

~~WEM RULES~~

~~POWER SYSTEM OPERATION  
PROCEDURE: DISPATCH~~

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PROCEDURE: DISPATCH

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## VERSION RELEASE HISTORY

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## VERSION RELEASE HISTORY

Version	Effective Date	Summary of Changes
1	21 September 2006	Power System Operation Procedure (Market Procedure) for Dispatch
2	30 September 2009	AEMO proposed amendments to this procedure resulting in publication of Procedure Change Report PPCL 0013
3	5 January 2010	AEMO proposed amendments to this procedure resulting in publication of Procedure Change Report PPCL 0014
4	4 March 2010	AEMO proposed amendments to this procedure resulting in publication of Procedure Change Report PPCL 0015
5	28 June 2010	AEMO proposed amendments to this procedure resulting in publication of Procedure Change Report PPCL 0018
6	Balancing Market Commencement Day	Replacement of the Procedure resulting from Procedure Change Proposal PPCL0021
7	5 March 2014	AEMO proposed amendments to this procedure as a result of Procedure Change Proposal PPCL0027
8	1 October 2017	Update to Procedure resulting from Procedure Change Proposal AEPC_2017_10
9	<del>TBA</del> <u>1 July</u> 2019	Update to Procedure resulting from Procedure Change Proposal AEPC_2019_04

## CONTENTS

1.	PROCEDURE OVERVIEW	5
1.1.	RELATIONSHIP WITH THE WHOLESALE ELECTRICITY MARKET RULES	5
1.2.	INTERPRETATION	5
1.3.	PURPOSE AND APPLICATION OF THIS PROCEDURE	5
1.4.	ASSOCIATED DOCUMENTS	8
2.	MANAGEMENT OF DISPATCH INFORMATION AND DISPATCH CRITERIA	8
2.1.	MANAGEMENT OF DISPATCH INFORMATION	8
2.2.	DISPATCH CRITERIA	8
3.	SCHEDULING AND DISPATCH OF THE BALANCING PORTFOLIO	9
4.	PRE-GATE CLOSURE	9
4.1.	PRE-DISPATCH PLAN	9
4.2.	CONSTRAINTS USED IN THE PRE-DISPATCH PLAN	10
4.3.	LOAD FORECASTS	10
4.4.	[BLANK]	11
4.5.	FORECASTS OF NON-SCHEDULED GENERATORS	11
4.6.	FORECASTS OF ANCILLARY SERVICES DEMAND	12
4.7.	UPDATING THE DISPATCH PLAN	12
4.8.	DEMAND SIDE PROGRAMMES	12
4.9.	[BLANK]	13
4.10.	[BLANK]	13
4.11.	PRE-ISSUING OF DISPATCH INSTRUCTIONS	13
5.	POST GATE CLOSURE	14
5.1.	[BLANK]	14
5.2.	COMMITMENT AND DE-COMMITMENT OF GENERATING FACILITIES	14
5.3.	CREATION OF DISPATCH INSTRUCTIONS AND DISPATCH ORDERS	14
5.4.	CREATION OF OPERATING INSTRUCTIONS	16
5.5.	ISSUING OF DISPATCH INSTRUCTIONS AND DISPATCH ORDERS	17
5.6.	RESPONSE TO DISPATCH INSTRUCTIONS AND DISPATCH ORDERS	18
5.7.	ISSUING OF AND RESPONSE TO OPERATING INSTRUCTIONS	19
5.8.	DISPATCH OF GENERATING FACILITY FOR SYSTEM SECURITY	20
5.9.	ACTIVATION OF LOAD FOLLOWING ANCILLARY SERVICE	20
6.	TRADING INTERVAL	20
6.1.	REAL-TIME MONITORING DURING A TRADING INTERVAL	20
6.2.	FORMULATION AND ISSUING OF INTERMEDIATE DISPATCH INSTRUCTIONS AND DISPATCH ORDERS	21
6.3.	CONSTRAINED OPERATION OF A NON-SCHEDULED GENERATOR	22

<b>6.4. VOLTAGE CONTROL</b>	<b>22</b>
<b>7. DISPATCH SETTLEMENT DATA</b>	<b>22</b>
7.1. INTRODUCTION	22
7.2. QUANTIFICATION OF CONSTRAINED OFF QUANTITIES	22
7.3. CALCULATION OF SPINNING RESERVE RESPONSE QUANTITIES	23
7.4. CALCULATION OF LOAD REJECTION RESERVE RESPONSE QUANTITIES	24
7.5. SOI QUANTITY, EOI QUANTITY AND RELEVANT DISPATCH QUANTITY ESTIMATES	25
7.6. DEMAND SIDE PROGRAMME CURTAILMENT REQUEST	26
<b>8. ADMINISTRATION AND REPORTING IN RELATION TO SYNERGY</b>	<b>26</b>
8.1. LIMITATION OF REQUIREMENTS FOR SYNERGY	26
8.2. REPORTING IN RELATION TO SYNERGY'S WEM RULES OBLIGATIONS	26
8.3. APPOINTMENT OF REPRESENTATIVE	27
8.4. KEEPING OF RECORDS	27
8.5. FAILURE TO AGREE ON AN ISSUE WITHIN THE PROCEDURE	27
<b>9. EXEMPTIONS TO COMMITMENT AND DE-COMMITMENT NOTIFICATION REQUIREMENTS</b>	<b>28</b>
9.1. APPLICATION FOR EXEMPTION FROM A MARKET PARTICIPANT WITH A DISTRIBUTION CONNECTED SCHEDULED GENERATOR	28
9.2. AEMO'S ASSESSMENT OF THE APPLICATION	28
9.3. AEMO'S DETERMINATION	29
9.4. REVOCATION OF AN EXEMPTION	29
9.5. LIST OF EXEMPT DISTRIBUTION CONNECTED SCHEDULED GENERATORS	30

## **TABLES**

Table 1 Defined Terms	5
Table 2 Background information	8

## ~~1. PROCEDURE OVERVIEW~~

## **CONTENTS**

<b>1.</b>	<b>PROCEDURE OVERVIEW</b>	<b>5</b>
1.1.	Relationship with the Wholesale Electricity Market Rules	5
1.2.	Interpretation	5
1.3.	Purpose and application of this Procedure	5
1.4.	Associated documents	98
<b>2.</b>	<b>MANAGEMENT OF DISPATCH INFORMATION AND DISPATCH CRITERIA</b>	<b>98</b>
2.1.	Management of Dispatch Information	98
2.2.	Dispatch Criteria	98
<b>3.</b>	<b>SCHEDULING AND DISPATCH OF THE BALANCING PORTFOLIO</b>	<b>119</b>
<b>4.</b>	<b>PRE-GATE CLOSURE</b>	<b>119</b>
4.1.	Pre-Dispatch plan	119
4.2.	Constraints used in the pre-Dispatch Plan	1340
4.3.	Load forecasts	1340
4.4.	[Blank]	11
4.5.	Forecasts of Non-Scheduled Generators	11
4.6.	Forecasts of Ancillary Services demand	1342
4.7.	Updating the Dispatch Plan	1342
4.8.	Demand Side Programmes	1342
4.9.	[Blank]	1513
4.10.	[Blank]	1513
4.11.	Pre-issuing of Dispatch Instructions	1513
<b>5.</b>	<b>POST GATE CLOSURE</b>	<b>1744</b>
5.1.	[Blank]	1744
5.2.	Commitment and de-commitment of generating Facilities	1744
5.3.	Creation of Dispatch Instructions and Dispatch Orders	1744
5.4.	Creation of Operating Instructions	2046
5.5.	Issuing of Dispatch Instructions and Dispatch Orders	2147
5.6.	Response to Dispatch Instructions and Dispatch Orders	2348
5.7.	Issuing of and response to Operating Instructions	2449
5.8.	Dispatch of generating Facility for system security	2520
5.9.	Activation of Load Following Ancillary Service	2520
<b>6.</b>	<b>TRADING INTERVAL</b>	<b>2520</b>
6.1.	Real-time monitoring during a Trading Interval	2520
6.2.	Formulation and issuing of intermediate Dispatch Instructions and Dispatch Orders	21
6.3.	Constrained operation of a Non-Scheduled Generator	22
6.4.	Voltage control	22



<b>7.</b>	<b>DISPATCH SETTLEMENT DATA</b>	<b>22</b>
7.1.	Introduction	22
7.2.	Quantification of Constrained off Quantities	2322
7.3.	Calculation of Spinning Reserve Response Quantities	2423
7.4.	Calculation of Load Rejection Reserve Response Quantities	2524
7.5.	SOI Quantity, EOI Quantity and Relevant Dispatch Quantity estimates	2725
7.6.	Demand Side Programme curtailment request	2926
<b>8.</b>	<b>ADMINISTRATION AND REPORTING IN RELATION TO SYNERGY</b>	<b>2926</b>
8.1.	Limitation of requirements for Synergy	2926
8.2.	Reporting in relation to Synergy's WEM Rules obligations	2926
8.3.	Appointment of Representative	3127
8.4.	Keeping of Records	3127
8.5.	Failure to Agree on an issue within the Procedure	3127
<b>9.</b>	<b>EXEMPTIONS TO COMMITMENT AND DE-COMMITMENT NOTIFICATION REQUIREMENTS</b>	<b>3328</b>
9.1.	Application for exemption from a Market Participant with a distribution connected Scheduled Generator	3328
9.2.	AEMO's assessment of the application	3328
9.3.	AEMO's determination	3529
9.4.	Revocation of an exemption	3529
9.5.	List of exempt distribution connected Scheduled Generators	3630

## **TABLES**

Table 1	Defined Terms	5
Table 2	Background information	98

## **1. PROCEDURE OVERVIEW**

### **1.1. Relationship with the Wholesale Electricity Market Rules**

1.1.1. This Power System Operation Procedure (PSOP): Dispatch (Procedure) has been developed in accordance with the Wholesale Electricity Market Rules (WEM Rules), as described in step ~~4.3~~1.3 below.

