WEM RULES

POWER SYSTEM OPERATION PROCEDURE: FACILITY OUTAGES

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Approved for distribution and use by:

APPROVED BY:	~~Cameron Parrotte~~
TITLE:	~~Executive General Manager - WA~~

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2.0	1 April 2009	System Management amended changes to the procedure resulting from Procedure Change Report PPCL0003
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6.0	TBA 2018	AEMO restructure and rewrite of the procedure resulting from Procedure Change Report AEPC_2018_04

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1 PROCEDURE OVERVIEW

1.1. Relationship with the Wholesale Electricity Market Rules

1.1.1 This Power System Operation Procedure: Facility Outages (Procedure) has been developed in accordance with clauses 3.18.21, 3.19.14, 3.21.12 and 4.11.1(h) of the Wholesale Electricity Market Rules (WEM Rules).

~~1.1.2~~ References to particular WEM Rules within the Procedure in bold and square brackets **[Clause XX]** are current as at 1 September 2018.~~28 April 2018. These references are included for convenience only and are not part of this Procedure.~~

~~1.1.3~~1.1.2 ~~References to particular Technical Rules within the Procedure in bold and curly braces **{Clause XX}** are current as at 1 December 2016.~~ These references 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, ~~in this Procedure~~ have the meaning given in the WEM Rules;

(b) to the extent that this Procedure is inconsistent with the WEM Rules, the WEM Rules ~~shall~~ 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~~or~~ vice versa.

1.2.2 In addition, the following defined terms have the meaning given.

Table 1 Defined terms

Term	Definition
Day-~~-~~Ahead Opportunistic Maintenance (DAOM)	Opportunistic Maintenance described~~detailed~~ in step 6.1.2(a)~~67.1.2(a)~~.
Equipment List	The list of equipment required by clause 3.18.2(a) of the WEM Rules to be subject to outage scheduling, described~~detailed~~ in step 2.1.1.
On-~~-~~the-~~-~~Day Opportunistic Maintenance (ODOM)	Opportunistic Maintenance described~~detailed~~ in step 6.1.2(b)~~67.1.2(b)~~.
Outage Risk Assessment	An assessment of risks that might extend the outage as detailed in step 4.2.3(a).
Outage Contingency Plans	Contingency plans for the early return to service of the Facility or item of equipment as described~~detailed~~ in step 4.2.3(b).
Outage Schedule	An "outage schedule" (~~Information on all Scheduled Outages~~ referred to in clause 3.18.4 of the WEM Rules) containing information on all Scheduled Outages ~~held AEMO's IT system~~ as described~~detailed~~ in step 4.1.1~~6.1.1~~.

1.3 Purpose and application of this Procedure

1.3.1 The purpose of this Procedure is to detail the processes to be followed by:

(a) AEMO, Market Participants and Network Operators when conducting outage planning for a Facility **[Clause 3.18.21]**;

(b) AEMO, Market Participants and Network Operators when conducting final approval of outages **[Clause 3.19.14]**;

(c) AEMO, Market Participants and Network Operators when determining and reporting Forced Outages and Consequential Outages **[Clause 3.21.12]**; and

(d) AEMO when calculating Planned Outage and Forced Outage rates for the purposes of assigning no Certified Reserve Capacity or a lesser quantity of Certified Reserve Capacity **[Clause 4.11.1(h)]**.

1.4 Associated documents

1.4.1 The following documents in Table 2~~Table 2~~ (~~(~~available on the Market Web Site) provide background information to this Procedure:

Table 2 Background Procedures

Reference	Title	Location
SO_OP_WA_3805	IMS Interface Market Procedure: AEMO and Network Operators	Market Web Site
SO_OP_WA_3801	PSOP: Commissioning and Testing	Market Web Site
SO_OP_WA_3802	PSOP: Communications and Control Systems	Market Web Site
SO_OP_WA_3803	PSOP: Dispatch	Market Web Site
SO_OP_WA_3806~~3801~~	PSOP: Medium Term PASA~~PSOP: Commissioning and Testing~~	Market Web Site
SO_OP_WA_3807~~3806~~	PSOP: Network Modelling Data~~PSOP: Medium Term PASA~~	Market Web Site
SO_OP_WA_3808	PSOP: Power System Security	Market Web Site
SO_OP_WA_3809	PSOP: Short Term PASA~~PSOP: Short Term PASA~~	Market Web Site
~~SO_OP_WA_3807~~	~~PSOP: Network Modelling Data~~	~~Market Web Site~~

2 LIST OF EQUIPMENT SUBJECT TO OUTAGE PLANNING

2.1 Contents of the Equipment List

2.1.1 Clause 3.18.2(a) of the WEM Rules requires AEMO to maintain a list of equipment that is subject to outage scheduling (Equipment List).

2.1.2 Market Participants and the Network Operator must schedule outages for the equipment on the Equipment List in accordance with clauses 3.18, 3.19, 3.20 and 3.21 of the WEM Rules **[Clause 3.18.2(f)]**.

2.1.3 In compiling the Equipment List, AEMO must include **[Clause 3.18.2(c)]**:

(a) all transmission network Registered Facilities;

(b) all Registered Facilities holding Capacity Credits with a nameplate capacity of at least ~~more than~~ 10 MW **[Clause 3.18.2A(a)~~;)]~~;**

(c) all generation systems with a nameplate capacity of at least~~more than~~ 10 MW that are associated with an Intermittent Load **[Clause 3.18.2A(a)]**;

(d) all Registered Facilities subject to an Ancillary Services Contract; and

(e) any other equipment that AEMO determines must be subject to outage scheduling to maintain Power System Security and Power System Reliability.

