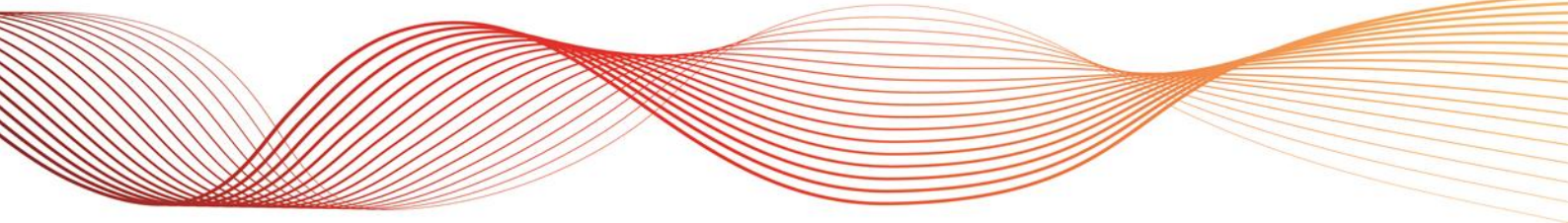




STATUS REPORT

Prepared under clause 7.12 of the WEM Rules

1 January 2018 to 31 March 2018





CONTENTS

1.	INTRODUCTION	3
2.	ISSUANCE OF DISPATCH INSTRUCTIONS AND OPERATING INSTRUCTIONS	4
3.	NON-COMPLIANCE WITH DISPATCH INSTRUCTIONS AND OPERATING INSTRUCTIONS	6
4.	ISSUANCE OF DISPATCH INSTRUCTIONS TO BALANCING FACILITIES OUT OF MERIT	7
4.1	Instances of Out of Merit dispatch identified by AEMO	7
4.2	Other instances of Out of Merit dispatch	8
5.	TRANSMISSION CONSTRAINTS	8
6.	OPERATING STATES, SHORTFALLS IN ANCILLARY SERVICES AND INVOLUNTARY CURTAILMENT OF LOAD	10
6.1	High Risk Operating State	10
6.2	Emergency Operating State	14
6.3	Shortfalls in Ancillary Services	15
6.4	Involuntary curtailment of load	17
7.	SELECTION AND USE OF LFAS FACILITIES OTHER THAN IN ACCORDANCE WITH LFAS MERIT ORDER	17

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 2018 to 31 March 2018;
- 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 12,439 Dispatch Instructions to Market Participants during the reporting period.

Figure 1 below shows the number of Dispatch Instructions issued during each Trading Month since 1 October 2016.

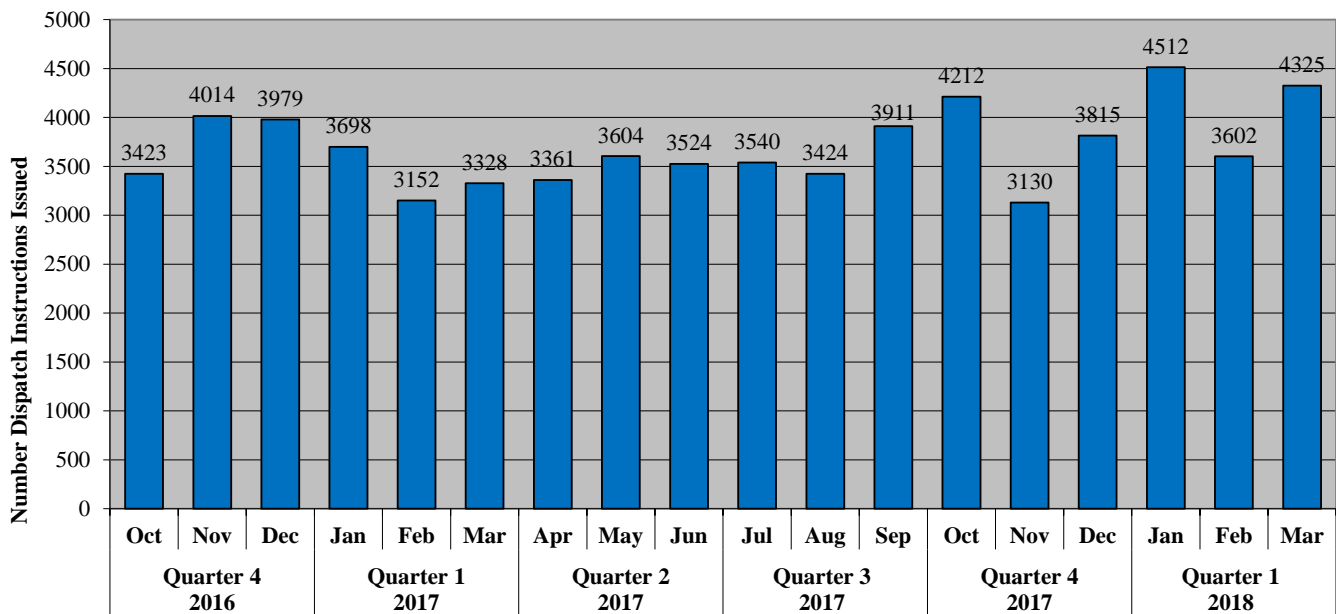


Figure 1: Dispatch Instructions per Trading Month

AEMO issued 16 Operating Instructions during the reporting period.