1.1.2. References to particular WEM Rules within the Procedure in bold and square brackets [Clause XX] are included for convenience only and are not part of this Procedure.

### **1.2. Interpretation**

1.2.1. In this Procedure:

- (a) terms that are capitalised, but not defined, have the meaning given in the WEM Rules;
- (b) to the extent that this Procedure is inconsistent with the WEM Rules, the WEM Rules prevail to the extent of the inconsistency;
- (c) a reference to the WEM Rules, or Market Procedures, includes any associated forms required or contemplated by the WEM Rules or Market Procedures; and
- (d) words expressed in the singular include the plural and vice versa; and
- (e) unless the context requires otherwise, references to AEMO include AEMO in its System Management capacity.

1.2.2. In addition, the following defined terms have the meaning given in ~~Table 1~~Table 1.

**Table 41 Defined Terms**

Term	Definition
Automatic Generation Control or AGC	Equipment operated by AEMO, which sends signals to generating facilities participating in the AGC scheme to automatically adjust their output in order to maintain frequency or restore frequency to within the SWIS Operating Standard. In the WEM, AGC may also be utilised for dispatch.
Backup Load Following Service (Backup LFAS)	LFAS provided in accordance with clause 7B.4.1 of the WEM Rules.

### **1.3. Purpose and application of this Procedure**

1.3.1. The purpose of this Procedure is to describe:

- (a) the process AEMO follows to grant permission to put a Scheduled Generator holding Capacity Credits into a state where it will take more than four hours to re-synchronise, in accordance with clause 3.21B of the WEM Rules [Clause 3.21B.8], which is detailed in step ~~5.2~~5.2;
- ~~(a)~~ the format and method, which is detailed in step ~~4.5~~4.5, by which each Market Generator must provide to AEMO, for each of its Intermittent

Generators with

- (b) capacity exceeding 10MW, its most current forecast of the MWh energy output of the Intermittent Generator for each Trading Interval of the specified period [Clause 7.2.5];
- (c) the procedure for Market Participants who have been assigned DSM Capacity Credits to provide AEMO with their consumption information [Clauses 7.6.10 and 7.6.10A], which is detailed in step ~~4.8.1;4.8.1;~~ and
- (d) the procedure to be followed when scheduling and issuing Operating Instructions to dispatch Registered Facilities covered by any Ancillary Services Contract in a form sufficient for audits and investigation under the WEM Rules [Clause 7.6.13], which is detailed in steps ~~5.3.5, 5.4 and 5.7;5.3.5, 5.4 and 5.7;~~
- (e) the format and time resolution for the provision of specified data to be provided by Synergy to AEMO with respect to the scheduling of Stand Alone Facilities for Ancillary Services and the scheduling of Facilities in the Balancing Portfolio generally [Clause 7.6A.2(a)], which is detailed in step ~~3;3;~~
- (f) the format and time resolution for the provision of data by AEMO to Synergy with respect to the scheduling of Stand Alone Facilities for Ancillary Services and the scheduling of Facilities in the Balancing Portfolio generally [Clauses 7.6A.2(b) and 7.6A.2(c)], which is detailed in step ~~3;3;~~
- (g) the procedures AEMO and Synergy must follow to comply with this clause 7.6A of the WEM Rules, including the process to follow in developing the confidential procedure, developed by AEMO in consultation with Synergy, relating to Synergy's commercially sensitive information exchanged in accordance with clause 7.6A of the WEM Rules [Clause 7.6A.7 and 7.6A.8], which is detailed in steps ~~3, 4.3, 4.7, and 8.3, 4.3, 4.7, and 8.~~
- (h) the process for selecting Demand Side Programmes from the Non-Balancing Dispatch Merit Order [Clause 7.7.4A], which is detailed in step ~~5.3.7;5.3.7;~~
- (i) the procedure for AEMO to estimate the maximum amount of sent out energy, in MWh, which each Non-Scheduled Generator, by Trading Interval, would have supplied in the Trading Interval had a Dispatch Instruction not been issued [Clauses 7.7.5A(a), 7.7.5A(b), 7.7.5A(c) and 7.7.5B], which is detailed in step ~~7.2;7.2;~~
- (j) the procedure for AEMO to estimate the decrease in the output (in MWh) of each of Synergy's Non-Scheduled Generators as a result of an instruction from System Management to deviate from the Dispatch Plan or change their commitment or output in accordance with clause 7.6A.3(a) of the WEM Rules [Clauses 7.7.5A(d) and 7.13.1C(e)], which are detailed in step ~~7.2.7.2.~~
- (k) the information that must be provided by a Market Participant to AEMO for each of its Non-Scheduled Generators to enable an estimation of the Facility's output by AEMO [Clauses 7.7.5A and 7.7.5C], which are detailed in step ~~4.5;4.5;~~
- (l) the procedure to be followed by AEMO and Market Participants in forming, issuing, recording, receiving, confirming and responding to Dispatch Instructions and Operating Instructions [Clause 7.7.9], which is detailed in steps ~~5.3, 5.4, 5.5, 5.3, 5.4, 05.5, 5.6 and 5.7;~~  
~~5.6 and 5.7;~~

- (m) the procedure developed under clause 7.7.9 of the WEM Rules, to be followed by AEMO in determining the quantities described under clause 7.7.5A(a) of the WEM Rules ~~[Clause 7.7.9]~~, which relate to estimating the output of a Non-Scheduled Generator, is detailed in step ~~7.2~~7.2;
- (n) the ~~following~~ processes, detailed in step ~~9~~9, which pertain to a Scheduled Generator that is connected to a distribution network and possesses operating equipment and processes which enable it to synchronise and desynchronise only when it is safe to do so, to be used [Clause 7.9.19]:
  - (i) for applications under clause 7.9.13 of the WEM Rules for exemption from the requirements of clauses 7.9.1 and 7.9.5 of the WEM Rules;
  - (ii) by AEMO in determining, under clause 7.9.14 of the WEM Rules, whether or not to grant an exemption;
  - (iii) by AEMO in determining whether or not to revoke an exemption under clause 7.9.17 of the WEM Rules;
  - (iv) for notification of any exemptions granted or revoked by AEMO in relation to applications under clause 7.9.13 of the WEM Rules; and
  - (v) for publishing and maintaining on the Market Web Site any information and details with respect to exemptions in relation to applications under clause 7.9.13 of the WEM Rules;
- (o) the procedure for calculating the Load Rejection Reserve Response Quantity and the Spinning Reserve Response Quantity by Trading Interval [Clause 7.13.1(eD)], which is detailed in steps ~~7.3 and 7.4~~7.3 and 7.4;
- (p) the procedure to be followed by Rule Participants in providing settlement and monitoring data to AEMO [Clause 7.13.3], which is detailed in steps ~~4, 6 and 7~~4, 6 and 7;
- (q) the procedure for determining an estimate for each Trading Interval in the Trading Day the following items [Clauses 7A.3.7 and 7A.3.~~77A~~] which are detailed in step ~~7.5~~7.5:
  - (i) the SOI Quantity for each Balancing Facility;
  - (ii) the EOI Quantity for each Balancing Facility; and
  - (iii) the Relevant Dispatch Quantity at the end of the Trading Interval;
- (r) the procedure for determining forecasts of the Relevant Dispatch Quantity and EOI Quantity for Non-Scheduled Generators for each future Trading Interval in the Balancing Horizon [Clause 7A.3.15], which are detailed in steps ~~4.3 and 4.5~~4.3 and 4.5 respectively; and
- (s) the procedure for determining the Forecast Upwards LFAS Quantity and Forecast Downwards LFAS Quantity for each Trading Interval in the next Trading Day [Clause 7B.1.4], which is detailed in step ~~4.3~~4.3.

1.3.2. This Procedure applies to:

- (a) AEMO in its general dispatch obligations and those relating to scheduling the Synergy Balancing Portfolio;
- (b) Rule Participants in complying with the provision of information required for dispatch as described in step ~~1.3.1~~1.3.1; and
- (c) Market Participants in respect to the operation of their Facilities.