2.1.4 In applying step 2.1.3(e), AEMO may include in the Equipment List:

~~(a)~~ any ~~loads;~~

~~(b)~~(a) transmission or distribution Network equipment that is not a Registered Facility; and

~~(c)~~(b) any Facility~~Facilities~~ with a nameplate capacity of less than 10 MW, where AEMO considers that an outage of that Facility may adversely affect AEMO's ability to ensure that ~~the maintenance of~~ Power System Security and Power System Reliability are maintained~~may be impacted during an outage of that Facility~~.

2.1.5 In applying step 2.1.3(e), AEMO must consider the following matters when deciding ~~factors in making a decision as to~~ whether to include a Facility or item~~exclude a piece~~ of equipment on the Equipment List:

(a) the safe operation of equipment, and the safety of ~~equipment,~~ personnel and the public;

(b) the impact of an outage on~~impacts upon~~ other items of equipment or Facilities; and

(c) the maintenance of Power System Security and Power System Reliability.

2.1.6 AEMO may update the Equipment List in circumstances including, but not limited to **[Clause 3.18.2(b)]**:

(a) when a new Facility is registered;

(b) when~~where~~ there has been a change to any of the details for an item of equipment on the Equipment List; and

(c) when AEMO considers that an existing item of equipment is no longer required to be included on the Equipment List.

2.1.7 Where the Equipment List is revised in step 2.1.6~~2.1.5~~, AEMO must publish the revised Equipment List as soon as practicable **[Clause 3.18.2(b)]**.

2.1.8 AEMO must review the Equipment List at least once every 6 months.

2.1.9 A Market Participant or Network Operator may request that the Economic Regulation Authority

reassess the inclusion ~~or exclusion~~ of its Facility or item of equipment on~~from~~ the Equipment List **[Clause 3.18.3]**.

2.1.10 Before requesting the Economic Regulation Authority to conduct a reassessment under step 2.1.9, a Market Participant or Network Operator may discuss with AEMO the inclusion ~~or exclusion~~ of its Facility or item of equipment on the Equipment List.

3 COMMUNICATIONS

3.1 Communication of Outage Information

3.1.1 Communication of outage requests and notifications must be made through AEMO's nominated IT system, as soon as practicable, unless otherwise set out in this Procedure. ~~AEMO must publish the nominated IT system on the Market Web Site.~~

3.1.2 Where this Procedure requires a Rule Participant to provide confirmation in AEMO's IT system of a request or notification made using an alternative communication method, the Rule Participant must record that confirmation in AEMO's IT system as soon as practicable after making the relevant request or notification.

~~3.1.3~~ When~~During periods when~~ AEMO's IT system is unavailable, Rule Participants must ~~:~~

~~(a)~~3.1.3 provide any requests and notifications required to be communicated through AEMO's IT system under this Procedure by an alternative communication method defined in the PSOP: Communications and Control Systems or as otherwise directed by AEMO. When AEMO's IT system becomes available, Rule Participants must update AEMO's IT system as soon as practicable to record any requests and notifications provided by an alternative communication method under this step 1.1.1~~3.1.3.; and~~

~~(b) once AEMO's IT system becomes available, update AEMO's IT system as soon as practicable to record any requests and notifications provided under step 3.1.3.~~

3.1.4 AEMO may agree with the Network Operator on a control room communication process for Planned Outage commencement and restoration, which will be detailed and agreed in a confidential Operating Protocol.

4 OUTAGE SCHEDULING

4.1 Maintenance of the Outage Schedule

4.1.1 AEMO must maintain an Outage Schedule that contains details of each Outage Plan **[Clause 3.18.4]** that:

(a) AEMO has accepted under step 5.1.1~~56.1.14~~; or

(b) the ERA has directed AEMO to include the Outage Plan in its Outage Schedule, as per clause 3.18.15(f) of the WEM Rules.

4.2 Outage Plan Information Requirements

4.2.1 Market Participants and Network Operators must submit Outage Plans through AEMO's ~~nominated~~ IT system unless step 1.1.1~~3.1.3~~ applies.

4.2.2 An Outage Plan must contain the information specified in clause 3.18.6 of the WEM Rules and must represent the good faith intention of the Market Participant or Network Operator to remove from service, or de-rate, the relevant Facility or item of equipment, for maintenance **[Clause 3.18.7]**.

4.2.3 An Outage Plan submitted under step 4.2.1~~4.2.2~~ must include (among~~, amongst~~ other matters) **[Clause 3.18.6]**~~items,~~ an:

(a) Outage Risk Assessment, being an assessment of risks that might extend the outage **[Clause 3.18.6(e)]**; and

(b) Outage Contingency Plans, being contingency plans for the early return to service of the Facility or item of equipment **[Clause 3.18.6(g)]**.

