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Status Report prepared under  
clause 7.12 of the WEM Rules by  
System Management  
1 January 2017 – 31 March 2017

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# 1 Introduction

## 1.1 System Management

On 1 July 2016, Australian Energy Market Operator (**AEMO**) assumed accountability of System Management functions under the Wholesale Electricity Market Rules (**WEM Rules**).

Coinciding with this, the Economic Regulation Authority (**ERA**) has also taken accountability of compliance functions from the Independent Market Operator (**IMO**) as of 1 July 2016.

## 1.2 Status Report

Clause 7.12 of the WEM Rules requires System Management to provide a report to the ERA once every three months on the performance of the market with respect to the dispatch process (**Report**). 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.

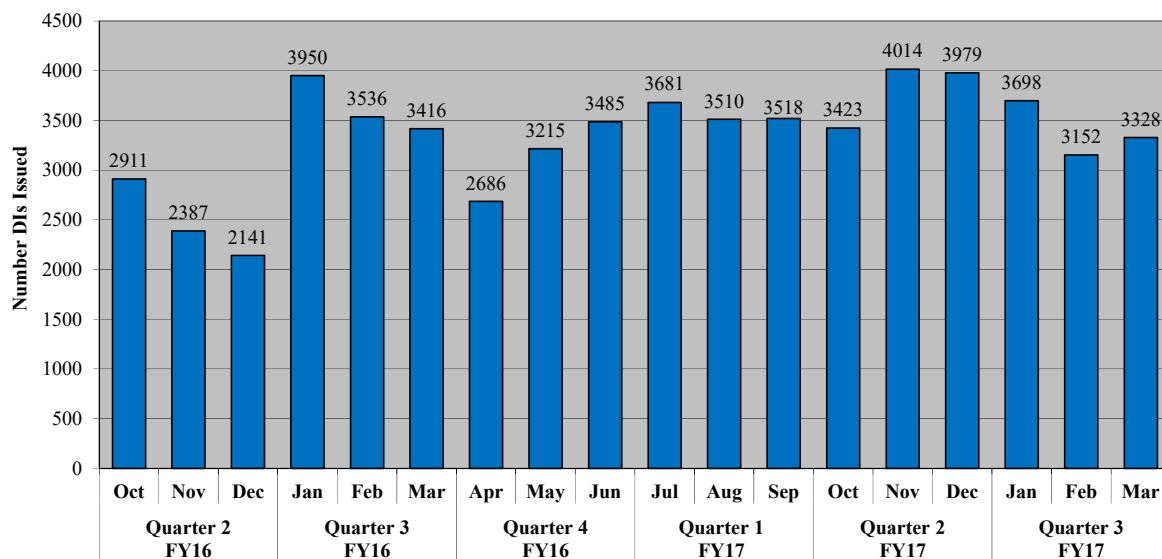
System Management has prepared this Report pursuant to its obligations under clause 7.12 of the WEM Rules, for the period from 1 January 2017 to 31 March 2017 (**Reporting Period**).

Unless otherwise specified, data contained within this Report refers to trading dates and not calendar dates.

## 2 Issuance of Dispatch and Operating Instructions.

During the Reporting Period, System Management issued a total of 10,178 Dispatch Instructions to Market Participants.

*Figure 1* below shows the number of Dispatch instructions issued by System Management to Market Participants each month since 1 October 2015.

