

Status Report

1 January 2023 to 31 March
2023

Prepared for the ERA under clause
7.12 of the WEM Rules





Contents

1	Introduction	3
2	Issuance of Dispatch Instructions and Operating Instructions	4
2.1	Dispatch Instructions	4
2.2	Operating Instructions	5
3	Non-Compliance with Dispatch Instructions and Operating Instructions	6
4	Issuance of Dispatch Instruction to Balancing Facilities Out of Merit	8
4.1	Instances of Out of Merit dispatch identified by AEMO	8
4.2	Other instances of Out of Merit dispatch	8
5	Transmission Constraints	9
6	Operating States, Shortfalls in Ancillary Services and Involuntary Curtailment of Load	14
6.1	High Risk Operating State	14
6.2	Emergency Operating State	15
6.3	Shortfalls in Ancillary Services	16
6.4	Involuntary curtailment of load	17
7	Selection and use of LFAS Facilities other than in accordance with LFAS Merit Order	18



1 Introduction

The Australian Energy Market Operator (AEMO) has prepared this report under clause 7.12 of the Wholesale Electricity Market Rules (WEM Rules).

Clause 7.12 of the WEM Rules requires AEMO to provide a report to the Economic Regulation Authority (ERA) once every three months on the performance of the market with respect to the dispatch process. The report must include details of:

- the incidence and extent of issuance of Operating Instructions and Dispatch Instructions;
- the incidence and extent of non-compliance with Operating Instructions and Dispatch Instructions;
- the incidence and reasons for the issuance of Dispatch Instructions to Balancing Facilities Out of Merit, including for the purposes of clause 7.12.1 of the WEM Rules, issuing Dispatch Orders to the Balancing Portfolio in accordance with clause 7.6.2 of the WEM Rules;
- the incidence and extent of transmission constraints;
- the incidence and extent of shortfalls in Ancillary Services, involuntary curtailment of load, High Risk Operating States and Emergency Operating States; and
- the incidence and reasons for the selection and use of LFAS Facilities under clause 7B.3.8 of the WEM Rules.

In this report:

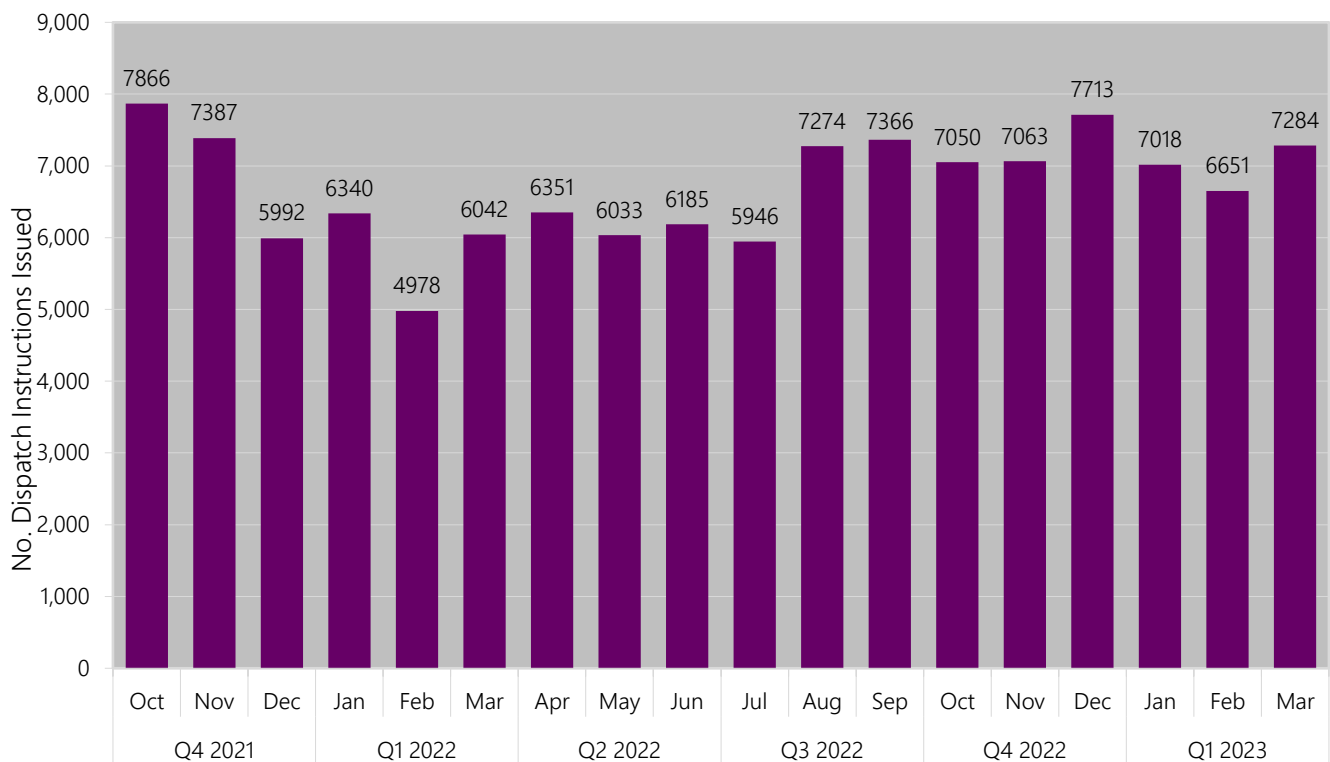
- the reporting period is from 1 January 2023 to 31 March 2023;
- terms that are capitalised but not defined have the meaning given in the WEM Rules; and
- date references are to Trading Days, not calendar days, unless otherwise stated.

