Commencement Notice:
Wholesale Electricity Market Rules

Amending Rules RC_2014_03

These Amending Rules were made under the *Electricity Industry Act 2004* and the *Electricity Industry (Wholesale Electricity Market) Regulations 2004* on 26 February 2021.

These Amending Rules commence at 8:00 AM on 29 June 2021.

The following clauses are amended (~~deleted wording~~, new wording):

3.18.1A. The obligations specified in this section 3.18 and sections 3.19 and 3.21 to request or report Outages do not apply to Market Participants in respect of an outage of ~~a Non-Scheduled~~ an Intermittent Generator if the average MW de-rating over the relevant Trading Interval is less than:

$$\min(0.1 \times \text{Nameplate\_Capacity}, 10)$$

where Nameplate_Capacity is the MW quantity provided for the ~~Non-Scheduled~~ Intermittent Generator under Appendix 1(e)(ii).

…

3.18.2A.

…

(h) A Market Participant must not submit a revised notice of a proposed Planned Outage to AEMO for a Self-Scheduling Outage Facility that proposes:

i. a new start time for the proposed Planned Outage that is earlier than the previous proposed start time;

ii. a new end time for the proposed Planned Outage that is later than the previous proposed end time; ~~or~~

iii. an increase in the quantity of de-rating ~~.~~;

iv. a new start time or quantity of de-rating for the proposed Planned Outage, if the time of submission is later than the previous proposed start time; or

v. a new end time for the proposed Planned Outage that is earlier than the time of submission.

…

…

3.18.4A. A proposal submitted to AEMO in accordance with this section 3.18 by a Market Participant or Network Operator in which permission is sought from for some or all of the capacity or capability of an Equipment List Facility to be unavailable for service for a period is a proposed outage plan ("**Outage Plan**"). An Outage Plan does not cease to be an Outage Plan if the outage to which it relates becomes either a Scheduled Outage or a Planned Outage.

...

3.18.9A. A Market Participant or Network Operator must not submit a revised Outage Plan to AEMO that proposes:

(a) a new start time for the proposed outage that is earlier than the previous proposed start time;

(b) a new end time for the proposed outage that is later than the previous proposed end time; ~~or~~

(c) an increase in the quantity of de-rating~~.~~;

(d) a new start time or quantity of de-rating for the proposed outage, if the time of submission is later than the previous proposed start time; or

(e) a new end time for the proposed outage that is earlier than the time of submission of the revised Outage Plan.

…

3.19.2E. A Market Participant or Network Operator must not submit a revised request for approval of Opportunistic Maintenance that proposes:

(a) a new start time for the Opportunistic Maintenance that is earlier than the previous proposed start time;

(b) a new end time for the Opportunistic Maintenance that is later than the previous proposed end time; ~~or~~

(c) an increase in the quantity of de-rating~~.~~;

(d) a new start time or quantity of de-rating for the Opportunistic Maintenance, if the time of submission is later than the previous proposed start time; or

(e) a new end time for the Opportunistic Maintenance that is earlier than the time of submission of the revised request.

…

3.21. Forced Outages and Consequential Outages

3.21.1. A Forced Outage is any outage of ~~either a Facility or item of equipment on the list described in clause 3.18.2 or a Facility or generation system to which clause 3.18.2A relates~~ an Outage Facility that has not received AEMO's approval, including:

(a) outages or de-ratings for which no approval was received from AEMO, excluding ~~Consequential Outages;~~;

i. Consequential Outages;

ii. outages of an Intermittent Generator that under clause 3.18.1A are not required to be reported to AEMO; and

iii. outages of a Scheduled Generator that occur within a period in which the Facility is subject to an approved Commissioning Test and are caused by a failure of the Facility's equipment during that Commissioning Test;

(a~~B~~A) outages or de-ratings as a result of a direction from AEMO under clause 2.28.3C;

(b) any part of a Planned Outage that exceeds its approved duration; and

(c) where the Market Participant or Network Operator does not follow a direction from AEMO under clause 3.20.1 to return the equipment to service within the time specified in the appropriate contingency plan.

3.21.2. A Consequential Outage is an outage of ~~either a Facility or item of equipment on the list described in clause 3.18.2 or a facility or generation system to which clause 3.18.2A relates for which no approval was received from AEMO~~ an Outage Facility that is not an approved Planned Outage, but which AEMO determines:

(a) was caused by a Forced Outage to another Rule Participant's equipment and would not have occurred if the other Rule Participant's equipment did not suffer a Forced Outage; or

(b) was caused by ~~a Planned Outage to a Network Operator's equipment and would not have occurred if the Network Operator's equipment did not undertake the Planned Outage,~~ any outage of an item of equipment that is part of a Network, including a Forced Outage or a Planned Outage, and would not have occurred if the item of equipment did not experience the outage.

~~but excludes any outage deemed not to be a Consequential Outage in accordance with clause 3.21.10.~~

…

3.21.2B. To avoid doubt, the period of a Consequential Outage may include any period immediately following the outage causing the Consequential Outage that is needed to return the capacity or capability of the Outage Facility that is the subject of the Consequential Outage to service in accordance with the Outage Facility's Equipment Limits.

3.21.3. AEMO must keep a record of all Forced Outages and Consequential Outages of which it ~~is~~ becomes aware.

~~3.21.4. If a Facility or item of equipment that is on the list described in clause 3.18.2 or a Facility or generation system to which clause 3.18.2A relates suffers a Forced Outage or Consequential Outage, then the relevant Market Participant or Network Operator must inform AEMO of the outage as soon as practicable. Information provided to AEMO must include:~~

~~(a) the time the outage commenced;~~

~~(b) an estimate of the time the outage is expected to end;~~

~~(c) the cause of the outage;~~

~~(d) the Facility or item of equipment or Facilities or items of equipment affected; and~~

~~(e) for each affected Facility or item of equipment, the expected quantity of any de-rating by Trading Interval, where, if the Facility is a generating system, this quantity is to be submitted in accordance with clause 3.21.5.~~

3.21.4. If a Market Participant or Network Operator becomes aware that its Outage Facility:

(a) has suffered a Forced Outage;

(b) has suffered an outage that the Market Participant or Network Operator considers is a Consequential Outage; or

(c) will suffer a Forced Outage from a specific time in the future,

then the Market Participant or Network Operator must notify AEMO and provide the information specified in clause 3.21.4A as soon as practicable, in the manner prescribed in the WEM Procedure specified in clause 3.21.17.

3.21.4A. The information a Market Participant or Network Operator must provide to AEMO under clause 3.21.4 is:

(a) the date and time the outage commenced or is expected to commence (as applicable);

(b) the date and time the outage ended or is expected to end (as applicable);

(c) the cause of the outage;

(d) the identity of the Outage Facility de-rated as a result of the outage; and

(e) the expected quantity of any de-rating by Trading Interval, which must be submitted in accordance with clause 3.21.5 where the Facility is a Scheduled Generator or Non-Scheduled Generator.

3.21.4B. Where a Market Participant or Network Operator has informed AEMO of a Forced Outage or Consequential Outage under clause 3.21.4, the Market Participant or Network Operator must inform AEMO of any material change to the information provided as soon as practicable after becoming aware of that change, in the manner prescribed in the WEM Procedure specified in clause 3.21.17.

3.21.5. The quantity of de-rating for an outage notification submitted to AEMO for a Scheduled Generator or Non-Scheduled Generator is the MW reduction in capacity from the relevant Facility's ~~maximum~~ sent out capacity ~~measured on a sent out basis at 41 degrees Celsius where the maximum capacity is as found in the Standing Data file for Temperature Dependence provided under Appendix 1(b) iv and converted to a sent out basis at 41 degrees Celsius. The remaining capacity, determined as the maximum capacity minus the notified outage, must be available to AEMO for dispatch.~~, adjusted to account for any previous outage

notifications for concurrent outages of the Facility. When calculating the quantity of de-rating for an outage notification to be submitted to AEMO for a Scheduled Generator or Non-Scheduled Generator:

(a) the sent out capacity of the Facility is the quantity specified for the Facility under Appendix 1(b)(iii) or Appendix 1(e)(iiiA) as applicable;

(b) the MW reduction in capacity must be measured assuming the temperature associated with the sent out capacity of the Facility;

(c) if the reduction in capacity varies during a Trading Interval, then the quantity of de-rating for the Trading Interval is measured as the average MW reduction in capacity over the duration of the Trading Interval; and

(d) if the outage notification is in respect of an outage for an Intermittent Generator with a nameplate capacity (as specified for the Facility under Appendix 1(e)(ii)) exceeding its sent out capacity, and the Intermittent Generator remains or will remain capable of achieving its sent out capacity throughout the outage period, then the quantity of de-rating for the outage is deemed to be zero.