4.2.4 An Outage Plan is valid if it complies with~~submitted under~~ step 4.2.2 and~~is valid for~~:

~~(a)~~ (in the case of a Scheduled Generator~~Generators~~ or Non-Scheduled Generator) the Market Participant has reasonable grounds to expect the Facility to be ~~Generators, where:~~[1]

~~(1)~~(a) ~~would otherwise be~~ available for dispatch, or capable of being put into that state, immediately~~just~~ prior to the commencement of the proposed outage;[2] ~~and~~

~~(2)~~ (in the case~~would otherwise be capable of being available for dispatch for the duration~~ of an item~~the Outage Plan.~~

~~(b)~~ ~~items~~ of Network equipment) the Network Operator has reasonable grounds to expect the item of equipment to be ~~, where:~~

~~(1)~~(b) ~~would otherwise be~~ energised, or capable of being put into that state, immediately~~just~~ prior to the commencement of the proposed outage; and

~~(2)~~ (in the case~~would otherwise be capable of being energised for the duration~~ of ~~the Outage Plan.~~

~~(c)~~ any other equipment on the Equipment List) the Market Participant has reasonable grounds to expect ~~, where~~

~~(1)~~(c) the equipment would otherwise be in service, or capable of being put into that state, immediately~~just~~ prior to the commencement of the proposed outage.~~; and~~

~~(2)~~ An~~would otherwise be capable of being in service for the duration of the Outage Plan.~~

4.2.5 ~~The~~ Outage Contingency Plan ~~provided in step 4.2.3~~ must include the following details **[Clause 3.18.6(g)]**:~~:~~

(a) the steps that the Market Participant or Network Operator will follow if AEMO requires~~were to request~~ the relevant Facility or item of equipment to return to service before the proposed outage end time specified in the Outage Plan;~~;~~

(b) for a Network Operator, where relevant, other measures that can be used~~employed in order~~ to manage Power System Security and Power System Reliability when the Facility cannot be returned to service, including, but not limited to, measures such as:

(1) partial restoration of the Facility;

(2) bypass of affected equipment;

(3) dispatch under~~of~~ a Network Control Service Contract~~arrangement~~; and

(4) alternative operation of other equipment (e.g. open point); and

(c) any limitations that AEMO may need to take into account in maintaining~~the management of~~ Power System Security and Power System Reliability when the Outage Contingency Plan is enacted, including, but not limited to:

[1] ~~BLUEWATERS POWER 2 PTY LTD -v- AUSTRALIAN ENERGY MARKET OPERATOR LTD [2017], paragraphs 49 and 50. Available from: https://www.austlii.edu.au/cgi-bin/viewdoc/au/cases/wa/WASC/2017/98.html~~

[2] This requirement is based on the WA Supreme Court judgment in *Bluewaters Power 2 Pty Ltd -V- Australian Energy Market Operator Ltd* [2017] WASC 98. Available from: https://ecourts.justice.wa.gov.au/eCourtsPortal/Decisions/ViewDecision?returnUrl=%2feCourtsPortal%2fDecisions%2fFilter%2fSC%2fCitationNumber&id=d6ad0c85-c57f-4a38-4825-8101001537ba.

(1) for a Network Operator:

(A) alternative protection operation;

(B) revised Equipment Limits or Security Limits; or

(2) for a Market Generator, any reduction in capacity as a result of early return to service.

4.2.6 AEMO may require the Market Participant or Network Operator to clarify or provide additional information to enable the Outage Plan to be evaluated~~assessed~~.

4.2.7 Where AEMO requests clarification or additional~~further~~ information under~~in~~ step 4.2.6, ~~AEMO must determine a timeframe for the information requested that will allow adequate time for the Outage Plan to be assessed, and~~ the Market Participant or Network Operator must provide the information requested as soon as practicable and, in any event, within the~~that~~ timeframe specified by AEMO.

~~4.2.8 AEMO must use reasonable endeavours to assess an Outage Plan within:~~

~~(a) 10 Business Days of receipt from a Market Generator; and~~

~~(b)(a) 20 Business Days of receipt from a Network Operator.~~

4.3 Outage Plans lodged within six weeks of commencement

4.3.1 Where an Outage Plan is first submitted within 6 weeks of the commencement of the proposed outage, if there is insufficient time for the Outage Plan to be evaluated~~assessed~~, AEMO may reject that Outage Plan without evaluation **[Clause 3.18.7A]**.

4.3.2 In deciding~~assessing~~ whether to reject an Outage Plan ~~under step 4.3.1 should not be rejected~~ without evaluation under step 4.3.1,~~,~~ AEMO must take into account:

(a) whether the Outage Plan arises from a need to carry out urgent and unforeseen maintenance on the~~its~~ Facility or item of equipment;

(b) when the Market Participant or Network Operator first became aware of the need for maintenance; and

(c) whether the nature of the work to be performed prevents accurate scheduling in advance~~,~~ or is contingent on actions outside the control of the Market Participant or Network Operator.

4.4 Coordination of Network Outages that may affect the operation of~~impact~~ a Market Participant's Facilities

4.4.1 Where a proposed Network outage may affect the operation of~~Outage impacts~~ any Market Generator's Facility~~Facilities~~, the Network Operator must provide sufficient information to AEMO to demonstrate that it has used best endeavours to inform the affected~~that~~ Market Generator **[Clause 3.18.6(h)]**.

4.4.2 Where a Network outage~~Outage~~ is likely to unduly impact the operation of one or more~~a~~ Market Participants' Registered Facilities,~~Participant~~ as indicated in step 4.4.3, then AEMO may require the Network Operator and the affected Market Participants to coordinate the timing of their outages in order to minimise the impact of the Network outage~~Outage~~ on the operation of the Market Participant Facilities **[Clause 3.18.5C]**.