## 1.4. Associated documents

1.4.1. The documents in ~~Table 2~~Table 2 provide background information to this Procedure.

**Table 22 Background information**

Reference	Title	Location
SO_OP_WA_3805	<del>IMS Interface Market Procedure - Network Operators and AEMO</del> IMS Interface Market Procedure - Network Operators and AEMO	Market Web Site
<del>SO_OP_WA_3800</del>	PSOP: Ancillary Services	<del>Market Web Site</del>
SO_OP_WA_3801	<del>PSOP: Commissioning Tests</del> PSOP: Commissioning Tests	Market Web Site
SO_OP_WA_3802	<del>PSOP: PSOP: Communications and Control Systems</del>	Market Web Site
SO_OP_WA_3803	<del>PSOP: Facility Outages</del> PSOP: Facility Outages	Market Web Site
SO_OP_WA_3806	<del>PSOP: Medium Term Projected Assessment of System Adequacy (MT PASA)</del> PSOP: Medium Term Projected Assessment of System Adequacy (MT PASA)	Market Web Site
SO_OP_WA_3807	<del>PSOP: Network Modelling Data</del> PSOP: Network Modelling Data	Market Web Site
SO_OP_WA_3808	<del>PSOP: Power System Security</del> PSOP: Power System Security	Market Web Site
SO_OP_WA_3809	<del>PSOP: Short Term Projected Assessment of System Adequacy (ST PASA)</del> PSOP: Short Term Projected Assessment of System Adequacy (ST PASA)	Market Web Site

## ~~2. MANAGEMENT OF DISPATCH INFORMATION AND DISPATCH CRITERIA~~

## 2. MANAGEMENT OF DISPATCH INFORMATION AND DISPATCH CRITERIA

### 1.5.2.1. Management of Dispatch Information

1.5.1.2.1.1. AEMO must maintain all necessary data needed to carry out the following processes:

- (a) preparing the information necessary for the Scheduling Day;
- (b) planning for dispatch;
- (c) issuing Dispatch Advisories;
- (d) issuing Dispatch Instructions, Operating Instructions and Dispatch Orders; and
- (e) preparing the ex-post settlement and monitoring data.

### 1.6.2.2. Dispatch Criteria

1.6.1.2.2.1. When scheduling and dispatching Market Participants' Facilities, AEMO must at all times seek to meet the criteria described in clause 7.6.1 of the WEM Rules.

1.6.2.2.2. The criteria are, in order of priority:

- (a) to enable operation of the SWIS within the Technical Envelope parameters appropriate for the applicable SWIS Operating State;
- (b) to minimise involuntary load shedding on the SWIS; and
- (c) to maintain Ancillary Services to meet the Ancillary Services standards appropriate for the applicable SWIS Operating State.

~~1.6.3.2.2.3.~~ For the avoidance of doubt, satisfying the Dispatch Criteria will always take precedence over other dispatch rules such as adherence to the Balancing Merit Order.

### ~~3. SCHEDULING AND DISPATCH OF THE BALANCING PORTFOLIO~~

### 3. SCHEDULING AND DISPATCH OF THE BALANCING PORTFOLIO

~~1.6.4.3.1.1.~~ AEMO's and Synergy's obligations for scheduling and dispatching the Facilities of the Balancing Portfolio are set out in clause 7.6A of the WEM Rules.

~~1.6.5.3.1.2.~~ Synergy must provide AEMO with a set of dispatch guidelines for its Facilities comprising the Balancing Portfolio in a form agreed between Synergy and AEMO [Clause 7.6A.2(a)].

~~1.6.6.3.1.3.~~ Synergy must update the Balancing Portfolio dispatch guidelines at least once every month and advise AEMO of the date and time from which the updated guidelines are to take effect [Clause 7.6A.2(a)].

~~1.6.7.3.1.4.~~ AEMO must prepare, in a form agreed between Synergy and AEMO, covering each Trading Interval in the relevant Trading Day [Clause 7.6A.2(c)]:

- (a) a Dispatch Plan for each Facility in the Balancing Portfolio; and
- (b) a forecast of the detailed Ancillary Services required from each Facility in the Balancing Portfolio and Ancillary Services from each Stand Alone Facility.

~~1.6.8.3.1.5.~~ Communication of, and consultation in relation to, the information referred to in clause 7.6A.2(c) of the WEM Rules must normally be by means of an electronic interface. Synergy and AEMO may communicate by other means where necessary provided that all communications create, or are subsequently verified by, an electronic record.

### ~~4. PRE-GATE CLOSURE~~

### 4. PRE-GATE CLOSURE

#### 1.7.4.1. Pre-Dispatch plan

~~1.7.1.4.1.1.~~ AEMO must produce, and update as required, a pre-Dispatch Plan covering all periods in the Balancing Horizon.

~~1.7.2.4.1.2.~~ The pre-Dispatch Plan referred to in step ~~4.1.14.1.1~~ must, where practicable, be produced using a mathematical program based on the same formulation used to create Dispatch Instructions (refer step ~~5.35.3~~ below).



~~1.7.3.4.1.3.~~ Upon determining a Forecast BMO, AEMO must formulate any constraints necessary to maintain Power System Security and use those constraints when producing the pre-Dispatch Plan referred to in step ~~4.1.1.4.1.1.~~

~~1.7.4.4.1.4.~~ AEMO must report any pre-dispatch constraints binding, and any pre-dispatch constraints violated, via Dispatch Advisory ~~notices as described in section 5.9 of this Procedure.~~ In addition if it is expected that a Dispatch Instruction will be issued to a Non-Balancing Facility or a Demand Side Programme within the next 24 hours, a Dispatch Advisory must be issued [Clauses 7.11.5(j) and ~~7.11.5(k)~~].

[1.7.5.4.1.5.](#) AEMO may communicate warnings to individual Market Participants if it detects significant discrepancies between Standing Data Equipment Limits and the pre-Dispatch Plan.

### **[1.8.4.2.](#) Constraints used in the pre-Dispatch Plan**

[1.8.1.4.2.1.](#) The constraints referred to in step [4.1.3.4.1.3](#) may include, as appropriate, constraints to ensure any one or more of the following:

- (a) maintenance of Ancillary Services standards;
- (b) appropriate use of contracted services, including Dispatch Support Services and Network Control Services;
- (c) maintenance of the Ready Reserve Standard;
- (d) adherence to Equipment Limits, but only to the extent that those limits are not inconsistent with the dispatch of Balancing Facilities that, but for the Equipment Limits, would be dispatched under clause 7.6.1C of the WEM Rules;
- (e) maintenance of overall system security; and
- (f) appropriate management of fuel, if and to the extent that AEMO is required to manage such constraints during a fuel supply emergency.

### **[1.9.4.3.](#) Load forecasts**

[1.9.1.4.3.1.](#) AEMO must, by 8:30 AM on the Scheduling Day associated with a Trading Day, determine and provide Synergy with a forecast of total system demand for the Trading Day [Clause 7.6A.2(b)].

[1.9.2.4.3.2.](#) Forecasts of total system demand in relation to step [4.3.14.3.1](#) must separately itemise, for each Trading Interval in the Trading Day, the following quantities, Loss Factor adjusted to the Reference Node:

- (a) Forecast SWIS system load, in MW, at the end of the Trading Interval; and
- (b) Forecast total energy output, in MWh, over the Trading Interval.

[1.9.3.4.3.3.](#) The SWIS system load must be calculated as the combined energy (or power) exported from all generating facilities connected to each Network Operator's networks, as measured at the generating Facility's connection points, Loss Factor adjusted to the Reference Node.

[1.9.4.4.3.4.](#) The forecast in step [4.3.14.3.1](#) must be provided to Synergy through AEMO's market system or any other medium agreed between AEMO and Synergy.

[1.9.5.4.3.5.](#) AEMO must, by 7:30 AM on the Scheduling Day associated with a Trading Day, determine a Load Forecast for the Trading Day [Clause 7.2.1].

~~1.9.6.4.3.6.~~ When determining forecast quantities in step ~~4.3.14.3.1~~ or step ~~4.3.5,4.3.5~~, AEMO must, where practicable, utilise the most recent information available to it.

[1.9.7.4.3.7.](#) AEMO must, for each future Trading Interval in the Balancing Horizon, determine a forecast of the Relevant Dispatch Quantity. AEMO must, each time it has new information on which to determine these quantities, update these forecasts, but is not required to do so more than once per Trading Interval [Clause 7A.3.15].

[1.9.8.4.3.8.](#) AEMO must, by 12:00 PM on the Scheduling Day, determine the Forecast Upwards LFAS Quantity and the Forecast Downwards LFAS Quantity for each Trading Interval in the next Trading Day [Clause 7B.1.4].

[1.9.9.4.3.9.](#) The Forecast Upwards LFAS Quantity and the Forecast Downwards LFAS Quantity will be forecast by adjusting the requirements specified in the Ancillary Service report to account for forecast conditions of Load and Non-Scheduled Generators available to AEMO on the Scheduling Day.

[1.9.10.4.3.10.](#) The LFAS Quantity may be further adjusted to account for approved Commissioning Tests.

[1.10.4.4.](#) **[Blank]**

#### [1.11.4.5.](#) **Forecasts of Non-Scheduled Generators**

[1.11.1.4.5.1.](#) Unless otherwise directed by AEMO, each Market Generator must provide, for each of its Intermittent Generators with a maximum output capacity exceeding 10 MW, the data specified in clause 7.2.5 of the WEM Rules.

[1.11.2.4.5.2.](#) A Market Generator must provide the forecast information referred to in step [4.5.14.5.1](#) via the interface to AEMO's market system unless an alternative medium is agreed between AEMO and the Market Generator.

[1.11.3.4.5.3.](#) Where so required by AEMO, each Market Generator must provide, for each of its Non-Scheduled Generators, modelling data specified in clauses 7.7.5A and 7.7.5C of the WEM Rules to allow AEMO to forecast the output of that Non-Scheduled Generator. This should be done via the System Management IT system.

[1.11.4.4.5.4.](#) The modelling data provided in step [4.5.34.5.3](#) must include, but is not necessarily limited to, identification of the main independent variables affecting output and the function relating those variables to output. All modelling data shall be provided on, or be sufficient to allow conversion to, a sent-out basis.