2 Issuance of Dispatch Instructions and Operating Instructions

2.1 Dispatch Instructions

AEMO issued 20,953 Dispatch Instructions to Market Participants during the reporting period.

Figure 1 Dispatch Instructions issued during each Trading Month since 1 October 2021.

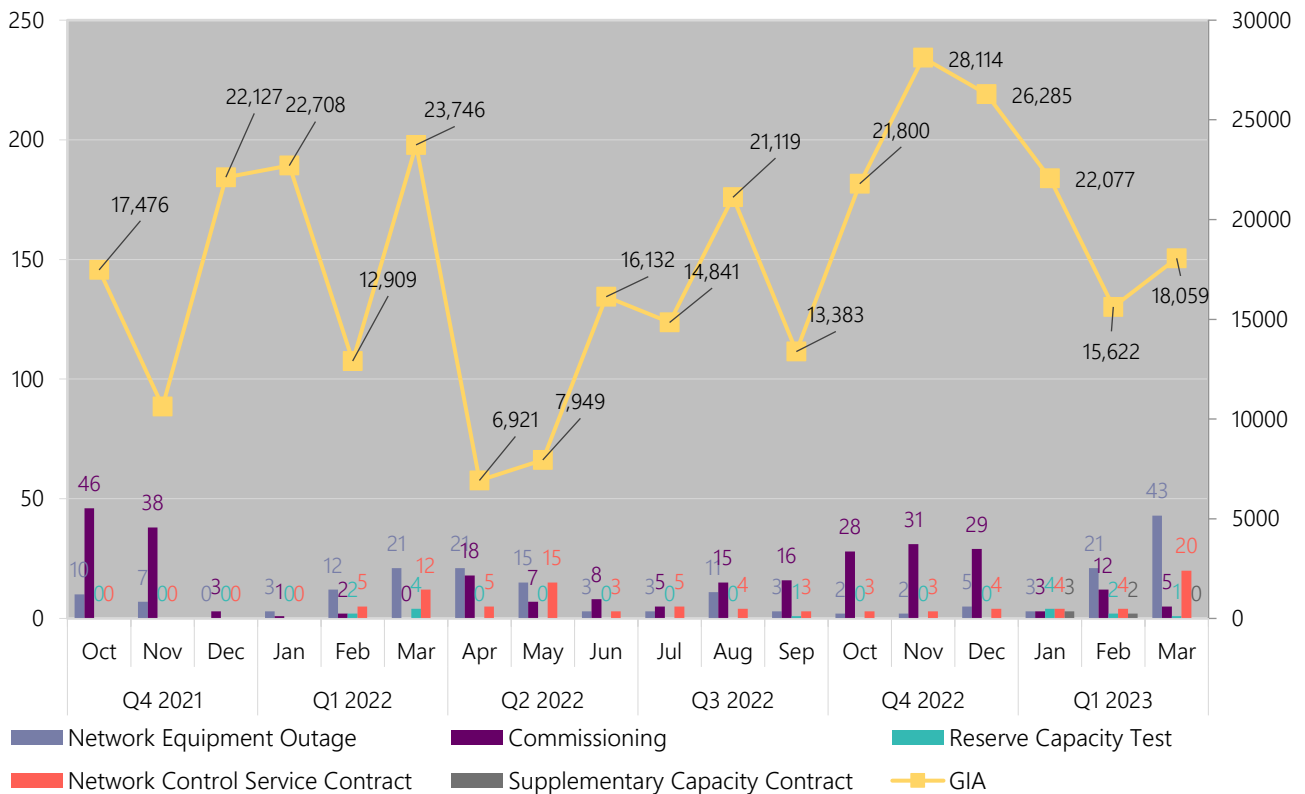


2.2 Operating Instructions

AEMO issued 55,885 Operating Instructions during the reporting period.

Situations where AEMO may issue Operating Instructions under the WEM Rules are for Commissioning Tests, Reserve Capacity Tests, Network Equipment Outages (pursuant to clause 7.7.11.) and provision of services under the Network Control Service Contracts and Generator Interim Access (GIA) Operating Instructions. In Q1 2023, AEMO also issued Operating Instructions for Supplementary Capacity Contracts¹.

Figure 2 Operating Instructions² issued during each Trading Month since 1 October 2021.



¹ In 2022 AEMO [progressed the SRC process](#) after identifying a potential requirement to secure up to 174 MW between 1 December 2022 to 31 March 2023.

² Generator Interim Access (GIA) Operating Instructions are a sub-set of Network Control Service (NCS) Operating Instructions. Figure 2 separates GIA from NCS for clarity.

