



STATUS REPORT

1 July 2021 to 30 September 2021

Prepared 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.

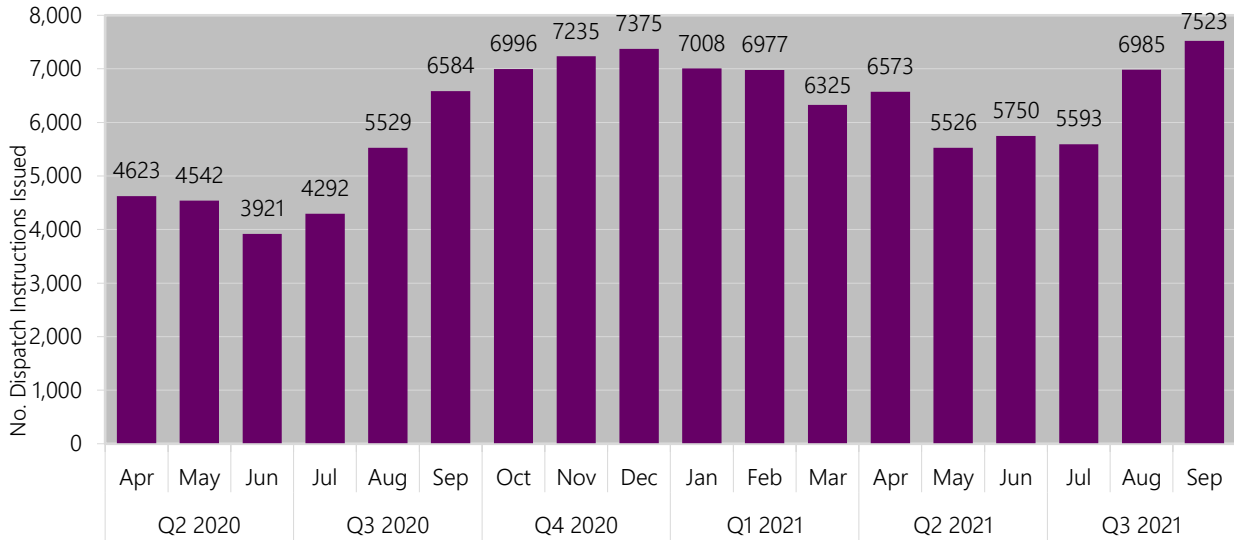
In this report:

- the reporting period is from 1 July 2021 to 30 September 2021;
- 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

AEMO issued 20,101 Dispatch Instructions to Market Participants during the reporting period.

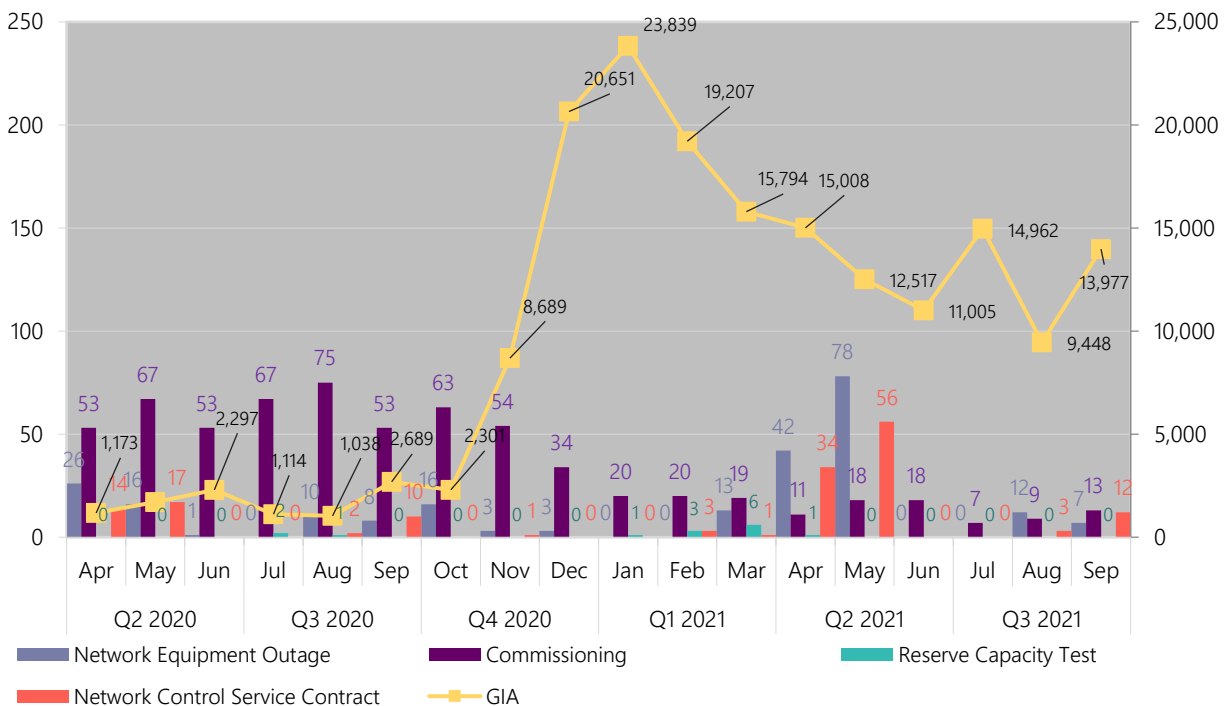
Figure 1: Dispatch Instructions issued during each Trading Month since 1 April 2020.



