

# Status Report

1 April 2022 to 30 June 2022

Prepared for the ERA under clause  
7.12 of the WEM Rules





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# 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:

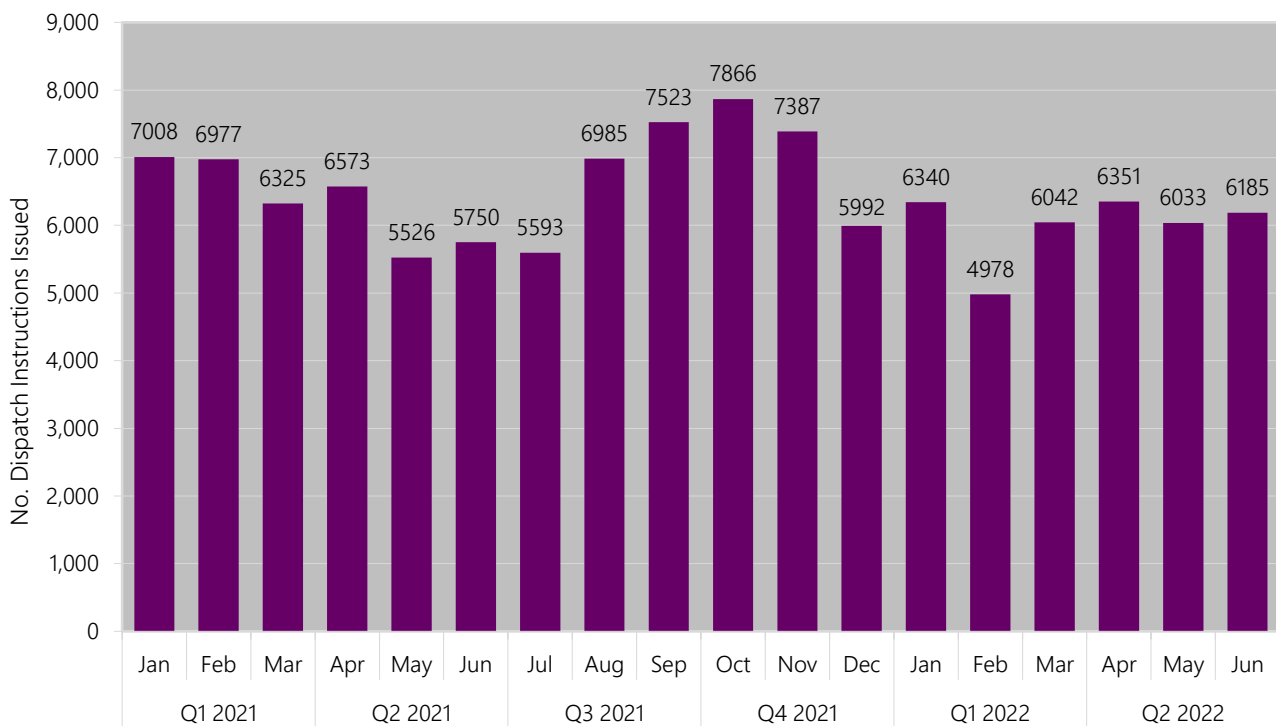
- the reporting period is from 1 April 2022 to 30 June 2022;
- terms that are capitalised but not defined have the meaning given in the WEM Rules; and
- date references are to Trading Days, not calendar days, unless otherwise stated.

# 2 Issuance of Dispatch Instructions and Operating Instructions

## 2.1 Dispatch Instructions

AEMO issued 18,569 Dispatch Instructions to Market Participants during the reporting period.