Two situations where AEMO may issue Operating Instructions under the WEM Rules are for Commissioning Tests and Reserve Capacity Tests.

Figure 2 below shows the number of Operating Instructions issued during each Trading Month since 1 April 2017.

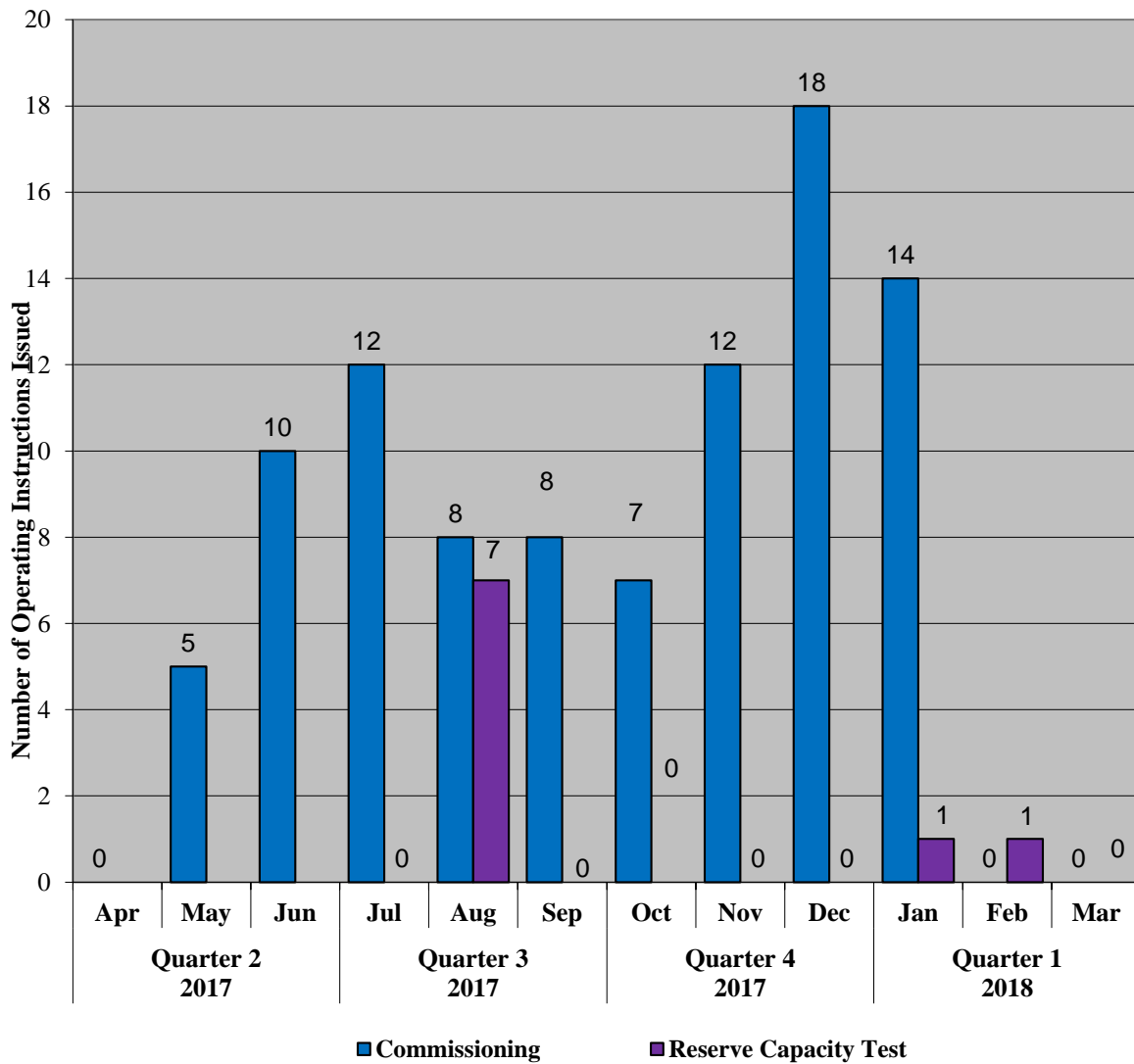


Figure 2: Operating Instructions per Trading Month

3. Non-Compliance with Dispatch Instructions and Operating Instructions

During the reporting period, System Management issued 22,422 one-minute non-compliance notifications to Market Participants for non-compliance with Dispatch Instructions, taking into account the Tolerance Range, and any Facility Tolerance Ranges, where applicable.

During the reporting period, there were 109 instances where a Market Participant did not confirm receipt of a Dispatch Instruction when required to do so under the WEM Rules and the Dispatch Power System Operation Procedure.

During the reporting period, there were two instances where a Market Participant did not confirm receipt of an Operating Instruction when required to do so under the WEM Rules and the Dispatch Power System Operation Procedure.

Figure 3 below provides historical non-compliance data since 1 October 2016.