AEMO issued 38,450 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 Instructions¹ issued during each Trading Month since 1 April 2020.



¹ 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 Instructions²

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:

- 11,697 Dispatch Instruction non-compliance notifications, and
- 140 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:

- 305 instances of non-acknowledgement of Dispatch Instructions, and
- 735 instances of non-acknowledgement of Operating Instructions.

Figure 3: Dispatch Instruction non-compliance notifications since 1 April 2020.

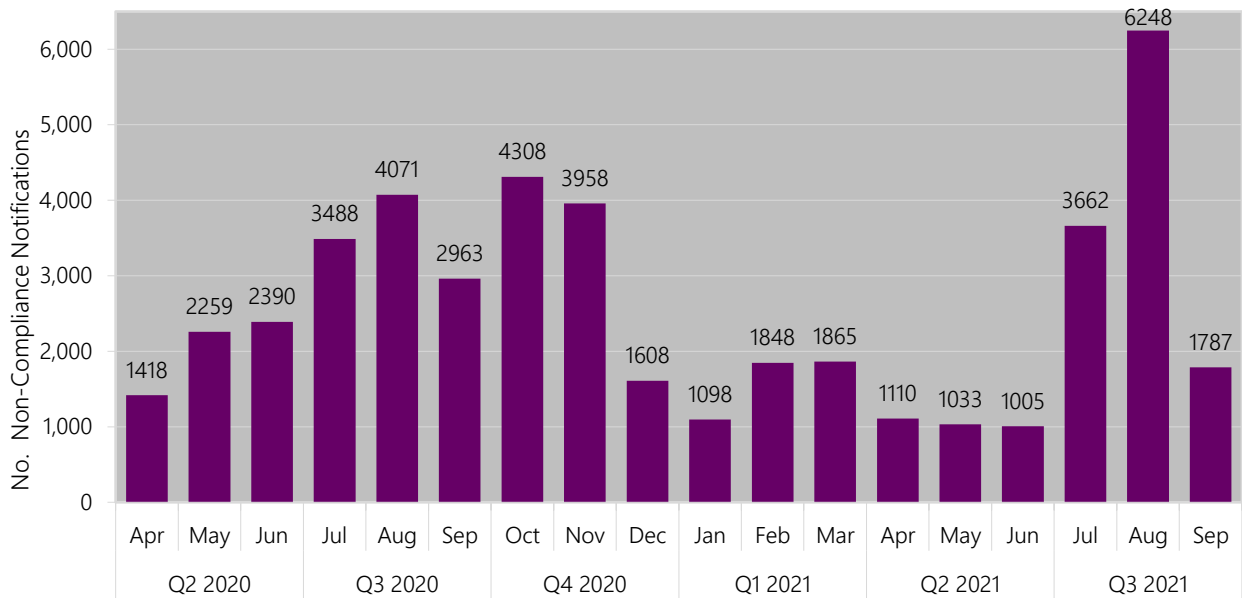
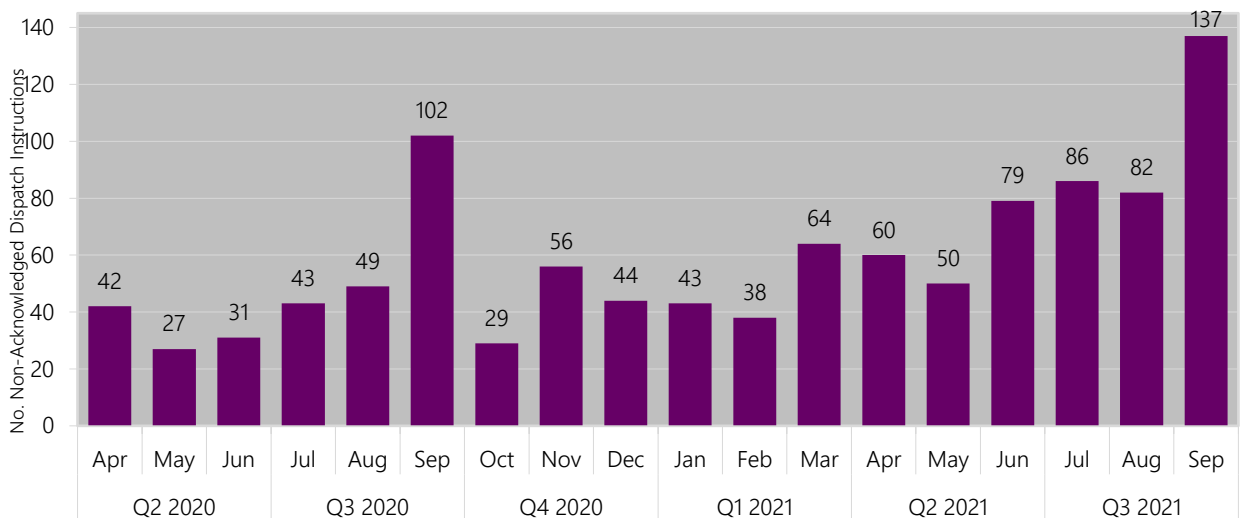


