Revised Market Power Mitigation Framework

Draft Amending Wholesale Electricity Market (WEM) Rules

EXPOSURE DRAFT #2

Invitation for submissions on Exposure Draft #2 of the Proposed WEM Amending Rules

This is the latest draft of proposed amendments to the WEM Rules to implement the revised Market Power Mitigation framework, which was outlined in the Information Paper published on 10 November 2022. It incorporates the proposed Amending Rules from Exposure Draft #1, along with some further amendments made in response to stakeholder submissions.

The first Exposure Draft was published for consultation on 10 November 20222. Stakeholder submissions on the first Exposure Draft can be found here.

The following, more substantial amendments have been proposed in response to stakeholder feedback together with some less material amendments to clarify the intent of various provisions:

- The efficiency and effectiveness of the Benchmark Reserve Capacity Price methodology will now be monitored by the Coordinator along with the methodologies for setting the Market Price Limits.

- The Coordinator must also monitor the appropriateness of the parameters used to determine a Material Portfolio and Material Constrained Portfolio.

- Clause 2.16A.1 has been amended to remove "with market power". New clause 2.16A.3 will require the Economic Regulation Authority to consider the extent to which a Market Participant held market power when investigating a breach of 2.16A.1.

- The Economic Regulation Authority must identify each Portfolio operating in the market by 1 April and 1 October of each year, rather than after AEMO has conducted Reserve Capacity Testing, as previously proposed.

- Clause 2.16C.1 has been amended to refer to the maximum sent out capacity of a Facility, rather than its Declared Sent Out Capacity.

- Market Participants are to be notified in advance of the Economic Regulation Authority publishing the results of its determination on its website.

- The Offer Construction Guideline would now, amongst other things, need to:

  o specifically permit the recovery of all efficient variable costs, including those actually incurred under long-term take or pay fuel contracts.

  o outline how the Economic Regulation Authority will consider offers made by different Facility types, including Electric Storage Resources.

  o provide additional guidance to participants on how the Economic Regulation Authority will assess inefficient market outcomes.

- Any guidance the Economic Regulation Authority provides to a Market Participant will be considered when undertaking an investigation.

- Following an investigation, the Economic Regulation Authority will advise Market Participant if it has determined that an Irregular Price Offer by that Market Participant has not resulted in an inefficient market outcome.

Because of the number of amendments and structural changes since Exposure Draft #1, the proposed Amending Rules from Exposure Draft #1 have been integrated with the further amendments made in response to stakeholder submissions and presented consistently as text in red underlined and strikethrough.

Mark-up Colour guide:

Text in black	Rules that are in force and Explanatory Notes as they appeared in Exposure Draft #1
Text in blue	Amending Rules that have been made but no commencement date has been specified (it is expected that most of these Amending Rules will be commenced close to or at commencement of the new market)
Text in red - underlined and strikethrough	All proposed amendments, including changes made since Exposure Draft #1.
Text in red in Explanatory Notes	Additions to the Explanatory Notes to indicate changes since Exposure Draft #1.

Stakeholders are invited to provide written feedback on the Exposure Draft #2 before 5:00pm, **7 March 2023 (AWST)** by submitting comments to energymarkets@dmirs.wa.gov.au

A session of the Transformation Design and Operation Working Group has been scheduled for 28 February 2023, to facilitate feedback on the Exposure Draft.

1.   Introduction

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Explanatory Note

New section 1.60 switches off the requirement for the Economic Regulation Authority to conduct reviews of the Energy Price Limits and Minimum STEM Price in the months immediately prior to the start of the new market, and requires the Economic Regulation Authority to determine the FCESS Offer Price Ceilings before the New WEM Commencement Day. This is intended to provide an efficient transition to the updated price limits framework.

Section 1.60 will commence immediately after gazettal of the Amending Rules.

No substantial changes have been made to this section since Exposure Draft #1.

1.60.   Specific Transitional Provisions for Reviews of the Energy Price Limits and FCESS Offer Price Ceilings

1.60.1.   In this section 1.60:

Post-Amended Rules: Means the WEM Rules as in force immediately after the New WEM Commencement Day.