Figure 3: Dispatch Instruction non-compliance notifications

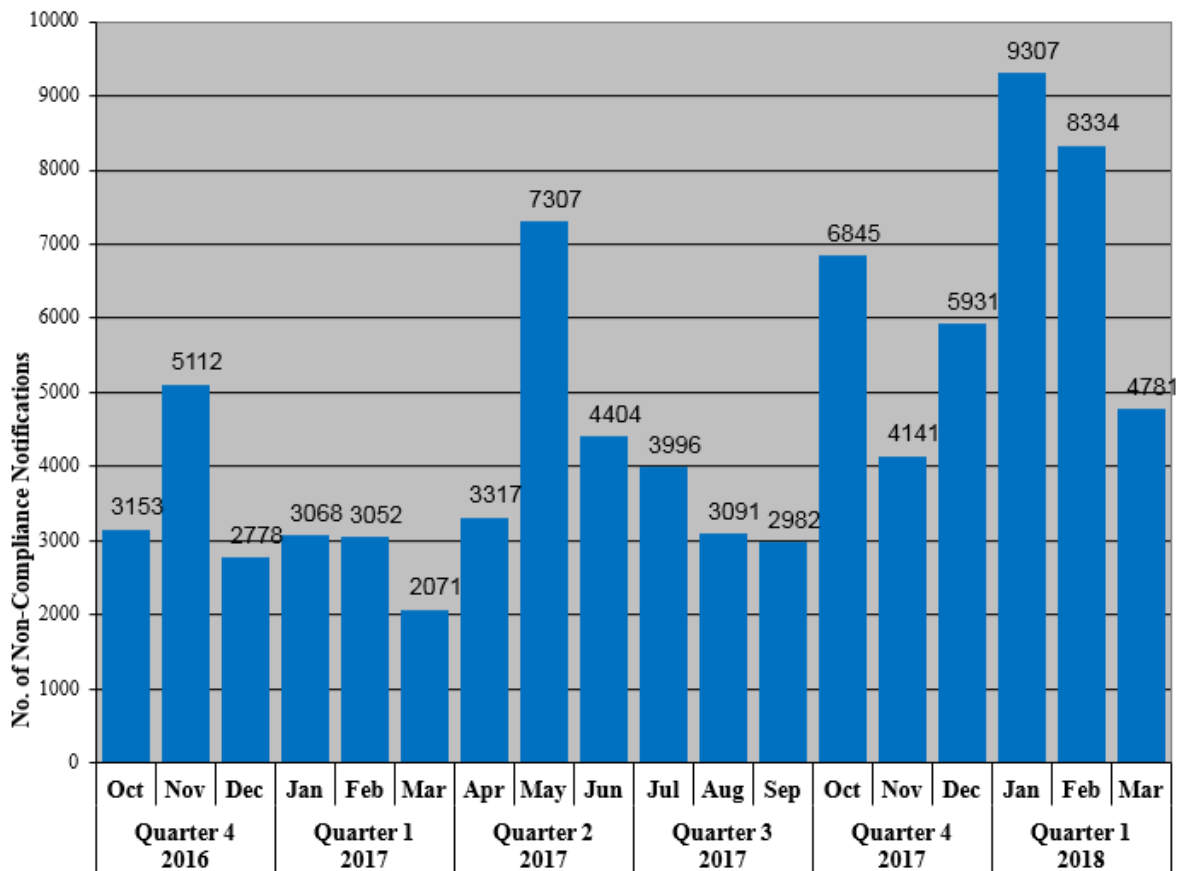


Figure 4 below provides historical non-acknowledgement data for Dispatch Instructions since 1 October 2016.