Figure 4: Non-acknowledgement of Dispatch Instructions since 1 April 2020.



² 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.

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, there were five instances identified where Dispatch Instructions were issued to Balancing Facilities Out of Merit³.

Date/Interval/s	10 Aug 2021 / Trading Interval 18:1 to Trading Interval 19:2
Dispatch Advisory #	208226
Details	AEMO dispatched Out of Merit to avoid a shortfall in Ancillary Service Requirements (also refer to section 6.1).
AEMO Action	AEMO dispatched Out of Merit to maintain Power System Security and Reliability.

Date/Interval/s	9 Sep 2021 / Trading Interval 8:1 to Trading Interval 11:1
Dispatch Advisory #	208303
Details	AEMO dispatched Out of Merit to avoid a shortfall in Ancillary Service Requirements (Facility 1 of 2).
AEMO Action	AEMO dispatched Out of Merit to maintain Power System Security and Reliability.

Date/Interval/s	9 Sep 2021 / Trading Interval 8:1 to Trading Interval 11:1
Dispatch Advisory #	208303
Details	AEMO dispatched Out of Merit to avoid a shortfall in Ancillary Service Requirements (Facility 2 of 2).
AEMO Action	AEMO dispatched Out of Merit to maintain Power System Security and Reliability.

Date/Interval/s	28 Sep 2021 to 30 Sep 2021 / Trading Interval 5:1 to Trading Interval 14:2
Dispatch Advisory #	208331
Details	AEMO dispatched Out of Merit due to a planned Network Outage on the KDN-MRTX1 Transmission Line which islanded the Eastern Goldfields region from the SWIS (Facility 1 of 2).
AEMO Action	AEMO dispatched Out of Merit to maintain Power System Security and Reliability.

³ 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.

Date/Interval/s	28 Sep 2021 to 30 Sep 2021 / Trading Interval 5:1 to Trading Interval 14:2
Dispatch Advisory #	208331
Details	AEMO dispatched Out of Merit due to a planned Network Outage on the KDN-MRTX1 Transmission Line which islanded the Eastern Goldfields region from the SWIS (Facility 2 of 2).
AEMO Action	AEMO dispatched Out of Merit to maintain Power System Security and Reliability.

4.2 Other instances of Out of Merit dispatch

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.