3 Non-Compliance with Dispatch Instructions and Operating Instructions³

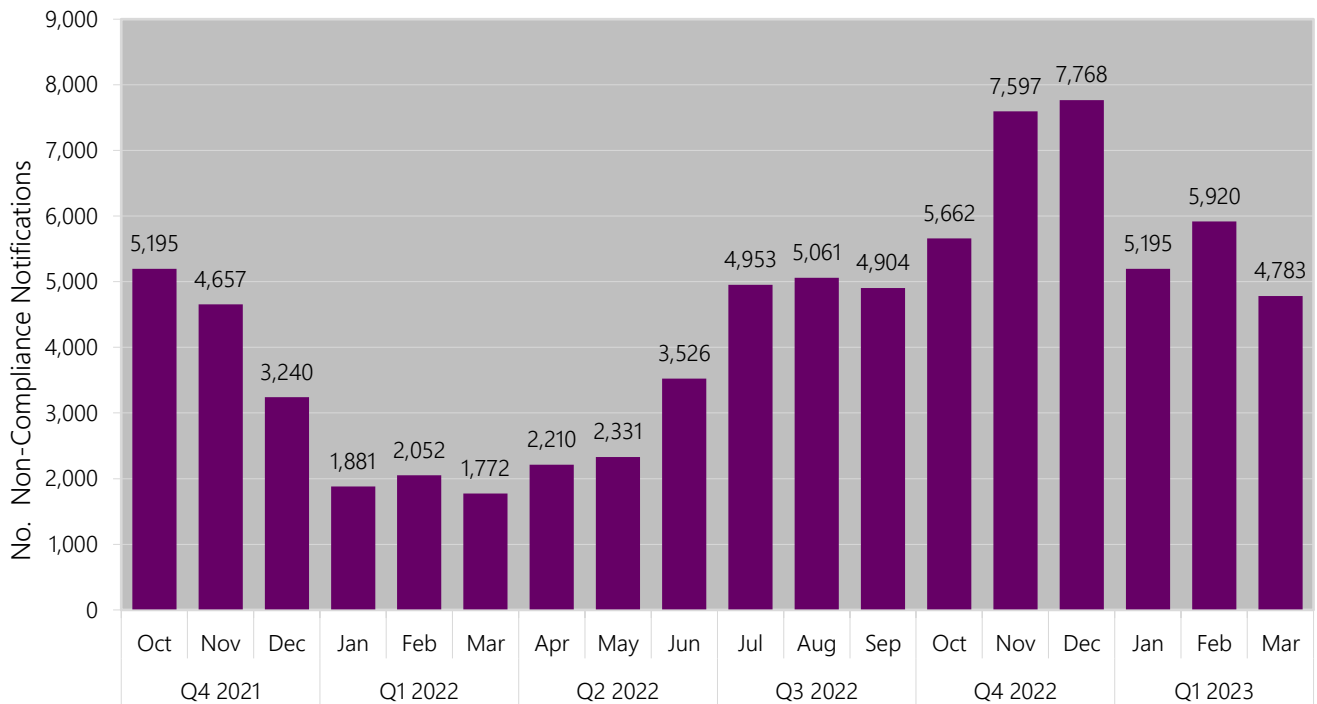
During the reporting period, AEMO issued the following one-minute non-compliance notifications to Market Participants, considering the Tolerance Range and any Facility Tolerance Ranges, where applicable:

- 15,898 Dispatch Instruction non-compliance notifications, and
- 71 Operating Instructions non-compliance notifications.

During the reporting period, the following were instances where a Market Participant did not confirm receipt when required to do so under the WEM Rules:

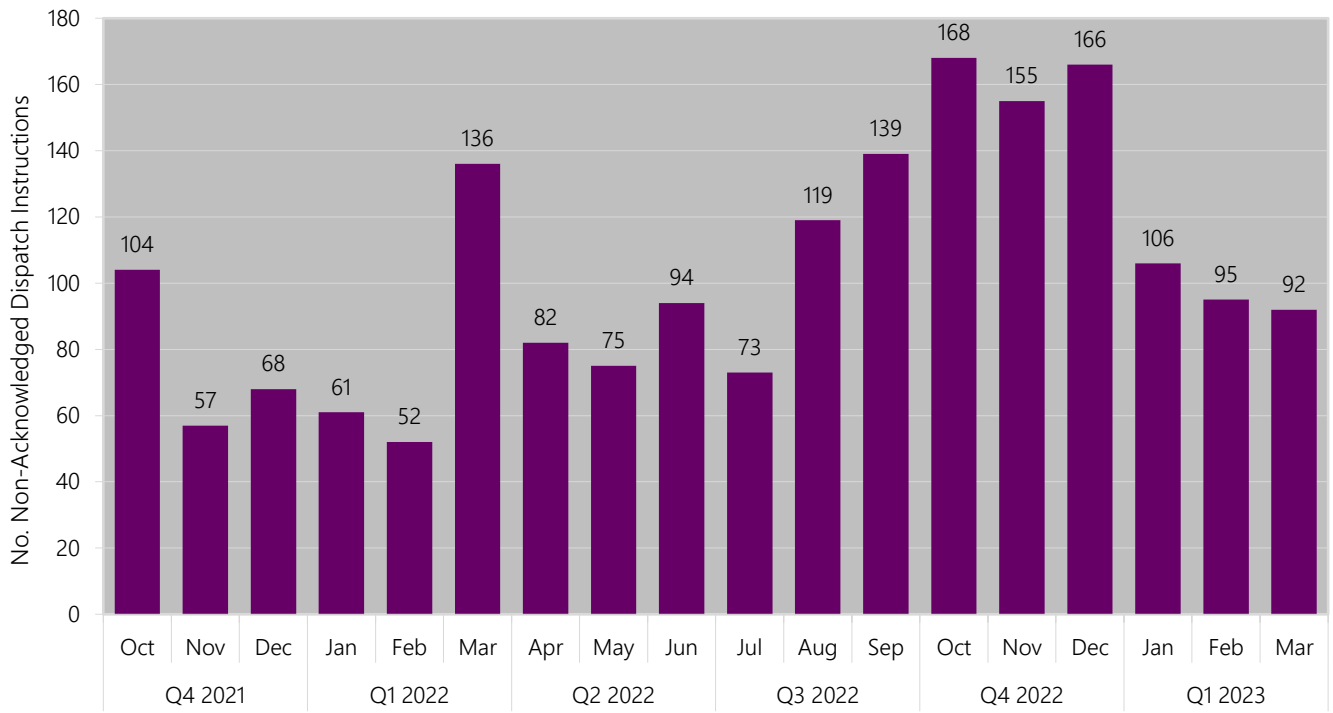
- 293 instances of non-acknowledgement of Dispatch Instructions, and
- 301 instances of non-acknowledgement of Operating Instructions.