4.4.3 A Network outage~~Outage~~ will unduly impact the operation of one or more Market Participants'~~Participant's~~ Registered Facilities in circumstances that include, but are not limited to, where~~, to allow the Network Outage to commence~~:

~~(a) AEMO will be unable dispatch a Registered Facility in accordance with the latest Balancing Merit Order or Non-Balancing Dispatch Merit Order;~~

~~(b)~~(a) the Registered Facility's participation in the Balancing Market would be affected; or~~impacted;~~

~~(c)~~(b) a Facility, subject to an Ancillary Services Contract, will be unable to provide the contracted services.

4.4.4 To assist with the coordination of the timing of outages in step 4.4.2, AEMO may make information from the Outage Schedule available to a Network Operator **[Clause 3.18.5D]**. This information may include, but is not limited to, the following:

(a) details of Outage Plans;

(b) the contact details of Market Participants in relation to~~with~~ relevant Outage Plans; and

(c) relevant technical information that~~able to be shared by~~ AEMO is permitted to disclose.

4.4.5 Where AEMO accepts a Network outage~~Outage~~ to which step 4.4.2 applies, and the impacted Market Participant has not submitted an Outage Plan ~~as~~ at the commencement of the Network outage~~Outage~~, the Market Participant must provide full and final details of the relevant ~~lodge a~~ Forced Outage, as required by clause 3.21.7 of the WEM Rules, no later than 15 calendar days following the Trading Day on which the Network outage occurred. In addition, the~~, in accordance with section 10. The~~ Market Participant may request that AEMO determine that the outage was~~be converted to~~ a Consequential Outage, as described in step 9.1.3.~~.~~

~~5 CHANGES TO OR WITHDRAWAL OF AN OUTAGE PLAN~~

~~5.1~~4.5 Re-Scheduling or Cancelling an Outage Plan

~~5.1.1~~4.5.1 Where a Market Participant or Network Operator submits an Outage Plan, but no longer plans to remove from service, or de-rate, a Facility or an item of equipment~~, as per an Outage Plan then~~ it must cancel the ~~relevant~~ Outage Plan in AEMO IT's system as soon as practicable **[Clause 3.18.8]**.

~~5.1.2~~4.5.2 Where a Market Participant or Network Operator intends to change the proposed time~~times~~ of an outage from the time~~those~~ indicated in the Outage Plan, it must inform AEMO and submit a revised Outage Plan as soon as practicable **[Clause 3.18.9]**.

~~6~~5 ACCEPTANCE OF OUTAGE PLANS

~~6.1~~5.1 General

~~6.1.1~~5.1.1 AEMO must evaluate~~assess the acceptability of~~ Outage Plans using the criteria specified in clause 3.18.11 of the WEM Rules and~~, based on~~ the information specified in the PSOP: Power System Security.

5.1.2 Unless a group of outages must be considered together, AEMO must use reasonable endeavours to evaluate an Outage Plan under step 5.1.1 within:

(a) 10 Business Days of receipt from a Market Generator; and

(b) 20 Business Days of receipt from a Network Operator.

~~6.1.2 An Outage Plan in step 6.1.1 can be assessed when the Outage Plan meets the requirements in step 4.2.4.~~

~~6.1.3~~5.1.3 AEMO may assess an outage as acceptable under step 5.1.1~~6.1.1~~, subject to

conditions **[Clause 3.18.13(c)]**.

6.1.45.1.4 An Outage Plan that AEMO has assessed in step 5.1.156.1.1 as acceptable is a Scheduled Outage and must be scheduled in the Outage Schedule under step 4.1.1 as at the date of that assessment **[Clauses 3.18.13(b)10 and 3.18.14(b)].19.1].**

6.1.55.1.5 AEMO must evaluate an Outage Plan underperform the assessment in step 5.1.156.1.1 on an ongoing basis, as part of the Medium Term PASA and Short Term PASA studies **[Clause 3.18.10(b)]**.

6.1.65.1.6 Where, following a re-evaluation underassessment in step 5.1.556.1.5, AEMO considersidentifies that a Scheduled Outage or group of Scheduled Outages can no longer be accepted, AEMO must **[Clause 3.18.13(d)]:]:**

(a) change the status of that outage or group of outages in AEMO's IT system;; and

(b) inform all Market Participants and Network Operators affected; and

(c) negotiate with the affected Market Participants and Network Operators to attempt to reach agreement as to AEMO's Outage Scheduleoutage schedule.

6.1.75.1.7 Following negotiations with the affected Market Participants and Network Operators to attempt to reach agreement as to AEMO's Outage Scheduleoutage schedule if **[Clause 3.18.13(d)]** if:**)]:**

(a) an agreement is reached, then the affected Market Participants and Network OperatorOperators must resubmit Outage Plans to AEMO; or

(b) an agreement is not reached within 15 Business Days, AEMO must:

(1) decide which of the Outage Plans are acceptable and schedule these Outages Plans into AEMO's Outage Scheduleoutage schedule where they are not already scheduled;

(2) decide which of the Outage Plans are unacceptable and remove these Outages Plans from the AEMO's Outage Schedule,outage schedule where they were previously scheduled; and

(3) notify each affected Market Participant and Network Operator whether its Outage Plan has been scheduled.