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:

- From Trading Interval 12:2 on 3 Aug 2021 to Trading Interval 13:1 on 12 Aug 2021 network configuration issues resulted in the need to constrain the ALBANY_WF1 facility (Dispatch Advisory 208205)
- From Trading Interval 9:2 on 10 Aug 2021 to Trading Interval 15:2 on 10 Aug 2021 a network outage on the GTN-CPN81 Transmission Line resulted in the need to constrain the GREENOUGH_RIVER_PV1 facility (Dispatch Advisory 208224)
- From Trading Interval 13:2 on 12 Sep 2021 to Trading Interval 15:2 on 12 Sep 2021, low system load resulted in the the NEWGEN_KWINANA_CCG1 Facility being removed from the LFAS Down market due to an existing system constraint on the unit (Dispatch Advisory 208306)
- From Trading Interval 15:2 on 12 Sep 2021 to Trading Interval 16:2 on 12 Sep 2021 low system load resulted in the the NEWGEN_KWINANA_CCG1 Facility being removed from the LFAS Down market due to an existing system constraint on the unit (Dispatch Advisory 208307)
- From Trading Interval 5:2 on 28 Sep 2021 to Trading Interval 14:1 on 30 Sep 2021 a planned Network Outage on the KDN-MRTX1 Transmission Line resulted in the Eastern Goldfields region being islanded from the SWIS and the need to constrain the NAMKKN_MERR_SG1 Facility (Dispatch Advisory 208331)
- From Trading Interval 5:2 on 28 Sep 2021 to Trading Interval 14:1 on 30 Sep 2021 a planned Network Outage on the KDN-MRTX1 Transmission Line resulted in the Eastern Goldfields region being islanded from the SWIS and the need to constrain the INVESTEC_COLLGAR_WF1 Facility (Dispatch Advisory 208331)
- From Trading Interval 5:2 on 28 Sep 2021 to Trading Interval 14:1 on 30 Sep 2021 a planned Network Outage on the KDN-MRTX1 Transmission Line resulted in the Eastern Goldfields region being

islanded from the SWIS and the need to constrain the MERSOLAR_PV1 Facility (Dispatch Advisory 208331)

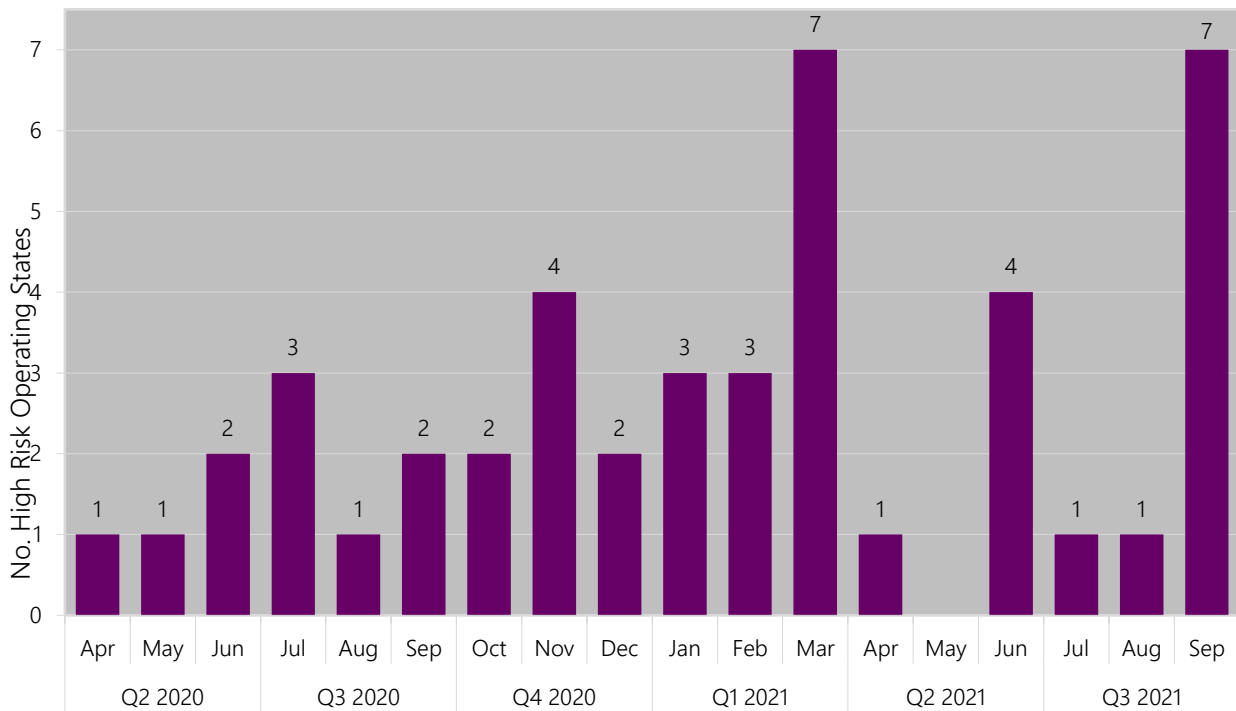
- From Trading Interval 5:2 on 28 Sep 2021 to Trading Interval 14:1 on 30 Sep 2021 a planned Network Outage on the KDN-MRTX1 Transmission Line resulted in the Eastern Goldfields region being islanded from the SWIS and the need to constrain the PRK_AG Facility (Dispatch Advisory 208332)
- From Trading Interval 5:2 on 28 Sep 2021 to Trading Interval 14:1 on 30 Sep 2021 a planned Network Outage on the KDN-MRTX1 Transmission Line resulted in the Eastern Goldfields region being islanded from the SWIS and the need to constrain the STHRNCRS_EG Facility (Dispatch Advisory 208332)