1.60.2.   Notwithstanding clause 6.20.6, the Economic Regulation Authority is not required to annually review the appropriateness of the value of the Maximum STEM Price and the Alternative Maximum STEM Price under clause 6.20.6 after 30 June 2023.

1.60.3.   Notwithstanding clause 6.20.13, the Economic Regulation Authority is not required to annually review the value of the Minimum STEM Price under clause 6.20.13 after 1 February 2023.

1.60.4.   Prior to the New WEM Commencement Day, the Economic Regulation Authority must determine the values of the Contingency Reserve Raise Offer Price Ceiling, Contingency Reserve Lower Offer Price Ceiling, RoCoF Control Service Offer Price Ceiling, Regulation Raise Offer Price Ceiling and Regulation Lower Offer Price Ceiling (as defined in the Post-Amended Rules) that will take effect from the New WEM Commencement Day, in accordance with clause 2.26.2A of the Post-Amended Rules.

Explanatory Note

The transitional rules in new section 1.61 will set the dates for the first reviews of the Market Price Limits, at which time sufficient data about the performance of the market will be available, and to set the initial values for the Market Price Limits. This is intended to provide an efficient transition to the updated price limits framework.

Section 1.61 will commence on New WEM Commencement Day.

Changes have been made to this section to specify when the ERA needs to have the first reviews completed by, rather than when it needs to have started them.

1.61.   Specific Transitional Provisions for the Market Price Limits

1.61.1.   In this section 1.61:

Pre-Amended Rules: Means the WEM Rules as in force immediately before the New WEM Commencement Day.

1.61.2.   Notwithstanding clause 2.26.2A, the Economic Regulation Authority must complete its first review of the FCESS Offer Price Ceilings under clause 2.26.2A by 1 February 2026.

1.61.3.   Notwithstanding clause 2.26.1, the Economic Regulation Authority must complete its first review of the Energy Offer Price Ceiling under clause 2.26.1 by 1 June 2024.

1.61.4.   Notwithstanding clause 2.26.2C, the Economic Regulation Authority must complete its first review of the Energy Offer Price Floor under clause 2.26.2C by 1 February 2025.

1.61.5.   For the purposes of section 2.26, the last review of the Minimum STEM Price in accordance with clause 6.20.6 of the Pre-Amended Rules will be taken to be the previous review of the Energy Offer Price Floor until the first review of the Energy Offer Price Floor under clause 2.26.2C has been completed.

1.61.6.   Subject to clause 2.26.2V, the Energy Offer Price Ceiling that will apply from the New WEM Commencement Day is deemed to be the value equal to the Alternative Maximum STEM Price under the Pre-Amended Rules immediately prior to the New WEM Commencement Day.

1.61.7.   Subject to clause 2.26.2V, the Energy Offer Price Floor that will apply from the New WEM Commencement Day is deemed to be the value equal to the Minimum STEM Price that applied under the Pre-Amending Rules immediately prior to the New WEM Commencement Day.

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2.   Administration

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2.16.   Monitoring the Effectiveness of the Market

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2.16.9A. [Blank]~~The Economic Regulation Authority must, in carrying out the monitoring activities relating to any prices offered by a Market Participant, examine prices in:~~

~~(a)   Balancing Price-Quantity Pairs;~~

~~(b)   LFAS Price-Quantity Pairs; and~~

~~(c)   relevant submissions, including:~~

~~i.   standing submissions; and~~

~~ii.   STEM Submissions and Standing STEM Submissions used in forming STEM Bids and STEM Offers,~~

~~against information collected from Rule Participants in accordance with clauses 2.16.6 and 2.16.7.~~

2.16.9B. [Blank]~~Where the Economic Regulation Authority concludes that~~

~~(a)   prices offered by a Market Generator in its Portfolio Supply Curve may not reflect the Market Generator's reasonable expectation of the short run marginal cost of generating the relevant electricity;~~