5.1.8 A Market Participant or Network Operator may revise details of the Outage Contingency Plan or Outage Risk Assessment of a Scheduled Outage by notifying AEMO. Where AEMO considers that the changes have no material effect on Power System Security or Power System Reliability, the revised details do not require the submission of a revised Outage Plan.

6.25.2 Acceptance of non-complying Outage Plan for reasons of Power System Security and Power System Reliability

6.2.15.2.1 AEMO may allow an outageoutages to proceed that doesdo not meet the criteria in step 5.1.156.1.1 to proceed if it considers that preventing thethese outages would pose a greater threat to Power System Security or Power System Reliability over the long term than allowing the outage **[Clause 3.18.11(e)]**.

6.2.25.2.2 Circumstances in which AEMO may accept an Outage Plan in stepsstep 5.2.156.2.1 or 7.2.2 include, but are not limited to:

(a) where an outage is required to address ongoing equipment or Facility unreliability that may affect,impact or has affected, AEMO's ability to ensure thatimpacted on Power System Security andor Power System Reliability are maintained; and

(b) where an item of equipment, or a Facility, was recalled from an outage prior to completion of the planned work and the impacted equipment or Facility requires a further outage to complete the planned work so that, on return to service of the equipment or Facility, the SWIS is able to be operated in a secure and reliable manner.

6.2.35.2.3 Factors that AEMO must consider in making a decision in steps 5.2.1 or 7.2.3step 6.2.1 include:

(a) Whether thewhether increased security risk over the period of the outage is less than the longlonger-term risk reduction that would be achieved by allowing the outage to proceed. This may occur in circumstances including, but not limited to, where:

(1) revised forecast information is available indicating a high probability of a lower demand than indicated in the PASA second standard deviation forecasts calculated in accordance with the WEM Rules [**Clause 3.17.9(a)(ii)**];;

(2) the proposed Outage Plan is for a short period and is intended to avoid an outage for a longer period at a time of higher demand;

(3) there is limited opportunity to re-schedule the outage, a demonstrated need to have the outage as soon as possible, and AEMO is of the opinion that the associated risks of conducting the outage can be managed. This also may include where the outageOutage has previously been recalled under clause 3.20.1 of the WEM Rules or rejected under clause 3.19.5 of the WEM Rules; and

(b) whether not proceeding with the Outage Plan could endanger the safety of any person, damage equipment, or violate any applicable law.

6.35.3 Re-Scheduling or Cancelling a ScheduledChanges to Outage Contingency Plans

5.3.1 WhereFrom time to time, AEMO may allow a Market Participant or Network Operator no longer plans to remove from service or de-rate a Facility or an item of equipment as per a Scheduled to revise details in the Outage then it must inform AEMO as soon as practicable **[Clause 3.18.8]**. This must be done by cancelling the relevant Scheduled Outage in AEMO IT's system as soon as practicable

5.3.2 Where a Market Participant or Network Operator intends to change the proposed time of an outage from the time indicated in the Scheduled Outage, it must submit a revised OutageContingency Plan to AEMO as soon as practicable **[Clause 3.18.9]**.

6.3.15.3.3 For a revised Outage Plan submitted under step 5.3.2after it has become a Scheduled Outage where the risk to Power System Security and accepted under step 5.1.1, AEMO must schedule the outage in the Outage Schedule in step 4.1.1 using the date the most recently revised Outage Plan was submitted **[Clause 3.18.14(b)]**.Power System Reliability is not increased.

76 REQUESTS FOR OPPORTUNISTIC MAINTENANCE

7.16.1 General

7.1.16.1.1 Opportunistic Maintenance is a request from a Market Participant or Network Operator for AEMO to approve an outage that is not a Scheduled Outage, of a Facility or item of equipment, that is not a Scheduled Outage, to be carried out during a Trading Day **[Clause 3.19.2]**.

7.1.26.1.2 The WEM Rules describe two types of Opportunistic Maintenance:

(a) Day-ahead Opportunistic Maintenance that(DAOM) covers requests made at any time between 10:00 amAM on the day prior to the Scheduling Day and 10:00 amAM on the Scheduling Day for that Trading Day where the request relates to an outage to occur at any time and for any duration during the following Trading Day **[Clause 3.19.2(a)],** referred to as Day-Ahead Opportunistic Maintenance (**DAOM**);**]];** and

(b) On the Day Opportunistic Maintenance that(ODOM) covers requests made at any time on the current Trading Day not later than 1 hour prior to the commencement of the Trading Interval during which the outage is due to commence, where the outage must be to allow for minor maintenance to be performed, must not require any changes in scheduled energy or Ancillary Services, may be for any duration and must end before the end of the Trading Day **[Clause 3.19.2(b)],** referred to as On-the-Day Opportunistic Maintenance (**ODOM**). **[Clause 3.19.2(b)].**

7.1.36.1.3 For a request for Opportunistic Maintenance to be valid, it must include all of the information specified in clause 3.18.6 of the WEM Rules and meet the timing requirements specified in step 6.1.2the WEM Rules **[Clause 3.19.2]**.

6.2 Additional conditions for Scheduled Generators

7.2 Pre-condition for Opportunistic Maintenance

7.2.16.2.1 AEMO may decline to approve Opportunistic Maintenance for a Scheduled Generator where it considers that the request has been made principally to avoid exposure to Capacity Cost Refunds, rather than to perform maintenance **[Clause 3.19.3A(c)]**.