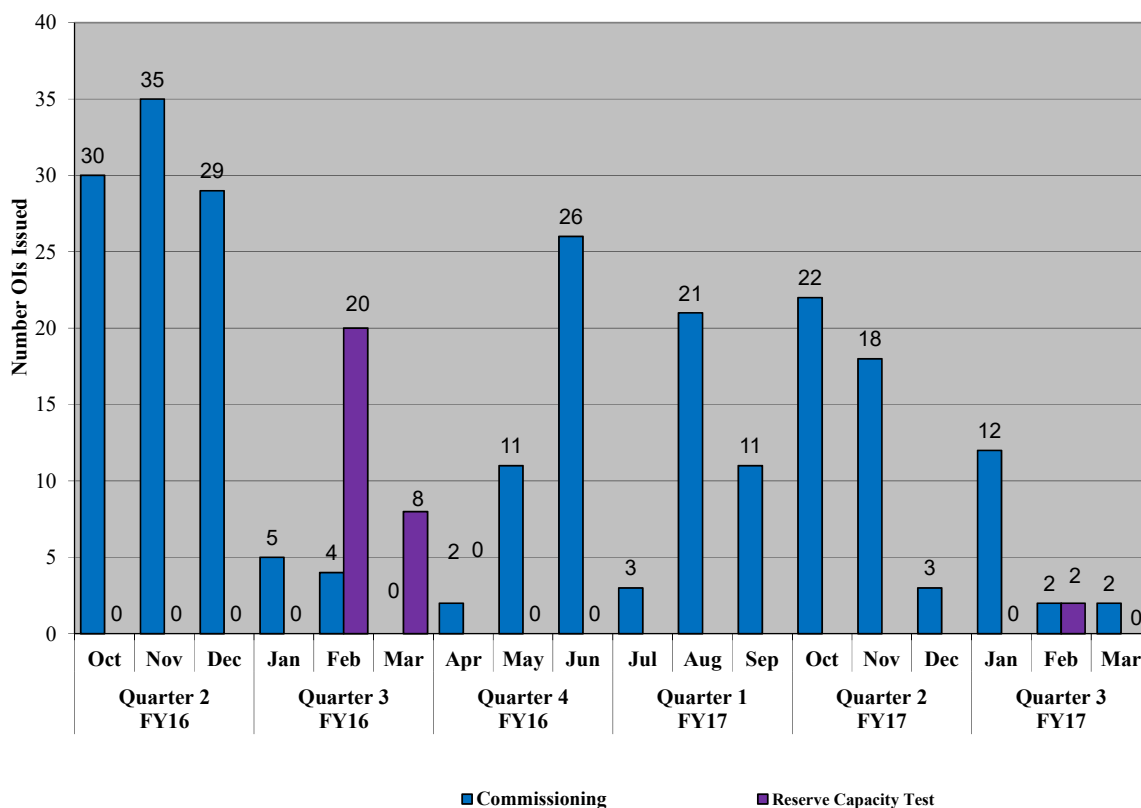


**Figure 1: Dispatch Instructions issued by System Management to Market Participants**

During the Reporting Period, System Management issued a total of 18 Operating Instructions.

Under the WEM Rules, System Management is required to issue an Operating Instruction to the relevant Market Participant for Commissioning or Reserve Capacity Testing.

Figure 2 below shows the number of Operating Instructions issued by System Management to Market Participants each month since 1 October 2015.