3.21.5A. A quantity of de-rating determined for a Scheduled Generator in accordance with clause 3.21.5 is deemed to satisfy the requirement in clause 7.10.2(c)(ii) if, and only if, the quantity is determined using the assumption that at all times throughout the relevant Trading Interval, the capacity of the Scheduled Generator that was not subject to an outage was equal to the Scheduled Generator's actual level of sent out generation.

~~3.21.6. The following will apply for the purposes of clauses 7.3.4 and 7.13.1A (b):~~

~~(a) outage data will be entered by Market Participants in AEMO's computer interface system on a sent out basis at 15 degrees Celsius. AEMO will convert the outage data to a sent out basis at 41 degrees Celsius by multiplying the outage quantity at 15 degrees Celsius by the ratio of the maximum capacity at 41 degrees Celsius to the maximum capacity at 15 degrees Celsius for the Facility as found in the Standing Data file for temperature dependence provided under Appendix 1(b) iv on a generated basis for that facility. Market Participants will submit the outage data at 41 degrees Celsius as displayed by AEMO's computer interface system;~~

~~(b) AEMO will calculate the Forced Outage (on a sent out basis at 41 degrees Celsius) for a Facility in a Trading Interval as the greater of:~~

~~i zero and~~

~~ii the sum of all Forced Outages notified for that Facility minus the difference of the Facility maximum capacity and its Reserve Capacity Obligation Quantity;~~

~~(c) AEMO will calculate the Planned Outage (on a sent out basis at 41 degrees Celsius) for a Facility in a Trading Interval as the greater of:~~

~~i. zero and~~

~~ii. the sum of all Planned Outages minus the greater of:~~

~~1. zero and~~

~~2. the maximum capacity of the Facility minus its Reserve Capacity Obligation Quantity minus the sum of all Forced Outages notified for the Facility before the adjustment in (b) above is made by AEMO; and~~

~~(d) AEMO will calculate the Consequential Outage (on a sent out basis at 41 degrees Celsius) for a Facility in a Trading Interval as the greater of:~~

~~i. zero and~~

~~ii. the sum of all Consequential Outages minus the greater of:~~

~~1. zero and~~

~~2. the maximum capacity of the Facility minus its Reserve Capacity Obligation Quantity minus the sum of all Forced Outages and the sum of all Planned Outages notified for the Facility before the adjustments in (b) and (c) above are made by AEMO;~~

~~(e) [Blank]~~

~~(f) the maximum capacity used in this clause is the value defined in clause 3.21.5.~~

3.21.6. For a Scheduled Generator, for a Trading Interval:

(a) the Capacity-Adjusted Forced Outage Quantity is:

$$CAFO = \max(0, UFO \times TAF - (SOC \times TAF - DEF\_RCOQ))$$

(b) the Capacity-Adjusted Planned Outage Quantity is:

$$CAPO = \max(0, UPO \times TAF - \max(0, SOC \times TAF - DEF\_RCOQ - UFO \times TAF))$$

(c) the Capacity-Adjusted Consequential Outage Quantity is:

$$CACO = \max(0, UCO \times TAF - \max(0, SOC \times TAF - DEF\_RCOQ - UFO \times TAF - UPO \times TAF))$$

where:

UFO is the Unadjusted Forced Outage Quantity for the Scheduled Generator for the Trading Interval;

TAF is the temperature adjustment factor determined by AEMO for the Scheduled Generator for the Trading Interval in accordance with clause 3.21.6A;

SOC is the sent out capacity of the Scheduled Generator specified under Appendix 1(b)(iii) for the Trading Interval;

DEF_RCOQ is the Reserve Capacity Obligation Quantity that would apply to the Scheduled Generator in the Trading Interval assuming that the Scheduled Generator was not subject to an Outage or an approved Commissioning Test in the Trading Interval;

UPO is the Unadjusted Planned Outage Quantity for the Scheduled Generator for the Trading Interval; and

UCO is the Unadjusted Consequential Outage Quantity for the Scheduled Generator for the Trading Interval.

3.21.6A. AEMO must determine the temperature adjustment factor ("**TAF**") that is required in the calculations under clause 3.21.6 for a Scheduled Generator for a Trading Interval:

(a) if requested to do so by the relevant Market Participant under clause 3.21.6B, as:

TAF = MSOC_41 / SOC

where:

MSOC_41 is the maximum sent out capacity of the Scheduled Generator at an ambient temperature of 41 degrees Celsius, as provided by the Market Participant to AEMO and used by AEMO for the purposes of Reserve Capacity Testing for the applicable Capacity Year; and

SOC is the sent out capacity of the Scheduled Generator specified under Appendix 1(b)(iii) for the Trading Interval;

and

(b) in all other circumstances as:

TAF = AG_41 / AG_15

where:

AG_41 is the maximum capacity of the Scheduled Generator at 41 degrees Celsius as found in the Standing Data file for temperature dependence provided under Appendix 1(b)(iv) on a generated basis for the Scheduled Generator; and

AG_15 is the maximum capacity of the Scheduled Generator at 15 degrees Celsius as found in the Standing Data file for temperature dependence provided under Appendix 1(b)(iv) on a generated basis for the Scheduled Generator.

3.21.6B. A Market Participant may, by notice in writing to AEMO, request that AEMO determine the temperature adjustment factor required in the calculations under clause 3.21.6 for its Scheduled Generator for Trading Intervals in which the Scheduled Generator holds Capacity Credits using the calculation specified in clause 3.21.6A(a).

~~3.21.7 Notwithstanding the requirements of clause 3.21.4 that a relevant Market Participant or Network Operator must inform AEMO of a Forced Outage or Consequential Outage as soon as practicable, a Market Participant or Network Operator must provide full and final details of the relevant Planned Outage, Forced Outage or Consequential Outage to AEMO no later than fifteen calendar days following the Trading Day.~~

3.21.7. Notwithstanding any prior obligations under clauses 3.21.4 and 3.21.4B to notify and provide information to AEMO, a Market Participant or Network Operator must report and provide full and final details of the information specified in clause 3.21.4A for a Forced Outage of its Outage Facility in AEMO's outage management system, in respect of each affected Trading Day, by the end of the day that is 15 calendar days after the day on which the affected Trading Day ends.

~~3.21.8 If a Market Participant considers that one of its Facilities has suffered a Consequential Outage then the Market Participant may provide AEMO with a notice confirming details of the Consequential Outage no later than 15 calendar days following the Trading Day on which the Consequential Outage commenced. The notice must:~~

~~(a) be signed by an Authorised Officer of the Market Participant;~~

~~(b) confirm that a Consequential Outage has occurred; and~~

~~(c) provide details (to the best of its knowledge) of the events which resulted in the Consequential Outage.~~

~~3.21.9. In its determination of a Consequential Outage under clause 3.21.2, AEMO must accept the information provided by a Market Participant under clause 3.21.8 unless the information is inconsistent with other information held by AEMO.~~

~~3.21.10 If a Market Participant informs AEMO of a Consequential Outage under clause 3.21.4, but does not provide AEMO with a notice in accordance with clause 3.21.8, then the outage will be deemed not to be a Consequential Outage and AEMO must not include the outage as a Consequential Outage in the schedule provided to AEMO in accordance with clause 7.13.1A(b).~~

~~3.21.11 AEMO must retain the notices it receives under clause 3.21.8.~~

3.21.8. AEMO may, by written notice to a Market Participant, amend the timeframe prescribed in clause 3.21.7 for a specified period for a Scheduled Generator if AEMO considers that it requires more timely information in respect of Forced Outages from the Market Participant to determine whether the Market Participant's Trading Margin is less than zero.

3.21.9. If AEMO amends the timeframes prescribed in clause 3.21.7 under clause 3.21.8, the Market Participant is not required to comply with the timeframes in clause 3.21.7 for the period specified in the notice and must instead comply with the timeframes set under clause 3.21.8.

3.21.10. Subject to clause 3.21.16(a), if a Market Participant or Network Operator considers that its Outage Facility has suffered a Consequential Outage then it may submit a request for a Consequential Outage to AEMO.

3.21.11. The information provided in a request submitted under clause 3.21.10 must include:

(a) the date and time the outage commenced or is expected to commence (as applicable);

(b) the date and time the outage ended or is expected to end (as applicable);

(c) the cause of the outage;

(d) the Outage Facility de-rated as a result of the outage; and

(e) the expected quantity of any de-rating by Trading Interval, which must be submitted in accordance with clause 3.21.5 where the Facility is a Scheduled Generator or Non-Scheduled Generator.

3.21.12. Where a Market Participant or Network Operator submits a request for a Consequential Outage under clause 3.21.10, or revises such a request under clause 3.21.13(a), and that request (or revised request) complies with clause 3.21.11, then the request (or revised request) will be deemed to constitute a declaration by an Authorised Officer of the Market Participant or Network Operator that the Consequential Outage has occurred.

