

WEM IRCR PIR and Log Technical Guide

Version 1.0

Applicable from Trading Month October 2023





Important notice

Purpose

The Australian Energy Market Operator (AEMO) has prepared this document to provide information about the Wholesale Electricity Market Settlement Statements and Invoices as at the date of publication.

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Version control

Version	Release date	Changes
1.0	07/03/2025	Initial publication

Document approval

Name	Position	Date
Jason Hart	A/Manager, WA Prudentials and Settlements	28/02/2025



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1. Introduction

1.1 Purpose

This document is the WEM Individual Reserve Capacity Requirement PIR and Log Technical Guide.

This document provides general information about the formats of the IRCR Participant Information Report and Logs produced by the RCM Operations application, in accordance with the WEM Rules.

1.2 Application

This document applies to:

- AEMO who is required to provide the IRCR and adjusted IRCR to Rule Participants; and
- Rule Participants who are required to pay amounts owing on Invoices, or who are to receive amounts owing on Invoices, that use the IRCR value as an input.

All references to rules and procedures relate to the Wholesale Electricity Market.

This document is effective for the IRCR for Trading Month October 2023 onwards.

1.3 Supporting documentation

This guide should be read in conjunction with the following documents:


- [WEM Individual Reserve Capacity Requirement Calculations](#) from Version 2.0
- [WEM Procedure: Settlement](#) effective from 1 October 2023
- [Reserve Capacity Mechanism User Guide](#) from Version 1

1.4 Terms and abbreviations

The terms and abbreviations used in this document are outlined in Table 2.

Table 1 Terms and abbreviations

Term or abbreviation	Definition or expanded name
AEMO	Australian Energy Market Operator
API	Application Programming Interface
Formulation	Means the WEM Individual Reserve Capacity Requirements Calculations document
IRCR	Individual Reserve Capacity Requirement
MPI	Market Participant Interface
PaSS	Prudential and Settlement Service



Term or abbreviation	Definition or expanded name
PCS	Product Configuration Specification
Post-Amended Rules	Means the WEM Rules as in force immediately after the New WEM Commencement Day [WEM Rule 1.47.1]
Pre-Amended Rules	Means the WEM Rules as in force immediately before the New WEM Commencement Day [WEM Rule 1.47.1]
RCM	Reserve Capacity Mechanism
WEM	Wholesale Electricity Market
WEMS	Wholesale Electricity Market System

1.5 Further information

Please contact WA Prudentials and Settlements on wa.settlements@aemo.com.au for further information regarding the materials contained in this document.



2 Calculation Formulation

2.1 Overview

The WEM IRCR calculations are built on the basis of the independently certified **WEM Individual Reserve Capacity Requirement Calculation** document (the “Formulation”). This document creates a mathematically accurate representation of the WEM Rules, including:

- Representation of sets for use within the document;
- Mathematical equation representation of the WEM Rules; and
- Specifications for variables used by the calculations.

This Formulation is the foundation for the IRCR calculations implemented in AEMO’s software.

The outputs of the calculations are provided to Rule Participants through the PIR and LOG artefacts.

2.2 Version

AEMO publishes the Formulation as a PDF file.

The latest version(s) of the Formulation can be found under [settlement technical guides](#) on the AEMO Website.

More than one version may be current due to the applicable Trading Days and the Adjustment Process.

3 Artefacts

3.1 Overview

AEMO provides IRCR results to Market Participants in two parts:

- **Participant Information Report:** the high-level summary of an IRCR for a Trading Month, associated with a Market Participant.
- **Log:** the low-level details of an IRCR for a Trading Month, associated with a Market Participant.

The format of the data in these artefacts is described in the following sections.

3.2 IRCR Participant Information Report

3.2.1 Variables

The Participant Information Report contains the variables outlined in Section 5 “PIR and Log” of the Formulation.

3.2.2 JSON format

The Participant Information Report is provided in JSON format via an API documented in the Developer Portal (Section 4).

3.2.3 CSV format

The Participant Information Report is provided in CSV format through the RCM user interface, and access is described in the [Reserve Capacity Mechanism User Guide](#).

Each CSV file contains the following records which are described in Table 2 to Table 5:

- Header record
- Source record
- Detail record
- Trailer record

Table 2 Header record in PIR CSV file

Field	Description	Type	Format and Example
Record Type	Type of record for the row, where H is header	String	H
Version	Version number that defines the file layout	String	e.g. 001
Entity	Not used (default WEMS)	String	WEMS
File Timestamp	Date and time the file was created	Date	YYYY-MM-DD HH:MM:SS e.g. 2024-12-16 05:42:02
File Number	Unique sequence number of the file	Decimal	e.g. 611223933
Participant Code	Shortname of the Market Participant associated with the file	String	e.g. IMOWA
Type	Type of import data the file is based on, where P is preliminary and F is final	String	P F

Field	Description	Type	Format and Example
Trading Month End	Last day of the Trading Month of the IRCR calculation run	Date	YYYY-MM-DD e.g. 2024-10-31

Table 3 Source record in PIR CSV file

Field	Description	Type	Format and Example
Record Type	Type of record for the row, where S is source	String	S
Market	Not used (default IRCR)	String	IRCR
Segment	Not used (default IRCR)	String	IRCR
Job Id	Unique identifier of the system job	Decimal	e.g. 711211450
Job Version	Version number of the Job Id, which increases by one each time	Decimal	e.g. 1
Type	Type of import data the file is based on, where P is preliminary and F is final	String	P F
Job Timestamp	Date and time of the Job Id	Date	YYYY-MM-DD HH:MM:SS e.g. 2024-12-16 13:56:33