**Figure 2: Operating Instructions issued by System Management to Market Participants**

### 3 Non-compliance with Dispatch and Operating Instructions

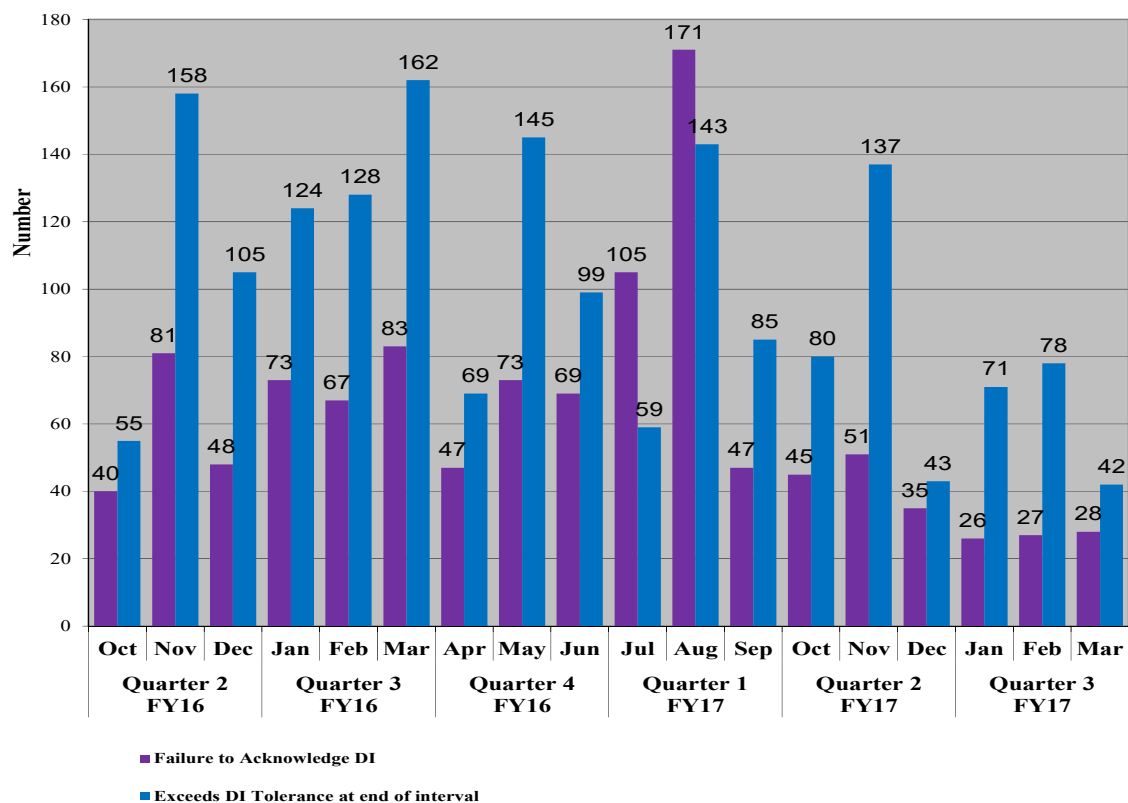
During the Reporting Period, System Management reported 191 instances of non-compliance with Dispatch Instructions by a Market Participant at the end of their scheduled interval taking into account the Tolerance Range where applicable.

System Management issued 8,191 one minute non-compliance notifications to Market Participants for non-compliance with Dispatch Instructions during the Reporting Period taking into account the Tolerance Range where applicable.

There were a total of 81 failures by a Market Participant to acknowledge a Dispatch Instruction through the Market Participant Interface.

There were no failures by a Market Participant to acknowledge an Operating Instruction during the Reporting Period.

Figure 3, below provides historical non-compliance data since 1 October 2015.



**Figure 3: Dispatch Instruction non-compliance notifications (end of interval) and non-acknowledged Dispatch Instructions**

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

##### 4.1 Out of Merit instances reported to the ERA

During the Reporting Period, there were no self-reported occasions of potential non-compliant Out of Merit dispatch to the ERA that may have been in breach of the WEM Rules<sup>1</sup>.

<sup>1</sup> Note that 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.

## 4.2 Other instances of Out of Merit dispatch

Section 5 of this Report contains information pertaining to facilities that have been impacted by transmission constraints. Where a transmission constraint reported in section 5 has resulted in a facility/ies being dispatched to a position that differs from the applicable Balancing Merit Order then these instances will constitute Out of Merit dispatch. Dispatch Advisory notifications are released for these transmission constraint related instances.

Section 6 of this Report describes occasions of High Risk and Emergency Operating States that have occurred during the Reporting Period. During elevated Operating States there may be a need to dispatch facilities Out of Merit to return the power system to a Normal Operating State where indicated in the information provided in section 6 of this Report.

## 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 generator. The resultant situation has a generation Facility either decrease output or increase output as required by the circumstances of the constraint.

During the Reporting Period, System Management has identified the following transmission constraints:

- On 3 January 2017, commencing Trading Interval 14:1 and ending Trading Interval 19:2 high temperatures and an expected high load forecast in the Greater Southern Region resulted in the MUJA\_G4 Facility being constrained on between 0MW and 25MW (Dispatch Advisory 16908).
  - The MUJA\_G4 Facility constrained on between 0MW and 25 MW for 12 Trading Intervals.
- On 4 January 2017, commencing Trading Interval 15:1 and ending Trading Interval 21:1 high temperatures and an expected high load forecast in the Greater Southern Region resulted in the MUJA\_G4 Facility being constrained on between 0MW and 25MW (Dispatch Advisory 16909).
  - The MUJA\_G4 Facility constrained on between 0MW and 25MW for 13 Trading Intervals.
- On 19 January 2017, commencing Trading Interval 7:1 and ending Trading Interval 10:2 a planned Western Power Network 220kV outage affecting the Collgar Terminal Yard resulted in the INVESTEC\_COLLGAR\_WF1 Facility being curtailed to 160MW (Dispatch Advisory 16924).
  - The INVESTEC\_COLLGAR\_WF1 Facility curtailed to 160MW for 8 Trading Intervals.
- On 8 February 2017, commencing Trading Interval 12:2 and ending Trading Interval 15:1 a planned Western Power Network outage of the ALB-MBR81 transmission line resulted in the ALBANY\_WF1, GRASMERE\_WF1 and DCWL\_DENMARK\_WF1 Facilities being constrained to 0MW (Dispatch Advisory 16939).
  - The ALBANY\_WF1 Facility constrained to 0MW for 6 Trading Intervals.