Figure 3 Dispatch Instruction non-compliance notifications since 1 October 2021.



³ Instances of non-compliance are calculated using information AEMO has at hand at the time of creation of the 7.12 report. Actual instances may differ once reviewed and determined by the ERA.

Figure 4 Non-acknowledgement of Dispatch Instructions since 1 October 2021.



4 Issuance of Dispatch Instruction to Balancing Facilities Out of Merit

4.1 Instances of Out of Merit dispatch identified by AEMO

During the reporting period, one instance was identified where Dispatch Instructions were issued to Balancing Facilities Out of Merit.

Date/Interval/s	21 Feb 2023 / Trading interval 17:2 to Trading Interval 19:2
Dispatch Advisory #	Not issued
Details	AEMO constrained on a Facility due to a bushfire in the Eastern Goldfields region. See related Dispatch Advisory 209557.
AEMO Action	AEMO dispatched Out of Merit to maintain Power System Security and Reliability in the Eastern Goldfields region.

4.2 Other instances of Out of Merit dispatch⁴

Section 5 of this report includes information regarding instances of Out of Merit dispatch due to transmission network constraints. AEMO issues Dispatch Advisories when these situations occur.

Section 6 of this report describes occasions of High Risk and Emergency Operating States that occurred during the reporting period. Note that during elevated Operating States, there may be a need to dispatch Facilities Out of Merit to enable the SWIS to be returned to a Normal Operating State.

⁴ 7.6.1D of the WEM Rules provides for Out of Merit dispatch to avoid a High Risk Operating State or an Emergency Operating State or, if the SWIS is in a High Risk Operating State or an Emergency Operating State, to enable the SWIS to be returned to a Normal Operating State.

5 Transmission Constraints

A “transmission constraint” refers to the configuration of the transmission network that has an effect or potential effect of constraining or otherwise varying the output of a generation Facility. As a result of the transmission constraint, the generation Facility is required to increase or decrease output, depending on the relevant circumstances.

AEMO has identified the following transmission constraints during the reporting period:

Date/Interval/s	Trading Interval 22:1 on 20 Jan 2023 to Trading Interval 10:2 on 21 Jan 2023
Dispatch Advisory #	209496, 209497
Details	A Forced Western Power Network outage on the MGA-GTN81 line resulted in the need to constrain the ALINTA_WWF Facility.

Date/Interval/s	31 Jan 2023 / Trading Interval 10:2 to Trading Interval 11:1
Dispatch Advisory #	209519
Details	A Forced Western Power Network outage on the TS-MBA81 line resulted in the need to constrain the ALINTA_WWF Facility.

Date/Interval/s	Trading Interval 12:1 on 10 Feb 2023 to Trading Interval 22:2 on 11 Feb 2023
Dispatch Advisory #	209532
Details	A failure of Western Power control systems and to avoid overloading of network equipment resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.

Date/Interval/s	Trading Interval 9:1 on 12 Feb 2023 to Trading Interval 16:1 on 15 Feb 2023
Dispatch Advisory #	209532
Details	A failure of Western Power control systems and to avoid overloading of network equipment resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.

Date/Interval/s	13 Feb 2023 / Trading Interval 9:1 to Trading Interval 17:2
Dispatch Advisory #	209533
Details	A Planned Western Power Network Outage on the ALB-MBR81 transmission line resulted in the need to constrain the GRASMERE_WF1 Facility.

Date/Interval/s	13 Feb 2023 / Trading Interval 9:1 to Trading Interval 17:2
Dispatch Advisory #	209533
Details	A Planned Western Power Network Outage on the ALB-MBR81 transmission line resulted in the need to constrain the ALBANY_WF1 Facility.

Date/Interval/s	14 Feb 2023 / Trading Interval 7:2 to Trading Interval 16:1
Dispatch Advisory #	209534
Details	A Planned Western Power Network Outage on the MU-KOJ81 transmission line resulted in the need to constrain the GRASMERE_WF1 Facility.

Date/Interval/s	14 Feb 2023 / Trading Interval 7:2 to Trading Interval 16:1
Dispatch Advisory #	209534
Details	A Planned Western Power Network Outage on the MU-KOJ81 transmission line resulted in the need to constrain the ALBANY_WF1 Facility.