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

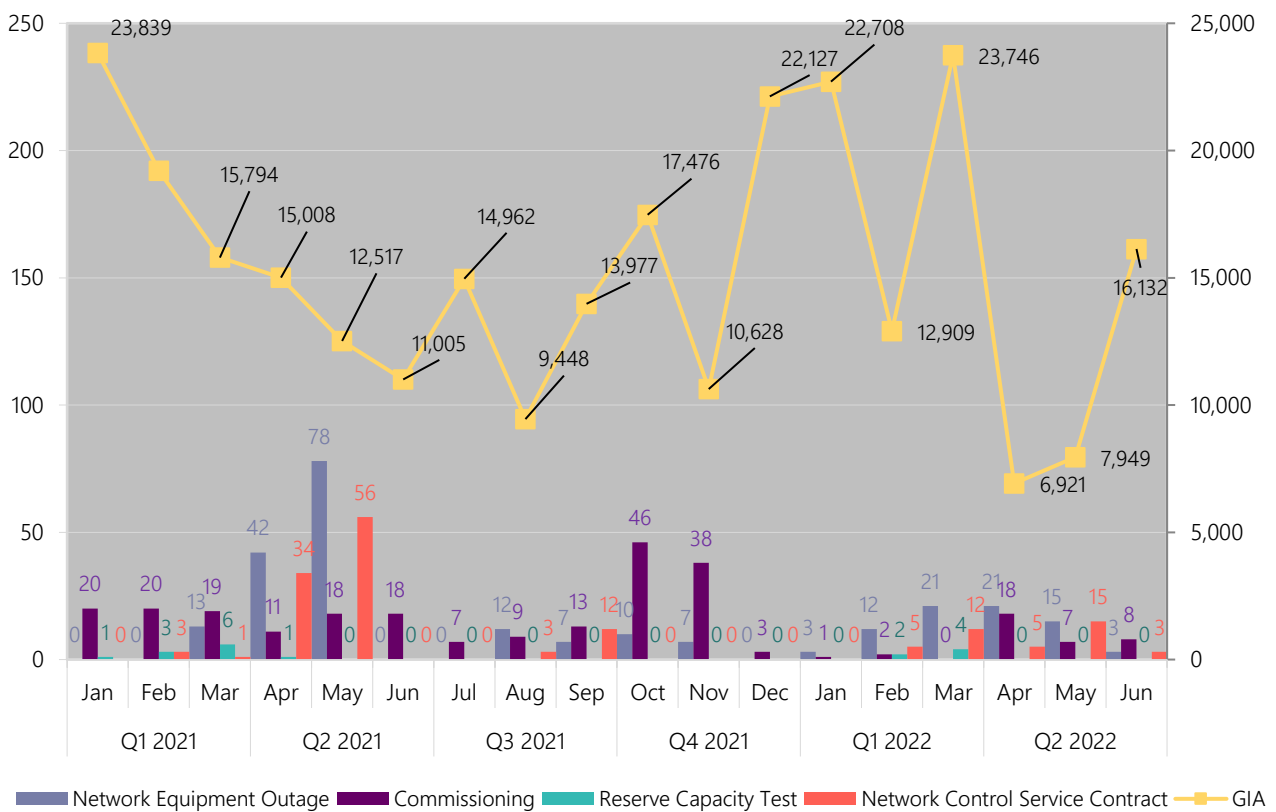


## 2.2 Operating Instructions

AEMO issued 31,097 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.

**Figure 2 Operating Instructions<sup>1</sup> issued during each Trading Month since 1 January 2021.**



<sup>1</sup> 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 Instructions<sup>2</sup>

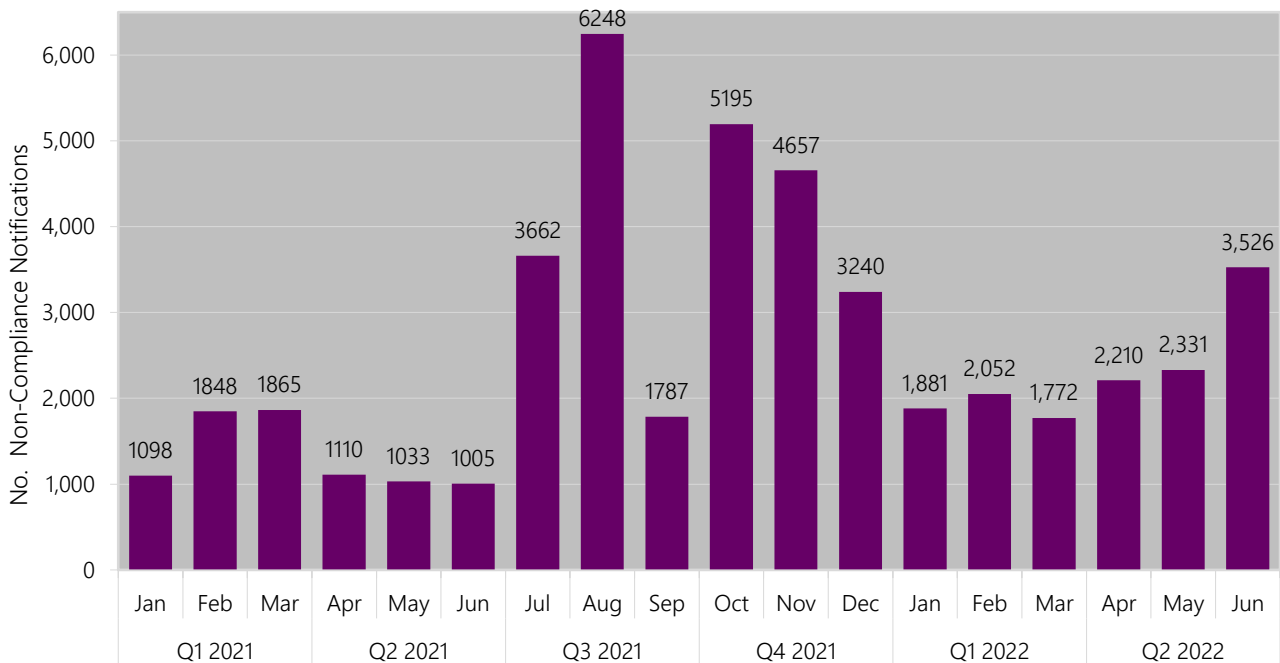
During the reporting period, AEMO issued the following one-minute non-compliance notifications to Market Participants, considering the Tolerance Range and any Facility Tolerance Ranges, where applicable:

- 8,067 Dispatch Instruction non-compliance notifications, and
- 68 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:

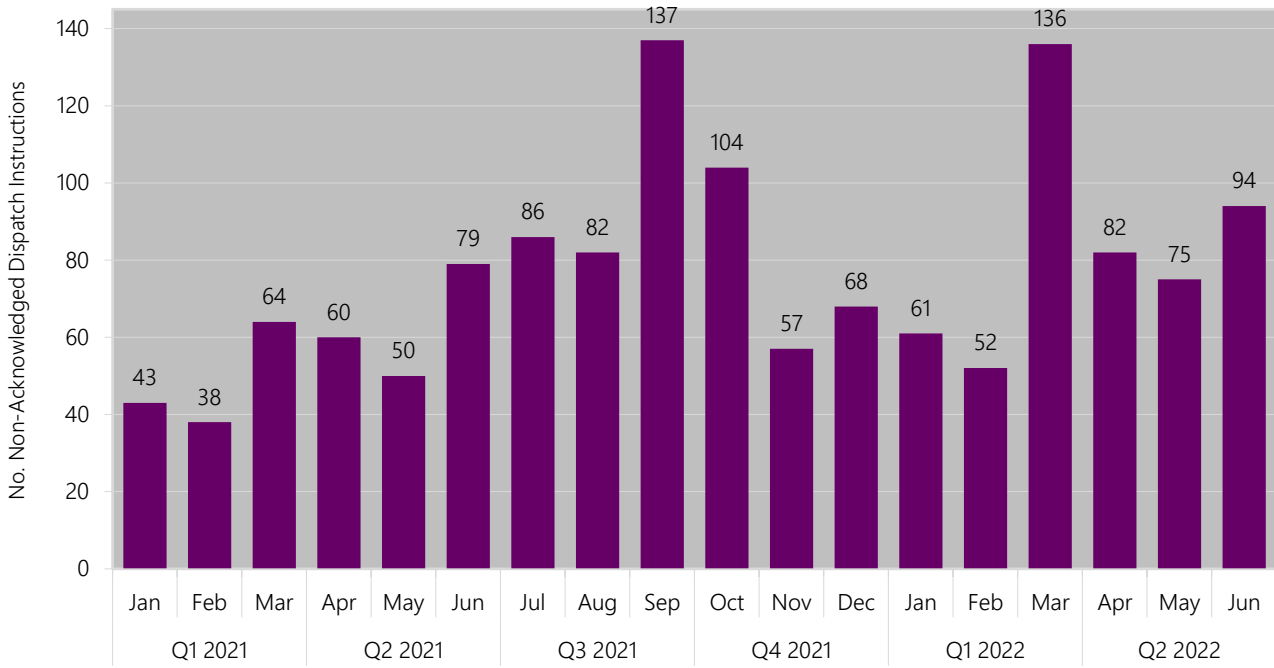
- 251 instances of non-acknowledgement of Dispatch Instructions, and
- 73 instances of non-acknowledgement of Operating Instructions.

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



<sup>2</sup> 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 January 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, two instances were identified where Dispatch Instructions were issued to Balancing Facilities Out of Merit.