- The GRASMERE\_WF1 Facility constrained to 0MW for 6 Trading Intervals.
- The DCWL\_DENMARK\_WF1 Facility constrained to 0MW for 6 Trading Intervals.
- On 9 February 2017, commencing Trading Interval 21:2 and ending 10 February 2017 Trading Interval 6:1 a Western Power Networks outage resulted in the STHRNCRS\_EG and PRK\_AG Facilities being islanded from the SWIS.
  - The STHRNCRS\_EG Facility constrained to 0MW for 18 Trading Intervals.
  - The PRK\_AG Facility constrained to 0MW for 18 Trading Intervals.
- On 18 February 2017, commencing Trading Interval 17:2 and ending 20 February 2017 Trading Interval 20:1 lightning and storm activity in the North Country caused the MBA-TS81 line to trip resulting in the ALINTA\_WWF and MWF\_MUMBIDA\_WF1 Facilities being curtailed (Dispatch Advisories 16960 and 16962).
  - The ALINTA\_WWF Facility constrained between 0MW and 50MW for 92 Trading Intervals.
  - The MWF\_MUMBIDA\_WF1 Facility constrained between 0MW and 20MW for 35 Trading Intervals.
- On 28 February 2017, commencing Trading Interval 16:2 and ending 1 March 2017 Trading Interval 21:1 a Western Power Networks outage resulted in the PRK\_AG Facility being islanded from the SWIS (Dispatch Advisory 16980).
  - The PRK\_AG Facility constrained to 0MW for 10 Trading Intervals.
- On 1 March 2017, commencing Trading Interval 19:2 and ending 2 March 2017 Trading Interval 21:1 lightning and storm activity in the North Country caused the MBA-TS81 line to trip resulting in the ALINTA\_WWF and MWF\_MUMBIDA\_WF1 Facilities being curtailed (Dispatch Advisories 16981, 16985, 16987, 16988 and 16989).
  - The ALINTA\_WWF Facility constrained between 0MW and 50MW for 45 Trading Intervals.
  - The MWF\_MUMBIDA\_WF1 Facility constrained between 0MW and 20MW for 46 Trading Intervals.
- On 11 March 2017, commencing Trading Interval 19:1 and ending 13 March 2017 Trading Interval 6:1 lightning and storm activity in the North Country caused the MBA-TS81 line to trip resulting in the ALINTA\_WWF, MWF\_MUMBIDA\_WF1 and GREENOUGH\_RIVER\_PV1 Facilities being curtailed (Dispatch Advisories 17000 and 17005).
  - The ALINTA\_WWF Facility constrained between 0MW and 10MW for 51 Trading Intervals.
  - The MWF\_MUMBIDA\_WF1 Facility constrained between 0MW and 40MW for 53 Trading Intervals.



- The GREENOUGH\_RIVER\_PV1 Facility constrained to 0MW for 23 Trading Intervals.
- On 28 March 2017, commencing Trading Interval 7:1 and ending Trading Interval 18:1 a Western Power planned outage in the North Country Region on the MGA-TS81 transmission line resulted in the ALINTA\_WWF and MWF\_MUMBIDA\_WF1 Facilities being constrained (Dispatch Advisory 17021).
  - The ALINTA\_WWF Facility constrained between 0MW and 10MW for 20 Trading Intervals.
  - The MWF\_MUMBIDA\_WF1 Facility constrained to 6MW for 4 Trading Intervals.

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

### 6.1 High Risk Operating State

During the Reporting Period, there were eight instances of High Risk Operating States.