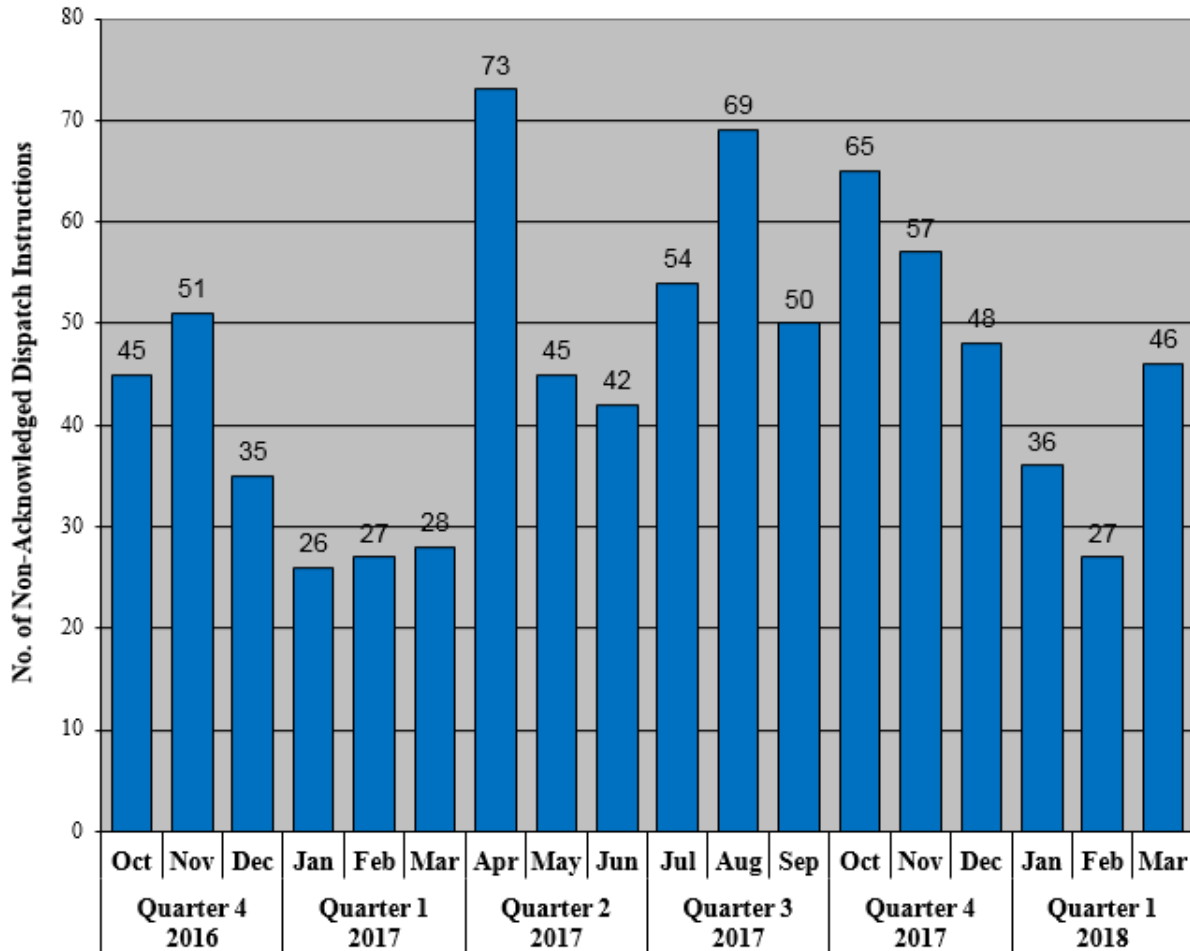


Figure 4: Non-acknowledged Dispatch Instructions

4. Issuance of Dispatch Instructions to Balancing Facilities Out of Merit

4.1 Instances of Out of Merit dispatch identified by AEMO

During the reporting period, there were two instances where Dispatch Instructions were issued to Balancing Facilities Out of Merit.¹

¹ Clause 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	12 March 2018 / Trading Interval 14:1 to Trading Interval 16:2
Details	At 2.03 pm on 12 March 2018, Southern Cross informed System Management that the STHRNCRS_EG Facility was unable to comply with its 22.5MW Dispatch Instruction. Southern Cross asked System Management to constrain the facility to 18MW. At 2.18 pm, System Management constrained the facility to 18MW. At 4.30 pm, Southern Cross asked System Management to remove the constraint. At 4.43 pm, System Management removed the constraint.
System Management action	System Management constrained the STHRNCRS_EG Facility to 18MW from 2.18 pm to 4.43 pm on 12 March 2018. At 4.50 pm, System Management issued a 22.5MW Dispatch Instruction based on the BMO for the 5.00 pm Trading Interval.

Date/Interval/s	13 March 2018 / Trading Interval 14:1 to Trading Interval 15:1
Details	At 2.03 pm on 13 March 2018, Southern Cross informed System Management that the STHRNCRS_EG Facility was unable to comply with its 22.5MW Dispatch Instruction. Southern Cross asked System Management to constrain the facility to 18MW. At 2.03 pm, System Management constrained the facility to 18MW. At 3.08 pm, Southern Cross asked System Management to remove the constraint. At 3.10 pm, System Management removed the constraint.
System Management action	System Management constrained the STHRNCRS_EG Facility to 18MW from 2.03 pm to 3.10 pm on 13 March 2018. At 3.20 pm, System Management issued an 18MW Dispatch Instruction based on the BMO for the 3.30 pm Trading Interval.

4.2 Other instances of Out of Merit dispatch

Section 5 of this report provides information regarding instances of Out of Merit dispatch due to transmission network constraints. System Management 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. 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.

System Management has identified the following transmission constraints during the reporting period:

- From Trading Interval 7:1 to Trading Interval 19:2 on 25 January 2018, an unplanned line outage on the MGA_TS81 line required the MWF_MUMBIDA_WF1, ALINTA_WWF and GREENOUGH_RIVER_PV1 Facilities to be constrained (Dispatch Advisory 17581).
 - The MWF_MUMBIDA_WF1 Facility was constrained to 0MW for 25 Trading Intervals.
 - The ALINTA_WWF Facility was constrained to 0MW for 26 Trading Intervals.
 - The GREENOUGH_RIVER_PV1 Facility was constrained to 0MW for 25 Trading Intervals.
- From Trading Interval 11:1 on 25 February 2018 to Trading Interval 1:1 on 26 February 2018, due to the loss of the SNR-APJ/WGP line, the ALCOA_WGP Facility was on radial and was constrained (Dispatch Advisory 17628).
 - The ALCOA_WGP Facility was constrained to 0MW for 29 Trading Intervals.
- From Trading Interval 16:2 on 4 March 2018 to Trading Interval 18:2 on 5 March 2018, an unplanned line outage on the MGA_GTN81 line required the ALINTA_WWF Facility to be constrained (Dispatch Advisory 17641).
 - The ALINTA_WWF Facility was constrained to 0MW for 53 Trading Intervals.
- From Trading Interval 16:1 to Trading Interval 18:2 on 5 March 2018, due to an issue with the anti-islanding scheme for the Eastern Goldfields region, the PRK_AG Facility was constrained (No Dispatch Advisory was issued by System Management).
 - The PRK_AG Facility was constrained to 14MW for 6 Trading Intervals.
- From Trading Interval 0:1 on 7 March 2018 to Trading Interval 17:2 on 11 March 2018, due to a voltage control issue on the 220k line that could potentially affect the Eastern Goldfields region, the INVESTEC COLLGAR Facility was constrained (Dispatch Advisory 17643).
 - The INVESTEC_COLLGAR_WF1 Facility was constrained to 80MW for 228 Trading Intervals.
- From Trading Interval 10:1 to Trading Interval 12:1 on 10 March 2018, an unplanned outage on the MGA_WWF81 transmission line required the ALINTA_WWF Facility to be constrained (Dispatch Advisory 17641).
 - The ALINTA_WWF Facility was constrained to 0MW for 4 Trading Intervals.
- From Trading Interval 8:1 to Trading Interval 13:2 on 24 March 2018, a planned Western Power Network Outage for the TS-MBA81 transmission line required the GREENOUGH_RIVER_PV1, MWF_MUMBIDA_WF1 and ALINTA_WWF Facilities to be constrained (Dispatch Advisory 17684).
 - The GREENOUGH_RIVER_PV1 Facility was constrained to between 0MW and 4MW for 12 Trading Intervals.
 - The MWF_MUMBIDA_WF1 Facility was constrained to 0MW for 12 Trading Intervals.
 - The ALINTA_WWF Facility was constrained to between 0MW and 10MW for 12 Trading Intervals.
- From Trading Interval 7:1 to Trading Interval 13:2 on 25 March 2018, a planned Western Power Network Outage for the TS-MBA81, WWF-GTN81 and GTN-RAN81 transmission lines required the GREENOUGH_RIVER_PV1, MWF_MUMBIDA_WF1 and ALINTA_WWF Facilities to be constrained (Dispatch Advisory 17686).
 - The GREENOUGH_RIVER_PV1 Facility was constrained to between 0MW and 4MW for 14 Trading Intervals.
 - The MWF_MUMBIDA_WF1 Facility was constrained to between 0MW and 10MW for 14 Trading Intervals.
 - The ALINTA_WWF Facility was constrained to between 0MW and 35MW for 14 Trading Intervals.

- From Trading Interval 8:2 to Trading Interval 15:2 on 26 March 2018, a planned Western Power Network Outage for the TS-MBA81 transmission line required the GREENOUGH_RIVER_PV1, MWF_MUMBIDA_WF1 and ALINTA_WWF Facilities to be constrained (Dispatch Advisory 17688).
 - The GREENOUGH_RIVER_PV1 Facility was constrained to 0MW for 15 Trading Intervals.
 - The MWF_MUMBIDA_WF1 Facility was constrained to 0MW for 14 Trading Intervals.
 - The ALINTA_WWF Facility was constrained to 0MW for 15 Trading Intervals.
- From Trading Interval 7:2 to Trading Interval 15:2 on 27 March 2018, a planned Western Power Network Outage for the TS-MBA81 transmission line required the GREENOUGH_RIVER_PV1, MWF_MUMBIDA_WF1 and ALINTA_WWF Facilities to be constrained (Dispatch Advisory 17689).
 - The GREENOUGH_RIVER_PV1 Facility was constrained to 0MW for 17 Trading Intervals.
 - The MWF_MUMBIDA_WF1 Facility was constrained to 0MW for 17 Trading Intervals.
 - The ALINTA_WWF Facility was constrained to 0MW for 17 Trading Intervals.
- From Trading Interval 9:1 to Trading Interval 16:1 on 28 March 2018, a planned Western Power Network Outage for the TS-MBA81 transmission line required the GREENOUGH_RIVER_PV1, MWF_MUMBIDA_WF1 and ALINTA_WWF Facilities to be constrained (Dispatch Advisory 17691).
 - The GREENOUGH_RIVER_PV1 Facility was constrained to 0MW for 15 Trading Intervals.
 - The MWF_MUMBIDA_WF1 Facility was constrained to 0MW for 15 Trading Intervals.
 - The ALINTA_WWF Facility was constrained to 0MW for 15 Trading Intervals.
- From Trading Interval 6:2 to Trading Interval 11:2 on 29 March 2018, a planned Western Power Network Outage for the TS-MBA81 transmission line required the GREENOUGH_RIVER_PV1, MWF_MUMBIDA_WF1 and ALINTA_WWF Facilities to be constrained (Dispatch Advisory 17698).
 - The GREENOUGH_RIVER_PV1 Facility was constrained to 0MW for 5 Trading Intervals.
 - The MWF_MUMBIDA_WF1 Facility was constrained to 0MW for 9 Trading Intervals.
 - The ALINTA_WWF Facility was constrained to 0MW for 10 Trading Intervals.

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

6.1 High Risk Operating State

There were 9 instances of a High Risk Operating State during the reporting period.

Figure 5 below provides historical data for High Risk Operating States that have occurred since 1 October 2016.