~~(aA)   prices offered by a Market Generator in its Balancing Submission may exceed the Market Generator's reasonable expectation of the short run marginal cost of generating the relevant electricity; or~~

~~(b)   prices offered by a Market Generator in its LFAS Submission may exceed the Market Generator's reasonable expectation of the incremental change in short run marginal cost incurred by the LFAS Facility in providing the relevant LFAS,~~

~~and the Economic Regulation Authority considers that the behaviour relates to market power, the Economic Regulation Authority must as soon as practicable, request an explanation from the Market Participant which has made the relevant STEM Submission, Balancing Submission or LFAS Submission and investigate the identified behaviour.~~

2.16.9C. [Blank]~~The Market Participant must submit the explanation requested under clause 2.16.9B within two Business Days from receiving the request.~~

2.16.9D. [Blank]~~The Economic Regulation Authority must publish the explanation submitted under clause 2.16.9C on its website as soon as practicable.~~

2.16.9E. Where the Economic Regulation ~~Authority~~ Authority is conducting an investigation after receiving a notification from a Rule Participant under clause 2.16.8, then, without limitation, for this purpose the Economic Regulation Authority must examine any data already in the possession of the Economic Regulation

Authority or additional data it requests from the relevant Market Participant under clause 2.16.6 to assist in the investigations.

(a) is conducting an investigation after receiving a notification from a Rule Participant under clause 2.16.8; or

(b) is required to conduct an investigation under clause 2.16.9B, then,

without limitation, for this purpose the Economic Regulation Authority must examine any explanation received under clause 2.16.9C, any data already in the possession of the Economic Regulation Authority or additional data it requests from the relevant Market Participant under clause 2.16.6 to assist in the investigations.

2.16.9F. Subject to clause 2.16.9FA, the Economic Regulation Authority must publish the results of its investigations within six months from issuing a request for an explanation under clause 2.16.9B or from receiving a notification from a Rule Participant under clause 2.16.8. If that day is not a Business Day, then the next Business Day following that six month period will apply.

2.16.9FA. Subject to clause 2.16.9FB, the Economic Regulation Authority may extend the timeframe for an investigation under clause 2.16.9E for a period of up to six months, to the nearest Business Day following that six month extension period. Where the Economic Regulation Authority makes such an extension it must publish a notice of the extension on its website. The Economic Regulation Authority may extend the timeframe for an investigation more than once.

2.16.9FB. For investigations of matters notified under clause 2.16.8, a notice of extension must not include any information identifying the Market Participant under investigation.

2.16.9G. Where the Economic Regulation Authority determines pursuant to the investigation under clause 2.16.9B that:

(a) prices offered in the Portfolio Supply Curve, the subject of the investigation, did not reflect the Market Generator's reasonable expectation of the short run marginal cost of generating the relevant electricity;

(b) prices offered in a Balancing Submission, the subject of the investigation, exceeded the Market Generator's reasonable expectation of the short run marginal cost of generating the relevant electricity; or

(c) prices offered in the LFAS Submission, the subject of the investigation, exceeded the Market Generator's reasonable expectation of the incremental change in short run marginal cost incurred by the LFAS Facility in providing the relevant LFAS,

and that the behaviour related to market power, the Economic Regulation Authority may bring proceedings before the Electricity Review Board.

2.16.10. [Blank]

2.16.11. The Economic Regulation Authority must provide to the Coordinator and the Minister a report on the effectiveness of the market and dealing with the matters identified in clause 2.16.9, if the Economic Regulation Authority considers that any specific events, or systemic behaviour or matters have impacted on the effectiveness of the market.