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

6.1 High Risk Operating State

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

Figure 5: High Risk Operating States that have occurred since 1 April 2020.



Date/Interval/s	27 Jul 2021 / Trading Interval 10:2 to Trading Interval 13:2
Dispatch Advisory #	208182
Details	AEMO experienced IT issues with Control Systems and other automated tools, potentially causing issues with incorrect Dispatch of Facilities. No Out of Merit generation occurred.
AEMO Action	AEMO dispatched according to the latest BMO received to maintain Power System Security and Power System Reliability.

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Date/Interval/s	10 Aug 2021 / Trading Interval 18:1 to Trading Interval 19:2
Dispatch Advisory #	208226
Details	A shortfall in Ancillary Service Requirements occurred. Out of Merit generation was required (see section 4.1).
AEMO Action	AEMO dispatched Out of Merit to maintain Power System Security and Reliability.

Date/Interval/s	1 Sep 2021 / Trading Interval 0:1 to Trading Interval 3:2
Dispatch Advisory #	208284
Details	AEMO experienced IT issues affecting the operation of the Real Time Dispatch Engine. No Out of Merit generation occurred.
AEMO Action	AEMO was required to dispatch according to the latest Balancing Merit Order to maintain Power System Security and Power System Reliability.

Date/Interval/s	11 Sep 2021 / Trading Interval 10:1 to Trading Interval 15:2
Dispatch Advisory #	208304
Details	Low load conditions occurred. Downwards Out of Merit generation was required.
AEMO Action	AEMO was required to dispatch according to the latest Balancing Merit Order to maintain Power System Security and Power System Reliability.

Date/Interval/s	12 Sep 2021 / Trading Interval 8:2 to Trading Interval 17:1
Dispatch Advisory #	208305
Details	Low load conditions occurred. Downwards Out of Merit generation was required.
AEMO Action	AEMO was required to dispatch according to the latest Balancing Merit Order to maintain Power System Security and Power System Reliability.

Date/Interval/s	13 Sep 2021 / Trading Interval 10:1 to Trading Interval 15:2
Dispatch Advisory #	208308
Details	Low load conditions occurred. Downwards Out of Merit generation was required.
AEMO Action	AEMO was required to dispatch according to the latest Balancing Merit Order to maintain Power System Security and Power System Reliability.

Date/Interval/s	14 Sep 2021 / Trading Interval 10:1 to Trading Interval 15:2
Dispatch Advisory #	208309
Details	Low load conditions occurred. There was no Out of Merit generation required.
AEMO Action	AEMO dispatched according to the latest Balancing Merit Order to maintain Power System Security and Power System Reliability.

