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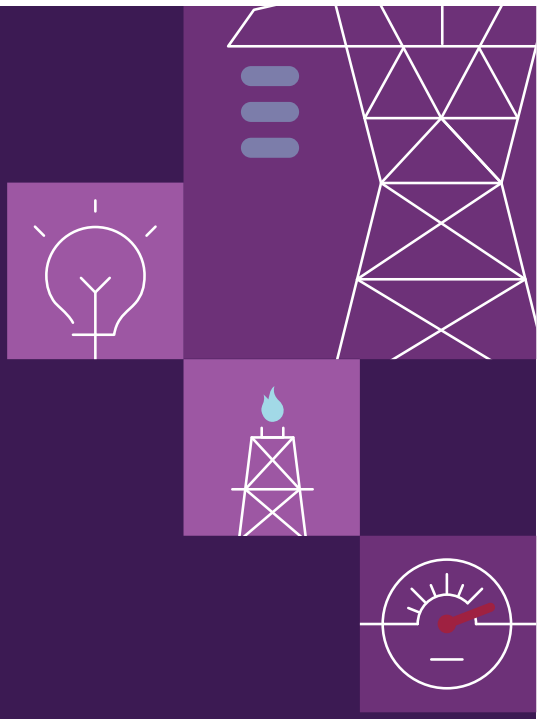
AUSTRALIAN ENERGY MARKET OPERATOR



National Electricity Market Settlement Estimates Policy

Prepared by:	AEMO Markets
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Approved for distribution and use by:

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Title:	Executive General Manager Operations
Date:	TBA

Contents

Current version release details

Version	Effective date	Summary of changes
5.0	TBA	• Amendment to the methodology for determining settlement estimates at the NMI level when no *metering data* is available. • Added clarification that SCADA data is available for interconnectors at the TNI level. • Removed section on Settlement process during system and communications failures. • Edited document for clarity and to further improve readability and interpretation, with additional drafting improvements.

Note: There is a full version history at the end of this document.

1. Introduction

1.1. Purpose and scope

This is the NEM Settlement Estimates Policy made under clause 3.15.12(c) of the National Electricity Rules (**NER**) (**Procedures**).

These Procedures have effect only for the purposes set out in the NER. The National Electricity Law and the NER prevail over these Procedures to the extent of any inconsistency.

These Procedures set out:

1. the principles and process for calculating estimated *settlement amounts* under clause 3.15.12(b) of the NER;
2. *AEMO*'s process for estimating *settlement amounts* for the purpose of calculating *outstandings* under clause 3.3.9 of the NER.

1.2. Definitions and interpretation

1.2.1. Glossary

Terms defined in the National Electricity Law and the NER have the same meanings in these Procedures unless otherwise specified in this clause.

Terms defined in the NER are intended to be identified in these Procedures by italicising them, but failure to italicise a defined term does not affect its meaning.

In addition, the words, phrases and abbreviations in the table below have the meanings set out opposite them when used in these Procedures.

Term	Definition
Consumed Energy	For a *market connection point* for a *trading interval* is calculated as follows: ME- × DLF
DLF	The *distribution loss factor* applicable at the *market connection point*
DRSP	*Demand Response Service Provider*
ME-	For a *market connection point* for a *trading interval*, the amount of electrical *energy* estimated in accordance with paragraph 2.1.1 of this Procedure, expressed as a negative value in MWh, flowing at the *connection point* in the *trading interval*, where the flow is away from the *transmission network connection point* to which the *connection point* is assigned.
ME+	For a *market connection point* for a *trading interval*, the amount of electrical *energy* estimated in accordance with paragraph 2.1.1 of this Procedure, expressed as a positive value in MWh, flowing at the *connection point* in the *trading interval*, where the flow is towards the *transmission network connection point* to which the *connection point* is assigned.
MSRP	*Market SAPS Resource Provider*
NER	National Electricity Rules
SAPS	*Stand-alone power system*
SCADA	Supervisory Control and Data Acquisition
Sent Out Energy	For a *market connection point* for a *trading interval* is calculated as follows:

Term	Definition
	ME+ × DLF
TNI	Transmission Node Identifier
UFE	Unaccounted for *energy*

1.2.2. Interpretation

These Procedures are subject to the principles of interpretation set out in Schedule 2 of the National Electricity Law.

1.3. Related documents

Title	Description and location
Settlements Estimation Guide	A supporting guide to help participants understand the Settlement Estimation process that *AEMO* performs. https://aemo.com.au/-/media/files/electricity/nem/settlements_and_payments/settlements/2024/settlements-estimation-guide.pdf
Market Suspension and System Failure Procedure	Explains how *AEMO* manages situations where market systems fail, or which may require suspension of the *spot market*. https://aemo.com.au/-/media/files/electricity/nem/security_and_reliability/power_system_ops/procedures/so_op_3706-failure-of-market-or-market-systems.pdf

2. Settlement estimation

Under clause 3.3.9 of the NER, *AEMO* is required to determine the *outstandings* of a *Market Participant* as a dollar amount. The *outstandings* is a key value used in the prudential assessment of a *Market Participant*. Under clause 3.3.11 of the NER, *AEMO* may take certain actions, including issuing a call notice to the *Market Participant*, if a *Market Participant* fails to maintain their *outstandings* below their trading limit.