2.16.12. [Blank]

2.16.13. In carrying out its responsibilities under clause 2.16.9(b), the Economic Regulation Authority must:

(a) estimate the prevalence of such behaviour;

(b) estimate the cost to end users of such behaviour;

(c) estimate the impact of such behaviour on the effectiveness of the market in meeting the Wholesale Market Objectives;

(d) consult with Market Participants on the impacts of such behaviour;

(e) estimate the benefits and costs of any recommended measure to reduce such behaviour. The Economic Regulation Authority:

  i. may use market simulation tools to estimate the benefits and costs;

  ii. must give consideration to:

    1. the probability of success of the measure in reducing the behaviour;

    2. the implications on the efficiency of the market of implementing the measure; and

    3. the costs of compliance as a result of implementing the measure;

(f) where the benefits of any change are estimated to exceed the cost, make recommendations to the Coordinator and the Minister for implementing the measures in a report under clause 2.16.11; and

(g) provide details of its findings in a report to the Coordinator and the Minister under clause 2.16.11.

Explanatory Note:

The Coordinator will review the effectiveness of the Market Price Limits as part of the review of the effectiveness of the WEM, to provide independent oversight of the efficiency and effectiveness of the Market Price Limits framework.

In response to stakeholder comments, the efficiency and effectiveness of the Benchmark Reserve Capacity Price methodology will now be monitored by the Coordinator along with the methodologies for setting the Market Price Limits.

Further, in response to stakeholder comments, now the Coordinator must also monitor the appropriateness of the parameters used to determine a Material Portfolio and Material Constrained Portfolio under clauses 2.16C.1 and 2.16C.2

2.16.13A. The Coordinator is responsible for the development of the market and, with the assistance of the Economic Regulation Authority and AEMO, must monitor market design problems or inefficiencies.

2.16.13B. In carrying out its responsibilities under clause 2.16.13A, the Coordinator must also monitor:

    (a)   the effectiveness of the compliance monitoring and enforcement measures in the WEM Rules and Regulations;, including but not limited to:

        i.   the effectiveness of the Economic Regulation Authority's surveillance activities under sections 2.16A to 2.16D; and

        ii.   the appropriateness of the parameters used to determine a Material Portfolio and Material Constrained Portfolio under clauses 2.16C.1 and 2.16C.2;

    (b)   the effectiveness of AEMO in carrying out its functions under the Regulations, the WEM Rules and WEM Procedures; and

    (c)   the effectiveness of Network Operators in carrying out their functions under the WEM Rules and WEM Procedures.; and

    (d)   the efficiency and effectiveness of the methodologies for determining the Market Price Limits and the Benchmark Reserve Capacity Price.

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Market Power Mitigation

2.16A.   General Trading Obligations

Explanatory Note

Section 2.16A outlines the General Trading Obligations which will apply to the STEM and RTM (including FCESS markets) and are defined under:

- clause 2.16A.1 – Offer Construction Obligation
- clause 2.16A.2 – Trading Conduct Obligation

These obligations apply to all Market Participants, regardless of whether the Facilities registered to that Market Participant are within a Portfolio that is 'caught' under Stage 1 of the Market Power Test (the Gateway Test).

Clauses 2.16A.5 to 2.16A.7 have been added to assist the Economic Regulation Authority (and the Energy Review Board) regarding conduct that will be considered to be in breach of the WEM Rules. These provisions are similar to clauses 7A.2.14 to 7A.2.16 in the current WEM Rules with respect to Balancing Submissions.

Clause 2.16A.1 has been amended in response to feedback provided at TDOWG and in a number of stakeholder submissions, to remove "with market power". New clause 2.16A.3 will require the Economic Regulation Authority to consider the extent to which a Market Participant held market power when investigating a breach of 2.16A.1.

As a consequence, a new clause 2.26A.3 has been inserted providing that the Economic Regulation Authority must not determine that a Market Participant has engaged in conduct

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2.16A.1. A Market Participant must offer prices in each of its STEM Submissions and Real-Time Market Submissions that reflect only the costs that a Market Participant without market power would include in forming profit-maximising price offers in a STEM Submission or Real-Time Market Submission.

2.16A.2. A Market Participant must not engage in conduct in the STEM or Real-Time Market that:

(a) is false, misleading, or likely to mislead;

(b) is fraudulent, dishonest or in bad faith; or

(c) distorts or manipulates, or is likely to distort or manipulate, prices in the Wholesale Electricity Market.