<b>Date/Interval/s</b>	23 Jun 2022 / Trading Interval 17:1 to Trading Interval 19:1
<b>Dispatch Advisory #</b>	209019
<b>Details</b>	Due to High Load conditions and to avoid a shortfall in Ancillary Service Requirements, AEMO constrained on the BW2_BLUEWATERS_G1 Facility.
<b>AEMO Action</b>	AEMO dispatched Out of Merit to maintain Power System Security and Reliability.

<b>Date/Interval/s</b>	24 Jun 2022 / Trading Interval 17:2 to Trading Interval 19:2
<b>Dispatch Advisory #</b>	209022
<b>Details</b>	To avoid a shortfall in Ancillary Service Requirements, AEMO constrained on the ALINTA_WGP_U2 Facility.
<b>AEMO Action</b>	AEMO dispatched Out of Merit to maintain Power System Security and Reliability.

## 4.2 Other instances of Out of Merit dispatch<sup>3</sup>

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.

<sup>3</sup> 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:

<b>Date/Interval/s</b>	7 Apr 2022 / Trading Interval 6:2 to Trading Interval 17:1
<b>Dispatch Advisory #</b>	208792, 208793
<b>Details</b>	An unplanned Western Power Network Outage on the SNR_WGP_APJ81 line resulted in the need to constrain the ALCOA_WGP Facility.

<b>Date/Interval/s</b>	7 Apr 2022/ Trading Interval 7:1 to Trading Interval 15:1
<b>Dispatch Advisory #</b>	208784
<b>Details</b>	A planned Western Power Network Outage on the MGA-GTN81 line resulted in the need to constrain the ALINTA_WWF Facility.

<b>Date/Interval/s</b>	7 Apr 2022/ Trading Interval 7:1 to Trading Interval 15:1
<b>Dispatch Advisory #</b>	208784
<b>Details</b>	A Western Power Network Outage on the TS-MBA81 line resulted in the need to constrain the MWF_MUMBIDA_WF1 Facility.

<b>Date/Interval/s</b>	11 Apr 2022 / Trading Interval 8:2 to Trading Interval 15:1
<b>Dispatch Advisory #</b>	208796
<b>Details</b>	A planned Western Power Network Outage on the MGA-WWF 81 line resulted in the need to constrain the ALINTA_WWF Facility.

<b>Date/Interval/s</b>	12 Apr 2022 / Trading Interval 5:2 to Trading Interval 15:2
<b>Dispatch Advisory #</b>	208798
<b>Details</b>	A planned Western Power Network Outage on the MGA-MBA 81 line resulted in the need to constrain the ALINTA_WWF Facility.

<b>Date/Interval/s</b>	13 Apr 2022 / Trading Interval 6:2 to Trading Interval 14:2
<b>Dispatch Advisory #</b>	208800
<b>Details</b>	A planned Western Power Network Outage on the MGA-WWF 81 line resulted in the need to constrain the ALINTA_WWF Facility.

<b>Date/Interval/s</b>	19 Apr 2022 / Trading Interval 14:1 to Trading Interval 16:1
<b>Dispatch Advisory #</b>	208812
<b>Details</b>	A trip on the WMS-BLD81 line resulted in islanding of the STHRNCRS_EG facility from the SWIS.
<b>Date/Interval/s</b>	28 Apr 2022 / Trading Interval 16:1 to Trading Interval 18:1
<b>Dispatch Advisory #</b>	208851
<b>Details</b>	A Forced Western Power Network Outage on the MGA 881.0 circuit breaker resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.
<b>Date/Interval/s</b>	4 May 2022 / Trading Interval 12:1 to Trading Interval 14:1
<b>Dispatch Advisory #</b>	208871
<b>Details</b>	A planned Western Power Network Outage on the GTN BB8 busbar resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.
<b>Date/Interval/s</b>	From Trading Interval 7:2 on 10 May 2022 to Trading Interval 13:1 on 12 May 2022
<b>Dispatch Advisory #</b>	208891
<b>Details</b>	A planned Western Power Outage on the CGT-MRTX1 transmission line resulted in the need to constrain a Facility.
<b>Date/Interval/s</b>	From Trading Interval 7:2 on 10 May 2022 to Trading Interval 13:2 on 12 May 2022
<b>Dispatch Advisory #</b>	208891
<b>Details</b>	A planned Western Power Outage on the CGT-MRTX1 transmission line resulted in the need to constrain the INVESTEC_COLLGAR_WF1 Facility.
<b>Date/Interval/s</b>	From Trading Interval 7:2 on 10 May 2022 to Trading Interval 13:1 on 12 May 2022
<b>Dispatch Advisory #</b>	208891
<b>Details</b>	A planned Western Power Outage on the CGT-MRTX1 transmission line resulted in the need to constrain the MERSOLAR_PV1 Facility.
<b>Date/Interval/s</b>	From Trading Interval 7:2 on 10 May 2022 to Trading Interval 13:1 on 12 May 2022
<b>Dispatch Advisory #</b>	208893
<b>Details</b>	A planned Western Power Outage on the CGT-MRTX1 line resulted in the need to constrain on the PRK_AG Facility.
<b>Date/Interval/s</b>	From Trading Interval 7:2 on 10 May 2022 to Trading Interval 13:1 on 12 May 2022
<b>Dispatch Advisory #</b>	208893
<b>Details</b>	A planned Western Power Outage on the CGT-MRTX1 line resulted in the need to constrain on the STHRNCRS_EG Facility.