7.2.2 Factors that AEMO will consider, for the decision in step 6.2.167.2.1, include whether the Market Participant has reasonable grounds to expect the Facility toa Scheduled Generator:[3]

(a)6.2.2 would otherwise be available for dispatch, or to be capable of being put into that state, immediatelyjust prior to the commencement of the proposed outage.[4]Opportunistic Maintenance; and

(b) would otherwise be capable of being available for dispatch for the duration of the Opportunistic Maintenance.

7.2.36.2.3 Before approving an Opportunistic Maintenance request that AEMO considers may meet the conditionconditions in step 6.2.17.2.1, AEMO may require the Market Participant to provide a written declaration confirmingthat the factors in step 1.1.16.2.2.capacity is available.

7.2.46.2.4 AEMO must reject any Opportunistic Maintenance request where the relevant Market Participant does not comply with a request in step 6.2.367.2.32.

7.36.3 Day-Aheadahead Opportunistic Maintenance (DAOM)

7.3.16.3.1 A Market Participant or Network Operator requesting DAOMDay-ahead Opportunistic Maintenance must submit its request via AEMO's nominated IT system.

7.3.26.3.2 Requests for approval of DAOMDay-ahead Opportunistic Maintenance must be not be made prior to 10:00 am on the day prior to the Scheduling Day or after 10:00 am on the Scheduling Day **[ClauseWEM Rule 3.19.2(a)].**

[3] BLUEWATERS POWER 2 PTY LTD -v- AUSTRALIAN ENERGY MARKET OPERATOR LTD [2017], paragraphs 49 and 50. Available from: https://www.austlii.edu.au/cgi-bin/viewdoc/au/cases/wa/WASC/2017/98.html

[4] This requirement is based on the WA Supreme Court judgment in *Bluewaters Power 2 Pty Ltd -V- Australian Energy Market Operator Ltd* [2017] WASC 98. Available from: https://ecourts.justice.wa.gov.au/eCourtsPortal/Decisions/ViewDecision?returnUrl=%2feCourtsPortal%2fDecisions%2fFilter%2fSC%2fCitationNumber&id=d6ad0c85-c57f-4a38-4825-8101001537ba.

7.46.4 On- -the-Day day Opportunistic Maintenance (ODOM)

7.4.16.4.1 A Market Participant or Network Operator requesting On the day Opportunistic Maintenance (ODOM) must:

(a) make the request by telephone:

(1) at any time on the Trading Day **[Clause 3.19.2(b)]**; and

(2) no later thanat least one hour before the commencement of the Trading Interval during which the requested ODOM is due to commence **[Clause 3.19.2(b)]**; and

(b) as soon as practicable, confirm the request via AEMO's IT system.

7.4.26.4.2 AEMO may only approve ODOM where the outage is to perform minor maintenance **[Clause 3.19.2(b)(i)]**.

7.4.36.4.3 Circumstances thatwhich may fulfil the requirements of step 6.4.267.4.2 include, but are not limited to:

(a) inspections;

(b) preventative maintenance;

(c) corrective maintenance; and

(d) works in the vicinity of the item of equipment or Facility.; and

(e) testing that would not otherwise require a Commissioning Test Plan.

7.4.46.4.4 AEMO may only approve ODOM where the outage does not require any change in scheduled energy or Ancillary Services **[Clause 3.19.2(b)(ii)]**. Scenarios that may require a change in scheduled energy or Ancillary Services include, but are**)ii]**. This includes, but is not limited to:

(a) for Network outagesOutages:

(1) the Network outageOutage would affectconstrain the Facility's declared availability for dispatch of a Market Participant's Facility; or

(2) the Network outageOutage would require additional Ancillary Services to be scheduled; and.

(b) for Scheduled Generator and Non-Scheduled Generator outagesOutages:

(1) where a generator has a position in the Forecast Balancing Merit Order that, in AEMO'sthe reasonable opinion of AEMO, could result in their dispatch of the Facility during the period of the ODOM request; or

(2) where a generator has a position in the forecast LFAS Upwards Merit Order or LFAS Downwards Merit Order that, in AEMO'sthe reasonable opinion of AEMO, could result in their dispatch of the Facility during the period of the ODOM request.

87 APPROVAL OF SCHEDULED OUTAGES AND OPPORTUNISTIC MAINTENANCE

8.17.1 General

8.1.17.1.1 A Market Participant or Network Operator must request approval of a Scheduled Outage no later than two days prior to the date of commencement of any outage **[Clause 3.19.1]**.

8.1.27.1.2 AEMO must, subject to the requirements specified in the WEM Rules **[Clause 3.19.3A]**,AEMO must assess a request for approval of a Scheduled Outage or Opportunistic

Maintenance using the criteria in clause 3.19.6 of the WEM Rules based on the information available to AEMO at the time of the assessment **[Clause 3.19.3]**.

8.1.37.1.3 Before approvingTo approve a Scheduled Outage underin step 7.1.28.1.2, AEMO must determine whether the Scheduled Outage remains acceptable in accordance with steps 5.1.16.1.1 and 5.1.356.1.32.