Date/Interval/s	15 Feb 2023 / Trading Interval 8:1 to Trading Interval 15:1
Dispatch Advisory #	209535
Details	A Planned Western Power Network Outage on the ALB522.0 circuit breaker resulted in the need to constrain the GRASMERE_WF1 Facility.

Date/Interval/s	15 Feb 2023 / Trading Interval 8:1 to Trading Interval 15:1
Dispatch Advisory #	209535
Details	A Planned Western Power Network Outage on the ALB522.0 circuit breaker resulted in the need to constrain the ALBANY_WF1 Facility.

Date/Interval/s	21 Feb 2023 / Trading Interval 17:2 to Trading Interval 19:1
Dispatch Advisory #	Not issued
Details	A bushfire in the Eastern Goldfields region resulted in the need to constrain a Facility.

Date/Interval/s	21 Feb 2023 / Trading Interval 17:2 to Trading Interval 19:2
Dispatch Advisory #	Not issued
Details	A bushfire in the Eastern Goldfields region resulted in the need to constrain a Facility.

Date/Interval/s	21 Feb 2023 / Trading Interval 18:1 to Trading Interval 19:2
Dispatch Advisory #	Not issued
Details	A bushfire in the Eastern Goldfields region resulted in the need to constrain a Facility.

Date/Interval/s	21 Feb 2023 / Trading Interval 18:1
Dispatch Advisory #	Not issued
Details	A bushfire in the Eastern Goldfields region resulted in the need to constrain a Facility.

Date/Interval/s	21 Feb 2023 / Trading Interval 18:2 to Trading Interval 19:2
Dispatch Advisory #	Not issued
Details	A bushfire in the Eastern Goldfields region resulted in the need to constrain a Facility.

Date/Interval/s	24 Feb 2023 / Trading Interval 9:1 to Trading Interval 15:1
Dispatch Advisory #	Not issued
Details	A network outage on the ALB T3 transformer resulted in the need to constrain a Facility.
Date/Interval/s	Trading Interval 5:1 on 13 Mar 2023 to Trading Interval 18:2 on 14 Mar 2023
Dispatch Advisory #	209609, 209612, 209613
Details	A planned Western Power Network outage on the TST-TS81 and ENB-TS81 transmission lines resulted in the need to constrain the ALINTA_WWF Facility.
Date/Interval/s	Trading Interval 5:1 on 13 Mar 2023 to Trading Interval 13:2 on 14 Mar 2023
Dispatch Advisory #	209609, 209612, 209613
Details	A planned Western Power Network outage on the TST-TS81 and ENB-TS81 transmission lines resulted in the need to constrain the MWF_MUMBIDA_WF1 Facility.
Date/Interval/s	Trading Interval 5:1 on 13 Mar 2023 to Trading Interval 13:2 on 14 Mar 2023
Dispatch Advisory #	209609, 209612, 209613
Details	A planned Western Power Network outage on the TST-TS81 and ENB-TS81 transmission lines resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.
Date/Interval/s	Trading Interval 9:1 on 16 Mar 2023 to Trading Interval 12:2 on 17 Mar 2023
Dispatch Advisory #	209617
Details	A planned Western Power Network outage on the TST-TS81, ENB-TS81 and MOR-TS81 transmission lines resulted in the need to constrain the ALINTA_WWF Facility.
Date/Interval/s	Trading Interval 9:1 on 16 Mar 2023 to Trading Interval 10:2 on 17 Mar 2023
Dispatch Advisory #	209617
Details	A planned Western Power Network outage on the TST-TS81, ENB-TS81 and MOR-TS81 transmission lines resulted in the need to constrain the MWF_MUMBIDA_WF1 Facility.
Date/Interval/s	Trading Interval 9:1 on 16 Mar 2023 to Trading Interval 15:1 on 17 Mar 2023
Dispatch Advisory #	209617
Details	A planned Western Power Network outage on the TST-TS81, ENB-TS81 and MOR-TS81 transmission lines resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.
Date/Interval/s	18 Mar 2023 / Trading Interval 8:2 to Trading Interval 12:2
Dispatch Advisory #	209622
Details	A planned Western Power Network outage on the TS busbar BB8X resulted in the need to constrain the ALINTA_WWF Facility.

Date/Interval/s	18 Mar 2023 / Trading Interval 8:2 to Trading Interval 12:2
Dispatch Advisory #	209622
Details	A planned Western Power Network outage on the TS busbar BB8X resulted in the need to constrain the MWF_MUMBIDA_WF1 Facility.
Date/Interval/s	18 Mar 2023 / Trading Interval 8:2 to Trading Interval 12:2
Dispatch Advisory #	209622
Details	A planned Western Power Network outage on the TS busbar BB8X resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.
Date/Interval/s	19 Mar 2023 / Trading Interval 7:1 to Trading Interval 16:1
Dispatch Advisory #	209623
Details	A planned Western Power Network outage on the TS-MBA81 transmission line resulted in the need to constrain the ALINTA_WWF Facility.
Date/Interval/s	19 Mar 2023 / Trading Interval 11:2 to Trading Interval 16:1
Dispatch Advisory #	Not issued
Details	A planned Western Power Network outage on the TS-MBA81 transmission line resulted in the need to constrain a Facility.
Date/Interval/s	19 Mar 2023 / Trading Interval 11:2 to Trading Interval 16:1
Dispatch Advisory #	Not issued
Details	A planned Western Power Network outage on the TS-MBA81 transmission line resulted in the need to constrain a Facility.
Date/Interval/s	26 Mar 2023 / Trading Interval 7:2 to Trading Interval 14:2
Dispatch Advisory #	209632
Details	A planned Western Power Network outage on the TS-MBA81 transmission line resulted in the need to constrain the ALINTA_WWF Facility.
Date/Interval/s	26 Mar 2023 / Trading Interval 7:2 to Trading Interval 14:2
Dispatch Advisory #	209632
Details	A planned Western Power Network outage on the TS-MBA81 transmission line resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.
Date/Interval/s	27 Mar 2023 / Trading Interval 7:1 to Trading Interval 15:1
Dispatch Advisory #	209633
Details	A planned Western Power Network outage on the TS-MBA81 transmission line resulted in the need to constrain the ALINTA_WWF Facility.

