Status Report prepared under clause 7.12 of the Market Rules by System Management 1 April 2015 – 30 June 2015



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1 Introduction

1.1 System Management

Western Power is established under section 4(1)(b) of the *Electricity Corporations Act 2005* and has the functions conferred under section 41 of that act.

Part 9 of the *Electricity Industry Act 2004* makes provision for a wholesale electricity market and provides for the establishment of Market Rules.

Regulation 13 of the *Electricity Industry (Wholesale Electricity Market) Regulations 2004* provides that the Market Rules may confer on an entity the function of operating the SWIS in a secure and reliable manner.

Clause 2.2 of the *Wholesale Electricity Market Amending Rules (September 2006)* (**Market Rules**) confers this responsibility upon the segregated ("ring fenced") business unit of Western Power known as System Management. Amongst these responsibilities, the functions of System Management are to:

- release information required by the Market Rules;
- monitor rule participants compliance with the Market Rules relating to dispatch and power system security and power system reliability; and
- provide regular reports to the IMO and other market participants.

Included in the requirement to monitor and report is this Status Report, described in clause 7.12 of the Market Rules.

1.2 Status Report

Clause 7.12 requires System Management to provide a quarterly report 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 this clause, issuing Dispatch Orders to the Verve Energy Balancing Portfolio in accordance with clause 7.6.2;
- 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;
- the incidence and reasons for the selection and use of LFAS Facilities under clause 7B.3.8.

System Management has prepared this report pursuant to its obligations under clause 7.12 of the Market Rules, for the period 1 April 2015 to 30 June 2015.

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

2 Issuance of Dispatch and Operating Instructions.

System Management issued a total of 10,474 Dispatch Instructions to Market Participants during the current reporting period.

Figure 1 below shows the number of Dispatch instructions issued by month since 1 January 2014.



Figure 1: Dispatch Instructions per month

During the current reporting period, System Management issued a total of 26 Operating Instructions.

Under the Market Rules an Operating Instruction is required for Commissioning and Reserve Capacity Testing.

Figure 2 below shows the number of Operating Instructions issued by month since 1 January 2014.





3 Non-compliance with Dispatch and Operating Instructions

In the current reporting period, System Management reported 197 instances of noncompliance with Dispatch Instructions by a Market Participant at the end of their scheduled Trading Interval taking into account the Tolerance Range where applicable.

System Management issued 10,572 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 100 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.





Figure 3: Dispatch Instruction non-compliance notifications (end of Trading 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 IMO

During the reporting period there were three incidences of potential Out of Merit dispatch.

- On 21 April 2015, System Management placed a facility constraint in its Real Time Dispatch Engine on ALCOA_WGP resulting in a revised Dispatch Instruction to move the facility from 10MW to 0MW for interval 14:2. This constraint was intended for an alternate Facility. System Management identified this prior to the Facility responding and verbally issued a new Dispatch Instruction for ALCOA_WGP to remain at the correct 10MW Dispatch level.
- On 20 May 2015, System Management placed a facility constraint in its Real Time Dispatch Engine on BW2_Bluewaters_G1 resulting in a revised Dispatch Instruction to move from 198.8MW to 171.40MW during Trading Interval 9:1. This constraint was intended for an alternate Facility. System Management issued a new Dispatch Instruction for BW2_Bluewaters_G1 to return to 198.8MW for Trading Interval 9:2.
- On 23 June System Management was experiencing issues with the Real Time Dispatch Engine (Refer Dispatch Advisory 11121) and a High Risk State was called commencing interval 5:2 and ending interval 11:2. During this time System Management instructed STHRNCRS_EG to ignore their Dispatch Instruction of 12MW issued Trading Interval 6:1. Upon investigation it appears that STHRNCRS_EG should have responded to the 12MW Dispatch Instruction, however due to issues the subject of the High Risk State, this was not evident at the time.

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 usually 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.

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.

System Management has identified the following transmission constraints during the period.

- On 16 April 2015, a Network issue at the West Kalgoorlie Terminal commencing 12:2 to 15:1 required the constraint of INVESTEC_COLLGAR_WF1 for 6 Trading Intervals.
- On 19 April 2015, a Networks outage on the MOR_MUC 81 line required the curtailment of the following Non-Scheduled Generators in the Moora Three Springs area; (refer to Dispatch Advisory 7128)
 - ALINTA_WWF constrained for 13 Trading Intervals