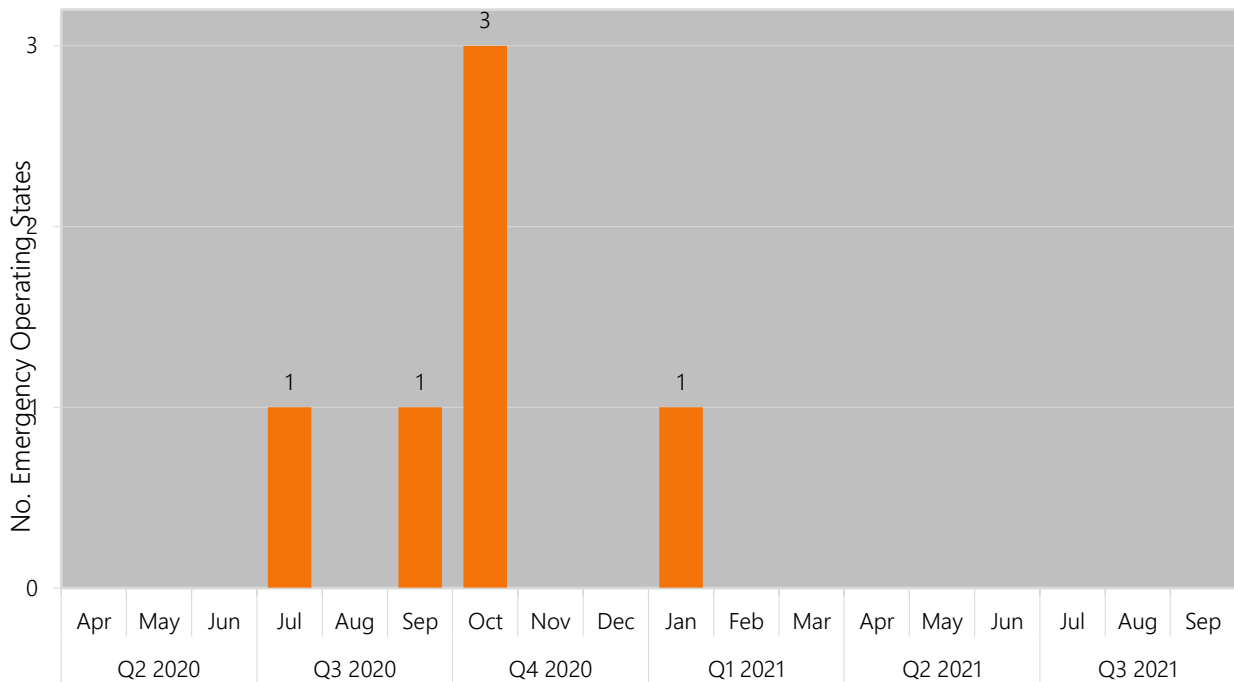
Date/Interval/s	19 Sep 2021 / Trading Interval 18:1
Dispatch Advisory #	208316
Details	NEWGEN_NEERABUP_GT1 tripped at 18:01 on 19/09/2021 resulting in a loss of approximately 164MW and a frequency deviation to 49.5Hz. Frequency returned to a Normal Operating range within 1.06 minutes of the unit tripping. No Out of Merit generation occurred.
AEMO Action	AEMO dispatched according to the latest Balancing Merit Order to maintain Power System Security and Power System Reliability.

Date/Interval/s	20 Sep 2020 / Trading Interval 12:1 to Trading Interval 12:2
Dispatch Advisory #	208318
Details	AEMO experienced IT issues affecting PI and SCADA data resulting in a loss of visibility of generation within the SWIS. The RTDE has been placed in simulate mode. No Out of Merit generation occurred.
AEMO Action	AEMO dispatched according to the latest Balancing Merit Order 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 April 2020.



6.3 Shortfalls in Ancillary Services

During the reporting period there were 40 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, 35 instances related to shortfalls of LRRS⁴. 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.