2.16A.3. The Economic Regulation Authority must not determine that a Market Participant has engaged in conduct prohibited by clause 2.16A.1 unless the Economic Regulation Authority has first determined that the Market Participant had market power at the time of offering the relevant prices in its STEM Submission or Real-Time Market Submission.

2.16A.4. In determining whether a Market Participant has engaged in any conduct prohibited by clause 2.16A.2, the Economic Regulation Authority may take into account:

(a) from the New WEM Commencement Day, historical STEM Submissions or Real-Time Market Submissions made by the Market Participant, including changes to STEM Submissions and Real-Time Market Submissions, in which there is, or there appears to be, a pattern of behaviour that may indicate such conduct was engaged in;

(b) the timeliness and accuracy of notification of Forced Outages by the Market Participant;

(c) any information as to whether the Market Participant did not comply with a Dispatch Instruction from AEMO in respect of its Facility and the reasons for the non-compliance; and

(d) any other information the Economic Regulation Authority considers relevant to its determination.

2.16A.5. A STEM Submission or a Real-Time Market Submission is not made in bad faith under clause 2.16A.2(b) if, at the time it is submitted, the Market Participant had a genuine intention to honour the terms of that STEM Submission or Real-Time Market Submission if the material conditions and circumstances upon which the

STEM Submission or Real-Time Market Submission was based remained unchanged until the relevant Trading Interval.

2.16A.6. A Market Participant may be taken to have made a STEM Submission or a Real-Time Market Submission in bad faith notwithstanding that the intention of the Market Participant is ascertainable only by inference from:

(a) the conduct of the Market Participant;

(b) the conduct of any other person; or

(c) the relevant circumstances.

2.16A.7.

(a) If a Market Participant does not have reasonable grounds for a price, quantity, or Ramp Rate Limit, as applicable, it has included in a Real-Time Market Submission at the time it submits that Real-Time Market Submission, then the Market Participant is, for the purposes of clause 2.16A.2(a), taken to have known that the Real-Time Market Submission was likely to lead to another Rule Participant being misled or deceived as to the existence or non-existence of a material fact relating to the Real-Time Market.

(b) For the purposes of clause 2.16A.7(a), a Market Participant must adduce evidence that it had reasonable grounds for including a price, quantity or Ramp Rate Limit, as applicable, in the Real-Time Market Submission.

(c) To avoid doubt, the effect of clause 2.16A.7(b) is to place an evidentiary burden on a Market Participant, and clause 2.16A.7(b) does not have the effect that, merely because such evidence is adduced, the Market Participant who submitted the Real-Time Market Submission is taken to have had reasonable grounds for including a price, quantity or Ramp Rate Limit, as applicable.

(d) Clause 2.16A.7(a) does not imply that merely because the Market Participant had reasonable grounds for making the representation or the conduct referred to in Chapter 7, in respect of the Real-Time Market, and in particular putting the price, quantity or Ramp Rate Limit, as applicable, in a Real-Time Market Submission submitted by a Market Participant, that such representation or conduct is not misleading.

Explanatory Note:

Section 2.16B allows for the grouping of Registered Facilities into Portfolios and Constrained Portfolios, for the purpose of the conducting the three-part market power test in section 2.16C.

Clause 2.16B.1 requires the Economic Regulation Authority to identify each Portfolio operating in the market twice yearly. The Economic Regulation Authority is required to publish the Portfolios, and the names of the responsible Market Participants in each Portfolio on its website.

Clause 2.16B.2 provides for a similar identification requirement in relation to Portfolios located behind a Network Constraint (a Constrained Portfolio). This requirement applies to Network Constraints that have arisen over a rolling period of 30 Trading Days (Rolling Test Window).

Different Constrained Portfolios may arise in the relevant rolling test period depending on the Network Constraints within that period.

In response to Stakeholder comments, clause 2.26B.1 has been amended so that the Economic Regulation Authority must identify each Portfolio operating in the market by 1 April and 1 October of each year, rather than after AEMO has conducted Reserve Capacity Testing, as previously proposed.