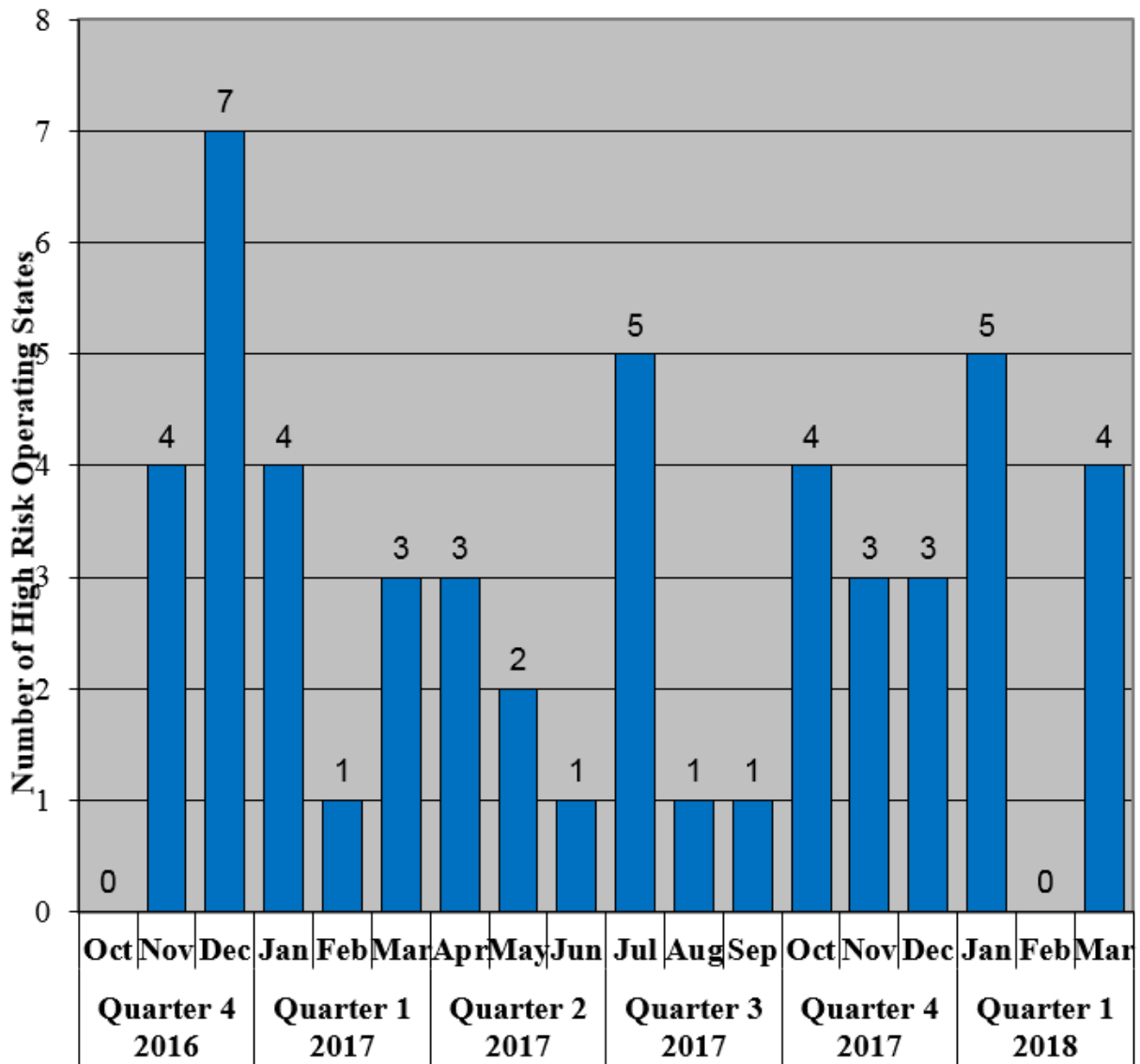


Figure 5: Number of High Risk Operating States

Date/Interval/s	1 January 2018 / Trading Interval 12:1 to Trading Interval 18:1
Dispatch Advisory Number	17543 and 17544
Details	System Management experienced IT issues that affected its automated systems, including those used to issue Dispatch Advisories and Dispatch Instructions.
System Management action	System Management issued verbal Dispatch Instructions (based on the Balancing Merit Order) where required. System Management was required to issue some manual email Dispatch Advisories.

Date/Interval/s	2 January 2018 / Trading Interval 11:1 to Trading Interval 21:2
Dispatch Advisory Number	15545 and 17546
Details	System Management experienced IT issues that affected its automated systems, including those used to issue Dispatch Advisories and Dispatch Instructions.
System Management action	System Management issued verbal Dispatch Instructions (based on the Balancing Merit Order) where required. System Management was required to issue some manual email Dispatch Advisories.

Date/Interval/s	10 January 2018 / Trading Interval 11:1 to Trading Interval 19:2
Dispatch Advisory Number	17566
Details	An unplanned Western Power IT network outage resulted in System Management experiencing IT issues that affected its automated systems, potentially including the one used to issue Dispatch Instructions.
System Management action	System Management issued Dispatch Instructions based on the Balancing Merit Order. Market Participants were asked to notify AEMO if they received any unexpected Dispatch Instructions.



