

# Options That May Be Used to Calculate Loss Factors for 2006 to 2010 in Proceeding 790 Phase 2 Module C

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# Agenda

- Introduction, objectives, and background
- Information on the data issue for the period 2006 to 2010
- Discussion of possible options for calculating loss factors from 2006 to 2010
- Discussion of advantages, disadvantages, time, and effort related to each option
- Next steps

# Introduction



- Each participant to introduce self, including who he or she is representing
- Scope of discussion is data issue for the period 2006 to 2010 and possible options for calculating loss factors for that period
- Presentation is based on work to date by AESO
- Please ask questions during presentation
- Discussion is on “without prejudice” basis
  - AESO may refer to the discussion and include its own conclusions in its submission to the Commission, with no comments attributed to any specific party
- Presentation slides will be posted on AESO website

# Objectives



- Stakeholders to better understand data issue for the period 2006 to 2010
- AESO and stakeholders to identify possible options for calculating loss factors from 2006 to 2010
- AESO to understand advantages, disadvantages, time, and effort related to each option

# AESO first mentioned data quality issue in March 2016



- AESO reply submission dated March 10, 2016:

*[T]he quality of older data cannot be easily validated and the AESO is assessing options to ensure the quality of any data provided.*

# AESO provided additional detail in submission in June 2016



- AESO submission on June 9, 2016:

*[T]he quality of data from years prior to 2011 may compel the use of different approaches between the more recent years of 2011 to 2016 and the earlier years of 2006 to 2010 .... [D]ata for the years 2011 to 2016 is contained in a single data storage system, with all stored data validated against its source. In contrast, data for the years 2006 to 2010 ... cannot now be validated against source data, and does not support the level of precision and quality required for the hourly calculations used in the Module B methodology. As well, the input data for the Module B Implementation Plan added contingency reserve volumes to energy market merit order offers, and contingency reserve volumes are not available for years prior to 2011.*

# AESO offered further investigation in July 2016



- AESO comments on July 20, 2016:

*The AESO will further investigate the data quality issues it identified to determine whether additional detail can be provided, and will report its findings to the Commission and stakeholders. The AESO expects it could require up to three months to examine the 2006–2010 data, as the nature and format of the data makes it difficult to assess the magnitude of the data quality concerns without significant effort.*

# Commission requested AESO provide further clarification in July 2016



- Request for further clarification dated July 22, 2016:

*The AESO is directed to submit a more detailed description of the data issue for the period 2006 to 2010, including any estimates of the time and effort to translate the data as described in the AESO submission, an estimate of the magnitude of the contingency reserves and the impact of not including them in the loss factor calculations, and any other issues identified by the AESO that will help all participants and the Commission to understand the issues with the data. Further, the submission should outline any possible options for calculating loss factors from 2006 to 2010, including the advantages, disadvantages, time and effort related to each option, and their possible impacts on the timing of the determination of loss factors from 2006 to 2010.*



# Merit order data is available in three datasets



Dataset	Modern	Snapshot	Legacy
Period	Apr 2012 – Present	Feb 2008 – Present	Jan 2006 – Aug 2009
Available data	Merit order	Merit order	Offer blocks (can convert to merit order using current procedure)
Captured	Continuously (when changes occur)	Every 5 minutes from hh:00 to hh:55	Every 5 minutes from hh:00 to hh:55
Includes end of hour	Yes	No, but can use hh:55 merit order	No, but can use hh:55 offer blocks
Offers reduced for contingency reserve	Yes	Yes (being confirmed)	No (can synthesize reduction from OR procurement data)

# Datasets contain different information

Dataset	Modern	Snapshot	Legacy
Capability basis for offers	Available capability	Availability capability	Maximum capability (can synthesize AC from separate database)
Missing hours	Minimal	Minimal	Minimal
Dispatched capacity included	Yes	Yes	No (can synthesize dispatch from metered energy volumes with dispatched active reserve deducted)

# Datasets contain different information (cont'd)



Dataset	Modern	Snapshot	Legacy
Unscheduled ATC over interties	Available	Available (calculated on different basis)	Not available (can synthesize from ATC and metered volumes)

- Legacy data set has additional issues
  - Offer blocks from HE 00 and HE 02 reported in HE 01
    - Exclude based on implied local settlement interval
  - Capacity field differs from sum of offer blocks
    - Ignore capacity field
  - Test data exists in production data for first settlement intervals
    - Ignore first interval data

# Potential impact of data issues on loss factors



Dataset	Modern	Snapshot	Legacy
Available data	Merit order – None	Merit order – None	Offer blocks – Small
Includes end of hour	Yes – None	Use hh:55 values – Small	Use hh:55 values – Small
Offers reduced for contingency reserve	Yes – None	Yes – None	Synthesized – Small
Capability basis for offers	AC – None	AC – None	MC – Material in some hours
Missing hours	Minimal	Minimal	Minimal
Dispatched capacity included	Yes – None	Yes – None	Synthesized – Small

# Potential impact of data issues on loss factors (cont'd)



Dataset	Modern	Snapshot	Legacy
Unscheduled ATC	Available – None	Available – Minimal	Synthesized – Minimal
Additional issues	None	None	Small

- Legacy dataset for 2006–2008 is potentially most problematic

# Possible options for calculating 2006–2008 loss factors



- Option: Apply hourly Module B methodology
- Others?

# Advantages, disadvantages, time, and effort related to each option



- AESO is currently retrieving legacy data for 2006–2008
  - Data exists either in old files in the data warehouse system or in tape backups
  - File structure is known
- Discussion

# Next steps

- AESO to file more detailed description of the data issue with the Commission by October 20, 2016
- Commission may then consider further process steps
- AESO is currently focusing its resources on Module B implementation matters
- AESO remains of the view that loss factors for 2006–2016 could be determined in 12 to 18 months following the calculation and release of 2017 loss factors in early 2017, even if a different methodology is used for 2006–2008



# Additional discussion





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