<b>Date/Interval/s</b>	3 January 2017 Trading Interval 14:1 to Trading Interval 20:1
<b>DA Number</b>	DA 16908
<b>Details</b>	High temperatures and expected high Load Forecast in the Greater Southern Region required the MUJA_G4 Facility to be constrained on to ensure Power System Security and Reliability.
<b>System Management action</b>	System Management constrained the MUJA_G4 Facility on to 24.5MW from 2.00 pm until 8.00 pm.

<b>Date/Interval/s</b>	4 January 2017 Trading Interval 15:1 to Trading Interval 21:2
<b>DA Number</b>	DA 16909
<b>Details</b>	High temperatures and expected high load forecast in the Greater Southern Region required the MUJA_G4 Facility to be constrained on to ensure Power System Security and Reliability.
<b>System Management action</b>	System Management constrained the MUJA_G4 Facility on to 24.5MW from 3.00 pm until 9.30 pm.

<b>Date/Interval/s</b>	4 January 2017 Trading Interval 20:1
<b>DA Number</b>	DA 16911
<b>Details</b>	At 8.02 pm the COLLIE_G1 Facility tripped resulting in a loss of approximately 300MW and caused a frequency drop to 49.35Hz.
<b>System Management</b>	System Management continued to Dispatch as per the latest Balancing

<b>action</b>	Merit Order to maintain Power System Security and Reliability.
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<b>Date/Interval/s</b>	13 January 2017 Trading Interval 12:1
<b>DA Number</b>	DA 16923
<b>Details</b>	At 12.06 pm the BW2_BLUEWATERS_G1 Facility tripped resulting in a loss of approximately 197MW of generation and a frequency drop to 49.42Hz.
<b>System Management action</b>	The Frequency was restored to normal operating levels by 12.08 pm and System Management continued to Dispatch as per the latest Balancing Merit Order to maintain Power System Security and Reliability.

<b>Date/Interval/s</b>	18 February 2017 Trading Interval 17:1 to 20 February 2017 Trading Interval 13:1
<b>DA Number</b>	DA 16960 and DA16962
<b>Details</b>	Lightning and Storm activity in the North Country caused the MBA-TS81 line to trip at 5.06 pm on 18 February 2017.
<b>System Management action</b>	System Management constrained the ALINTA_WWF Facility between 0MW and 50MW and the MWF_MUMBIDA_WF1 Facility between 0MW and 20MW, and utilised the MUNGARRA_GT Facility.

<b>Date/Interval/s</b>	1 March 2017 Trading Interval 19:1 to 2 March 2017 Trading Interval 12:1
<b>DA Number</b>	DA 16981 and DA 16985
<b>Details</b>	At 7.12pm on 1 March 2017, lightning and storm activity in the North Country caused the MBA-TS81 line to trip.
<b>System Management action</b>	System Management constrained the ALINTA_WWF Facility to 0MW and the MWF_MUMBIDA_WF1 Facility between 0MW and 20MW and utilised the MUNGARRA_GT1 and MUNGARRA_GT2 Facilities (part of the Synergy portfolio) to maintain Power System Security and Reliability while the North Country was on radial mode.