Table 4 Detail record in PIR CSV file

Field	Description	Type	Format and Example
Record Type	Type of record for the row, where D is detail	String	D
Trading Month End	Last day of the Trading Month of the IRCR calculation run	Date	YYYY-MM-DD e.g. 2024-10-31
Delivery Hour	Not used (default 8 is 08:00)	Decimal	8
Resolution	Not used (default 40 is Undefined)	Decimal	40
Variable Type	Not used (default blank)	String	Null
Variable Name	Variable name as per the Formulation	String	e.g. TOTAL_R, IRCR
Variable Scope	Variable Name with associated Scope separated by underscores, where scope IMOWA is used to represent global variables otherwise the Participant Code is used	String	VARIABLE_SCOPE e.g. TOTAL_R_IMOWA, IRCR_WPGENER
Location	Not used (default blank)	String	Null
Contract	Not used (default blank)	String	Null
Blank	Not used (default blank)	String	Null
Unit	Units of the Variable Name, where: <ul style="list-style-type: none"> Meter is value in interval meters MW is value in megawatts MW/Meter is value in megawatts per interval meter Day is value in days N/A is not applicable 	String	Meter MW MW/Meter Day N/A
Value	Value of the Variable Name, or zero	Decimal	e.g. 433.8909, 4526.000, 0

Table 5 Trailer record in PIR CSV file

Field	Description	Type	Format and Example
Record Type	Type of record for the row, where T is trailer	String	T

Field	Description	Type	Format and Example
Record Count	Number of records contained in the file, including the header and trailer records	Decimal	e.g. 40

3.3 IRCR Log

3.3.1 Variables

The Participant Information Report contains the variables outlined in Section 5 “PIR and Log” of the Formulation.

3.3.2 JSON format

The IRCR Log is provided in JSON format via an API documented in the Developer Portal (Section 4).

3.3.3 CSV format

The IRCR Log is provided in CSV format via an API documented in the Developer Portal (Section 4).

The IRCR Log is also provided in CSV format through the RCM user interface, and access is described in the [Reserve Capacity Mechanism User Guide](#).

Each CSV file contains the following records which are described in Table 6 to Table 8:

- Header record
- Detail record
- Trailer record

Table 6 Header record in Log CSV file

Field	Description	Type	Format and Example
Record Type	Type of record for the row, where H is header	String	H
Version	Version number	String	e.g. 001
Participant Code	Shortname of the Market Participant associated with the file	String	e.g. IMOWA
Job Timestamp	Date and time of the Job Id	Date	YYYY-MM-DD HH:MM:SS e.g. 2024-12-16 13:55:45
File Timestamp	Date and time the file was created	Date	YYYY-MM-DD HH:MM:SS e.g. 2024-12-16 05:42:02
Job Id	Unique identifier of the system job	Decimal	e.g. 711211470
Year	Year of the Trading Month	Decimal	YYYY e.g. 2024
Trading Month	Trading Month of the IRCR calculation run, where 10 is October	Decimal	MM e.g. 10

Table 7 Detail record in Log CSV file

Field	Description	Type	Format and Example
Record Type	Type of record for the row, where D is detail	String	D

Field	Description	Type	Format and Example
NMI	<p>Unique national metering identifier of the interval meter, where:</p> <ul style="list-style-type: none"> • Non-Dispatchable Loads are displayed as their NMI • the Notional Wholesale Meter is displayed as NOTIONAL • Intermittent Loads are displayed as their Facility Code • Registered Facilities are displayed as their Facility Code, except when they are measured by multiple NMIs and then they are displayed as their NMIs 	String	e.g. 8001000111, NOTIONAL, NWNMTMN_FIM_INML1, PINJAR_GT1
Median MWh	<p>Median value of the metered consumption (in MWh) for the NMI, where the value is:</p> <ul style="list-style-type: none"> • MEDIAN4 for the 4 Peak SWIS Trading Intervals when the New Meter Flag is 1 • MEDIAN12 for the 12 Peak SWIS Trading Intervals when the New Meter Flag is 0 <p>This value may be zero.</p>	Decimal	e.g. 0, 0.035090, 1.200
OwnershipShare	<p>Fraction of the Trading Month (between 0 and 1) for which the NMI was registered to the Participant Code, where the value is:</p> <ul style="list-style-type: none"> • OwnershipShareIL for Intermittent Loads • OwnershipShare otherwise 	Decimal	e.g. 0, 1, 0.96
TDL_Flag	<p>Flag that is 1 if the NMI measures Temperature Dependent Load (considered 'TDL') in the Trading Month, and 0 otherwise (considered Non-Temperature Dependent Load or 'NTDL')</p>	Decimal	1 0
NewMeter_Flag	<p>Flag that is 1 if the NMI was not registered with AEMO for all of the 12 Peak SWIS Trading Intervals for the preceding Capacity Year of the Trading Month (considered 'New'), and 0 otherwise (considered 'Existing')</p>	Decimal	1 0

Table 8 Trailer record in Log CSV file

Field	Description	Type	Format and Example
Record Type	Type of record for the row, where T is trailer	String	T
Record Count	Number of records contained in the file, including the header and trailer records	Decimal	e.g. 707



4 APIs

AEMO uses the Developer Portal to document the APIs for the RCM Operations application and share the information with Rule Participants.

The RCM APIs have been integrated into the APIM. This has implications for the certificate type and other requirements/behaviours that are explained via the links below.

Table 9 API references

API information	URL
RCM including IRCR	https://dev.aemo.com.au/RCM