8.1.47.1.4 To ensure the power system can be operated within the Technical Envelope under the WEM Rules **[Clause 3.19.6(c)]**., AEMO may consider fuel availability of Facilities remaining in service in assessing a request for approval of a Scheduled Outage or Opportunistic Maintenance. **[Clause 3.19.6(c)]**.

8.1.57.1.5 AEMO must either approve or reject the request for approval of a Scheduled Outage or Opportunistic Maintenance, and must inform the Market Participant or Network Operator of its decision as soon as practicable **[Clause 3.19.4]**.

7.1.6 AEMO must inform the Market Participant or Network Operator of a decision underin step 7.1.578.1.5:

8.1.6 for ODOM:

(a) On the day Opportunistic Maintenance, verbally and then via AEMO's IT system; and

(b) for DAOMDay-ahead Opportunistic Maintenance and Scheduled Outages, via AEMO's IT system.

8.1.77.1.7 AEMO must make best endeavours to approve or reject requests for DAOMapplications for Day-ahead Opportunistic Maintenance made between:

(a) for Facilities other than a Network:

(a)(1) 10:00 am and 3:30 pm on the day prior to the Scheduling Day, by 8:00 am on the Scheduling Day;

(b)(2) 3:30 pm on the day prior to the Scheduling Day and 6:00 am on the Scheduling Day, by 8:00 am on the Scheduling Day, subject to staff availability, and in any case by 12:00 pm on the Scheduling Day; and

(c)(3) 6:00 am on the Scheduling Day and 10:00 am on the Scheduling Day, by 12:00 pm on the Scheduling Day.

(b) for an item of Network equipment:

(1) 10.00 am and 3.30 pm on the day prior to the Scheduling Day by 8.00 am on the Scheduling Day; and

(2) 3.30 pm on the day prior to the Scheduling Day and 10.00 am on the Scheduling Day by 8.00 am on the Trading Day.

8.1.87.1.8 An outage, including Opportunistic Maintenance, thatwhich is approved by AEMO under step 7.1.578.1.5 **[Clause 3.19.4]** is a Planned Outage **[Clause 3.19.11]**.

8.1.97.1.9 Except for ODOM, a Market Participant or Network Operator mustmay not commence a Planned Outage (including DAOMDay-Ahead Opportunistic Maintenance) unless AEMO has confirmedprovided confirmation of its approval of the outage request via its IT system.

8.27.2 Approval of non-complying Scheduled Outage for reasons of System Security

8.2.17.2.1 AEMO may allow a Scheduledan Outage Plan to proceed that does not meet the criteria in step 7.1.278.1.2 to proceed if it considers that rejectingpreventing the outage would

pose a greater threat to Power System Security or Power System Reliability ~~over the long term~~ than allowing the outage **[Clause 3.19.6~~-~~(e)]**.

~~8.2.2~~7.2.2 Circumstances in which AEMO may accept a Scheduled~~an~~ Outage ~~Plan~~ in step 7.2.1~~78.2.1~~ include, but are not limited to, those specified~~detailed~~ in step 5.2.2~~56.2.2~~.

~~8.2.3~~7.2.3 Factors that AEMO must consider in making a decision in step 7.2.1~~78.2.1~~ include those specified~~detailed~~ in step 5.2.3~~56.2.3~~.

~~9~~8 CHANGES AFFECTING A PLANNED OUTAGE

~~9.1~~8.1 Changes to Power System Conditions Affecting a Planned Outage

~~9.1.1~~8.1.1 Where AEMO approves a Planned Outage, and a change in power system conditions means~~change such~~ that the Planned Outage is~~would~~ no longer ~~be~~ approvable under the WEM Rules **[Clause 3.19.6]**,~~,~~ AEMO may decide to reject~~cancel~~ the Planned Outage. AEMO must inform the Market Participant or Network Operator of its rejection decision immediately **[Clause 3.19.5]**.

~~9.1.2~~8.1.2 Circumstances that AEMO must consider in making a decision under step 8.1.1~~89.1.1~~ include, but are not limited to:

(a) a change in AEMO's forecast of power system conditions;

(b) a change in weather forecast during the Planned Outage period, causing a significant increase in the forecast load; and

(c) an unplanned outage of a major Facility, or item of equipment, that could restrict AEMO's ability to operate the SWIS within the Technical Envelope.

~~9.1.3~~8.1.3 The general priority of assessment that AEMO will use to reject~~cancel~~ outages under~~in~~ step 8.1.1~~89.1.1~~ is (with (a) being the first outage category to be rejected):~~:~~

(a) Opportunistic Maintenance **[Clause 3.19.6(d)(v)]**;

(b) Planned~~Scheduled~~ Outages that were originally submitted~~scheduled~~ less than one month ahead that were:

~~(1) deferred **[Clause 3.19.6(d)(iv)]**; and then~~

~~(2)~~(1) not deferred **[Clause 3.19.6(d)(iii)]**; and then

(2) deferred under the WEM Rules **[Clause 3.19.6(d)(iv)]**; and then

(3) approved under step 7.2.1~~78.2.1~~;

(c) Planned~~Scheduled~~ Outages that were originally submitted~~scheduled~~ more than one month ahead that were:

~~(1) deferred **[Clause 3.19.6(d)(ii)]**; and then~~

~~(2)~~(1) not deferred **[Clause 3.19.6(d)(i)]**; and then

(2) deferred under the WEM Rules [Clause 3.19.6(d)(ii)]; and then

(3) approved under step 7.2.1~~8.2.1~~.