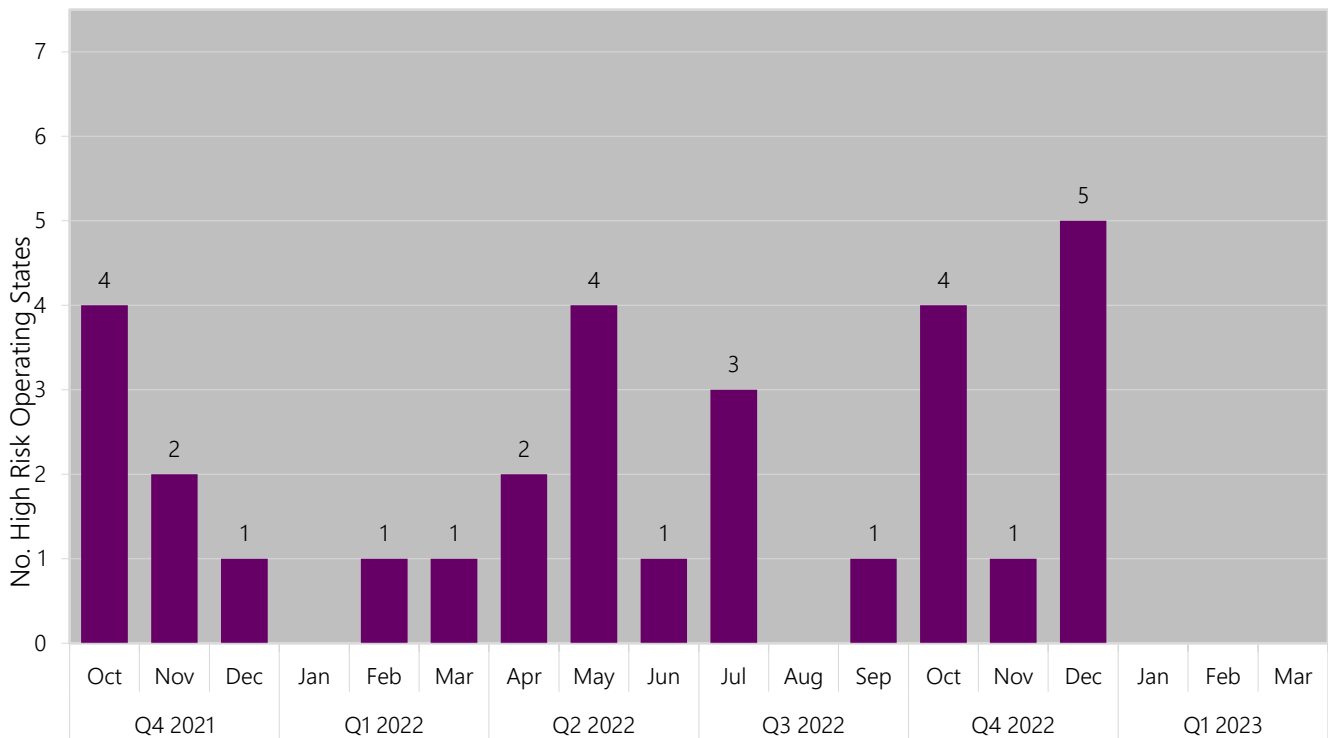
Date/Interval/s	27 Mar 2023 / Trading Interval 7:1 to Trading Interval 15:1
Dispatch Advisory #	209633
Details	A planned Western Power Network outage on the TS-MBA81 transmission line resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.
Date/Interval/s	Trading Interval 7:2 on 28 Mar 2023 to Trading Interval 18:1 on 30 Mar 2023
Dispatch Advisory #	209634
Details	A planned Western Power Network outage on the MGA-TS81 transmission line resulted in the need to constrain the ALINTA_WWF Facility.
Date/Interval/s	28 Mar 2023 / Trading Interval 7:2 to Trading Interval 11:2
Dispatch Advisory #	209634
Details	A planned Western Power Network outage on the MGA-TS81 transmission line resulted in the need to constrain the ALINTA_WWF Facility.
Date/Interval/s	28 Mar 2023 / Trading Interval 9:1 to Trading Interval 14:1
Dispatch Advisory #	209635
Details	A planned Western Power Network outage on the MSR821.0 feeder resulted in the need to constrain the PERTHENERGY_KWINANA_GT1 Facility.
Date/Interval/s	31 Mar 2023 / Trading Interval 7:1 to Trading Interval 17:1
Dispatch Advisory #	209642
Details	A planned Western Power Network outage on the MGA-TS81 transmission line resulted in the need to constrain the ALINTA_WWF Facility.