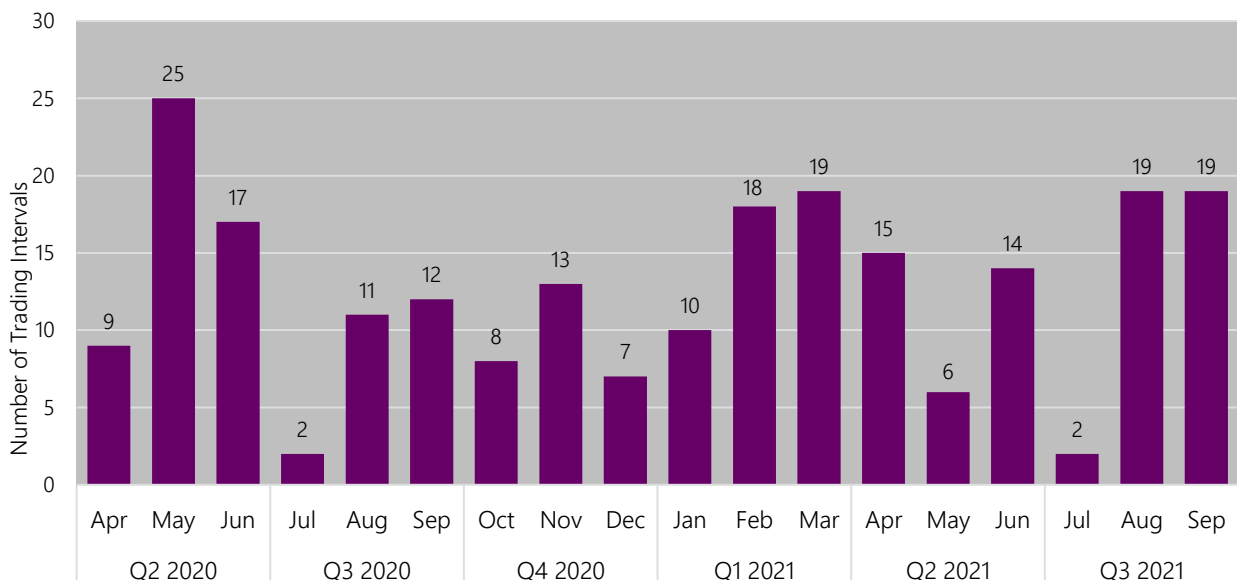
Load Following Ancillary Services (LFAS)

For every Trading Interval, System Management must activate each LFAS Facility for its full upward and downward LFAS Enablement to satisfy the LFAS Enablement Schedule. During the reporting period 5 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.

Figure 7: Shortfalls in Ancillary Services that have occurred since 1 April 2020⁵.



⁴ As outlined in [AEMO’s Ancillary Services Report for the WEM 2021](#), AEMO has successfully conducted a Load Rejection Reserve (LRR) trial and has adopted a dynamic LRR for 2020-21 that incorporates physical aspects of the power system, including setting the upper limit of the LRR requirement 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.

Note: 2 additional LFAS Enablement shortfalls were reported for September 2020 and 4 additional LFAS Enablement shortfalls were reported for June 2021 after the quarter's end.

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.

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

During the reporting period, there were twenty 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.

Date/Intervals	6 Jul 2021 / Trading Interval 14:1 to Trading Interval 16:1
Dispatch Advisory #	208121
Details	AEMO required additional LFAS due to fluctuations in PV generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Intervals	14 Jul 2021 / Trading Interval 13:1 to Trading Interval 16:2
Dispatch Advisory #	208141
Details	AEMO required additional LFAS due to fluctuations in PV generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Intervals	22 Jul 2021 / Trading Interval 10:2 to Trading Interval 12:2
Dispatch Advisory #	208161
Details	AEMO required backup LFAS due to ALINTA_WGP_GT being unable to provide their cleared LFAS quantity as per the LFAS Merit Order due to a forced outage.
AEMO Action	AEMO dispatched according to the latest Balancing Merit Order to maintain Power System Security and Reliability.

Date/Intervals	31 Jul 2021 / Trading Interval 10:2 to Trading Interval 15:1
Dispatch Advisory #	208201
Details	AEMO required additional LFAS due to fluctuations in PV and wind generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Intervals	1 Aug 2021 / Trading Interval 10:2 to Trading Interval 12:1
Dispatch Advisory #	208202

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Details	AEMO required additional LFAS due to fluctuations in PV and wind generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Intervals	1 Aug 2021 / Trading Interval 12:1 to Trading Interval 16:1
Dispatch Advisory #	208203
Details	AEMO required additional LFAS due to fluctuations in PV and wind generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Intervals	3 Aug 2021 / Trading Interval 9:1
Dispatch Advisory #	208204
Details	AEMO required backup LFAS due to NEWGEN_KWINANA_CCG1 being unable to provide their cleared LFAS quantity as per the LFAS Merit Order due to a forced outage.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Intervals	8 Aug 2021 / Trading Interval 10:1 to Trading Interval 12:2
Dispatch Advisory #	208221
Details	AEMO required additional LFAS due to fluctuations in PV generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Intervals	9 Aug 2021 / Trading Interval 5:2 to Trading Interval 17:1
Dispatch Advisory #	208222
Details	AEMO required backup LFAS due to ALINTA_PNJ_U1 being unable to provide their cleared LFAS quantity as per the LFAS Merit Order due to a forced outage.
AEMO Action	AEMO dispatched according to the latest Balancing Merit Order to maintain Power System Security and Reliability. Enable Backup LFAS to cover the loss of ALINTA_PNJ_U1.