- MWF_MUMBIDA_WF1 constrained for 11 Trading Intervals
- Due to the extension of a forced outage on MUBTT1 and unforeseen commissioning problems with the new replacement transformer Out of Merit dispatch for Muja_GT1 for 201 Trading Intervals was required commencing 20 April Trading Interval 6:1 and ending Trading Interval 13:1 on 24 April 2015; (refer Dispatch Advisory 7134)
- A planned Network Outage at the West Kalgoorlie Terminal (WKT) required the curtailment of INVESTEC_COLLGAR_WF1 for 7 Trading Intervals between the period 1 May 2015 commencing Trading Interval 9:1 and ending 3 May 2015 Trading Interval 18:2;(refer Dispatch Advisories 7394 and 7395)
- A planned Network Outage at the West Kalgoorlie Terminal required the curtailment of INVESTEC_COLLGAR_WF1 for 7 Trading Intervals on 5 May 2015 from Trading Interval 7:1 to Trading Interval 9:1; (refer Dispatch Advisory 7407)
- Due to Western Power performing maintenance at the West Kalgoorlie Terminal INVESTEC_COLLGAR_WF1 was constrained on 15 May 2015 commencing from 12:1 to 15:1 for 7 Trading Intervals; (refer Dispatch Advisory 7440)
- On 8 June 2015, a Network outage on the MSR_KMK 81 line commencing Trading Intervals 14:1 and ending 15:1 required the TIWEST_COG1 to be constrained for 3 Trading Intervals.
- On 17 June 2015, commencing Trading Interval 7:1 and ending 19 June 2015 Trading Interval 17:1 a Western Power planned outage in the North Country area required the following Non-Scheduled Generators to be constrained; (refer to Dispatch Advisories 9954, 9959, 9958 and 9964)
 - ALINTA_WWF constrained for 114 Trading Intervals
 - MWF_MUMBIDA_WF1 constrained for 112 Trading Intervals
- On 19 June 2015, commencing from Trading Interval 8:1 and ending 10:1 INVESTEC_COLLGAR_WF1 was constrained for 5 Trading Intervals to allow work at the Meriden Terminal Switchyard (refer to Dispatch Advisories 9966,9968)
- On 23 June 2015, due to unexpected plan movement and unexpected load decay the following Facilities were constrained for the Trading Interval 5:2; (refer Dispatch Advisory DA1109)
 - ALINTA_PNJ_U1 constrained to 83MW for 1 Trading Interval
 - ALINTA_PNJ_U2 constrained to 83MW for 1 Trading Interval
- On 24 June 2015 commencing Trading Interval 19:1 and ending Trading Interval 23:1 due to a planned Networks Outage to repair a MU BTT2 TX valve INVESTEC_COLLGAR_WF1 was constrained for 4 Trading Intervals; (refer Dispatch Advisory 11174)
- On 27 June 2015, commencing Trading Interval 7:2 and ending Trading Interval 16:2 a planned Networks outage on the MGA_GTN 81 transmission line required ALINTA_WWF to be constrained for 17 Trading Intervals.

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

6.1 High Risk Operating State

Six instances of a High Risk Operating States occurred during the report period.

Date	2 April 2015
Trading Interval/s	17:1 – 17:2
DA Number	DA7101
Details	A fire in the Baldivis area threatened the three 330kv lines, Shots- Southern Terminal-Oakley91, Kwinana Kemerton-Oakley91 and Landwehr Terminal-Southern Terminal 91. A loss of any one of these lines could have potentially resulted in Out of Merit Dispatch
System Management action	No out of merit was required and dispatched as per the BMO

Date	28 April 2015
Trading Interval/s	13:2 – 14:1
DA Number	DA 7368
Details	COCKBURN_CCG1 tripped at 13:58 resulting in the loss of approximately 230MW of generation and a frequency deviation to 49.54hz occurred.
System Management action	No out of merit was required and dispatched as per the BMO

Date	18 May 2015
Trading Interval/s	13:1 – 13:1
DA Number	DA 7454
Details	At 13:07 COLLIE_G1 tripped resulting in the loss of approximately 300MW of generation. BW1_BLUEWATERS_G2 experienced a mill trip and lost approximately 100MW of load and BW2_BLUEWATERS_G1 also experienced a mill trip and lost approximately 70MW. In total, approximately 224MW of load was lost and a frequency deviation to approximately 48.8Hz occurred.
System Management action	Out of Merit Dispatch was required with NEWGEN_CCG1 requested to increase output by 70MW for Trading Interval 13:1

Date	23 June 2015
Trading Interval/s	5:2 - 6:1
DA Number	DA11096
Details	Frequency deviations were expected due to plant movement and unexpected load decay with the loss of 100MW at Boddington
System Management action	At 05:30 ALINTA_PNJ_U1 and ALINTA_PNJ_U2 were issued Dispatch Instructions to remain at 83MW until 05:50

Date	23 June 2015
Trading Interval/s	6:1 – 11:2
DA Number	DA11121
Details	System Management was at the time experiencing IT issues with the Real Time Dispatch Engine which appeared to impact the automated scheduling of Dispatch Instructions being issued.
System Management action	Verbal Dispatch Instructions were issued to Market Participants until the issue was resolved.

Date	24 June 2015
Trading Interval/s	19:2 – 19:2
DA Number	DA11175
Details	At 19:30 ALINTA_WGP_U2 tripped resulting in the loss of approximately 160MW of generation and the frequency deviated to approximately 49.61hz.
System Management action	No out of merit was required and dispatched as per the BMO

6.2 Emergency Operating State

During the reporting period there were no Emergency Operating State's issued.

Figure 4 below provides historical data for High Risk and Emergency Operating States that have occurred since 1 January 2014.



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 for the period.

6.4 Involuntary curtailment of load

There were no instances of involuntary curtailment of load.

7 LFAS Facilities out of Merit Order

During the current 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 as per MR7B.3.8.