6 Operating States, Shortfalls in Ancillary Services and Involuntary Curtailment of Load

6.1 High Risk Operating State

There were no instances of a High Risk Operating State during the reporting period.

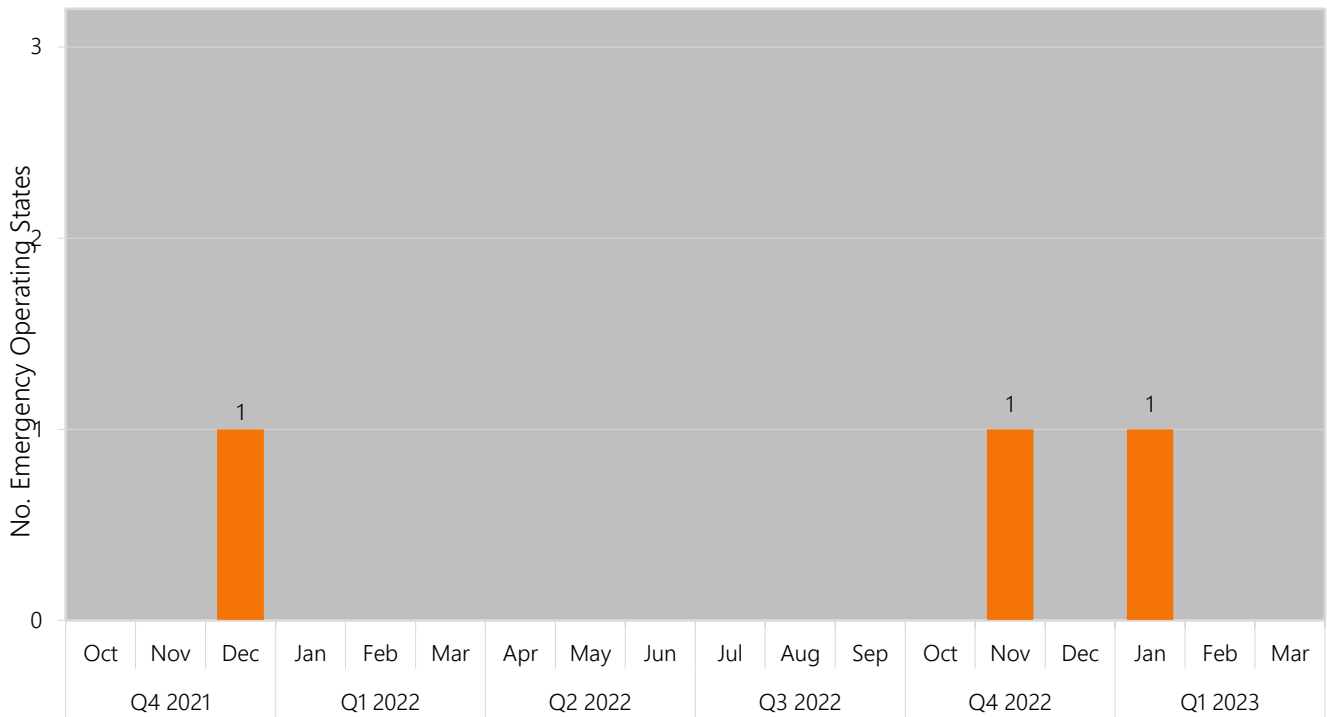
Figure 5 High Risk Operating States that have occurred since 1 October 2021.



6.2 Emergency Operating State

There was one instance of an Emergency Operating State during the reporting period.

Figure 6 Emergency Operating States that have occurred since 1 October 2021.



Date/Interval/s	05 Jan 2023 / Trading Interval 19:2 to Trading Interval 20:1
Dispatch Advisory #	209456
Details	Due to a false fire alarm at the AEMO Primary Operational Facility, Western Power had Frequency Control from approximately 19:50 to 20:20
AEMO Action	AEMO awaited clearance to regain Frequency Control.

6.3 Shortfalls in Ancillary Services

During the reporting period there were 25 instances of a shortfall in Ancillary Services. A shortfall occurs when the Ancillary Service Requirements are not met within a Trading Interval.

Load Rejection Reserve Service (LRRS)

AEMO's primary function as the system operator in the SWIS is to ensure the SWIS operates in a secure and reliable manner (clause 2.2.1 of the WEM Rules). The LRRS is the service of holding capacity associated with a Scheduled Generator in reserve so that the Scheduled Generator can reduce output rapidly in response to a sudden decrease in SWIS load.

During the reporting period, there were 23 instances related to shortfalls of LRRS⁵. The majority of shortfalls occurred during periods of high volatility of wind and rooftop PV systems. In these situations, maintaining the required level of Load Rejection Reserve is difficult, and maintaining Power System Security and Power System Reliability while minimising costs to the WEM often means no action is the best response. This is because by the time any action is taken to resolve the shortfall, Power System conditions are likely to have changed and the issue no longer exists. Further, the dynamic LRR includes safety factors which limits risks to the Power System for the duration.