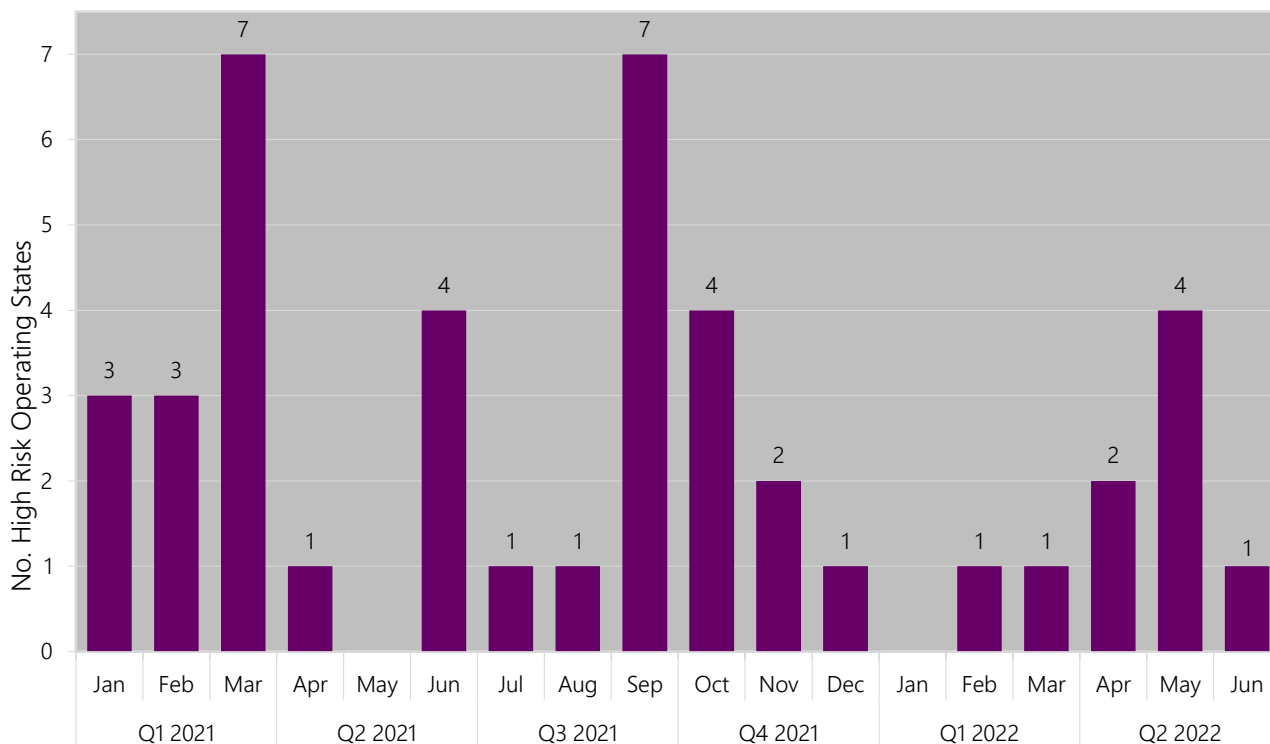
<b>Date/Interval/s</b>	22 May 2022/ Trading Interval 12:2 to Trading Interval 16:1
<b>Dispatch Advisory #</b>	208933
<b>Details</b>	A trip on the CGT-YLNX1 line resulted in the need to constrain the STHRNCRS_EG Facility.
<b>Date/Interval/s</b>	25 May 2022/ Trading Interval 12:2 to Trading Interval 15:2
<b>Dispatch Advisory #</b>	208937
<b>Details</b>	A trip on the MRT-CGTX1 line resulted in the need to constrain the STHRNCRS_EG Facility.
<b>Date/Interval/s</b>	27 May 2022/ Trading Interval 10:1 to Trading Interval 15:2
<b>Dispatch Advisory #</b>	208940
<b>Details</b>	A Forced Western Power Network Outage on the CGT-YLN-WKTX1 line resulted in the need to constrain on the STHRNCRS_EG Facility.
<b>Date/Interval/s</b>	27 May 2022/ Trading Interval 10:1 to Trading Interval 15:2
<b>Dispatch Advisory #</b>	208940
<b>Details</b>	A forced Western Power Network Outage on the CGT-YLN-WKTX1 line resulted in the need to constrain on the PRK_AG Facility.
<b>Date/Interval/s</b>	27 May 2022/ Trading Interval 10:1 to Trading Interval 16:2
<b>Dispatch Advisory #</b>	208940
<b>Details</b>	A forced Western Power Network Outage on the CGT-YLN-WKTX1 line resulted in the need to constrain the INVESTEC_COLLGAR_WF1 Facility.
<b>Date/Interval/s</b>	27 May 2022/ Trading Interval 10:1 to Trading Interval 16:1
<b>Dispatch Advisory #</b>	208940
<b>Details</b>	A forced Western Power Network Outage on the CGT-YLN-WKTX1 line resulted in the need to constrain a Facility.
<b>Date/Interval/s</b>	20 Jun 2022/ Trading Interval 11:2 to Trading Interval 14:1
<b>Dispatch Advisory #</b>	209012
<b>Details</b>	A planned Western Power Network outage impacting the NRS A & B protection services resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.
<b>Date/Interval/s</b>	24 Jun 2022/ Trading Interval 13:2 to Trading Interval 16:2
<b>Dispatch Advisory #</b>	209021
<b>Details</b>	A forced Western Power Network outage on the MGA 881.0 circuit breaker resulted in the need to constrain the GREENOUGH_RIVER_PV1 Facility.

