the results of their re-evaluation of the loss factors for 2006 showing the change in loss factors by generator and for imports and exports? b.) Why was it necessary for the AESO to undertake changes to the way that load was treated in 2007? c.) When did the AESO decide to modify the way it modelled load in the base cases used for the loss factor calculations? d.) Why would the changes to the way that load was treated in 2007 cause a change to the loss factors? e.) What is the impact on the 2007 loss factors of the changed treatment of load?	The basic principle reflected in the calculation of loss factors is that generators are charged for all losses including those caused by loads. For 2006 loss factor calculations, losses created by all loads (with the exception of one ISD) were assumed to be charged (distributed) to all generators. For 2007 loss factor calculations, the loss factor software has been refined such that losses caused by behind the fence loads are factored into the loss factors that are determined for their associated generators. a.) The changes in 2006 loss factors when applying our refinement, as discussed in our stakeholder meeting, range from 0 to 0.2 percent higher than the posted cases. The average change was about 0.1%. b.) As discussed in our meeting, the AESO discovered a refinement to the treatment of load makes the results completely consistent with the application of the methodology. Therefore the refinement was undertaken. c.) The modeling of load in the base cases was not under consideration. Once the AESO discovered a refinement to process was necessary in October 2006, it made the changes immediately. d.) As per the loss factor methodology the treatment of load and generation are instrumental in the development of loss factors. e.) The AESO will be treating the 2007 loss factors with the refinement in place. Therefore, there will be no change.

In response to Milner's request to "*Please provide a detailed numerical example illustrating how the stacking order is derived. If it is necessary to protect confidentiality please use hypothetical data for the example*", the AESO indicated, *"the process used by AESO is described on page 6, item #9 in the GSO document. Hypothetical data will not be very useful as it cannot be checked."* In asking for an example using hypothetical data, Milner is not seeking to replicate or check the AESO's stacking order calculations. Rather it is seeking to understand the logic and process that is used to determine the stacking order. Milner submits that the order in which generation is dispatched to meet load can make a material difference to the loss factors assigned to generators and the description of the process provided in the GSO document is insufficient to provide a detailed understanding of how the stacking order is derived. This critical part of the loss factor methodology is currently not transparent. Milner would again ask if the AESO could provide a detailed numerical example illustrating how the stacking order is derived using hypothetical data so that confidential information is not revealed.	The AESO re-iterates that the process is adequately described on page 6, item #9 in the GSO document.
The AESO has indicated that, in the GSO, TMR requirements are dispatched first. In the northwest, the generators which are TMR providers are known. In the 2006 and 2007 GSO these generators are, Bear Creek G1 and G2, Fort Nelson, Poplar Hill, Rainbow 2, Rainbow 5, Rainbow 4, and Valleyview. In the past Rainbow 1 and Rainbow 3 have also provided TMR services.	The AESO confirms there are no TMR dispatches in block 2 in the loss factor GSO.

Our understanding from the discussion at the October 24, 2006 meeting is that the forecast TMR dispatch in the Northwest is represented in the block one dispatch of those generators that provide TMR and these dispatches are contained in the first 10 dispatches in both the 2006 and draft 2007 GSO. Milner understands that generators are not dispatched to provide TMR if the required generator is already running in merit. Hence, any TMR dispatch represents an out of merit dispatch and absent the TMR dispatch the generator would not run. Milner is concerned that if TMR dispatches are included in the block 2 dispatches of the NW generators the historical in-merit volumes in the GSO would be overstated and this would negatively impact the loss factors for generators in the region. Milner would like confirmation that the block 2 dispatches from the NW generators in the 2006 and 2007 GSO were calculated from the actual historical in-merit generation dispatches only and do not contain historical TMR dispatches. Can the AESO confirm our understanding?	