Date/Intervals	10 Aug 2021 / Trading Interval 9:2 to Trading Interval 13:1
Dispatch Advisory #	208223
Details	AEMO required additional LFAS due to fluctuations in PV generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.

Date/Intervals	10 Aug 2021 / Trading Interval 12:2 to Trading Interval 16:1
Dispatch Advisory #	208225
Details	AEMO required additional LFAS due to fluctuations in PV generation.

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AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.
Date/Intervals	19 Aug 2021 / Trading Interval 8:2 to Trading Interval 9:1
Dispatch Advisory #	Not issued
Details	AEMO required backup LFAS due to a facility being unable to provide their cleared LFAS quantities.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.
Date/Intervals	1 Sep 2021 / Trading Interval 11:1 to Trading Interval 14:2
Dispatch Advisory #	208285
Details	AEMO required additional LFAS due to fluctuations in PV and wind generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.
Date/Intervals	2 Sep 2021 / Trading Interval 11:1 to Trading Interval 15:1
Dispatch Advisory #	208286
Details	AEMO required additional LFAS due to fluctuations in PV and wind generation.
AEMO Action	AEMO was required to activate LFAS from the Backup LFAS Provider to maintain Power System Security and Power System Reliability.
Date/Intervals	12 Sep 2021 / Trading Interval 14:1 to Trading Interval 15:1
Dispatch Advisory #	208306
Details	AEMO required backup LFAS due to NEWGEN_KWINANA_CCG1 being removed from the LFAS Down market due to an existing system constraint on the unit during low load conditions.
AEMO Action	AEMO was required to remove NEWGEN_KWINANA_CCG1 from the LFAS Down market, and activate LFAS from the Backup LFAS Provider.
Date/Intervals	12 Sep 2021 / Trading Interval 16:1 to Trading Interval 17:1
Dispatch Advisory #	208307
Details	AEMO required backup LFAS due to NEWGEN_KWINANA_CCG1 being removed from the LFAS Down market due to an existing system constraint on the unit during low load conditions.
AEMO Action	AEMO was required to remove NEWGEN_KWINANA_CCG1 from the LFAS Down market, and activate LFAS from the Backup LFAS Provider.
Date/Intervals	15 Sep 2021 / Trading Interval 18:1 to Trading Interval 19:1
Dispatch Advisory #	208310
Details	AEMO required backup LFAS due to ALINTA_PNJ_U2 being unable to provide their cleared LFAS quantity as per the LFAS Merit Order due to a forced outage.

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AEMO Action	AEMO dispatched according to the latest Balancing Merit Order to maintain Power System Security and Reliability.
Date/Intervals	18 Sep 2021 / Trading Interval 11:1 to Trading Interval 13:1
Dispatch Advisory #	208313
Details	AEMO required backup LFAS due to NEWGEN_KWINANA_CCG1 being unable to provide their cleared LFAS quantity as per the LFAS Merit Order due to a forced outage.
AEMO Action	AEMO dispatched according to the latest Balancing Merit Order to maintain Power System Security and Reliability.
Date/Intervals	19 Sep 2021 / Trading Interval 14:2 to Trading Interval 15:2
Dispatch Advisory #	208314
Details	AEMO required backup LFAS due to NEWGEN_KWINANA_CCG1 being unable to provide their cleared LFAS quantity as per the LFAS Merit Order due to a forced outage.
AEMO Action	AEMO dispatched according to the latest Balancing Merit Order to maintain Power System Security and Reliability.
Date/Intervals	19 Sep 2021 / Trading Interval 16:1 to Trading Interval 18:1
Dispatch Advisory #	208315
Details	AEMO required backup LFAS due to NEWGEN_KWINANA_CCG1 being unable to provide their cleared LFAS quantity as per the LFAS Merit Order due to a forced outage.
AEMO Action	AEMO dispatched according to the latest Balancing Merit Order to maintain Power System Security and Reliability.