AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Indicative Extrapolation Input Data For 2022-23 Marginal Loss Factors

October 2021

For the National Electricity Market

Important notice

PURPOSE

AEMO has prepared this document to provide indicative projections of generation to be used in the Marginal Loss Factor calculation for the 2022-23 financial year. The generation projections are indicative only, using historical dispatch data.

AEMO publishes this document in accordance with clause 5.5.7 of the Methodology for Calculating Forward Looking Loss Factors (version 8.0). This publication is based on information available to AEMO at the time of publication.

DISCLAIMER

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1. Introduction

The National Electricity Rules (NER) require AEMO to determine inter-regional loss factor equations and calculated inter-regional and intra-regional loss factors each year, and publish the factors by 1 April for the financial year commencing on 1 July. The calculation is performed in accordance with the published Forward-Looking Transmission Loss Factors methodology (Methodology)[1].

AEMO uses historical generation dispatch profiles and forecast demand profiles as inputs to the loss factor calculation, then applies the minimal extrapolation process (as described in the Methodology) to the historical generation to produce forecast generation dispatch to ensure supply and demand is in balance.

Historical generation dispatch profiles might not accurately represent anticipated generation patterns, and could therefore result in marginal loss factors (MLFs) that are not representative of likely generation in the target year. To address this, clause 5.5.7 of the Methodology describes the process and conditions in which AEMO may use an adjusted generation profile proposed by a Generator in lieu of a historical generation profile for the MLF calculation.

AEMO has now published **indicative** historical and extrapolated generation forecasts for the 2022-23 MLF calculation. This information is provided to help Generators to identify whether the historical generation profiles and the extrapolated generation forecast produced in accordance with the Methodology is likely to be representative of expected generation dispatch for their plant in the 2020-21 financial year, and propose adjusted profiles if necessary.

2. Assumptions

The purpose of the indicative extrapolation study is to provide an indication of the generation forecast that will be used in calculation of the 2022-23 MLFs. The historical generation used for the purposes of this forecast is based on data from the 2020-21 financial year.

AEMO will continue to analyse and check these generation forecasts. Consequently, the final generation forecasts used in calculation of the 2022-23 MLFs may differ from those presented in this report.

This study incorporates the following simplifying assumptions:

- Scaled historical demand (regional %) from 2020-21 financial year for existing connection points loads (based on information available in the ESOO 2021[2], which includes updated projections of distributed renewable resources).
- New loads considered are limited to significant transmission-connected loads (typically greater than 50 megawatts (MW)).

[1] AEMO. *Forward-Looking Transmission Loss Factors*, Version 8.0, effective 18 December 2020, at https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/loss_factors_and_regional_boundaries/forward-looking-loss-factor-methodology.pdf?la=en

[2] AEMO Electricity Statement of Opportunities, https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-reliability/nem-electricity-statement-of-opportunities-esoo

- New generation projects are included dependent on their status in AEMO's Generation Information web page[3], as published on 13 July 2021. Projects listed as committed[4] (COM/COM*) and with a target commercial operation date that will result in generation within the target year are included.
- Generator capacities are equal to those on the Generation Information web page update published on 13 July 2021.
- Intra-regional limits as identified and incorporated into the 2021-22 MLF study, excluding North Queensland system strength limit.
- Inter-regional limits as identified and incorporated into the 2021-22 MLF study.

To calculate the indicative 2022-23 extrapolated generation forecast, AEMO included the following new projects (not registered at the time of the study):

- Queensland – Bluegrass Solar Farm, Columboola Sloar Farm, Kaban Green Power Hub Wind Farm, Western Downs Green Power Hub Solar Farm and Woolooga Solar Farm.
- New South Wales – Metz Solar Farm, New England Solar Farm, Riverina Solar Farm and Sebastopol Solar Farm.
- Victoria –Murra Warra Wind Farm Stage 2.
- South Australia – Snapper Point Power Station.
- Tasmania – None.

[3] At http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Generation-information.

[4] Committed (COM) projects meet all five of AEMO's commitment criteria (relating to site, components, planning, finance, and date). Committed* (COM*) projects are classified as Advanced, have commenced construction or installation, and meet AEMO's site, finance, and date criteria, but are required to meet only one of the components or planning criteria.

3. Results

The results of this study are provided as a separate spreadsheet on AEMO's website with this report[5]. The results provide the following information in relation to scheduled generating units:

- Historical generation, as monthly energy for each Transmission Node Identifier (TNI) from the 2020-21 financial year.
- Forecast generation, as monthly energy for each TNI for the 2022-23 financial year based on AEMO's indicative extrapolation study.

AEMO has not included this information for semi-scheduled and non-scheduled generation (such as wind farms and solar farms), as the outputs of these generators are not generally adjusted under the minimal extrapoloation principle to balance supply and demand.

AEMO has modelled Basslink flows at the historical figure of approximately 550 gigawatt hours (GWh) net flowing from Victoria to Tasmania

The generation forecast used in calculation of the final 2022-23 MLFs is likely to change from the 2022-23 indicative extrapolated generation forecast published with this report. Reasons for change may include, but are not limited to:

- Using the forecasted demand profiles for 2022-23 financial year for all existing connection points.
- Additional generation projects achieving committed status in AEMO's Generation Information web page.
- AEMO's acceptance of any adjusted generation profiles provided by Generators in accordance with the Methodology.
- Revised Medium Term Projected Assessment of System Adequacy (MT PASA) inputs.
- Revised or additional intra-regional transmission limits.
- Revised or additional inter-regional transmission limits.
- Revised network model incorporating future augmentations.
- Updated information that may be used for the final 2022-23 MLF calculation.

[5] At http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Loss-factor-and-regional-boundaries.

4. Submission due date

Registered Generators may submit proposed adjusted generation profiles for the 2022-23 MLF calculation to mlf_profiles@aemo.com.au, in line with clause 5.5.6 of the Methodology.

AEMO will then consider whether to accept any proposed adjustments for the 2022-23 MLF calculation. Generators should carefully consider the requirements and conditions for acceptance in clause 5.5.6 before making submissions.

The due date for submission of proposed adjusted generation profiles is **19 November 2021**. AEMO may not be able to consider submissions received after the due date.