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

## 6.1 High Risk Operating State

There were seven instances of a High Risk Operating State during the reporting period.

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



<b>Date/Interval/s</b>	6 Apr 2022 / Trading Interval 7:2 to Trading Interval 14:2
<b>Dispatch Advisory #</b>	208791
<b>Details</b>	AEMO experienced IT issues affecting the operation of the Real Time Dispatch Engine (RTDE).
<b>AEMO Action</b>	AEMO dispatched according to the latest BMO received to maintain Power System Security and Power System Reliability.

<b>Date/Interval/s</b>	10 Apr 2022 / Trading Interval 6:2 to Trading Interval 10:2
<b>Dispatch Advisory #</b>	208794
<b>Details</b>	AEMO experienced IT issues affecting the operation of the Real Time Dispatch Engine (RTDE).
<b>AEMO Action</b>	AEMO dispatched according to the latest BMO received to maintain Power System Security and Power System Reliability.

<b>Date/Interval/s</b>	6 May 2022 / Trading Interval 9:1 to Trading Interval 9:2
<b>Dispatch Advisory #</b>	208872
<b>Details</b>	AEMO experienced IT issues affecting the operation of the Real Time Dispatch Engine (RTDE).
<b>AEMO Action</b>	AEMO dispatched according to the latest BMO received to maintain Power System Security and Power System Reliability.

<b>Date/Interval/s</b>	25 May 2022 / Trading Interval 11:1 to Trading Interval 15:2
<b>Dispatch Advisory #</b>	208937
<b>Details</b>	At 11:13, the MRT-CGTX1 line tripped resulting in a loss of approximately 147MW of load and a frequency deviation to 50.30Hz.
<b>AEMO Action</b>	AEMO dispatched according to the latest BMO received to maintain Power System Security and Power System Reliability.

<b>Date/Interval/s</b>	26 May 2022 / Trading Interval 3:2 to Trading Interval 8:1
<b>Dispatch Advisory #</b>	208938
<b>Details</b>	AEMO experienced IT issues affecting the operation of the Real Time Dispatch Engine (RTDE).
<b>AEMO Action</b>	AEMO dispatched according to the latest BMO received to maintain Power System Security and Power System Reliability.