[1.11.5.4.5.5.](#) Where AEMO is required to determine a forecast of the output of a Non-Scheduled Generator:

- (a) AEMO may utilise a forecast of sent-out energy for the Non-Scheduled Generator provided by the Market Generator in a Balancing Submission;

~~(a)~~ where AEMO considers that a forecast of sent-out energy received for a Non-Scheduled Generator is not reflective of the level of output actually occurring or likely to occur, AEMO may estimate the expected Non-Scheduled Generator

- (b) output using the information provided under step [4.5.34.5.3](#) and may substitute this data for part or all of the data provided for that Non-Scheduled Generator; and
- (c) AEMO may utilise other forecast data where required, if Non-Scheduled Generator forecast data is received late or if sections of data are missing. This may be output data derived from recordings of injection levels from past Trading Intervals, or a separate forecast derived for that purpose.

#### **1.12.4.6. Forecasts of Ancillary Services demand**

[1.12.1.4.6.1.](#) AEMO must determine the estimated Ancillary Service requirements for each Market Participant that is a provider of Ancillary Services in accordance with clause 7.2.3A of the WEM Rules.

#### **1.13.4.7. Updating the Dispatch Plan**

[1.13.1.4.7.1.](#) AEMO is required to notify Synergy of significant changes to the Dispatch Plan [Clause 7.6A.2(f)].

[1.13.2.4.7.2.](#) The changes referred to in step [4.7.14.7.1](#) must be deemed to be significant when they indicate:

- (a) previously uncommitted generating Facilities are expected to be committed, or previously committed generating Facilities are expected to be de-committed;
- (b) fuel required is forecast to be outside the limits set by Synergy; or
- (c) AEMO expects to need to dispatch Facilities in the Balancing Portfolio outside the Balancing Portfolio dispatch guidelines described in step [3.1.2.3.1.2.](#)

[1.13.3.4.7.3.](#) AEMO must transmit the revised Dispatch Plan to Synergy as soon as practicable through the interface to AEMO's market system.

[1.13.4.4.7.4.](#) Synergy may request changes to the Dispatch Plan, which AEMO must use reasonable endeavours to accommodate.

#### **1.14.4.8. Demand Side Programmes**

[1.14.1.4.8.1.](#) A Market Participant who has been assigned DSM Capacity Credits must, in the time and manner specified by AEMO, provide AEMO with, for each Trading Interval, the then current consumption, in MW, of [Clause 7.6.10]:

- (a) each Associated Load of the Demand Side Programme; and
- (b) the Demand Side Programme, which must equal the sum of the consumption of all Associated Loads of that Demand Side Programme.

[4.1.2.](#) AEMO must publish the time and manner required to be specified by AEMO under step

~~1.14.2.4.8.2.~~ ~~4.8.1~~ ~~4.8.1~~ on the Market Web Site [Clause 7.6.10A].

~~4.1.3.~~ If AEMO issues a Dispatch Instruction to a Demand Side Programme, it must use best endeavours to maximise the extent to which the resulting Non-Balancing Facility

~~1.14.3.4.8.3.~~ Dispatch Instruction Payments across all Demand Side Programmes are zero, in preference to causing any Tranche 2 DSM Dispatch Payments or Tranche 3 DSM Dispatch Payments to become payable [Clause 7.6.1E].

~~1.14.4.4.8.4.~~ The Unused Expected DSM Dispatch Quantity contained in the Non-Balancing Dispatch Merit Order will initially be updated to reflect the Dispatch Instructions not already taken into account.

~~1.14.5.4.8.5.~~ When metering data becomes available, AEMO will recalculate the Unused Expected DSM Dispatch Quantity and this information will be used to generate the subsequent Non-Balancing Dispatch Merit Order.

~~1.14.6.4.8.6.~~ AEMO is required to issue a Dispatch Advisory if it expects to issue a Dispatch Instruction to a Demand Side Programme under clause 7.6.1C(d) of the WEM Rules) within the next 24 hours [Clause 7.11.5(j)]. System Management must not issue a Dispatch Instruction to a Demand Side Programme under clause 7.6.1C(d) of the WEM Rules unless it has issued a Dispatch Advisory under clause 7.11.5(k) of the WEM Rules more than two hours before the time the Dispatch Instruction will come into effect [Clause 7.6.1F].

~~1.15.4.9.~~ **[Blank]**

~~1.16.4.10.~~ **[Blank]**

### ~~1.17.4.11.~~ **Pre-issuing of Dispatch Instructions**

~~1.17.1.4.11.1.~~ Where AEMO determines that a specific Facility is required to operate in a particular way in a future period for the maintenance of Power System Security, AEMO may issue Dispatch Instructions to the required Facility in accordance with the WEM Rules.

~~1.17.2.4.11.2.~~ Where the Facility referred to in step ~~4.11.4.11.1~~ would be required to be dispatched under clause 7.6.1C(c) of the WEM Rules, AEMO must:

- (a) observe the Facility's Standing Data minimum response time when issuing Dispatch Instructions to that Facility;
- (b) if Dispatch Instructions for the Facility are issued via AEMO's portal, also provide the Dispatch Instruction using voice communication; and
- (c) AEMO must specify in its Dispatch Instruction that the Dispatch Instruction is being issued under clause 7.6.1C(c) of the WEM Rules.

~~1.17.3.4.11.3.~~ Where AEMO determines that a Non-Balancing Facility is required to operate in a future period for the maintenance of Power System Security, AEMO must issue Dispatch Instructions to the required



Facility in accordance with that Facility's notice period. A Dispatch Advisory must be issued at least two hours before a Dispatch Instruction issued to a Demand Side Programme under clause 7.10.1C(d) comes into effect [Clause 7.6.1F].

[1.17.4.4.11.4.](#) AEMO may issue new Dispatch Instructions to replace Dispatch Instructions issued pursuant to step [4.11.14.11.1](#) or step [4.11.34.11.3](#) if required.

## **5. POST GATE CLOSURE**

### **5. POST GATE CLOSURE**

#### **[1.18.5.1.](#) [Blank]**

#### **[1.19.5.2.](#) Commitment and de-commitment of generating Facilities**

[1.19.1.5.2.1.](#) The obligations of AEMO and Market Participants in respect of commitment and de-commitment of generating Facilities are set out in the WEM Rules [Clauses 3.21B and 7.9].

[1.19.2.5.2.2.](#) A Market Participant, except Synergy with respect to the Balancing Portfolio, must communicate confirmation of expected time of synchronisation and de-synchronisation by the time it is required to do so under the WEM Rules via telephone or other voice communication [Clauses 7.9.1 and 7.9.5], unless it is exempt from doing so in accordance with clause 7.9.14 of the the WEM Rules.

[1.19.3.5.2.3.](#) The WEM Rules set out the circumstances where a Market Participant intending to put a Scheduled Generator holding Capacity Credits into a state where it will take more than four hours to re-synchronise is not required to seek permission from AEMO [Clause 3.21B.1]. Where these exceptions do not apply, the Market Participant must seek approval and the request must be communicated via telephone or other voice communication, and include the information required by the WEM Rules [Clause 3.21B.2].

[1.19.4.5.2.4.](#) AEMO will assess the request for approval made under step [5.2.35.2.3](#) to determine if permission should be withheld in accordance with clause 3.21B.5 of the WEM Rules.

[1.19.5.5.2.5.](#) Where AEMO approves or rejects the request for permission, AEMO must inform the Market Participant of its decision as soon as practicable, but no later than one hour prior to the time described in clause 3.21B.2(b) of the WEM Rules, in accordance with clause 3.21B.4 of the WEM Rules by telephone or other voice communication .

[1.19.6.5.2.6.](#) Where AEMO has notified the Market Participant of its decision to reject the request for permission in accordance with step [5.2.4.5.2.4](#), AEMO and the Market Participant must use best endeavours to find an alternative time for the Scheduled Generator to be put into a state where it will take more than four hours to re-synchronise [Clause 3.21B.6].

#### **[1.20.5.3.](#) Creation of Dispatch Instructions and Dispatch Orders**

[1.20.1.5.3.1.](#) AEMO must create Dispatch Instructions and Dispatch Orders in such a way as to ensure the Dispatch Criteria in clause 7.6.1 of the WEM Rules are met at all times.

[1.20.2.5.3.2.](#) AEMO must, wherever practicable, create Dispatch Instructions and Dispatch Orders using a mathematical program.

~~1.20.3.5.3.3.~~ Clauses 7.6.1A, 7.6.1B, 7.6.1C, 7.6.1D and 7.6.1E of the WEM Rules stipulate the priority rules that AEMO must follow in formulating Dispatch Instructions.

~~1.20.4.5.3.4.~~ AEMO must give priority to the dispatch of a Registered Facility under a Network Control Service Contract if doing so would assist AEMO to meet the Dispatch Criteria [Clause 7.6.1A]. AEMO must consider that a Network Control Service Contract would assist it to meet the Dispatch Criteria if AEMO considers that:

- (a) the dispatch of the power system without calling upon the Network Control Service Contract would adversely affect Power System Security; and
- (a) ~~(a)~~ — dispatching the Facilities covered by the NCS Contract according to the terms of the contract would prevent the circumstances described in step ~~5.3.4(a)~~5.3.4(a) from arising or alleviate them if they have already arisen.