Clause 2.16B.1 has also been redrafted to define a Portfolio. "Portfolio" is now defined as all Facilities Registered by Market Participants that are associated entities. At all times, a Registered Facility cannot be contained in more than one Portfolio.

Clause 2.16.B.1 has also been simplified because there is no need to publish the Market Participant to which each Registered Facility is registered (as this information is already published and freely available).

Clause 2.16.B.2 been amended to only require the identification of Constrained Portfolios for constraint equations that bound in the period (to avoid unnecessary work); to remove the explicit requirement to identify the Market Participant for a Registered Facility; and to use what seems to be the standard terminology for binding constraints.

2.16B. Portfolio Assessment

2.16B.1. The Economic Regulation Authority must, in accordance with the WEM Procedure referred to in clause 2.16D.15:

(a) by 1 April and 1 October each year, identify each Portfolio operating in the Wholesale Electricity Market in accordance with the following requirements:

i. each Scheduled Facility, Semi-Scheduled Facility and Non-Scheduled Facility must be allocated to one and only one Portfolio;

ii. Registered Facilities which are registered to the same Market Participant must be allocated to the same Portfolio;

iii. Registered Facilities which are registered to Market Participants that are associated entities (as that expression is defined in the Corporations Act) must be allocated to the same Portfolio; and

iv. a Registered Facility must not be allocated to a Portfolio containing another Registered Facility unless it is necessary to satisfy the requirements in clauses 2.16B.1(a)(ii) or 2.16B.1(a)(iii); and

(b) within 10 Business Days of identifying each Portfolio under clause 2.16B.1(a), publish a list on its website specifying the name of each Registered Facility within each identified Portfolio.

2.16B.2. Within 10 Business Days of the end of each Rolling Test Window, the Economic Regulation Authority must, in accordance with the WEM Procedure referred to in clause 2.16D.15, identify:

(a) each Constraint Equation for a Network Constraint that bound during one or more Dispatch Intervals in the Rolling Test Window; and

(b)   each Constrained Portfolio for each Constraint Equation identified under clause 2.16B.2(a).

Explanatory Note

Clause 2.16B.3 has been included to clarify that where a Registered Facility is located behind two or more binding Network Constraints in the relevant Rolling Test Window, the Registered Facility may be identified as part of more than one Constrained Portfolio. This is relevant to the calculations required of the Economic Regulation Authority under clause 2.16C.2 (i.e. tests to identify Material Constrained Portfolios).

2.16B.3.   The Economic Regulation Authority may, in carrying out its obligations under clause 2.16B.2, specify a Registered Facility within more than one Constrained Portfolio.

Explanatory Note

Section 2.16C establishes a three-part Market Power Test, intended to identify where a Market Participant has exercised market power through offers made in Submissions in the STEM and RTM, and such offers have resulted in inefficient market outcomes.

2.16C.   Market Power Test

Explanatory Note

Clause 2.16C.1 provides for a general 'gateway test', being part of Stage 1 of the market power test, that will apply across the general market to determine Material Portfolios. Material Portfolios are Portfolios identified under clause 2.16B.1, having 10% or greater of the maximum sent out capacity of the Wholesale Electricity Market.

The Economic Regulation Authority is required to notify Market Participants where they are responsible for a Registered Facility within a Material Portfolio.

Clause 2.16C.1 has been amended in response to number of stakeholder submissions, highlighting that Declared Sent Out Capacity is not appropriate given it only reflects a Facility's rights to access the network, rather than its actual sent out capability. The drafting now refers to the maximum sent out capacity of a Facility.

2.16C.1A has been added to clarify that each six months a new set of Material Portfolios is identified, replacing the previous set, so that the obligations on the Market Participants and the Economic regulation Authority are unambiguous.