Load Following Ancillary Services (LFAS)

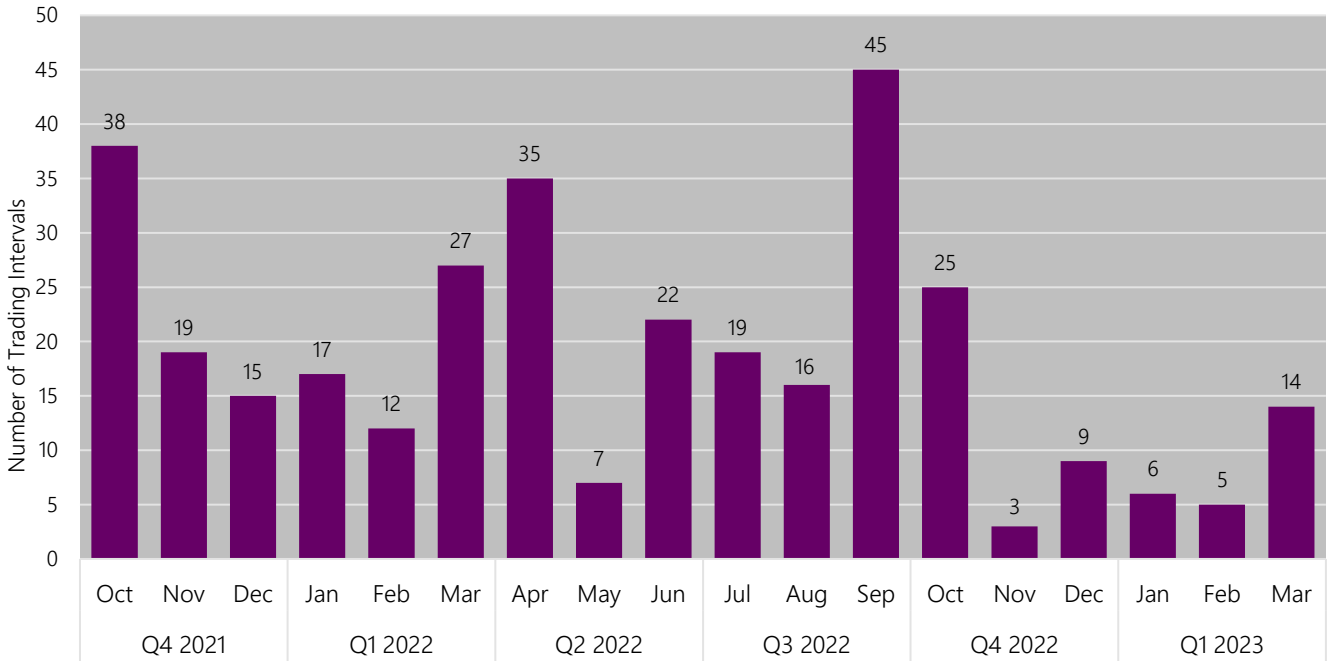
For every Trading Interval, AEMO must activate each LFAS Facility for its full upward and downward LFAS Enablement to satisfy the LFAS Enablement Schedule. During the reporting period, 2 instances of LFAS Enablement shortfall (greater than 1 interval) were reported.

Spinning Reserve Ancillary Services (SRAS)

SRAS is the service of holding capacity associated with a synchronised Scheduled Generator or Interruptible Load in reserve, so that the relevant Facility is able to respond appropriately in situations outlined in clause 3.9.2 of the WEM Rules. During the reporting period, there were no instances relating to SRAS shortfall.

⁵ As outlined in [AEMO's Ancillary Services Report for the WEM 2022](#), AEMO's dynamic LRR, including setting the upper limit of the LRR requirement, is based on the largest credible contingency in real time. Data is based on the number of Trading Intervals where Load Rejection Reserve was less than the dynamic requirement, averaged over a Trading Interval.

Figure 7 Shortfalls in Ancillary Services that have occurred since 1 October 2021.



No shortfalls placed the SWIS in a High Risk Operating State as defined under WEM Rule 3.4.1.

6.4 Involuntary curtailment of load

There were no instances of involuntary curtailment of load during the reporting period.

7 Selection and use of LFAS Facilities other than in accordance with LFAS Merit Order

During the reporting period, there were four instances where AEMO was required to use LFAS Facilities outside of the LFAS Enablement Schedule to operate the SWIS in a reliable and safe manner under clause 7B.3.8 of the WEM Rules.

Date/Interval/s	21 Feb 2023 / Trading Interval 9:1
Dispatch Advisory #	Not issued
Details	AEMO required backup LFAS due to a Facility being unavailable to provide their cleared LFAS quantity as per the LFAS Merit Order.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Interval/s	23 Feb 2023 / Trading Interval 5:1 to Trading Interval 7:1
Dispatch Advisory #	209574
Details	AEMO required backup LFAS due to NEWGEN_KWINANA_CCG1 being unavailable to provide their cleared LFAS quantity as per the LFAS Merit Order.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Interval/s	15 March 2023 / Trading Interval 12:1 to Trading Interval 12:2
Dispatch Advisory #	209615
Details	AEMO required backup LFAS due to patching of AEMO's Oracle databases resulting in AEMO's IT systems being unavailable for an estimated 60 minute window.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability. AEMO's IT Support applied the Oracle database patches during the estimated 60-minute window.

Date/Interval/s	19 March 2023 / Trading Interval 13:2
Dispatch Advisory #	Not issued
Details	AEMO required backup LFAS due to a Facility being unavailable to provide their cleared LFAS quantity as per the LFAS Merit Order.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.