~~1.20.5.5.3.5.~~ AEMO may give priority to the issuing of Operating Instructions that call on Ancillary Services, Network Control Service or Supplementary Capacity Contracts, or enable a Test [Clause 7.6.1B]. AEMO must, as far as possible without breaching its obligations in relation to maintaining Power System Security, apply its discretion in the following manner:

- ~~(a)~~ — **Network Control Service Contracts must be called upon in accordance with step**
- (a) ~~5.3.4~~5.3.4 or as otherwise specified in the WEM Rules;
- (b) Ancillary Services Contracts must be called upon in accordance with the terms of the contract in accordance with AEMO's approved Ancillary Services plan and in a way that at all times meets the Ancillary Services Requirements;
- (c) Supplementary Capacity Contracts must be called upon in accordance with the terms of the contract;
- (d) Commissioning Tests must be scheduled in accordance with the Power System Operation Procedure: Commissioning Tests; and
- (e) Reserve Capacity Tests must be conducted in accordance with clause 4.25.9 of the WEM Rules.

~~1.20.6.5.3.6.~~ AEMO must take into account Ramp Rate Limits when formulating the priority of Dispatch Instructions under clause 7.6.1C of the WEM Rules in accordance with the Balancing Merit Order. For the avoidance of doubt:

- (a) a Facility that is below the balancing point in the BMO and is not dispatched for its full offered quantity, but that is dispatched for the maximum quantity its Ramp Rate Limit implies it is capable of achieving in the Trading Interval, must be considered to have been dispatched "in merit"; or
- (b) a Facility that is above the balancing point in the BMO and is dispatched for a non-zero quantity, being the minimum quantity its Ramp Rate Limit implies it is capable of achieving, must be considered to have been dispatched "in merit".

~~1.20.7.5.3.7.~~ Where AEMO determines in accordance with clause 7.7.4A of the WEM Rules that dispatch of a Demand Side Programme is required, AEMO must apply the following process to select the Demand Side Programme from the Dispatch Merit Order while acting in accordance with clause 7.6.1C of the WEM Rules:

- (a) exclude from selection any Demand Side Programme that could not offer the required response inside its specified minimum response time or for any other Standing Data limitation;
- (b) exclude from selection any Demand Side Programme that AEMO reasonably believes, on the basis of the pre-Dispatch Plan described in step [4.4.4.1](#), will be required to be dispatched at some later time within the Balancing Horizon so that its dispatch at that later time would provide a larger benefit in terms of system security than its dispatch to meet immediate system needs and that the Standing Data limitations under which the Facility may be dispatched preclude it from being dispatched on both occasions;
- (c) exclude from selection any Demand Side Programme that AEMO reasonably believes will be required to be dispatched at some later time (or times) outside of the Balancing Horizon so that its dispatch at that later time (or times) would provide a larger benefit in terms of system security than its dispatch to meet immediate system needs and that the Standing Data limitations under which the Facility may be dispatched may preclude it from being dispatched on all occasions;
- (d) as in the Pre-Gate Closure actions (step [4.8.21.1.14.8.2](#)), dispatch Demand Side Programme according to the Non Balancing Dispatch Merit Order using best endeavours to maximise the extent to which the resulting Non-Balancing Facility Dispatch Instruction Payments are zero [Clause 7.6.1E] in preference to causing any Tranche 2 DSM Dispatch Payments or Tranche 3 DSM Dispatch Payments to be payable.

#### **1.21.5.4. Creation of Operating Instructions**

##### 1.21.5.4.1. AEMO must issue Operating Instructions:

- (a) to call on services provided by Facilities (other than Facilities in the Balancing Portfolio) under a Network Control Service Contract, an Ancillary Service Contract, or a Supplementary Capacity Contract; or
- (b) to call on Stand Alone Facilities to provide Ancillary Services other than LFAS but including LFAS Backup Enablement;
- (c) in connection with a Test; or
- (d) otherwise as described in the WEM Rules.

1.21.5.4.2. Where AEMO identifies, based on the BMO or Forecast BMO, that a Facility's Balancing Submission is inconsistent with an Operating Instruction to that Facility, AEMO may send a warning to the Market Participant.

1.21.5.4.3. Where a Market Participant with a contract to provide Ancillary Services or a Network Control Service provides the contracted service automatically and in accordance with the terms of the contract, AEMO must communicate the Operating Instruction to the relevant Market Participant as early as practicable.

## **1.22.5.5. Issuing of Dispatch Instructions and Dispatch Orders**

**1.22.1.5.5.1.** The WEM Rules detail the requirements for Dispatch Instructions [Clauses 7.7.1, 7.7.2 and 7.7.3] and Dispatch Orders.

**1.22.2.5.5.2.** All Dispatch Instructions and Dispatch Orders for a Facility remain in force until superseded by a new Dispatch Instruction or Dispatch Order.

**1.22.3.5.5.3.** Dispatch Instructions to Demand Side Programmes will be expressed in terms of quantity of curtailment. The Dispatch Instruction will consider the amount of load indicated to be available for curtailment as per the latest Non-Balancing Dispatch Merit Order as well as the number of hours for which this reduction is possible.

**1.22.4.5.5.4.** AEMO must issue Dispatch Instructions and Dispatch Orders electronically via one of the following methods (in order of preference):

- (a) SCADA, if available; or
- (b) AEMO's interface to its market system; or
- (c) email (SMS may be used as an adjunct to email); or
- (d) telephone (or other voice communication), with subsequent confirmation by one of the means above.

**1.22.5.5.5.5.** Other than for Facilities over which AEMO has direct control and so the Facility is capable of responding faster, when dispatching Facilities in merit under clause 7.6.1C(a)] of the WEM Rules or Out of Merit under clause 7.6.1C(b) of the WEM Rules. AEMO must provide at least 5 minutes between the issuing and commencement time of Dispatch Instructions and Dispatch Orders.

**1.22.6.5.5.6.** AEMO must respect Standing Data minimum response times when issuing Dispatch Instructions or Dispatch Orders to Facilities Out of Merit under clause 7.6.1C(c) of the WEM Rules for system security reasons, unless advised otherwise by the Market Participant concerned.

**1.22.7.5.5.7.** Where it is not practicable for AEMO to issue Dispatch Instructions or Dispatch Orders in the manner described in step **5.5.4.5.5.4**, AEMO may use such other means as it deems best suited to the circumstances and the requirements of step **5.5.4.5.5.4** shall be deemed to have been fulfilled.

**1.22.8.5.5.8.** Where the system frequency moves above 50.025Hz or below 49.975Hz:

- (a) If the governor of a generator facility which does not carry an obligation to provide a Spinning Reserve Service or Load Following Service automatically moves the generator away from its most recent Dispatch Instruction to a point outside its Tolerance Range in a manner that assists reducing the frequency deviation, then, when advising the Economic Regulation Authority of a

breach by the relevant Market Participant of clause 7.10.1 of the WEM Rules, AEMO must indicate that the deviation was due to an automatic governor response; and

- (b) To ensure a controlled restoration of the frequency back to 50Hz, AEMO may issue Dispatch Instructions or Dispatch Orders to hold some Facilities at levels they have stabilised at after the frequency disturbance.

## **1.23.5.6. Response to Dispatch Instructions and Dispatch Orders**

1.23.1.5.6.1. Where AEMO has operational control of a Facility, AEMO must deem any Dispatch Instruction or Dispatch Order issued to that Facility to have been accepted.

1.23.2.5.6.2. Where AEMO issues a Dispatch Instruction to a Market Participant by telephone or other voice communication, the Market Participant must advise AEMO during that conversation if it cannot comply with the Dispatch Instruction and if so advise the extent and nature of its non-compliance.

1.23.3.5.6.3. Where AEMO issues a Dispatch Instruction or Dispatch Order via telephone or other voice communication and subsequently provides a confirmation of the Dispatch Instruction or Dispatch Order via AEMO's interface to its market system, the Market Participant is not required to provide a response to this subsequent electronic notification, unless there has been a change in circumstances and the Market Participant cannot comply with the Dispatch Instruction or Dispatch Order.

1.23.4.5.6.4. A Market Participant must confirm receipt of a Dispatch Instruction or Dispatch Order issued via SCADA within 30 seconds of receipt. If the Facility is unable to comply with the Dispatch Instruction or Dispatch Order, the Market Participant must also advise AEMO by telephone or other voice communication that it cannot comply and the nature and extent of its non-compliance.

1.23.5.5.6.5. A Market Participant must confirm receipt of a Dispatch Instruction or Dispatch Order issued via AEMO's secure business-to-business gateway within 1 minute. If the Facility is unable to comply with the Dispatch Instruction or Dispatch Order, the Market Participant must also advise AEMO by telephone or other voice communication that it cannot comply and the nature and extent of its non-compliance.

1.23.6.5.6.6. Where a Market Participant receives Dispatch Instructions or Dispatch Orders for a Facility via AEMO's portal, and the Market Participant receives one or more Dispatch Instructions or Dispatch Orders for the Facility and a Trading Interval over the period ending 5 minutes before the start of the Trading Interval, the Market Participant must, by no later than 3 minutes before the start of the Trading Interval:

- (a) identify the most recent Dispatch Instruction or Dispatch Order received for the Facility and Trading Interval in the period ending 5 minutes before the start of the Trading Interval;
- (b) if the Facility is unable to comply with this Dispatch Instruction or Dispatch Order, advise AEMO by telephone or other voice communication that it cannot comply and the nature and extent of its non-compliance; and
- (c) confirm receipt of this Dispatch Instruction or Dispatch Order via AEMO's portal.