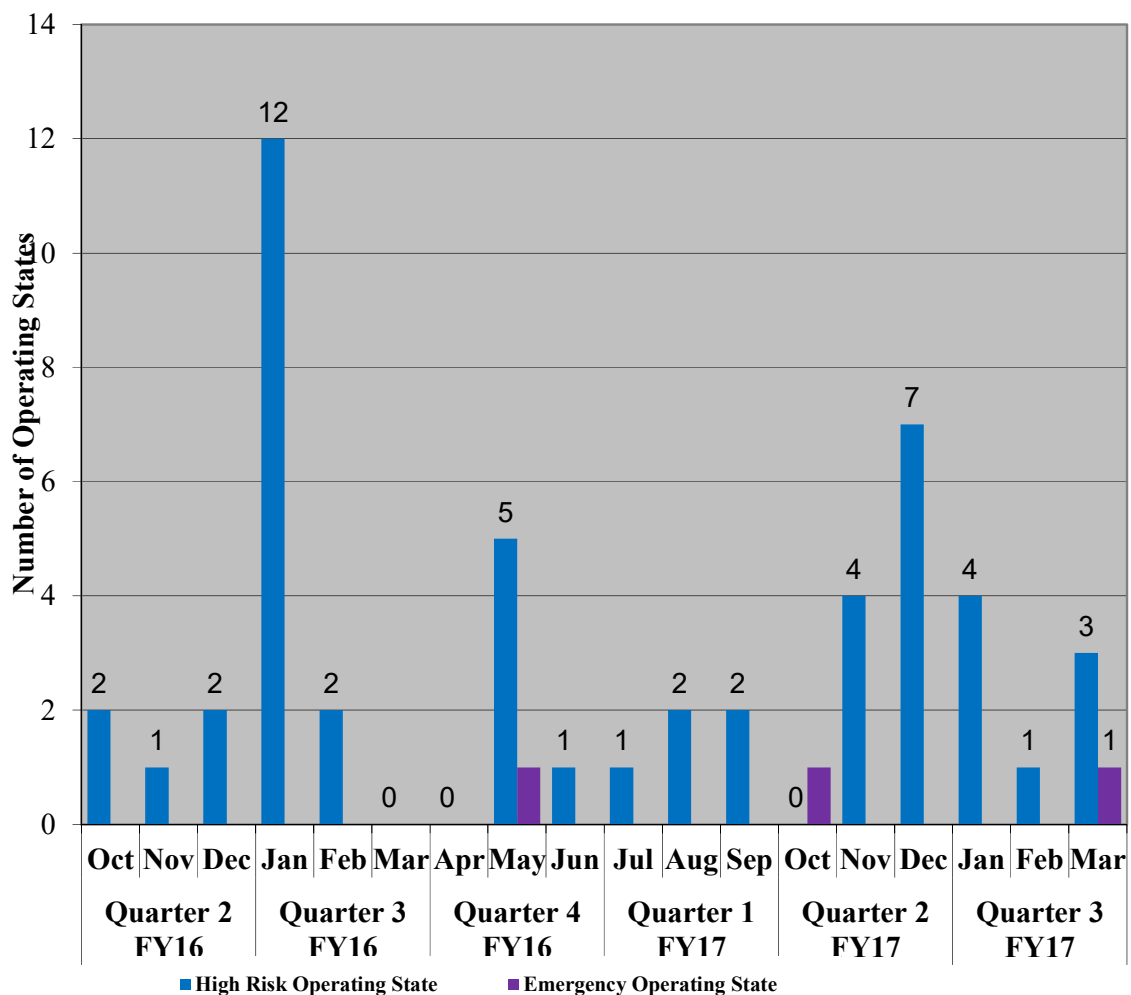
## 6.2 Emergency Operating State

During the Reporting Period, there was one instance of Emergency Operating State.

<b>Date/Interval/s</b>	2 March 2017 Trading Interval 1:2 to Trading Interval 8:2
<b>DA Number</b>	DA 16984
<b>Details</b>	At 7.25 pm on 1 March 2017, a Remote Terminal Unit (RTU) failure in the North Country region caused the SCADA feed for the MWF_MUMBIDA_WF1 Facility to be lost (Dispatch Advisories 16981 and

	16985).  At 1.37 am on 2 March 2017, further RTU communication issues in the North Country resulted in the loss of visibility of the MUNGARRA_GT1 and MUNGARRA_GT2 Facilities (Dispatch Advisories 16982 and 16984). The Facilities were being used to maintain Power System Security and Reliability due to an earlier trip of the MBA-TS81 line trip caused by lightning and storm activity in the area.
<b>System Management action</b>	System Management established alternative communication channels with MWF_MUMBIDA_WF1 and MUNGARRA_GT's Facilities until the SCADA visibility was restored.

Figure 4 below provides historical data for High Risk and Emergency Operating States that have occurred since 1 October 2015.



**Figure 4: Number of High Risk and Emergency Operating States**

### 6.3 Shortfalls in Ancillary Services

There were no instances of shortfalls in Ancillary Services during the Reporting Period.

### 6.4 Involuntary curtailment of load

There were no instances of involuntary curtailment of load during the Reporting Period.

## 7 LFAS Facilities out of Merit Order

During the Reporting period, there were no incidents 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.