Date/Interval/s	6 March 2018 / Trading Interval 16:1 to Trading Interval 17:2
Dispatch Advisory Number	17642
Details	After a routine data centre failover test, System Management continued to operate at the primary operational facility, but the backup IT communication systems were unavailable. There were no issues with the primary IT communication systems, so System Management was not required to relocate to the backup operational facility.
System Management action	System Management continued to operate the control systems from the primary operational facility and dispatched Facilities based on the Balancing Merit Order.

Date/Interval/s	From 13 March 2018 / Trading Interval 23:1 to 14 March 2018 / Trading Interval 1:1
Dispatch Advisory Number	17410
Details	System Management experienced IT issues that affected its automated systems, potentially including the one used to issue Dispatch Instructions.
System Management action	System Management issued Dispatch Instructions (including verbal Dispatch Instructions where required) based on the Balancing Merit Order.

Date/Interval/s	22 March 2018 / Trading Interval 13:1 and Trading Interval 13:2
Dispatch Advisory Number	17417
Details	System Management experienced issues with the primary IT communications. The AEMO controller relocated to the backup operational facility in order to manage frequency control.
System Management action	Market Participants were informed that they could contact System Management using the alternative number provided for disaster recovery situations.

Date/Interval/s	24 March 2018 / Trading Interval 16:2
Dispatch Advisory Number	17685
Details	At 10:22am the MUJA_G5 Facility tripped, resulting in the loss of approximately 157MW of generation and a reduction of the SWIS system frequency to 49.58Hz. Frequency was restored to a normal operating level within 32 seconds.
System Management action	System Management issued Dispatch Instructions based on the Balancing Merit Order.

6.2 Emergency Operating State

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

Figure 6 below provides historical data for Emergency Operating States that have occurred since 1 October 2016.

Date/Interval/s	22 March 2018 – Trading Interval 12:2 and Trading Interval 13:1
Dispatch Advisory Number	17420
Details	System Management experienced issues with the primary IT communications. The AEMO controller relocated to the backup operational facility in order to manage frequency control.
System Management action	Market Participants were informed that they could contact System Management using the alternative number provided for disaster recovery situations.

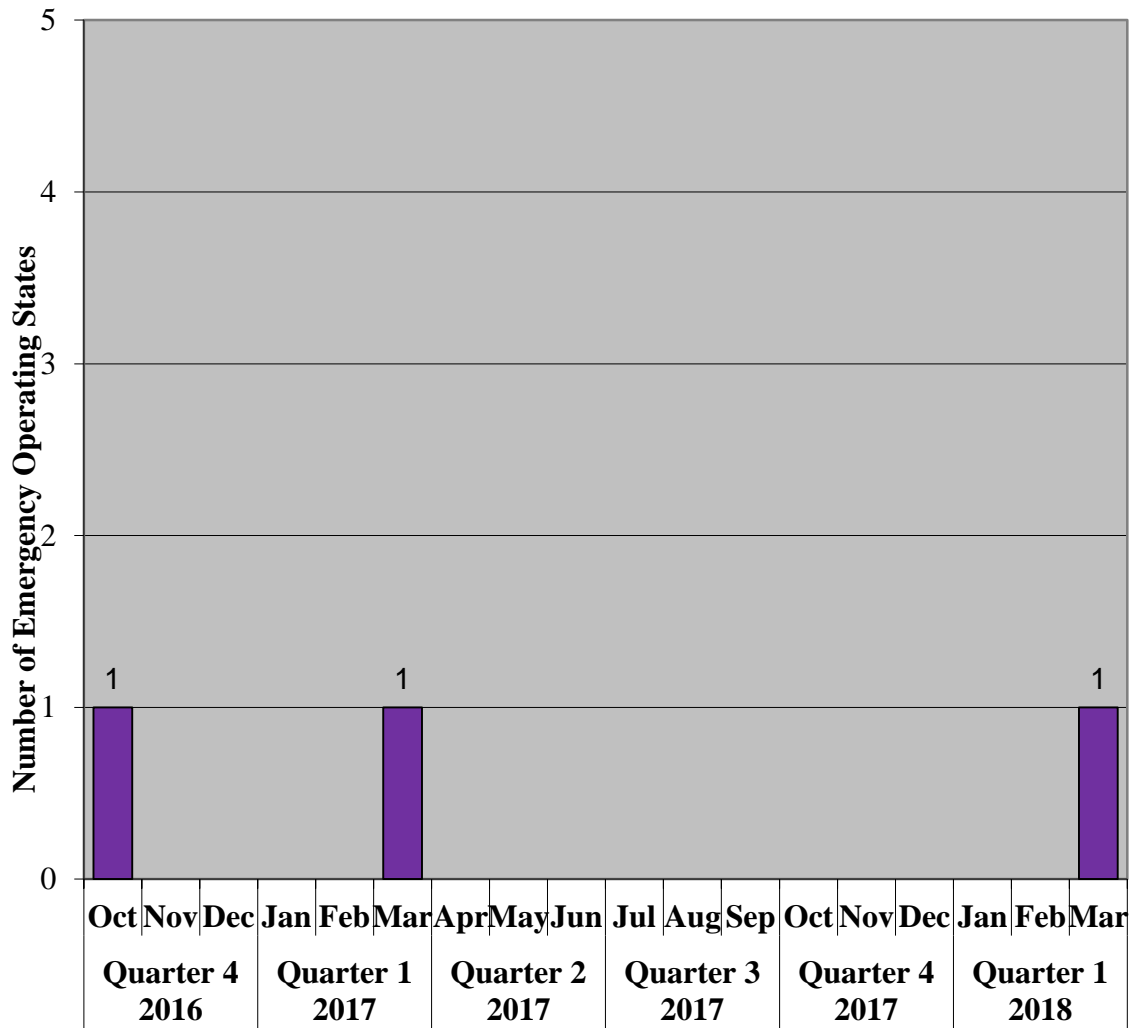


Figure 6: Number of Emergency Operating States

6.3 Shortfalls in Ancillary Services

There were 151 instances of a shortfall in Ancillary Services during the reporting period.