3.21.13. Subject to clause 3.21.16(a), if a Market Participant or Network Operator submits a request for a Consequential Outage and subsequently becomes aware that the information provided in the request is inaccurate, then the Market Participant or Network Operator must, as appropriate:

(a) revise the request to update the information; or

(b) withdraw the request,

as soon as practicable.

3.21.14. Subject to clause 3.21.16(b), AEMO:

(a) must approve or reject a request for a Consequential Outage submitted by a Market Participant or Network Operator, including an updated request, and inform the Market Participant or Network Operator of its decision as soon as practicable after the request is submitted;

(b) must accept the information provided in a request for a Consequential Outage as accurate unless the information is inconsistent with other information held by AEMO; and

(c) may reject a previously approved request for a Consequential Outage if AEMO considers that the original determination was based on incorrect information, or has been superseded by new or updated information.

3.21.15. If AEMO rejects a request for a Consequential Outage under clause 3.21.14 then it:

(a) must inform the relevant Market Participant or Network Operator of the reasons for its decision as soon as practicable; and

(b) may deem the request for a Consequential Outage to be a report of a Forced Outage.

3.21.16. Notwithstanding any other provision of this section 3.21:

(a) a Market Participant or Network Operator must not submit or revise a request for a Consequential Outage in respect of a Trading Day after the

end of the day that is 15 calendar days after the day on which the Trading Day ends; and

(b) AEMO must make its final decision on whether to approve or reject a request for a Consequential Outage submitted by a Market Participant or Network Operator in respect of a Trading Day before the time that AEMO must record the relevant data for the Trading Day in the schedule required under clause 7.13.1A(b).

3.21.1~~2~~7. AEMO must document the procedure to be followed in determining and reporting Forced Outages and Consequential Outages in a WEM Procedure.

…

4.11. Setting Certified Reserve Capacity

4.11.1. Subject to clauses 4.11.7 and 4.11.12, AEMO must apply the following principles in assigning a quantity of Certified Reserve Capacity to a Facility for the Reserve Capacity Cycle for which an application for Certified Reserve Capacity has been submitted in accordance with ~~clause~~ section 4.10:

(a) subject to clause 4.11.2, the Certified Reserve Capacity for a Scheduled Generator for a Reserve Capacity Cycle must not exceed AEMO's reasonable expectation of the amount of capacity likely to be available, after netting off capacity required to serve Intermittent Loads, embedded loads and Parasitic Loads, for Peak Trading Intervals on Business Days in the period from:

i. the start of December for Reserve Capacity Cycles up to and including 2009; or

ii. the Trading Day starting on 1 October for Reserve Capacity Cycles from 2010 onwards,

in Year 3 of the Reserve Capacity Cycle to the end of July in Year 4 of the Reserve Capacity Cycle, assuming an ambient temperature of 41^{o}C;

(b) where the Facility is a generation system (other than an Intermittent Generator), the Certified Reserve Capacity must not exceed the sum of the capacities specified in clauses 4.10.1(e)(ii) and 4.10.1(e)(iii);

(bA) where the Facility is a generation system, the Certified Reserve Capacity must not exceed:

i. where that Facility is a Constrained Access Facility, the Constrained Access Entitlement as at the date and time specified in clause 4.1.12(b); or

ii. otherwise, the level of unconstrained network access as referred to in clause 4.10.1(bA)(iii);

(bB) where two or more generation Facilities share a Declared Sent Out Capacity, the total quantity of Certified Reserve Capacity assigned to those Facilities must not exceed the Declared Sent Out Capacity;

(c) AEMO must not assign Certified Reserve Capacity to a Facility for a Reserve Capacity Cycle if:

i. for Reserve Capacity Cycles up to and including 2009 that Facility is not operational or is not scheduled to commence operation for the first time so as to meet its Reserve Capacity Obligations by 30 November of Year 3 of that Reserve Capacity Cycle;

ii. for Reserve Capacity Cycles from 2010 onwards that Facility is not operational or is not scheduled to commence operation for the first time so as to meet its Reserve Capacity Obligations by 1 October of Year 3 of that Reserve Capacity Cycle;

iii. that Facility will cease operation permanently, and hence cease to meet Reserve Capacity Obligations, from a time earlier than 1 August of Year 4 of that Reserve Capacity Cycle;

iv. that Facility already has Capacity Credits assigned to it under ~~clause~~ section 4.28C for the Reserve Capacity Cycle;

v. that Facility is an Interruptible Load and, based on applications accepted under clauses 2.29.5D and 2.29.5K (as applicable), the Facility will be associated with a Demand Side Programme for any period when Reserve Capacity Obligations would apply for the Facility for the Reserve Capacity Cycle; or

vi. that Facility is a Demand Side Programme and it has submitted under clause 4.10.1(f)(v) a minimum notice period for dispatch under clause 7.6.1C(e) of more than two hours.

(d) [Blank]

(e) [Blank]

(f) AEMO must not assign Certified Reserve Capacity to a Facility that is not expected to be a Registered Facility by the time its Reserve Capacity Obligations for the Reserve Capacity Cycle would take effect;

(g) in respect of a Facility that will be subject to a Network Control Service Contract, AEMO must not assign Certified Reserve Capacity in excess of:

i. where that Facility is a Constrained Access Facility, the Constrained Access Entitlement as at the date and time specified in clause 4.1.12(b); or

ii. otherwise, the capacity that AEMO believes that Facility can usefully contribute given its location and any network constraints that are likely to occur;

(h) subject to clauses 4.11.1B and 4.11.1C, AEMO may decide not to assign any Certified Reserve Capacity to a Facility, or to assign a lesser quantity of Certified Reserve Capacity to a Facility than it would otherwise assign in accordance with this clause 4.11.1, if:

i. the Facility has been in Commercial Operation for at least 36 months and has had a Forced Outage rate or a combined

Planned Outage rate and Forced Outage rate greater than the applicable percentage specified in the table in clause 4.11.1D, over the preceding 36 months; or

ii. the Facility has been in Commercial Operation for less than 36 months, or is yet to commence Commercial Operation, and AEMO has cause to believe that over the first 36 months of Commercial Operation the Facility is likely to have a Forced Outage rate or a combined Planned Outage rate and Forced Outage rate greater than the applicable percentage specified in the table in clause 4.11.1D,

where the Planned Outage rate and the Forced Outage rate for a Facility for a period are calculated in accordance with the WEM Procedure specified in clause ~~3.21.12~~ 3.21.17;

(i) the Certified Reserve Capacity assigned to a Facility is to be expressed to a precision of 0.001 MW;

(j) the Certified Reserve Capacity for a Demand Side Programme for a Reserve Capacity Cycle must not exceed either of the following limits:

i. AEMO's reasonable expectation of the amount of capacity likely to be available from that Facility during the periods specified in clause 4.10.1(f)(vi), after netting off capacity required to serve Minimum Consumption for each of the Facility's Associated Loads, from the Trading Day starting on 1 October in Year 3 of the Reserve Capacity Cycle to the end of July in Year 4 of the Reserve Capacity Cycle; and

ii. AEMO's reasonable expectation of the amount by which the Facility could reduce its consumption, measured as a decrease from the Facility's Relevant Demand, by the end of one Trading Interval in response to a Dispatch Instruction requiring it to reduce consumption from the beginning of the Trading Interval at the ramp rate proposed for the Facility under clause 4.10.1(f)(vii), for which purpose AEMO may have regard to the ramp rate proposed under clause 4.10.1(f)(vii) and any other information AEMO considers relevant.

…

4.12.6. Subject to clause 4.12.7, any initial Reserve Capacity Obligation Quantity set in accordance with clauses 4.12.4, 4.12.5, 4.28B.4, or 4.28C.11 is to be reduced once the Reserve Capacity Obligations take effect, as follows:

(a) if the aggregate MW equivalent to the quantity of Capacity Credits (as modified from time to time under the WEM Rules) for a Facility is less than the Certified Reserve Capacity for that Facility at any time (for example as a result of the application of clause 4.20.1, clause 4.20.14, clause 4.25.4 or clause 4.25.6), then AEMO must reduce the Reserve Capacity Obligation Quantity to reflect the amount by which the aggregate Capacity Credits fall short of the Certified Reserve Capacity;

(b) during Trading Intervals where there is a ~~Consequential Outage or a Planned Outage~~ Capacity-Adjusted Consequential Outage Quantity or Capacity-Adjusted Planned Outage Quantity in respect of a Facility in the schedule maintained by AEMO in accordance with clause 7.3.4, AEMO must reduce the Reserve Capacity Obligation Quantity for that Facility and that Trading Interval, after taking into account adjustments in accordance with clause 4.12.6(a), ~~to reflect the amount of capacity unavailable due to that outage~~ by that Capacity-Adjusted Consequential Outage Quantity or Capacity-Adjusted Planned Outage Quantity; and

(c) if the generating system, being a generating system referred to in clause 3.21A.2(a), is subject to a Commissioning Test Plan approved by AEMO during a Trading Interval, then AEMO must reduce the Reserve Capacity Obligation Quantity for that Facility to zero during that Trading Interval.