<b>Date/Interval/s</b>	26 May 2022 / Trading Interval 8:1 to Trading Interval 12:1
<b>Dispatch Advisory #</b>	208939
<b>Details</b>	AEMO experienced IT issues affecting the operation of the Real Time Dispatch Engine (RTDE).
<b>AEMO Action</b>	AEMO dispatched according to the latest BMO received to maintain Power System Security and Power System Reliability.

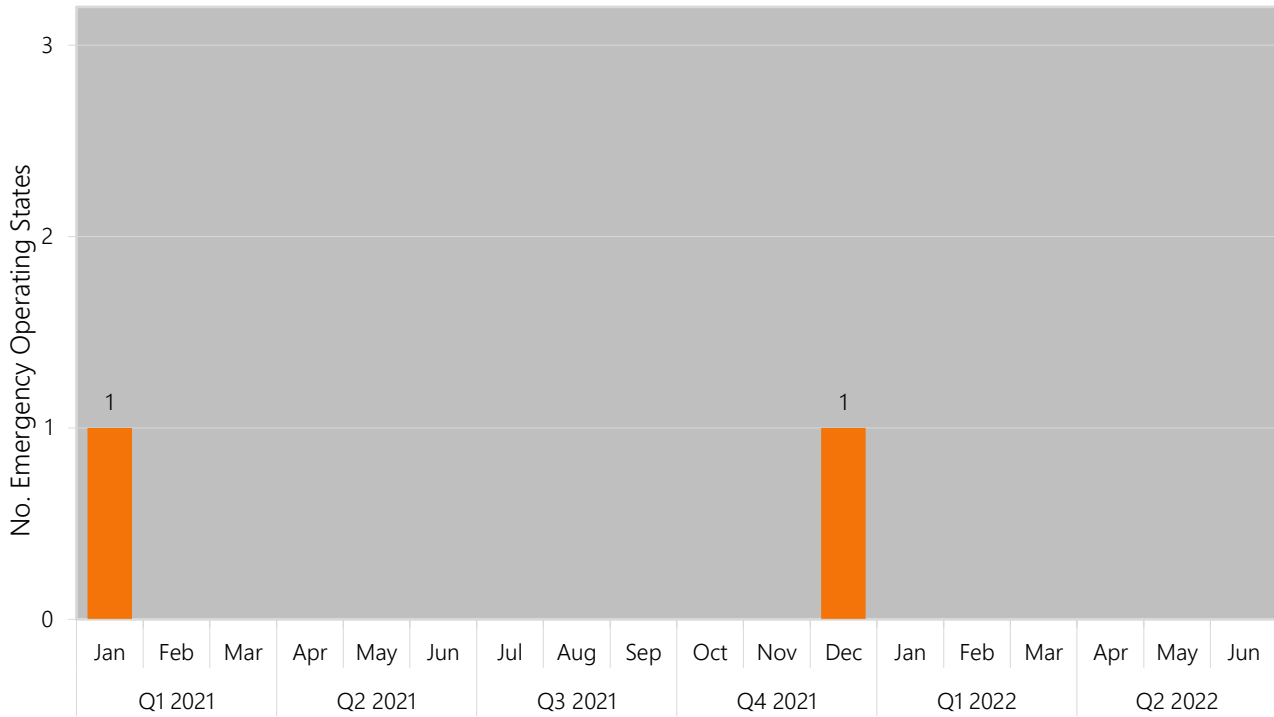
<b>Date/Interval/s</b>	23 Jun 2022 / Trading Interval 7:1 to Trading Interval 8:1
<b>Dispatch Advisory #</b>	209018
<b>Details</b>	AEMO experienced IT issues affecting the operation of the Real Time Dispatch Engine (RTDE).
<b>AEMO Action</b>	AEMO dispatched according to the latest BMO received to maintain Power System Security and Power System Reliability.



## 6.2 Emergency Operating State

There were no instances of an Emergency Operating State during the reporting period.

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



## 6.3 Shortfalls in Ancillary Services

During the reporting period there were 64 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, 46 instances related to shortfalls of LRRS<sup>4</sup>. 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, 18 instances of LFAS Enablement shortfall (greater than 1 interval) were reported.