Figure 7 below provides data for shortfalls in Ancillary Services that have occurred since 1 October 2017.

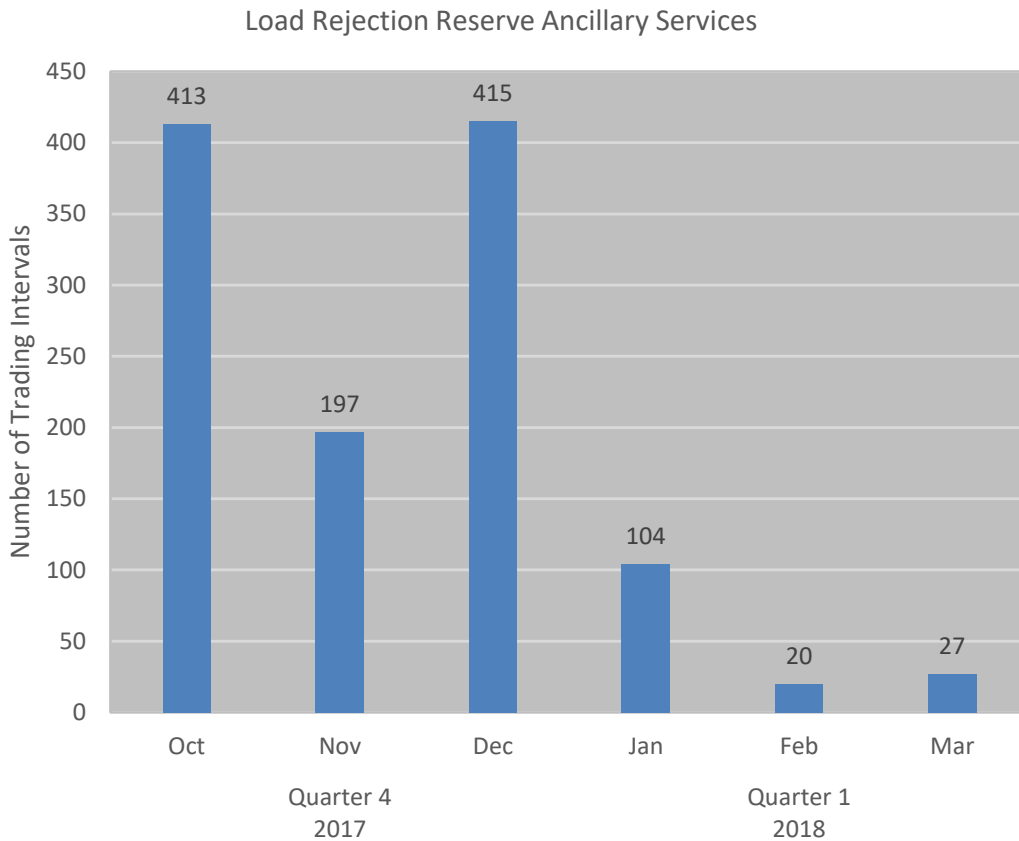


Figure 7: Number of Shortfalls in Ancillary Services

All of the 151 instances related to the Load Rejection Reserve Service. 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 Load Rejection Reserve Service is (relevantly) 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.

Figure 7 above indicates the number of Trading Intervals during the reporting period where there was a shortfall in Ancillary Services. A shortfall occurs when the Ancillary Service Requirements are not met. AEMO does not consider that any of the shortfalls threatened Power System Security or Power System Reliability, or placed the SWIS in a High Risk Operating State or an Emergency Operating State.

The primary cause of these shortfalls is the steadily decreasing daytime system load. While the daily peak remains largely unchanged, the increase in rooftop PV and other factors has reduced the daily minimum load to unprecedented levels. In these situations maintaining the required level of Load Rejection Reserve is difficult, and, to maintain Power System Security and Power System Reliability and minimise costs to the Wholesale Electricity Market, no action is often the best response.

AEMO has modified its processes to dispatch the Balancing Portfolio to meet the Load Rejection Reserve requirements where possible. AEMO is also re-considering the Load Rejection Reserve Requirement and investigating possible alternatives for the provision of Load Rejection Reserve. The current Ancillary Services Requirement has set a minimum requirement of 120MW for Load Rejection Reserve and allows that amount to be relaxed by 25% to 90MW in situations where AEMO considers that the probability of transmission faults is low.

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 no instances where System Management was required to use LFAS Facilities outside of the LFAS Merit Order to operate the SWIS in a reliable and safe manner under clause 7B.3.8 of the WEM Rules.