…

4.25.3A. AEMO must not subject a Facility to a Reserve Capacity Test if:

(a) that Facility is undergoing a Scheduled Outage or Opportunistic ~~Outage~~ Maintenance which has been approved in accordance with section 3.19~~, or~~;

(b) the relevant Market Participant has advised AEMO of a Forced Outage or Consequential Outage for that Facility in accordance with clause 3.21.4; or

(c) that Facility is undergoing a Commissioning Test approved in accordance with section 3.21A.

…

4.25.9. In conducting a Reserve Capacity Test, AEMO must:

(a) subject to clauses 4.25.9(b), 4.25.9(c) and 4.25.9(d), endeavour to conduct the Reserve Capacity Test without warning;

(b) allow sufficient time for the Market Participant to schedule fuel that it is not required under these WEM Rules to be stored on-site;

(c) allow sufficient time for switching a Facility from one fuel to an alternative fuel if operation using the alternative fuel is being tested;

(d) in the case of an Interruptible Load or a Demand Side Programme, give at least as much notice as is specified under clause 4.10.1(f)(v) to allow for arrangements to be made for the Facility to be triggered;

(e) ~~[Blank]~~deem the Reserve Capacity Test to be cancelled and discard the results if the Facility suffers a Consequential Outage during the test period;

(f) maintain adequate records of the Reserve Capacity Test to allow independent verification of the test results; and

(g) [Blank]

(h) issue an Operating Instruction to increase the Facility's output or decrease its consumption to a level specified by, or referred to in, the Operating Instruction.

…

4.26.1. If a Market Participant holding Capacity Credits associated with a Facility fails to comply with its Reserve Capacity Obligations applicable to any given Trading Interval then the Market Participant must pay a refund to AEMO calculated in accordance with the following provisions.

(a) The Trading Interval Refund Rate for a Facility f in the Trading Interval t is determined as follows:

Trading Interval Refund Rate(f,t)=RF(f,t) × Y(f,t)

where:

i. Trading Interval Refund Rate (f,t) is the Trading Interval Refund Rate for a Facility f in the Trading Interval t;

ii. RF(f,t) is the refund factor for a Facility f in the Trading Interval t and is calculated in accordance with clause 4.26.1(c); and

iii. Y is the per interval capacity price associated with a Facility f in the Trading Interval t and is determined in accordance with clause 4.26.1(b).

(b) For a Facility f in the Trading Interval t, Y is determined as follows:

i. where Facility f is a Non-Scheduled Generator, Y equals zero if AEMO has determined that in Trading Interval t the Non-Scheduled Generator is in Commercial Operation under clause 4.13.10B and one of the following applies:

1. the Non-Scheduled Generator has operated at a level equivalent to its Required Level in at least two Trading Intervals, adjusted to 100 percent of the level of Capacity Credits currently held; or

2. the Market Participant has provided AEMO with a report under clause 4.13.10C specifying that the Facility can operate at a level equivalent to its Required Level, adjusted to 100 percent of the level of Capacity Credits currently held;

ii. where Facility f is a Demand Side Programme, Y equals the DSM Reserve Capacity Price divided by 400;

iiA. where Facility f is an Intermittent Load, Y equals the Reserve Capacity Price divided by 12 then divided by the number of Trading Intervals in the relevant Trading Month the Trading Interval t falls in; and

iii. with the exception of clauses 4.26.1(b)(i), 4.26.1(b)(ii) and 4.26.1(b)(iiA), for a Facility f in the Trading Interval t, Y equals:

1. the Facility Monthly Reserve Capacity Price; divided by

2. the number of Trading Intervals in the relevant Trading Month the Trading Interval t falls in.

(c) The refund factor RF(f,t) for a Facility f in the Trading Interval t is the lesser of:

i. six; and

ii. the greater of the dynamic refund factor RF dynamic(t) as determined under clause 4.26.1(d) and the minimum refund factor RF floor(f,t) as determined under clauses 4.26.1(f) or 4.26.1(g) as appropriate.

(d) The dynamic refund factor RF dynamic(t) in the Trading Interval t is determined as follows:

$$\text{RF dynamic}(t) = 11.75 - \left(\frac{5.75}{750}\right) \times \sum_{f \in F} \text{Spare}(f,t)$$

where:

i. F is the set of Facilities for which Market Participants hold Capacity Credits in the Trading Interval t and f is a Facility within that set; and

ii. Spare(f,t) is the available capacity related to the Capacity Credits of the Facility f, which is not dispatched in the Trading Interval t determined in accordance with clause 4.26.1(e).

(e) For a Facility f in the Trading Interval t, Spare(f,t) is determined as follows:

i. where Facility f is a Scheduled Generator, the greater of zero and:

1. the MW quantity of Capacity Credits for Facility f in Trading Interval t; less

2. the ~~MW quantity of Outage~~ the sum of all Capacity-Adjusted Forced Outage Quantities, Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for Facility f ~~in~~ for Trading Interval t ~~as recorded~~ in the schedule maintained under clause 7.13.1A(b); less

3. the Sent Out Metered Schedule for Facility f in Trading Interval t multiplied by two so as to be a MW quantity;

ii. where Facility f is a Non-Scheduled Generator, zero; and

iii. where Facility f is a Demand Side Programme which has a Reserve Capacity Obligation Quantity in the Trading Interval t, Spare(f,t) is equal to:

$$\max\{0, \min\left(\text{RCOQ}(f,t), \left(\text{DSP Load}(f,t) - \text{DSP MinLoad}(f,t)\right)\right)\}$$

where:

1. [Blank]

2. RCOQ(f,t) is the Reserve Capacity Obligation for the Demand Side Programme f in the Trading Interval t;

3. DSP Load(f,t) is the Demand Side Programme Load for the Demand Side Programme f in the Trading Interval t as

determined under clause 6.16.2 multiplied by two so as to be a MW quantity; and

4. DSP MinLoad(f,t) is the sum of the Minimum Consumption of each Associated Load of the Demand Side Programme f in MW in the Trading Interval t.

(f) Subject to clause 4.26.1(g), the minimum refund factor RF floor(f,t) in the Trading Interval t is determined as follows:

RF floor(f,t) = 1 - 0.75 × Dispatchable(f,t)

where:

i. Dispatchable(f,t) for a Facility f in the Trading Interval t is its portion of capacity which is not subject to a Forced Outage over the 4320 previous Trading Intervals pt prior to and including the Trading Interval t and is determined as follows:

$$\text{Dispatchable}(f,t) = 1 - \left(\frac{\sum_{pt \in PT} FO(f,pt)}{\sum_{pt \in PT} CC(f,pt)}\right)$$

where:

1. PT is the set of 4320 Trading Intervals immediately prior to and including the Trading Interval t and pt is a Trading Interval within that set;

2. FO(f,pt) is the ~~quantity of Forced Outage~~ Capacity-Adjusted Forced Outage Quantity for a Facility f in the Trading Interval pt, as recorded in the schedule maintained under ~~accordance with~~ clause 7.13.1A(b); and

3. CC(f,pt) is the number of Capacity Credits a Market Participant holds for Facility f in the Trading Interval pt; and

(g) RF floor(f,t) is equal to one in the Trading Interval t for a Facility f to which any of the following applies:

i. the Facility is a Demand Side Programme;

ii. [Blank]

iii. the Facility is an Intermittent Generator to which clauses 4.26.1A(a)(ii)(2) or 4.26.1A(a)(ii)(3) applies; or

iv. the Facility is a Scheduled or Non-Scheduled Generator to which clauses 4.26.1A(a)(ii)(4) or 4.26.1A(a)(ii)(5) applies.