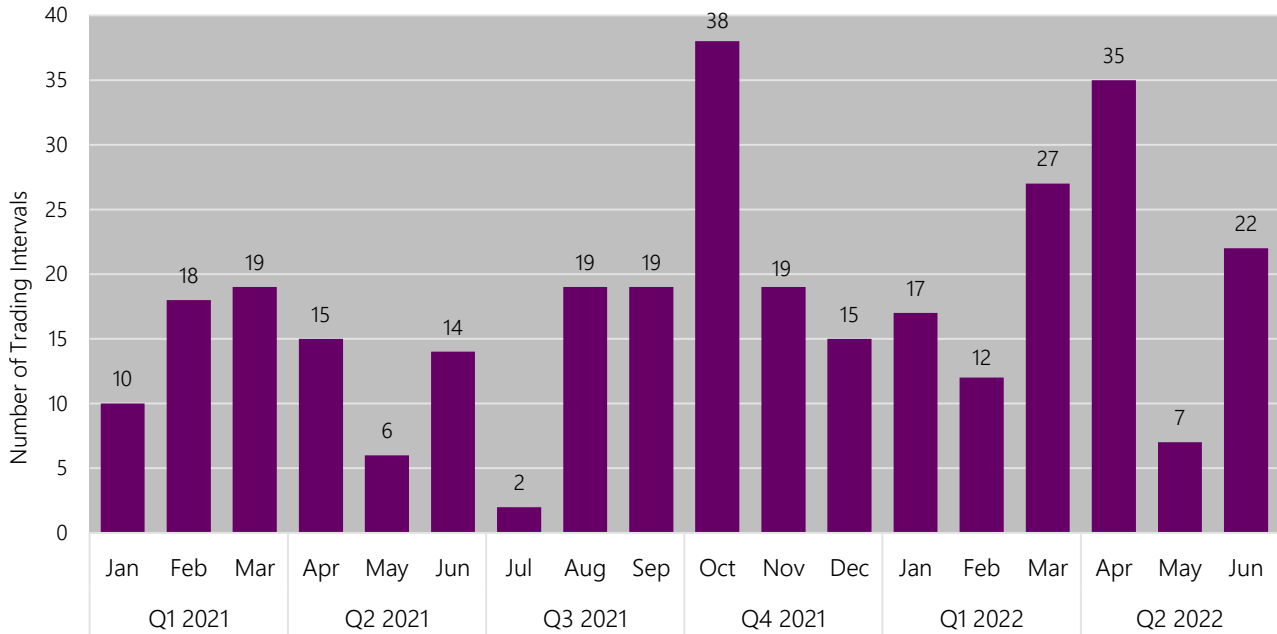
### Spinning Reserve Ancillary Services (SRAS)

Spinning Reserve Service 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.

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<sup>4</sup> 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 January 2021<sup>5</sup>**



AEMO does not consider that any of the shortfalls placed the SWIS in a High Risk Operating State or an Emergency 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.

<sup>5</sup> Values have been adjusted to reflect 2 fewer LFAS Enablement shortfalls for February 2022 and 1 additional LFAS Enablement shortfall for October 2021 following further review after the quarter’s end.



## 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 Load Following Ancillary Services (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.

<b>Date/Interval/s</b>	15 Mar 2022 / Trading Interval 14:2 to Trading Interval 16:2
<b>Dispatch Advisory #</b>	208632
<b>Details</b>	AEMO required backup LFAS due to the NEWGEN_KWINANA_CCG1 Facility being unable to provide LFAS as per the LFAS Merit Order following a forced outage of the Facility.
<b>AEMO Action</b>	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

<b>Date/Interval/s</b>	23 May 2022 / Trading Interval 11:2 to Trading Interval 15:1
<b>Dispatch Advisory #</b>	208936
<b>Details</b>	AEMO required backup LFAS due to high load volatility from large fluctuations in Non-Scheduled Generation.
<b>AEMO Action</b>	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

<b>Date/Interval/s</b>	10 Jun 2022 / Trading Interval 16:2
<b>Dispatch Advisory #</b>	208993
<b>Details</b>	AEMO required backup LFAS due to the ALINTA_PNJ_U2 Facility being unable to provide LFAS as per the LFAS Merit Order.
<b>AEMO Action</b>	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

<b>Date/Interval/s</b>	12 Jun 2022 / Trading Interval 10:2 to Trading Interval 15:1
<b>Dispatch Advisory #</b>	208733
<b>Details</b>	AEMO required backup LFAS due to high volatility in PV generation.
<b>AEMO Action</b>	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.