Indicative Extrapolation Input Data For 2023-24 Marginal Loss Factors
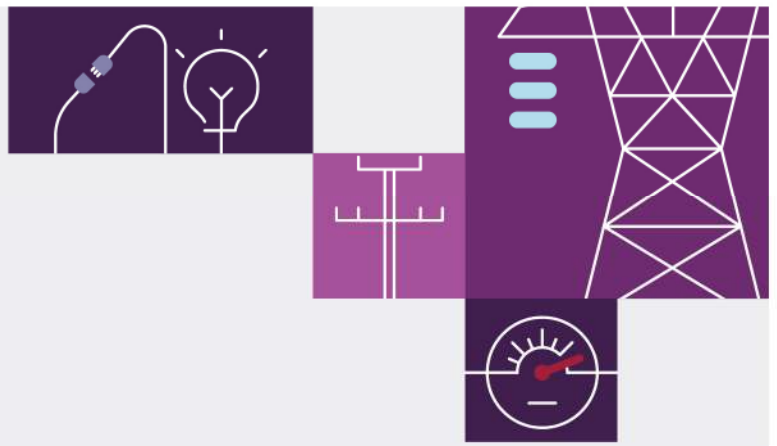
October 2022

A report for the National Electricity Market

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

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 2023-24 financial year. The generation projections are indicative only.

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.

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Version control

Version	Release date	Changes
1.0	31/10/2022	Initial Publication

AEMO acknowledges the Traditional Owners of country throughout Australia and recognises their continuing connection to land, waters and culture. We pay respect to Elders past and present.

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 2023-24 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 2023-24 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 2023-24 MLFs. The historical generation used for the purposes of this forecast is based on data from the 2021-22 financial year.

AEMO will continue to analyse and check these generation forecasts. Consequently, the final generation forecasts used in calculation of the 2023-24 MLFs may differ from those presented in this report.

This study incorporates the following simplifying assumptions:

- Scaled historical demand (regional %) from 2021-22 financial year for existing connection points loads (based on information available in the Electricity Statement of Opportunities (ESOO) 2022[2].

- New loads considered are limited to significant transmission-connected loads (typically greater than 50 megawatts (MW)).

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[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 31 August 2022. 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 based on those in the Generation Information update published on 31 August 2022.

- Intra-regional limits as identified and incorporated into the 2022-23 MLF study.

- Inter-regional limits as identified and incorporated into the 2022-23 MLF study, with exception of the revised schedule for the return to service (now 1/8/2023[5] as per Network Outage Schedule) of Para static var compensator (SVC) 2.

- Project EnergyConnect (PEC) has not been incorporated, as per the 2022 ESOO PEC is expected to progressively release capacity from the start of 2024-25.

To calculate the indicative 2023-24 extrapolated generation forecast, AEMO included the following new projects (not registered at the time of the study):

- Queensland – Clarke Creek Wind Farm, Dulacca Wind Farm, Edenvale Solar Park, Wandoan South Solar Stage 1.

- New South Wales – Avonlie Solar Farm, Kurri Kurri OCGT, New England Solar Farm, Riverina Solar Farm, Rye Park Wind Farm, Tallawarra B, Wollar Solar Farm, Wyalong Solar Farm.

- Victoria – None.

- South Australia – Tailem Bend Stage 2 Solar Project.

- Tasmania – None.

3 Results

The results of this study are provided as a separate spreadsheet on AEMO's website with this report[6]. 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 2021-22 financial year.

- Forecast generation, as monthly energy for each TNI for the 2023-24 financial year based on AEMO's indicative extrapolation study.

AEMO has modelled Basslink flows at the historical figure of approximately 242 gigawatt hours (GWh) net flowing from Tasmania to Victoria.

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[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.

[5] As per NOS https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/data-nem/network-data/network-outage-schedule

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

The generation forecast used in calculation of the final 2023-24 MLFs is likely to change from the 2023-24 indicative extrapolated generation forecast published with this report. Reasons for change may include, but are not limited to:

- Revised forecast demand profiles will incorporate connection point level adjustments (rooftop PV, industrial loads, future loads, load transfers, etc.)

- Additional generation projects achieving committed status in AEMO's Generation Information publication.

- Generation local to Tasmania may require adjustments given anticipated outcomes as per 5.5.2 of the Methodology. Alternatively, changes may be made to Basslink flows where deemed to reflect the likely outcome within the 2023-24 financial year.

- 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.

- Other updated sources of information that may be used for the final 2023-24 MLF calculation.

The results of this study are provided as a separate spreadsheet on AEMO's website with this report[7]. 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 2021-22 financial year.

- Forecast generation, as monthly energy for each TNI for the 2023-24 financial year based on AEMO's indicative extrapolation study.

4 Submission due date

Registered Generators may submit proposed adjusted generation profiles for the 2023-24 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 2023-24 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 18 November 2022. AEMO may not be able to consider submissions received after the due date.

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