4.26.1A. AEMO must calculate the Reserve Capacity Deficit refund for each Facility ("**Facility Reserve Capacity Deficit Refund**") for each Trading Interval t as the lesser ~~of —~~ of:

(a) the product ~~of —~~ of:

i. the Trading Interval Refund Rate applicable to the Facility in Trading Interval t; and

ii. the Reserve Capacity Deficit in Trading Interval t,

where the Reserve Capacity Deficit for a Facility is equal to whichever of the following ~~applies —~~ applies, or to zero if none of the following apply:

1. ~~if the Facility is required to have submitted a Forced Outage under clause 3.21.4, or is a Scheduled Generator that has taken a Refund Payable Planned Outage, the total Forced Outage and Refund Payable Planned Outage in that Trading Interval measured in MW~~if the Capacity-Adjusted Forced Outage Quantity or Refund Payable Planned Outage for the Facility for Trading Interval t exceeds zero, the sum of the Capacity-Adjusted Forced Outage Quantity and Refund Payable Planned Outage for the Facility for Trading Interval t;

2. if the Facility is an Intermittent Generator which is not considered by AEMO to have been in Commercial Operation for the purposes of clause 4.26.1(b), the number of Capacity Credits associated with the relevant Intermittent Generator;

3. if the Facility is an Intermittent Generator which is considered by AEMO to have been in Commercial Operation for the purposes of clause 4.26.1(b), but for which Y does not equal zero in clause 4.26.1(b), the minimum ~~of —~~ of:

   i. RL- (2 x Max2); or

   ii. RL—A

   ~~where —~~where:

   RL is the Required Level, adjusted to 100 percent of the level of Capacity Credits currently held;

   Max2 is the second highest value of the output for the Facility (MWh) achieved during a Trading Interval during the Trading Month the Trading Interval t falls in, as measured in Meter Data Submissions received by AEMO in accordance with section 8.4, that has been achieved since the date AEMO determined the Facility to be in Commercial Operation, where this value must be set equal to or greater than the Max2 applied by AEMO for the previous Trading Month; and

   A is the level of output (in MW) detailed in the most recent report provided by the Market Participant for the Facility under clause 4.13.10C,

4. if, from the Trading Day commencing on 30 November of Year 3 for Reserve Capacity Cycles up to and including 2009 or 1 October of Year 3 for Reserve Capacity Cycles from 2010 onwards, the Facility is undergoing an approved Commissioning Test and, for the purposes of permission sought under clause 3.21A.2, is a new generating system

referred to in clause 3.21A.2(b), the number of Capacity Credits associated with the relevant Facility;

5. if, from the Trading Day commencing on 30 November of Year 3 for Reserve Capacity Cycles up to and including 2009 or 1 October of Year 3 for Reserve Capacity Cycles from 2010 onwards, the Facility is not yet undergoing an approved Commissioning Test and, for the purposes of permission sought under clause 3.21A.2, is a new generating system referred to in clause 3.21A.2(b), the number of Capacity Credits associated with the relevant Facility; or

6. if the Facility is a Demand Side ~~Programme~~ Programme:

$$\max\left(0, \mathrm{RCOQ} - \max\left(0, (\mathrm{RD} - \mathrm{MinLoad})\right)\right)$$

~~where~~ where:

RCOQ is the Reserve Capacity Obligation Quantity determined for the Facility under clause 4.12.4;

RD is the Relevant Demand for the Facility determined in accordance with clause 4.26.2CA; and

MinLoad is the sum of the MW quantities of Minimum Consumption for the Facility's Associated Loads; and

(b) the Maximum Facility Refund for the Facility in the relevant Capacity Year, less all Facility Reserve Capacity Deficit Refunds applicable to the Facility in previous Trading Intervals falling in the same Capacity Year.

…

4.26.1C. Where AEMO has recorded a Capacity-Adjusted Planned Outage Quantity for a Scheduled Generator for a Trading Interval in the schedule maintained under clause 7.13.1A(b) ~~the Planned Outage of a Scheduled Generator in a Trading Interval~~, AEMO must determine that Capacity-Adjusted Planned Outage Quantity to be:

(a) if the Refund Exempt Planned Outage Count for the Facility, calculated over the 1000 Trading Days preceding the Trading Day in which the Trading Interval falls, is less than 8400—a Refund Exempt Planned Outage; or

(b) otherwise—a Refund Payable Planned Outage.

…

4.26.2. AEMO must determine the net STEM shortfall ("Net STEM Shortfall") in Reserve Capacity supplied by each Market Participant p holding Capacity Credits associated with a generation system in each Trading Interval t as:

SF(p,t) = Max(RCDF(p,t), RCOQ(p,t)—A(p,t))—RCDF(p,t)

where:

$$\mathrm{A}(\mathrm{p},\mathrm{t}) = \mathrm{Min}\left(\mathrm{RCOQ}(\mathrm{p},\mathrm{t}), \mathrm{CAPA}(\mathrm{p},\mathrm{t})\right);$$

RCOQ(p,t) for Market Participant p and Trading Interval t is equal to:

(a) the total Reserve Capacity Obligation Quantity of Market Participant p's unregistered facilities that have Reserve Capacity Obligations, excluding Loads that can be interrupted on request; plus

(b) the sum of the product of:

i. the factor described in clause 4.26.2B as it applies to Market Participant p's Registered Facilities; and

ii. the Reserve Capacity Obligation Quantity for each Facility,

for all Market Participant p's Registered Facilities, excluding Demand Side Programmes,

CAPA(p,t) for Market Participant p and Trading Interval t is:

(c) equal to RCOQ(p,t) for a Trading Interval where the STEM Auction has been suspended by AEMO in accordance with section 6.10;

(d) subject to clause 4.26.2(c), the sum of:

i. the Reserve Capacity Obligation Quantities in Trading Interval t of that Market Participant's Interruptible Loads; plus

ii. the MW quantity calculated by doubling that Market Participant's Net Contract Position in MWh for Trading Interval t, corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus

iii. the MW quantity calculated by doubling the total MWh quantity covered by the STEM Offers which were not scheduled and the STEM Bids which were scheduled in the relevant STEM Auction, determined by AEMO for that Market Participant under section 6.9 for Trading Interval t, corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus

iv. double the total MWh quantity to be provided as Ancillary Services as specified by AEMO in accordance with clause 6.3A.2(e)(i) for that Market Participant corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus

v. the greater of zero and (BSFO(p,t)—RTFO(p,t));

$$\mathrm{RCDF}(p,t) = \mathrm{RTFO}(p,t) + \mathrm{RTNREPO}(p,t);$$

$$\mathrm{RTNREPO}(p,t) = \sum_{f \epsilon F} \Big(\mathrm{Max}\big(0, \mathrm{NREPO}(f,t) - \mathrm{BSPO}(f,t)\big)\Big);$$

NREPO(f,t) is the ~~total MW quantity of~~ Refund Payable Planned Outage associated with Facility f for Trading Interval t;

BSPO(f,t) is the ~~total MW quantity of~~ Capacity-Adjusted Planned Outage Quantity associated with Facility f before the STEM Auction for Trading Interval t, as ~~determined by AEMO in accordance with clause 7.3.4~~ recorded in the schedule maintained under clause 7.3.4;

F is the set of Scheduled Generators registered to Market Participant p, and f is a Facility within that set;

BSFO(p,t) is the total capacity-adjusted MW quantity of Forced Outage associated with Market Participant p before the STEM Auction for Trading Interval t, where this is the sum over all the Market Participant's Registered Facilities of the lesser of the Reserve Capacity Obligation Quantity of the Facility for Trading Interval t and the ~~MW~~ Capacity-Adjusted Forced Outage Quantity of the Facility for Trading Interval t as recorded in ~~accordance with section 7.3~~ the schedule maintained under clause 7.3.4; and

RTFO(p,t) is the total capacity-adjusted MW quantity of Forced Outage associated with Market Participant p in real-time for Trading Interval t, where this is the sum over all the Market Participant's Registered Facilities of the lesser of the Reserve Capacity Obligation Quantity of the Facility for Trading Interval t and the ~~MW~~ Capacity-Adjusted Forced Outage Quantity of the Facility for Trading Interval t as recorded in ~~accordance with~~ the schedule maintained under clause 7.13.1A(b).

…

4.26.6. The Facility Capacity Rebate in Trading Interval t for Facility f, being a Scheduled Generator or a Demand Side Programme for which a Market Participant holds Capacity ~~Credits —~~ Credits:

$$\mathrm{FCR}(\mathrm{f},\mathrm{t}) = \frac{\mathrm{CC}(\mathrm{f},\mathrm{t}) \times \mathrm{E}(\mathrm{f},\mathrm{t})}{\sum_{\mathrm{f}\epsilon\mathrm{F}}\left(\mathrm{CC}(\mathrm{f},\mathrm{t}) \times \mathrm{E}(\mathrm{f},\mathrm{t})\right)} \times \mathrm{TAR}(\mathrm{t})$$

where—

(a) FCR(f, t) is the Facility Capacity Rebate for Facility f in the Trading Interval t;

(b) TAR(t) is the sum of all Trading Interval Capacity Cost Refunds for all Market Participants in Trading Interval t;

(c) F is the set of Facilities, being Scheduled Generators or Demand Side Programmes and f is a Facility within that set;

(d) CC(f, t) for a Facility f in a Trading Interval t is the Facility's capacity in t, which is not subject to an Outage, determined as ~~follows —~~ follows:

i. for a Scheduled Generator, the MW value of Capacity Credits less the ~~MW quantity of Outage~~ sum of all Capacity-Adjusted Forced Outage Quantities, Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for Facility f for Trading Interval t in the schedule maintained ~~as recorded~~ under clause 7.13.1A(b); and

ii. for a Demand Side Programme, the lesser ~~of —~~ of:

1. the Demand Side Programme Load multiplied by two so as to be a MW quantity less the sum of the Minimum Consumptions in MW for each of the Facility's Associated Loads; and

2. the Demand Side Programme's Reserve Capacity Obligation Quantity in t; and

(e) E(f, t) is the eligibility of Facility f in Trading Interval t, equal ~~to —~~ to:

i. one for any Facility which is a Scheduled Generator and the following ~~applies —~~ applies:

1. the Facility has a Sent Out Metered Schedule greater than zero in any one of the 1,440 Trading Intervals prior to and including Trading Interval t;

2. the sum of the Facility Reserve Capacity Deficit Refunds for Facility f, in Capacity Year y that the Trading Interval t falls in, for ~~trading intervals~~ Trading Intervals prior to and including Trading Interval t, is less than the Maximum Facility Refund for Facility f in Capacity Year y; and

3. the sum of the Generation Reserve Capacity Deficit Refund in Capacity Year y that the Trading Interval t falls in, for ~~trading intervals~~ Trading Intervals prior to and including Trading Interval t, is less than the Maximum Participant Generation Refund for for the Market Participant p which the Facility is registered to, in Capacity Year y; and

ii. one for any Facility which is a Demand Side Programme and the following ~~applies —~~ applies:

1. the Facility received a Dispatch Instruction to reduce consumption in any one of the 1,440 Trading Intervals prior to and including Trading Interval t;

2. the Reserve Capacity Obligation Quantity for the Demand Side Programme does not equal zero under clause 4.12.4(c); and

3. the sum of the Demand Side Programme Capacity Cost Refunds for Facility f, in Capacity Year y that the Trading Interval t falls in, for trading intervals prior to and including Trading Interval t, is less than the Maximum Facility Refund for Facility f in Capacity Year y; and

iii. zero otherwise.

…

6.3A.2. By 9:00 AM on the Scheduling Day AEMO must have calculated and released to each Market Participant the following parameters to be applied by that Market Participant in forming its STEM Submissions for each Trading Interval in the Trading Day:

(a) the Maximum Supply Capability where this equals the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval based on the Standing Data of that Market

Participant's Scheduled Generators and Non-Scheduled Generators and assuming the use of the fuel which maximises the capacity of each Facility:

i. less ~~an allowance for Outages~~ the sum of all Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for that Market Participant for that Trading Interval in the schedule maintained in accordance with clause 7.3.4 (where each outage quantity is Loss Factor adjusted and divided by 2); and

ii. less, for each Market Participant that is a provider of Ancillary Services, the estimated Loss Factor adjusted quantity of energy, in units of MWh, that could potentially be called upon by AEMO from that Market Participant after 1:00 PM on the Scheduling Day to meet Ancillary Service requirements for each Trading Interval of the Trading Day,

where the Maximum Supply Capability may be higher than the actual capacity available during the Trading Interval;

(b) the Maximum Consumption Capability where this equals the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be consumed during a Trading Interval by that Market Participant's Non-Dispatchable Loads and Interruptible Loads based on the Standing Data maximum consumption quantities for those Facilities and Non-Dispatchable Loads~~, less an allowance for Outages in the schedule maintained in accordance with clause 7.3.4~~;

(c) for each Scheduled Generator and Non-Scheduled Generator that is registered as being able to run on Liquid Fuel only, the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval based on the Standing Data of that Scheduled Generator or Non-Scheduled Generator less ~~an allowance for Outages~~ the sum of all Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for that Facility for that Trading Interval in the schedule maintained in accordance with clause 7.3.4 (where each outage quantity is Loss Factor adjusted and divided by 2);

(d) for each Scheduled Generator and Non-Scheduled Generator that is registered as being able to run on both Liquid Fuel and Non-Liquid Fuel, the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval when run on each of Liquid Fuel and Non-Liquid Fuel based on the Standing Data of that Scheduled Generator or Non-Scheduled Generator less ~~an allowance for Outages~~ the sum of all Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for that Facility for that Trading Interval in the schedule maintained in accordance with clause 7.3.4 (where each outage quantity is Loss Factor adjusted and divided by 2); and

(e) in the case of each Market Participant that is a provider of Ancillary Services:

i. the estimated Loss Factor adjusted quantity of energy, in units of MWh, that could potentially be called upon by AEMO after 1:00 PM on the Scheduling Day to meet Ancillary Service requirements for each Trading Interval of the Trading Day; and

ii. the list of Facilities that AEMO might reasonably expect to call upon to provide the energy described in clause 6.3A.2(e)(i).

6.3A.3. By 9:05 AM on the Scheduling Day AEMO must have calculated and released to each Market Participant the following parameters for information in forming its STEM Submissions for each Trading Interval in the Trading Day:

(a) the total quantity of Capacity Credits held by that Market Participant for the Trading Day, in units of MW;

(b) the estimated Loss Factor adjusted quantity of energy that could potentially be called upon by AEMO after 1:00 PM on the Scheduling Day to meet Ancillary Service requirements for each Trading Interval of the Trading Day, multiplied by 2, in units of MW;

(c) the ~~total quantity of Planned Outages and Consequential Outages~~ sum of all Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for that Market Participant for that Trading Interval in the schedule maintained in accordance with clause 7.3.4~~, in units of MW~~;

(d) the total quantity specified in any STEM submission Portfolio Supply Curve from that Market Participant that has been accepted by AEMO for that Trading Interval, multiplied by 2, in units of MW; and

(e) the total quantity specified in any STEM submission Ancillary Service Declaration from that Market Participant that has been accepted by AEMO for that Trading Interval, multiplied by 2, in units of MW.

…

6.15.2. The Minimum Theoretical Energy Schedule in a Trading Interval equals:

(a) for a Balancing Facility which is a Scheduled Generator, the amount which is the lesser of:

i. the sum of:

…

ii. where the Balancing Facility is subject to an Outage, the maximum amount of sent out energy, in MWh, which could have been dispatched given the Available Capacity for that Trading Interval;

(b) for a Balancing Facility which is a Non-Scheduled Generator:

…

(c) for the Balancing Portfolio, the amount which is the lesser of:

i. the sum of:

…

ii. where a Facility in the Balancing Portfolio is subject to an Outage, the maximum amount of sent out energy, in MWh, which could have been dispatched given the sum of the Available ~~Capacity~~ Capacities of Facilities in the Balancing Portfolio for that Trading Interval.

6.15.3 AEMO must:

(a) calculate Maximum Theoretical Energy Schedules under clause 6.15.1 and Minimum Theoretical Energy Schedules under clause 6.15.2:

i. using Sent Out Metered Schedules determined using SCADA data and output estimates maintained in accordance with clause 7.13.1(cA), notwithstanding any requirement in clause 9.3.4 to use Meter Data Submissions received by AEMO; and

ii. as soon as practicable using applicable SCADA data maintained under clause 7.13.1(cA); and

(b) update Maximum Theoretical Energy Schedules and Minimum Theoretical Energy Schedules calculated under clause 6.15.3(a) as soon as practicable using the schedule of ~~Outages~~ Capacity-Adjusted Forced Outage Quantities, Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities maintained under clause 7.13.1A(b).

…

6.17.5A. Subject to clause 6.17.5C, AEMO must attribute any Downwards Out of Merit Generation from the Balancing Portfolio in a Trading Interval as follows:

(a) Portfolio Constrained Off Quantity1 (PCoffQ1) equals the lesser of:

i. the maximum energy less the minimum energy, if any, in MWh, which could have been dispatched down from the Balancing Portfolio's Balancing Price-Quantity Pair N, with Price N, taking into account the sum of the Available ~~Capacity of~~ Capacities of the Facilities in the Balancing Portfolio, the MW level at the start of the Trading Interval and the Portfolio Ramp Rate Limit, where N is determined from either of the following Balancing Price-Quantity Pairs or, if different, the one with the lower price:

1. the Balancing Price-Quantity Pair associated with the intersection of sum of the Available ~~Capacity~~ Capacities and the quantities in all Balancing Price-Quantity Pairs summed in order of lowest to highest price; and

2. the Balancing Price-Quantity Pair with a price lower than but closest to the Balancing Price; and

ii. the Portfolio Downwards Out of Merit Generation;

…

…

6.17.9. AEMO must, other than for Facilities in the Balancing Portfolio, determine a Settlement Tolerance for each Scheduled Generator and Non-Scheduled Generator, where this Settlement Tolerance is equal to:

(a) for a Scheduled Generator for which an applicable Tolerance Range or Facility Tolerance Range has been determined by AEMO, the applicable value determined by AEMO under clause 2.13.6D, divided by two to be expressed as MWh; or

(b) for Facilities for which no applicable Tolerance Range or Facility Tolerance Range has been determined by AEMO, the lesser of:

i. 3 MWh; and

ii. the greater of:

1. 0.5 MWh; and

2. 3% of the ~~Facility's Sent Out~~ Balancing Facility Maximum Capacity for the Balancing Facility divided by two to be expressed as MWh.