The value of a *Market Participant's outstandings* can be considered to be the aggregate of the absolute value of net *settlement amounts* payable in respect of any *billing period*, or part of a *billing period*, that has occurred but not yet been settled less security deposit funds held by *AEMO* in respect of the *Market Participant*.

Under clause 3.3.9 of the NER, the amounts used in the calculation of a *Market Participant*'s *outstandings* are the actual *settlement amounts* for *billing periods* where *final statements* have been issued by *AEMO* or *AEMO*'s reasonable estimate of the *settlement amounts* for *billing periods* where *final statements* have not been issued.

In practice, *AEMO* uses data from preliminary billing runs to determine a *Market Participant*'s actual *settlement amounts* where this is available. For days where no preliminary billing runs have been performed, a settlement estimation process is required. The process followed by *AEMO* to estimate settlements data is described below.

2.1. Settlement estimation process

The following is a hierarchy of available data which is to be applied for the purposes of determining estimated *settlement amounts* where there is insufficient preliminary billing run data to calculate actual *settlement amounts*. *AEMO* will develop and implement *Market Participant* and wholesale *connection point* data parameters and validations to determine the highest level in the hierarchy to be applied in the estimation of *settlement amounts*.

Estimated *settlement amounts* are to be based on the following data sources in a decreasing order of preference relating to the accuracy of the data source.

2.1.1. Hierarchy of data for estimating Consumed Energy and Sent Out Energy for all market participant categories

(a) For *days* when *metering data* is available

- A billing run is to be performed for each calendar day which will pick up the latest *metering data* available for all *days* for which there is yet to be a preliminary billing run.

(b) For *days* when no *metering data* is available

(1) For a *Market Participant* whose *metering data* is usually provided at the NMI level:

(i) For *scheduled generating units*, *semi-scheduled generating units*, *non-scheduled generating units*, *scheduled bidirectional units*, and *non-scheduled bidirectional units* SCADA data is used where this is available

- Consumed Energy and Sent Out Energy is estimated directly from the *NEM dispatch* process with the application of a dynamic, *Market Participant*-specific scaling factor to adjust SCADA data to better reflect expected *metering data*.

(2) For a *Market Participant* whose *metering data* is usually provided at the TNI level:

(i) For interconnectors that have SCADA data available

- Consumed Energy and Sent Out Energy is estimated directly from the *NEM dispatch* process.

(ii) Where there is no other *Market Participant* at the TNI and one-to-one (SCADA to *connection point*) mapping is available

- For Consumed Energy and Sent Out Energy, the SCADA data can be utilised. *Market Participants* can request *AEMO* to consider their suitability for using TNI SCADA data.

(iii) Estimated data based on a statistical model

- To estimate the *settlement amounts* for the previous *day's* energy, a multiple linear regression model using period ID, region demand, business day vs non-business day, and the date being predicted as predictor values, is applied over the latest 28 *days* of available *metering data* for the *Market Participant*. The coefficients for regression are calculated based on Consumed Energy and Sent Out Energy for each *Market Participant*.

(3) For *DRSPs*, the *wholesale demand response settlement quantity* is estimated at zero when actual *metering data* or final *substituted metering data* is not available.

(4) For *SAPS*, Consumed Energy and Sent Out Energy are estimated at zero when actual *metering data* or final *substituted metering data* is not available.

2.2. Estimating UFE

Where initial *metering data* and/or preliminary and final settlement data is available, *AEMO* will include the *Market Participant's* allocation of UFE in the settlement estimation. Where no *metering data* is available, the UFE component will be assumed to be zero.

Version release history

Version	Effective date	Summary of Changes
5.0	TBA	• Amendment to the methodology for determining settlement estimates at the NMI level when no *metering data* is available. • Added clarification that SCADA data is available for interconnectors at the TNI level. • Removed section on Settlement process during system and communications failures. • Edited document for clarity and to further improve readability and interpretation, with additional drafting improvements.
4.0	3 June 2024	• New *AEMO* template. • Replaced the five separate data hierarchies in Section 3 with one main hierarchy. • Incorporated Market SAPS Providers into the methodology for determining settlement estimations. • Amendment to the methodology for determining settlement estimates for previous day energy at a TNI level when no *metering data* is available. • Minor drafting improvements.
3.0	1 October 2021	• Add provisions for estimating settlement results for the purpose of prudential estimation for Demand Response Service Providers under the Wholesale Demand Response Mechanism. • Update 5MS start date.
2.0	1 July 2021	• Re-arranged information to comply with *AEMO*s new external Procedure template. • Replaced Section 5 in version 1.1 with Section 2 in the current version. • Updated references to half-hourly or thirty-minute to five-minute (*trading interval*). • Updated to include UFE estimations for prudential purposes in Section 3.1.
1.1	13 Mar 2013	Minor amendments to NEM Settlement Estimates Policy to include effective date of 15 March 2013.
1.0	10 Aug 2012	Initial Version of NEM Settlement Estimates Policy. With effect from the Effective Date determined under clause 1, this Policy and the NEM Settlement Revisions Policy supersede the NEM Settlement Estimates and Revisions Policy version 3A, published on 15 November 2009.