1.23.7.5.6.7. Where a Market Participant advises AEMO that it cannot comply with its Dispatch Instruction or Dispatch Order, AEMO must, in accordance with clause 7.7.6B of the WEM Rules:

- (a) issue a new Dispatch Instruction or Dispatch Order to the Market Participant consistent with their advised capability, and record an alleged breach of the original Dispatch Instruction or Dispatch Order;
- (b) issue Dispatch Instructions or Dispatch Orders to other Facilities as required; and
- (c) issue a Dispatch Advisory notice to advise the market of dispatch Out of Merit (where applicable).

1.23.8.5.6.8. Where AEMO does not receive confirmation that a Dispatch Instruction or Dispatch Order has been received within 3 minutes of the start of the Trading Interval to which the Dispatch Instruction relates, AEMO must deem the Dispatch Instruction or Dispatch Order to have been refused. AEMO must then:

- (a) send the Market Participant concerned a new Dispatch Instruction or Dispatch Order instructing them to stay at the output specified on their last accepted Dispatch Instruction or Dispatch Order;
- (b) record an alleged breach of the Dispatch Instruction or Dispatch Order to which the Facility did not respond;
- (c) issue Dispatch Instructions or Dispatch Orders to other Facilities as required; and
- (d) issue a Dispatch Advisory notice to advise the market of dispatch Out of Merit (where applicable).

## **1.24.5.7. Issuing of and response to Operating Instructions**

1.24.1.5.7.1. The WEM Rules detail the requirements for Operating Instructions [Clause 7.7.3A].

1.24.2.5.7.2. AEMO must issue Operating Instructions electronically via one of the following methods (in order of preference):

- (a) via a digital method determined by AEMO, which may include AGC;
- (b) email (SMS may be used as an adjunct to email); or
- (c) telephone (or other voice communication), with subsequent confirmation by email.

1.24.3.5.7.3. Where the WEM Rules require a Market Participant to confirm receipt of an Operating Instruction, the confirmation must be by sent by email, or by an alternative method agreed by AEMO, as soon as practicable. If the Market Participant cannot comply with the Operating Instruction, then the email or communication by the alternative method agreed by AEMO must advise that the Market Participant cannot comply and the nature and extent of the non-compliance.

1.24.4.5.7.4. If, after issuing an Operating Instruction, , AEMO requires the service provision to be extended beyond the estimated end time provided in the Operating Instruction, AEMO must issue another Operating Instruction for the expected period of the extension.

~~1.24.5.5.7.5.~~ For the avoidance of doubt, except for an Operating Instruction related to a Network Control Service Contract, a Market Participant must not modify the output level of a Balancing Facility in response to an Operating Instruction.

### **1.25.5.8. Dispatch of generating Facility for system security**

~~1.25.1.5.8.1.~~ AEMO may issue a Dispatch Instruction or Dispatch Order requiring a Facility to move from zero generation to positive generation, or vice versa, where doing so is necessary to maintain Power System Security.

~~1.25.2.5.8.2.~~ When the system is forecast to move into a High Risk Operating State, AEMO must observe as far as practicable the BMO or Forecast BMO for the Trading Intervals in which the threat to Power System Security occurs when selecting the Facility or Facilities to commit.

~~1.25.3.5.8.3.~~ AEMO may select the Facility or Facilities to commit that provide the most flexibility for AEMO to deal with current or potential threats to Power System Security when the system is:

- (a) in a High Risk Operating State;
- (b) in an Emergency Operating State; or
- (c) forecast to move into an Emergency Operating State.

### **1.26.5.9. Activation of Load Following Ancillary Service**

~~1.26.1.5.9.1.~~ For each Trading Interval, AEMO must activate each LFAS Facility in each LFAS Enablement Schedule for its full LFAS Enablement and use those LFAS Facilities in reasonable proportion to their relevant LFAS Enablement via AGC [Clause 7B.3.6].

## **~~6.~~ TRADING INTERVAL**

## **6. TRADING INTERVAL**

### **1.27.6.1. Real-time monitoring during a Trading Interval**

~~1.27.1.6.1.1.~~ AEMO must monitor the operation of the power system in real time and must issue Dispatch Instructions or Dispatch Orders to re-balance if it considers that it is prudent to do so.

~~1.27.2.6.1.2.~~ AEMO must not re-balance during a Trading Interval (including to return LFAS Facilities to their base point prior to the end of the Trading Interval) except to the extent that re-balancing is required to maintain Power System Security and meet the Dispatch Criteria.

[1.27.3.6.1.3.](#) In determining whether it is prudent to re-balance, AEMO must consider a range of factors including but not limited to one or more of the following:

- (d) system frequency;
- (e) position of LFAS Facilities relative to their AGC control target;
- (f) any reduction in Spinning Reserve;

- (g) the behaviour of Balancing Facilities, in particular Facilities outside their Tolerance Range or, if applicable, Facility Tolerance Range;
- (h) significant changes in load or wind forecasts;
- (i) the behaviour of generators involved in commissioning activities or undergoing a Commissioning Test; or
- (j) the time remaining until the end of the Trading Interval.

1.27.4-6.1.4. AEMO must create and issue any Dispatch Instructions or Dispatch Orders required to re-balance in accordance with the priority rules stipulated in the WEM Rules [Clauses 7.6.1A, 7.6.1B, 7.6.1C, 7.6.1D and 7.6.1E].

1.27.5-6.1.5. If a Facility is outside its Tolerance Range or, if applicable, Facility Tolerance Range and AEMO determines it is prudent to re-balance, AEMO must:

- (a) issue the affected Facility with a new Dispatch Instruction to stay at its current output level; and
- (b) issue new Dispatch Instructions as required in accordance with the BMO, skipping the affected Facility.

## **1.28.6.2. Formulation and issuing of intermediate Dispatch Instructions and Dispatch Orders**

1.28.1-6.2.1. AEMO may issue one or more Dispatch Instructions to a single Facility within a Trading Interval.

1.28.2-6.2.2. AEMO must provide voice communications as well as electronic notifications for Dispatch Instructions whose response time is in the same Trading Interval as its issued time, unless:

- (a) AEMO has operational control of the Facility; or
- (b) Dispatch Instructions are issued to the Facility via SCADA or AEMO's secure business-to-business gateway.

1.28.3-6.2.3. If, in the opinion of AEMO, a Facility providing LFAS is not adequately complying with its performance requirements, AEMO should investigate the reasons for non-performance and may at its discretion initiate the disabling of the non-performing LFAS Facility and enabling of a Synergy Registered Facility to provide some or all of the LFAS that was meant to be provided by the disabled LFAS Facility as backup LFAS [Clauses 7B.3.8 and 7B4.1(a)]. The performance requirements for an LFAS Facility are documented in the Power System Operating Procedure: Ancillary Services.

1.28.4-6.2.4. AEMO may enable one or more Synergy Registered Facilities to provide backup LFAS if the quantity of LFAS required by AEMO in a Trading Interval is greater than the most recent LFAS Quantity published for the Trading Interval.

### **1.29.6.3. Constrained operation of a Non-Scheduled Generator**

1.29.1.6.3.1. AEMO may issue a Dispatch Instruction to a Market Participant with a Non-Scheduled Generator to restrict the MW or MWh output of the Non-Scheduled Generator over specified Trading Intervals where the Dispatch Criteria are not being met, to restrict the variability that is occurring in the MW output from the Facility, if a High Risk Operating State or Emergency Operating State exists, or if adherence to the Balancing Merit Order requires it.

1.29.2.6.3.2. The reasons for non-observance of the limits of SWIS operation as defined in the Technical Envelope may include, but are not limited to one or more of the following:

- (a) the Ancillary Service Requirements are not being satisfied; or
- (b) operation of the Non-Scheduled Generator is causing voltage swings in the region of the Facility's connection to the Network to exceed the range permitted by the Technical Rules or Security Limits; or
- (c) operation of the Non-Scheduled Generator is causing Equipment Limits or Security Limits to be exceeded; or
- (d) operation of the Non-Scheduled Generator is causing frequency deviations to exceed the normal frequency operating range.

1.29.3.6.3.3. In determining whether to constrain the operation of a Non-Scheduled Generator, AEMO may take account of the extent of any difference between the current operation of the generator, and any forecast of that generator's operation used to set the requirement for LFAS.

### **1.30.6.4. Voltage control**

1.30.1.6.4.1. AEMO may, in accordance with the Technical Rules, direct a Facility to change its reactive power output to assist with voltage control on the SWIS.

## **7. DISPATCH SETTLEMENT DATA**

### **7. DISPATCH SETTLEMENT DATA**

#### **1.31.7.1. Introduction**

1.31.1.7.1.1. The requirements for AEMO to prepare settlement data are specified in clause 7.13 of the WEM Rules.

1.31.2.7.1.2. If AEMO is prevented from completing the processes that enable the recording of the data it may delay the recording of the data by up to two Business Days [Clause 7.13.1B].