6.17.10. The Portfolio Settlement Tolerance equals the lesser of:

(a) 3 MWh; and

(b) 3% of the ~~Sent Out~~ Balancing Facility Maximum Capacity of the Balancing Portfolio divided by two to be expressed as MWh.

…

7.3.4. AEMO must prepare a schedule of ~~Planned Outages, Forced Outages and Consequential Outages for each Registered Facility~~ Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for each Scheduled Generator of which AEMO is aware at that time ~~where Outages are calculated in accordance with clause 3.21.6~~, for each Trading Interval of a Trading Day, between 8:00 AM and 8:30 AM on the Scheduling Day prior to the Trading Day.

7.3.5. ~~[Blank]~~When preparing a schedule under clause 7.3.4, AEMO must assume that the maximum daily ambient site temperature at the site of each Scheduled Generator will not exceed 41 degrees Celsius during the relevant Trading Day.

…

7.10.2. A Market Participant is not required to comply with clause 7.10.1 if:

(a) such compliance would endanger the safety of any person, damage equipment or breach any applicable law;

(b) the Facility was physically unable to maintain the ramp rate specified in the Dispatch Instruction but:

i. the actual output of the Facility did not, at any time the Dispatch Instruction applied, vary from the output specified in the Dispatch Instruction by more than the applicable Tolerance Range or Facility Tolerance Range; and

ii. the average output over a Trading Interval of the Facility was equal to the output specified in the Dispatch Instruction;

(c) both of the following apply:

i. the Market Participant has notified AEMO, in accordance with clause 3.21.4, that its Registered Facility has been affected, or will be affected, by a Forced Outage or Consequential Outage; and

ii. the quantity of the Forced Outage or Consequential Outage notified is consistent with the extent to which the Market Participant did not comply with the most recently issued Dispatch Instruction, Operating Instruction or Dispatch Order applicable to its Registered Facility for the Trading Interval;

(d) a Demand Side Programme was issued a Dispatch Instruction by AEMO under clause 7.6.1C and its Reserve Capacity Obligation Quantity, as determined under clause 4.12.4(c) is or becomes zero; ~~or~~

(e) clause 7.7.3C excuses compliance~~.~~; or

(f) a Scheduled Generator that was subject to an approved Commissioning Test in the Trading Interval was unable to comply with clause 7.10.1 due to a failure of the Facility's equipment during the period approved for the Commissioning Test.

…

7.13.1A. AEMO must record the following data for a Trading Day by noon on the fifteenth Business Day following the day on which the Trading Day ends:

(a) the MWh quantity of non-compliance by Synergy by Trading Interval; and

(b) the schedule of all ~~Planned Outages, Forced Outages and Consequential Outages~~ Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for Scheduled Generators relating to each Trading Interval in the Trading Day by Market Participant and Facility.

…

7.13.1D. AEMO must as soon as practicable after:

(a) AEMO receives a request via ~~AEMO's computer interface system~~ AEMO's outage management system for a Planned Outage of a Scheduled Generator or a Non-Scheduled Generator; or

(b) AEMO becomes aware via ~~AEMO's computer interface system~~ AEMO's outage management system of a change to the information described in clause 7.13.1E,

record any relevant new or amended information outlined in clause 7.13.1E.

7.13.1E The information required to be recorded by AEMO under clause 7.13.1D must include:

(a) whether the request is for a Scheduled Outage or Opportunistic Maintenance;

(b) the information provided under clauses 3.18.6(a) ~~and 3.18.6(c) –~~ to 3.18.6(g);

(c) the time and date when:

i. the Outage Plan or request for Opportunistic Maintenance was received by AEMO; and

ii. any amendment to the outage status occurred~~; and~~.

~~(d) the MW quantity of any de-rating to a Scheduled Generator or Non-Scheduled Generator, as measured on a sent out basis at 15 degrees Celsius.~~

7.13.1F. AEMO must as soon as practicable after:

(a) AEMO receives a notification of a Forced Outage via ~~its computer interface system~~ AEMO's outage management system or records in ~~its computer interface system~~ AEMO's outage management system that a Consequential Outage has occurred for a Scheduled Generator or a Non-Scheduled Generator; or

(b) AEMO becomes aware via ~~AEMO's computer interface system~~ AEMO's outage management system of any change to the information described in clause 7.13.1G,

record any relevant new or amended information outlined in clause 7.13.1G.

7.13.1G. The information required to be recorded by AEMO under clause 7.13.1F must include:

(a) whether the outage is considered to be a Forced Outage or Consequential Outage;

(b) for a Forced Outage, the information ~~provided under clauses 3.21.4(a) – 3.21.4(d);~~ specified in clauses 3.21.4A(a) to 3.21.4A(e) that is provided by the relevant Market Participant or Network Operator;

(c) for a Consequential Outage, the information specified in clauses 3.21.11(a) to 3.21.11(e) that is provided by the relevant Market Participant or Network Operator; and

(~~c~~d) the time and date when:

i. the Forced Outage was first notified to AEMO;

ii. the outage status was amended by AEMO; and

iii. AEMO recorded in ~~its computer interface system~~ AEMO's outage management system that a Consequential Outage occurred as ~~determined~~ approved under clause ~~3.21.2; and~~ 3.21.14(a).

~~(d) the MW quantity of any de-rating to a Scheduled Generator or Non-Scheduled Generator, as measured on a sent out basis at 15 degrees Celsius.~~

…

7A.2.4A. A Balancing Submission for a Balancing Facility that is a Scheduled Generator must specify the following details for each Trading Interval covered in the Balancing Submission:

(a) a ranking of Balancing Price-Quantity Pairs covering available capacity; and

(b) a declaration of the MW quantity that will be unavailable for dispatch,

where the sum of:

(c) the quantities in the Balancing Price-Quantity Pairs; and

(d) the declared MW quantity of unavailable capacity,

must be equal to the ~~Scheduled Generator's Sent Out~~ Balancing Facility Maximum Capacity for the Scheduled Generator.

…

7A.2.8A. A Market Participant ~~(other than Synergy in respect of the Balancing Portfolio)~~ must, for each of its Balancing Facilities that is a Scheduled Generator, and for each Trading Interval in the Balancing Horizon, use its best endeavours to ensure that, at all times, any of the Balancing Facility's capacity that is:

(a) subject to an approved Planned Outage; or

(b) subject to an outstanding request for approval of Opportunistic Maintenance,

is declared as unavailable in the Balancing Submission for the Balancing Facility and the Trading Interval, unless the Balancing Facility is expected to generate in accordance with an approved Commissioning Test in that Trading Interval.

7A.2.8B. A Market Participant must, for each of its Balancing Facilities that is a Non-Scheduled Generator, and for each Trading Interval in the Balancing Horizon, use its best endeavours to ensure that, at all times, any of the Balancing Facility's capacity that is:

(a) subject to an approved Planned Outage; or

(b) subject to an outstanding request for approval of Opportunistic Maintenance,

is excluded from the estimated MW quantity in the Balancing Submission for the Balancing Facility and the Trading Interval, unless the Balancing Facility is

expected to generate in accordance with an approved Commissioning Test in that Trading Interval.

…

7A.2.10. A Market Participant (other than Synergy in relation to the Balancing Portfolio) as soon as it becomes aware that a Balancing Submission for a Trading Interval for which Balancing Gate Closure has occurred is inaccurate:

(a) if the inaccuracy is due to an Internal Constraint, must make a new, accurate Balancing Submission so that the quantity in the Balancing Submission reflects the available ~~Sent Out Capacity~~ sent out capacity of that Facility and the Ramp Rate Limit is accurate but no prices are altered, in respect of that Trading Interval as soon as reasonably practicable;

(b) if the inaccuracy is due to an External Constraint, may make a new, accurate Balancing Submission so that the quantity in the Balancing Submission reflects the available ~~Sent Out Capacity~~ sent out capacity of that Facility and the Ramp Rate Limit is accurate but no prices are altered, in respect of that Trading Interval, as soon as reasonably practicable;

(c) if the inaccuracy is due to the Market Participant receiving an Operating Instruction, may make a new, accurate Balancing Submission that reflects the Operating Instruction; or

(d) if the inaccuracy is due to a variation of the availability of the intermittent energy source used by a Non-Scheduled Generator, may make a new, accurate Balancing Submission so that the quantity in the Balancing Submission reflects the Market Participant's best estimate of the Facility's output at the end of the Trading Interval and the Ramp Rate Limit is accurate but the price is not altered, in respect of that Trading Interval.