~~9.2~~8.2 Extending the end time of the Planned Outage

~~9.2.1~~8.2.1 Where the Market Participant or Network Operator wants~~wishes~~ to extend the end time of a Planned Outage, a new Outage Plan must be submitted under step 4.2.1~~4.2.2~~ for the set of Trading Intervals beyond the end time of the existing Planned Outage.

~~9.2.2~~8.2.2 Where AEMO is unable to approve an Outage Plan submitted under step 8.2.1~~89.2.1~~,

the Market Participant or Network Operator must submit a Forced Outage under step 9.1.19~~10.1.1~~ for any part of the Planned Outage that exceeds its approved duration **[Clause 3.21.1(b)]**.

~~9.3~~8.3 Starting a Planned Outage late or returning to service early

~~9.3.1~~8.3.1 If a Planned Outage is scheduled to commence within 24 hours, the Market Participant or Network Operator must notify AEMO of any delay to the commencement of the Planned Outage by telephone, and must provide confirmation through AEMO's IT system, as soon as practicable.

~~9.3.2~~8.3.2 If, during a Planned Outage, the Market Participant or Network Operator intends to return to service prior to the end time of the Planned Outage, the Market Participant or Network Operator must notify AEMO by telephone, and must provide confirmation through AEMO's IT system, as soon as practicable.

~~10~~9 FORCED OUTAGES AND CONSEQUENTIAL OUTAGES

~~10.1~~9.1 Information Requirements

~~10.1.1~~9.1.1 Where a Facility or item of equipment suffers a Forced Outage or a Consequential Outage, the relevant Market Participant or Network Operator must communicate the prescribed information in relation to~~details of~~ the outage ~~by telephone~~ to AEMO as soon as practicable **[Clause 3.21.4]**. This communication must be made by telephone, as soon as practicable, in the first instance.

~~10.1.2~~9.1.2 The notification provided under step 9.1.19~~10.1.1~~ must be confirmed via AEMO's ~~nominated~~ IT system as soon as practicable **[Clause 3.21.4]**.

~~10.1.3~~9.1.3 A~~For a Consequential Outage to be accepted by AEMO, a~~ Market Participant may~~must~~ provide AEMO with a notice confirming details of the Consequential Outage within 15 calendar days, including the information specified in clause 3.21.8 of the WEM Rules **[Clause 3.21.10]**.

~~11~~10 PLANNED OUTAGE RATE AND FORCED OUTAGE RATE

~~11.1~~10.1 Calculation of Planned Outage Rate and Forced Outage Rate

~~11.1.1~~10.1.1 AEMO must calculate the Planned Outage rate, the Forced Outage rate and the Equivalent Planned Outage Hours for a Facility for the purposes of assigning or not assigning a Certified Reserve Capacity quantity to a Facility in accordance with Appendix A and Appendix B **[Clauses 4.1.1(h) and 3.21.12]**.

APPENDIX A. CALCULATION OF FORCED OUTAGE RATE

This Appendix A presents the methodology for calculating the Forced Outage rate of a Facility over a period of time (P) for the purposes of the WEM~~Market~~ Rules.

For the purposes of the WEM Rules **[Clause 4.11.1(h)]**: P = 36 Months

Forced Outage Rate Calculation	**Definitions**
Forced Outage rate (%): $\frac{(FOH + EFDH)}{PH} \times 100$	**FOH (Forced Outage Hours) = sum of all Trading Intervals,** Where: Outage MW = Capacity Credit (MW) and the Outage Reason is Forced and during the period P multiplied by 0.5. **EFDH (Equivalent Forced Derated Hours) = sum of all Trading Intervals,** Where: Outage MW < Capacity Credit (MW) and the Outage Reason is Forced and during the period P multiplied by 0.5 multiplied by Outage MW/Capacity Credit (MW). **PH (Period hours)** = where the Facility has been operating over all of period P, the number of Trading Intervals that occurred in period P, multiplied by 0.5; or where the Facility has been operating for less than period P, the number of Trading Intervals that occurred in period P after the Facility commenced operation, multiplied by 0.5.

APPENDIX B. CALCULATION OF PLANNED OUTAGE RATE

This Appendix B presents the methodology for calculating the Planned Outage rate of a Facility over a period of time (P) for the purposes of the WEM~~Market~~ Rules.

For the purposes of the WEM Rules **[Clause 4.11.1(h)]**: P = 36 Months

Planned Outage Rate Calculation	**Definitions**
Planned Outage rate (%): $\frac{(POH + EPDH)}{PH} \times 100$	**POH (Planned Outage Hours) = sum of all trading intervals** Where: Outage MW = Capacity Credit (MW) and the Outage Reason is Planned and during the period P multiplied by 0.5. **EPDH (Equivalent Planned Derated Hours) = sum of all trading intervals** Where: Outage MW < Capacity Credit (MW) and the Outage Reason is Planned and during the period P multiplied by 0.5 multiplied by Outage MW/Capacity Credit (in MW). **PH (Period hours)** = where the Facility has been operating over all of period P, the number of Trading Intervals that occurred within the last 36 months, multiplied by 0.5; or where the Facility has been operating for less than period P, the number of Trading Intervals that occurred in period P after the Facility commenced operation, multiplied by 0.5.