## **1.32.7.2. Quantification of Constrained off Quantities**

**1.32.7.2.1.** Where AEMO requires a Non-Scheduled Generator to reduce output in a Trading Interval AEMO must prepare an estimate of the:

- (a) maximum quantity of sent out energy in MWh which the Non-Scheduled Generator would have generated in that Trading Interval had a Dispatch Instruction not been issued [Clauses 7.7.5A(b), 7.7.5A(c), 7.7.5B and 7.13.1(eF)]; and
- (b) decrease in the output (in MWh) of each of Synergy's Non-Scheduled Generators as a result of an instruction from System Management to deviate from the Dispatch Plan or change their commitment or output in accordance with clause 7.6A.3(a) [Clause 7.13.1C(e)].

~~1.32.2.7.2.2.~~ To estimate or revise the quantities referred to in step ~~7.2.1.7.2.1.~~ AEMO must use:

- (a) the Facility's actual output, where the relevant Dispatch Instruction or deviation from the Dispatch Plan was issued:
  - (i) to reflect a Forced Outage affecting the Facility;
  - (ii) as required by step ~~5.6.7; or~~ 05.6.7; or
  - (iii) to reflect the BMO; or
- (b) any of the following means where the Dispatch Instruction or deviation from the Dispatch Plan was issued for any other reason:
  - (i) a predictive algorithm provided by the Market Participant, providing an assessment of the Non-Scheduled Generator's MWh output from relevant independent variables over the Trading Interval;
  - (ii) a predictive algorithm developed by AEMO, providing an assessment of the Non-Scheduled Generator's MWh output from relevant independent variables over the Trading Interval;
  - (iii) an assessment by AEMO based on output of the Non-Scheduled Generator in a past Trading Interval under similar conditions;
  - (iv) an estimate using Market Participant data provided to AEMO that uses output data from particular generating facilities that continue to operate unconstrained after the Dispatch Instruction, with the output data subsequently scaled up to represent the output from all generating facilities that otherwise would have operated.

~~1.32.3.7.2.3.~~ AEMO must, from time to time, consult with the relevant Market Participant concerning the choice of option selected by AEMO in step ~~7.2.2(b).7.2.2(b).~~

### ~~1.33.7.3.~~ **Calculation of Spinning Reserve Response Quantities**

~~1.33.1.7.3.1.~~ Where a Facility provides a Spinning Reserve Response for a Spinning Reserve Event, AEMO must determine the response period of the Facility for the Spinning Reserve Event as the period which starts at the time of the Spinning Reserve Event and has a duration equal to the longest sustained response time of the classes of Spinning Reserve the Facility is certified to provide (defined in the Power System Operation Procedure: Ancillary Services).

~~7.1.1.~~ If for a Facility and a Trading Interval there is no Spinning Reserve Event for which the Facility's response period, as determined in step ~~7.3.1.7.3.1.~~ overlaps the Trading Interval, then

1.33.2.7.3.2. AEMO must determine the Spinning Reserve Response Quantity for that Facility and Trading Interval to be zero.

1.33.3.7.3.3. Where a Spinning Reserve Event has occurred, the Spinning Reserve Response Quantity of each Facility in each Trading Interval overlapping its response period must be calculated according to the formula:

$$\text{RESP}_i = \text{Max} (0, \text{AVG\_MW}(\text{Start\_Time}, \text{End\_Time}) - G_0) / (\text{Duration\_Mins}/60) - \text{LFAS}_{\text{up}}$$

Where:

RESP is the Spinning Reserve Response Quantity in MWh for the Facility in the Trading Interval;

AVG\_MW(Start\_Time, End\_Time) is the average MW output of the Facility over the period between Start\_Time and End\_Time, measured at the generator terminals by AEMO's SCADA system with a resolution of 4 seconds or less;

G<sub>0</sub> is the MW output of the Facility at the time of the Spinning Reserve Event, measured at the generator terminals by AEMO's SCADA system;

Start\_Time is the later of the start time of the Trading Interval and the start time of the response period determined in step 7.3.1;7.3.1;

End\_Time is the earlier of the end time of the Trading Interval and the end time of the response period determined in step 7.3.1;7.3.1;

Duration\_Mins is the time, in minutes, between Start\_Time and End\_Time.

LFAS<sub>up</sub> = the Upwards LFAS Enablement or Upwards LFAS Backup Enablement applicable for that time period

1.33.4.7.3.4. The Spinning Reserve Response Quantity for the Balancing Portfolio in a Trading Interval is the sum of the Spinning Reserve Response Quantities of the individual Facilities within the Balancing Portfolio.

## 1.34.7.4. Calculation of Load Rejection Reserve Response Quantities

1.34.1.7.4.1. Where a Facility provides a Load Rejection Reserve Response for a Load Rejection Reserve Event, AEMO must determine the response period of the Facility for the Load Rejection Reserve Event as the period which starts at the time of the Load Rejection Reserve Event and has a duration equal to the



longest sustained response time of the classes of Load Rejection Reserve the Facility is certified to provide (defined in the Power System Operation Procedure: Ancillary Services).

~~7.1.2.~~—If for a Facility and a Trading Interval there is no Load Rejection Reserve Event for which the Facility's response period, as determined in step ~~7.4.1, 7.4.1~~, overlaps the Trading Interval

~~1.34.2.7.4.2.~~ then AEMO must determine the Load Rejection Reserve Response Quantity for that Facility and Trading Interval to be zero.

~~1.34.3.7.4.3.~~ Where a Load Rejection Reserve Event has occurred, the Load Rejection Reserve Response Quantity of each Facility in each Trading Interval overlapping its response period must be calculated according to the formula:

$$\text{RESP} = \text{Max} (0, G0 - \text{AVG\_MW} (\text{Start\_Time}, \text{End\_Time}) / \text{Duration\_Mins}/60) - \text{LFAS}_{\text{down}}$$

Where:

RESP is the Load Rejection Reserve Response Quantity in MWh for the Facility in the Trading Interval;

AVG\_MW(Start\_Time, End\_Time) is the average MW output of the Facility over the period between Start\_Time and End\_Time, measured at the generator terminals by AEMO's SCADA system with a resolution of 4 seconds or less;

G0 is the MW output of the Facility at the time of the Load Rejection Reserve Event, measured at the generator terminals by AEMO's SCADA system;

Start\_Time is the later of the start time of the Trading Interval and the start time of the response period determined in step ~~7.4.1~~7.4.1

End\_Time is the earlier of the end time of the Trading Interval and the end time of the response period determined in step ~~7.4.1~~7.4.1

Durations\_Mins is the time, in minutes, between Start\_Time and End\_Time.

LFAS<sub>down</sub> = the Downwards LFAS Enablement or Downwards LFAS Backup Enablement applicable for that time period

~~1.34.4.7.4.4.~~ The Load Rejection Reserve Response Quantity for the Balancing Portfolio in a Trading Interval is the sum of the Load Rejection Reserve Response Quantities of the individual Facilities within the Balancing Portfolio.

## ~~1.35.7.5.~~ **SOI Quantity, EOI Quantity and Relevant Dispatch Quantity estimates**

~~1.35.1.7.5.1.~~ As required by clauses 7A.3.7 and 7A.3.7A of the WEM Rules, AEMO must determine an estimate of:

- (a) for each Balancing Facility, the SOI Quantity the EOI Quantity; and

(b) the Relevant Dispatch Quantity.

~~1.35.2.7.5.2.~~ 7.5.2. AEMO must, within the specified timeframes and for the relevant Trading Interval, determine the quantities in step ~~7.5.17.5.1~~ in the following manner:

- (a) where AEMO uses SCADA to monitor the output of a Facility, the EOI Quantity for a Facility for a Trading Interval must be the latest recorded value from AEMO's SCADA system at the end of that Trading Interval;
- (b) where AEMO does not monitor the output of a Facility by use of SCADA, AEMO must determine the EOI Quantity for that Facility for each Trading Interval as the MW offer quantity listed for that Facility in the BMO;
- (c) the SOI Quantity for a Facility for a Trading Interval must equal the EOI Quantity for the previous Trading Interval; and
- (d) the Relevant Dispatch Quantity must equal the sum of the EOI Quantities for each Balancing Facility, in MWh, at the end of that Trading Interval.

~~1.35.3-7.5.3.~~ AEMO may substitute the values recorded in steps ~~7.5.2(a)~~~~7.5.20(a)~~ ~~7.5.2(b)~~~~7.5.2(b)~~ and ~~7.5.2(e)~~~~7.5.2(c)~~ if it has reason to believe the values are inaccurate.

### **1.36.7.6. Demand Side Programme curtailment request**

~~1.36.1-7.6.1.~~ For the purpose of the calculation of the amount in MWh by which the Facility was requested to decrease its consumption under clause 7.13.5(a) of the WEM Rules, which is required to be prepared under clause 7.13.1(eG) of the WEM Rules and documented under clause 7.13.5(b) of the WEM Rules, the following will be assumed:

- (a) If an instruction is given that the demand should be reduced by a specific time then the calculation will be done assuming a reduction starting at the necessary time to achieve the final reduction by the prescribed time according to the ramp rate included in the Dispatch Instruction. This ramp rate will take into account the DSP Ramp Rate Limit in accordance with clause 7.6.1C(d).
- (b) If an instruction is given to reduce demand as quickly as possible, then the calculation will assume the starting time as the time of the Dispatch Instruction and the ramp rate as provided in the Dispatch Instruction, to determine the instructed reduction.