…

7A.2A.1. Subject to clauses 7A.2A.3 and 7A.2A.4, a Market Participant (other than Synergy in respect of the Balancing Portfolio) must, as soon as practicable after each Trading Interval, for each of its Balancing Facilities that is an Outage Facility, ensure that it has notified AEMO, in the manner prescribed in the WEM Procedure specified in clause 3.21.17, of a Forced Outage or Consequential Outage that relates to any capacity for which the Market Participant holds Capacity Credits that:

(a) was declared unavailable in the Facility's Balancing Submission for that Trading Interval; and

(b) was not subject to an approved Planned Outage, Consequential Outage or Commissioning Test Plan in that Trading Interval,

unless the relevant capacity was declared unavailable in the Facility's Balancing Submission because the Market Participant reasonably expected that its Reserve Capacity Obligations for the Trading Interval would be reduced because the maximum site temperature for the applicable Trading Day would exceed 41 degrees Celsius.

7A.2A.2. Subject to clauses 7A.2A.3 and 7A.2A.4, Synergy must, as soon as practicable after each Trading Interval, for each Facility in the Balancing Portfolio that is an Outage Facility, ensure that it has notified AEMO, in the manner prescribed in the WEM Procedure specified in clause 3.21.17, of a Forced Outage or Consequential Outage that relates to any capacity for which Synergy holds Capacity Credits that:

(a) was declared unavailable in the Balancing Portfolio's Balancing Submission for that Trading Interval; and

(b) was not subject to an approved Planned Outage, Consequential Outage or Commissioning Test Plan in that Trading Interval,

unless the relevant capacity was declared unavailable in the Balancing Portfolio's Balancing Submission because Synergy reasonably expected that its Reserve Capacity Obligations for the Trading Interval would be reduced because the maximum site temperature for the applicable Trading Day would exceed 41 degrees Celsius.

…

11. Glossary

…

Available Capacity: ~~Means, for a Trading Interval, the sent out capacity, in MW, of a Scheduled Generator or a Non-Scheduled Generator that was not subject to an Outage notified to AEMO under clause 7.13.1A(b).~~ For a Trading Interval:

(a) for a Scheduled Generator, the sent out capacity of the Facility in the Trading Interval (as specified under Appendix 1(b)(iii)) minus the sum of the Capacity-Adjusted Forced Outage Quantity, Capacity-Adjusted Planned Outage Quantity and Capacity-Adjusted Consequential Outage Quantity for the Facility in the Trading Interval; and

(b) for a Non-Scheduled Generator, the sent out capacity of the Facility in the Trading Interval (as specified under Appendix 1(e)(iiiA)).

…

Balancing Facility Maximum Capacity:

(a) for a Balancing Facility, other than the Balancing Portfolio, that is:

i. a Scheduled Generator, the capacity provided as the Standing Data in Appendix 1(b)(iii); and

ii. a Non-Scheduled Generator, the capacity provided as the Standing Data in Appendix 1(e)(iiiA); and

(b) for the Balancing Portfolio, the sum of all of the Standing Data in Appendix 1(b)(iii) and Appendix 1(e)(iiiA) for each Facility in the Balancing Portfolio.

…

Balancing Price-Quantity Pair: ~~Means~~

(a) for a Scheduled Generator, the specified non-Loss Factor adjusted MW quantity at which a Market Participant is prepared to operate a Balancing Facility as at the end of a Trading Interval and the non-Loss Factor Adjusted Price, in $/MWh, at which the Market Participant is prepared to provide that quantity by the end of that Trading Interval;

(b) for a Non-Scheduled Generator the specified non-Loss Factor adjusted MW quantity at which a Market Participant is prepared to reduce its output as at the end of a Trading Interval and the non-Loss Factor Adjusted Price, in $/MWh, at which the Market Participant is prepared to provide that quantity by the end of that Trading Interval; and

(c) for the Balancing Portfolio, the specified MW quantity at which Synergy is prepared to have the Balancing Portfolio dispatched at as at the end of a Trading Interval and the Loss Factor Adjusted Price, in $/MWh, at which Synergy is prepared to provide from the ~~sum of all of its Sent Out Capacity for each Facility in~~ Balancing Facility Maximum Capacity of the Balancing Portfolio by the end of the Trading Interval.

…

Capacity-Adjusted Consequential Outage Quantity: For a Scheduled Generator for a Trading Interval, the total MW capacity of the Scheduled Generator for which Capacity Credits are assigned that is subject to an approved Consequential Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(c).

Capacity-Adjusted Forced Outage Quantity: For a Scheduled Generator for a Trading Interval, the total MW capacity of the Scheduled Generator for which Capacity Credits are assigned that is subject to a Forced Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(a).

Capacity-Adjusted Planned Outage Quantity: For a Scheduled Generator for a Trading Interval, the total MW capacity of the Scheduled Generator for which Capacity Credits are assigned that is subject to an approved Planned Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(b).

…

Equivalent Planned Outage Hours: ~~Means, in~~ In respect of a Facility, the sum of the "Planned Outage Hours" and the "Equivalent Planned Derated Hours" for the Facility as calculated in accordance with the WEM Procedure specified in clause ~~3.21.12~~3.21.17.

…

Internal Constraint: In relation to a Facility, ~~means~~ an event that is not an External Constraint and which adversely impacts the ~~Sent Out Capacity~~ sent out capacity of the Facility.

…

Refund Exempt Planned Outage: ~~Means a~~ A Capacity-Adjusted Planned Outage Quantity of a Scheduled Generator for which a Facility Reserve Capacity Deficit Refund is not payable, as determined by AEMO under clause 4.26.1C.

Refund Exempt Planned Outage Count: ~~Means, in~~ In respect of a Scheduled Generator and a period of time, the sum over all Trading Intervals in that period ~~of —~~ of:

(a) zero, if the Trading Interval occurs before 8:00 AM on 1 June 2016 or if no Capacity Credits were associated with the Facility in the Trading Interval; or

(b) the ~~MW quantity of~~ Refund Exempt Planned Outage for the Facility in the Trading Interval, divided by the number of Capacity Credits associated with the Facility in the Trading Interval.

Refund Payable Planned Outage: ~~Means a~~ A Capacity-Adjusted Planned Outage Quantity of a Scheduled Generator for which a Facility Reserve Capacity Deficit Refund is payable, as determined by AEMO under clause 4.26.1C.

…

Scheduled Outage: ~~Means an~~ An outage that has an Outage Plan that is included in AEMO's outage schedule. A Scheduled Outage does not cease to be a Scheduled Outage if it is approved by AEMO and becomes a Planned Outage.

...

~~**Sent Out Capacity:** Means:~~

~~(a) for a Balancing Facility, other than the Balancing Portfolio, that is:~~

~~i. a Scheduled Generator, the capacity provided as the Standing Data in Appendix 1(b)(iii); and~~

~~ii. a Non-Scheduled Generator, the capacity provided as the Standing Data in Appendix 1(e)(iiiA); and~~

~~(b) for the Balancing Portfolio, the sum of all of the Standing Data in Appendix 1(b)(iii) and Appendix 1(e)(iiiA) for each Facility in the Balancing Portfolio.~~

…

Unadjusted Consequential Outage Quantity: For a Scheduled Generator or Non-Scheduled Generator for a Trading Interval, the total quantity of de-rating recorded for any approved Consequential Outages for the Facility in AEMO's outage management system.

Unadjusted Forced Outage Quantity: For a Scheduled Generator or Non-Scheduled Generator for a Trading Interval, the total quantity of de-rating recorded for any Forced Outages for the Facility in AEMO's outage management system.

Unadjusted Planned Outage Quantity: For a Scheduled Generator or Non-Scheduled Generator for a Trading Interval, the total quantity of de-rating recorded for any approved Planned Outages for the Facility in AEMO's outage management system.

...

Appendix 9: Relevant Level Determination

…

Step 3: For each Candidate Facility, identify any Trading Intervals in the period identified in step 1(b) where:

(a) the Facility, other than a Facility in the Balancing Portfolio, was directed to restrict its output under a Dispatch Instruction as provided in a schedule under clause 7.13.1(c); or

(b) the Facility, if in the Balancing Portfolio, was instructed by AEMO to deviate from its Dispatch Plan or change its commitment or output as provided in a schedule under clause 7.13.1C(d); or

(c) the Facility was affected by a Consequential Outage ~~as recorded by AEMO under clause 7.13.1A~~; or

(d) the Facility was directed to restrict its output under an Operating Instruction issued in accordance with a Network Control Service Contract, as provided in a schedule under clause 7.13.1(cC).

…

Step 6: For each Candidate Facility and Trading Interval identified in step 3(c) use:

(a) the ~~schedule of Consequential Outages determined by AEMO under clause 7.13.1A~~ Unadjusted Consequential Outage Quantity for the Candidate Facility for the Trading Interval;

(b) the quantity determined for the Facility and Trading Interval in step 2; and

(c) the information recorded by AEMO under clause 7.13.1C(a),

to estimate the quantity of energy (in MWh) that would have been sent out by the Facility had it not been affected by the ~~notified~~ Consequential Outage during the Trading Interval.

…