## **~~8. ADMINISTRATION AND REPORTING IN RELATION TO SYNERGY~~**

### **8. ADMINISTRATION AND REPORTING IN RELATION TO SYNERGY**

#### **1.37.8.1. Limitation of requirements for Synergy**

~~1.37.1-8.1.1.~~ The requirements of steps ~~8.2~~~~8.3~~~~8.2~~~~08.3~~ and ~~8.4~~~~8.4~~ apply only to steps ~~33~~ and ~~4.7.4.7~~.

#### **1.38.8.2. Reporting in relation to Synergy's WEM Rules obligations**

~~1.38.1-8.2.1.~~ The requirements for AEMO to report to the Economic Regulation Authority any instance where it believes that Synergy has failed to meet its obligations under this Procedure and provide records are specified in clauses 7.6A.5(c) and 7.6A.5(e) of the WEM Rules.

1.38.2.8.2.2. The reports referred to in step 8.2.4.8.2.1 must be submitted as soon as practicable after the occurrence of the event, or after either party becomes aware of the event.

### **1.39.8.3. Appointment of Representative**

1.39.1.8.3.1. Synergy and AEMO must:

- (a) each appoint a representative who must act as the formal point of contact with regard to the operation of this Procedure;
- (b) provide each other and the Economic Regulation Authority with the name, title and contact details of its representative; and
- (c) maintain the currency of the appointed representative's details with the relevant parties.

### **1.40.8.4. Keeping of Records**

1.40.1.8.4.1. The requirements for Synergy and AEMO to retain records created by the operation of this Procedure are specified in clause 7.6A.6 of the WEM Rules.

### **1.41.8.5. Failure to Agree on an issue within the Procedure**

1.41.1.8.5.1. The requirements for AEMO and Synergy to address and reach agreement on any issues arising from the application of this Procedure are specified in clause 7.6A.5(b) of the WEM Rules.

1.41.2.8.5.2. Where agreement cannot be reached and arbitration is required, the party seeking arbitration must, in good faith, seek to agree with the other party on the appointment of an arbitrator.

1.41.3.8.5.3. If, within 7 days, the parties are unable to agree on the appointment of an arbitrator, the Economic Regulation Authority shall be the arbitrator.

1.41.4.8.5.4. Within 7 days of the appointment of an arbitrator, the party seeking arbitration must provide the arbitrator with a report setting out:

- (a) a description of the issue in dispute;
- (b) the background to the dispute and a description of the endeavours of the parties to resolve the issue; and
- (c) the position of both parties on the issue, including what is required to resolve the dispute.

1.41.5.8.5.5. The party submitting the report must provide a copy of the report to the other party at the same time the report is submitted to the arbitrator.

1.41.6.8.5.6. The other party must submit its own report on the issue to the arbitrator within 2 Business Days of the receipt of the report referred to in step 8.5.5.8.5.5.

[1.41.7.8.5.7.](#) In reviewing the issue, the arbitrator must have regard to the following, in order of precedence:

- (a) the WEM Rules;

- (b) this Procedure;
- (c) other Market Procedures and Power System Operation Procedures; and
- (d) the alignment of the above to the Wholesale Market Objectives in the context of the issue.

1.41.8-8.5.8. The arbitrator may seek further information from either party, and this information must be provided within 2 Business Days of receipt of the request.

1.41.9-8.5.9. The arbitrator must provide its draft recommendation to Synergy and AEMO within 10 Business Days of the receipt of the report in step 8.5.5-8.5.5. Both parties have 2 Business Days to provide the arbitrator with comments on the draft recommendation.

1.41.10-8.5.10. The arbitrator must, within 2 Business Days of receiving comments, issue a binding decision.

## ~~9. EXEMPTIONS TO COMMITMENT AND DE-COMMITMENT NOTIFICATION REQUIREMENTS~~

## 9. EXEMPTIONS TO COMMITMENT AND DE-COMMITMENT NOTIFICATION REQUIREMENTS

### 1.42.9.1. Application for exemption from a Market Participant with a distribution connected Scheduled Generator

1.42.1-9.1.1. A Market Participant with a Scheduled Generator connected to a distribution network that has operating equipment and processes which enable it to synchronise and de-synchronise only when it is safe to do so, may apply in writing to AEMO for an exemption from providing notification to AEMO under clauses 7.9.1 and 7.9.5 of the WEM Rules [Clause 7.9.13].

1.42.2-9.1.2. The Market Participant's written application for exemption must advise that its Scheduled Generator has operating equipment and processes to enable it to synchronise and de-synchronise only when it is safe to do so. For guidance, the Scheduled Generator must meet the requirements of section 3.6 of the Technical Rules.

1.42.3-9.1.3. The written application for an exemption described in step 9.1.19.1.1 must be directed to AEMO via email (wa.sm.operations@aemo.com.au) and signed by an Authorised Officer.

### 1.43.9.2. AEMO's assessment of the application

1.43.1-9.2.1. AEMO will assess a written application made under step 9.1.19.1.1 by reviewing the SCADA and protection systems to ensure that the criteria referred to in step 9.1.29.1.2 is satisfied.



1.43.2.9.2.2. Upon verification by AEMO that the Scheduled Generator satisfies the criteria set out in ~~step 9.1.2, step 9.1.2,~~ the Market Participant will be deemed to have operating equipment and processes which enable its distribution connected Scheduled Generator to synchronise and de-synchronise only when it is safe to do so, therefore qualifying for an exemption [Clause 7.9.14].

~~1.43.3.9.2.3.~~ If AEMO is unable to verify that the Market Participant's distribution connected Scheduled Generator satisfies the criteria set out in ~~step 9.1.2~~ step 9.1.2 then the Market Participant will not at that time be deemed to have operating equipment and processes which enable its distribution connected Scheduled Generator to synchronise and de-synchronise only when it is safe to do so, therefore not qualifying for an exemption.

### **1.44.9.3. AEMO's determination**

~~1.44.1.9.3.1.~~ AEMO must provide written notification to a Market Participant of the outcome of its assessment made under step ~~9.2.2~~ 9.2.2 as follows:

- (a) if step ~~9.2.2.2~~ 9.2.2.2 applies, the Market Participant will be advised that the distribution connected Scheduled Generator for which the application was made is exempt from clauses 7.9.1 and 7.9.5 of the WEM Rules, including the reasons for the decision and the effective date of the exemption; or
- (b) if step ~~9.2.3.2.3~~ 9.2.3.2.3 applies, the Market Participant will be advised that the distribution connected Scheduled Generator does not qualify for an exemption from clauses 7.9.1 and 7.9.5 of the WEM Rules, including the reasons for this decision.

~~7.9.1 and 7.9.5 of the WEM Rules, including the reasons for this decision.~~

~~1.44.2.9.3.2.~~ AEMO will use best endeavours to complete its assessment under step ~~9.2.2~~ 9.2.2 and provide written notice of its determination under step ~~9.3.1.3.1~~ 9.3.1.3.1 within 10 Business Days of receiving an application under step ~~9.1.1.9.1.1.~~

~~1.44.3.9.3.3.~~ Where written notification pursuant to step ~~9.3.1(b)~~ 9.3.1(b) is provided advising that the Scheduled Generator does not qualify for an exemption, the Market Participant may re-apply at any time following the steps set out in step ~~9.1.9.1.~~

### **1.45.9.4. Revocation of an exemption**

~~1.45.1.9.4.1.~~ A Market Participant must notify AEMO in writing via email<sup>1</sup> as soon as it becomes aware that it no longer satisfies the criteria referred to in step ~~9.1.2.1.2~~ 9.1.2.1.2 or any other matter or thing which might prevent the exempted Scheduled Generator from synchronising or de-synchronising safely [Clause 7.9.16].

~~1.45.2.9.4.2.~~ Upon assessing the information provided in the notification under step ~~9.4.1.9.4.1.~~ 9.4.1.9.4.1, or in the event that it becomes aware of any other information, AEMO may revoke an exemption if it is no longer satisfied that the Scheduled Generator meets the requirements assessed under step ~~9.4.1.9.4.1.~~ 9.4.1.9.4.1.

<sup>1</sup> [To wa.sm.operations@aemo.com.au](mailto:To wa.sm.operations@aemo.com.au)  
Doc Ref: SO\_OP\_WA\_3803

~~1.45.3.9.4.3.~~ AEMO will notify the Market Participant of its decision to revoke an exemption in writing as soon as practicable after it has made its assessment under step ~~9.4.29.4.2~~ by a notice prepared in accordance with clause 7.9.17 of the WEM Rules. The notification will include reasons for its decision and the date and time from which the exemption will cease to apply.

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~~<sup>4</sup>To [wa.sm.operations@aemo.com.au](mailto:wa.sm.operations@aemo.com.au).~~

### **1.46.9.5. List of exempt distribution connected Scheduled Generators**

1.46.1.9.5.1. AEMO will publish and maintain a list of Scheduled Generators subject to exemptions under clauses 7.9.1 and 7.9.5 of the WEM Rules on AEMO's website [Clause 7.9.18]<sup>2</sup>

1.46.2.9.5.2. The published list will include the details of the Market Participant and Facility and the date on which the exemption was granted.

1.46.3.9.5.3. A Scheduled Generator will be added to the published list as soon as practicable after the granting of an exemption.

1.46.4.9.5.4. Where an exemption is revoked for a Scheduled Generator, it will be removed from the list as soon as practicable after the revocation occurs.

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<sup>2</sup> See <https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Security-and-reliability/Facility-commitment-notification-exemptions>.

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<sup>2</sup>See <https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Security-and-reliability/Facility-commitment-notification-exemptions>.