2.16C.1.   The Economic Regulation Authority must, in accordance with the WEM Procedure referred to in clause 2.16D.15:

(a)   within 10 Business Days of identifying each Portfolio p under clause 2.16B.1(a), calculate Portfolio p's percentage share of the total maximum sent out capacity of all Registered Facilities assigned to a Portfolio as follows:

$$\text{MSOC\_Share}(p) = \frac{\sum_{f \in p} \text{MSOC}(f)}{\sum_{f \in \text{Facilities}} \text{MSOC}(f)} \times 100$$

where:

MSOC(f) is the maximum sent out capacity specified for Registered Facility f in Appendix 1(b)(v), Appendix 1(c)(v) or Appendix 1(d)(v) as applicable;

ii.   f∈p denotes all Scheduled Facilities, Semi-Scheduled Facilities and Non-Scheduled Facilities f that belong to Portfolio p; and

iii.   f∈Facilities denotes all Scheduled Facilities, Semi-Scheduled Facilities and Non-Scheduled Facilities that belong to a Portfolio identified under clause 2.16B.1(a);

(b)   identify each Portfolio where the value determined under clause 2.16C.1(a) is equal to or greater than 10% ("**Material Portfolio**"); and

(c)   within 10 Business Days of identifying each Material Portfolio under clause 2.16C.1(b):

i.   publish the results of the calculations carried out under clause 2.16C.1(a) on its website; and

ii.   notify each Market Participant that has a Registered Facility belonging to a Material Portfolio identified under clause 2.16C.1(b).

2.16C.1A. Each set of Material Portfolios identified by the Economic Regulation Authority under clause 2.16C.1(b) replaces the previous set of Material Portfolios identified by the Economic Regulation Authority under clause 2.16C.1(b) (if any) from the time that the Economic Regulation Authority publishes the results of the relevant calculations under 2.16C.1(c)(i).

Explanatory Note:

Clause 2.16C.2 provides for the test to identify a Material Constrained Portfolio, being part of Stage 1 of the market power test. The prices submitted for Registered Facilities within a Material Constrained Portfolio are subject to focused monitoring by the Economic Regulation Authority.

This test involves calculating, as a percentage, the Dispatch Intervals the Registered Facilities within each Constrained Portfolio (in aggregate) received Energy Uplift Payments relative to the total number of Dispatch Intervals in which the identified Network Constraint bound during both a Rolling Test Window (3 months) and a Fixed Assessment Period (at least 7 consecutive days) within that Rolling Test Window.

Where Energy Uplift Payments have been made in respect of those Registered Facilities in 10% or more of Dispatch Intervals within a Rolling Test Window and/or a Fixed Assessment Period when the relevant Network Constraint bound, the offers made for those Registered Facilities will be subject to further assessment under Stage 2 of the Market Power Test.

Clause 2.16C.2(b) has been amended in response to stakeholder feedback which noted that a 10% threshold may be appropriate for a Constrained Uplift Payment Ratio.

We have also moved the deadline specification up to the header of the clause because (a) there is no need to specify a hard deadline for the first step because nothing is published at that stage, and (b) there was no deadline for the second step which made the entire process open ended. The ERA will not be able to do these calculations until the Energy Uplift Payments (calculated in the settlement process) are available for the Trading Week that includes the last Trading Day in the Rolling Test Window, so the deadline should be a few business days after the settlement statements are produced for that Trading Week. We are seeking feedback on how many days would be appropriate for this.

> We have added a new clause 2.16C.2A to clarify that each new set of Material Constrained Portfolios replaces the previous set, so that the obligations on the Market Participants and the ERA are unambiguous.

2.16C.2.   The Economic Regulation Authority must, not more than [10] Business Days following the end of a Rolling Test Window, in accordance with the WEM Procedure referred to in clause 2.16D.15:

(a)   calculate for that Rolling Test Window and for any relevant Fixed Assessment Period, as a percentage, the Constrained Uplift Payment Ratio for each Constrained Portfolio identified under clause 2.16B.2(b) as follows:

Constrained Uplift Payment Ratio = $\dfrac{CP\_UP}{NC} \times 100$

where:

   i.   CP_UP is the number of Dispatch Intervals in the Rolling Test Window or Fixed Assessment Period (as applicable) in which:

   1.   the Constraint Equation relevant to the identification of the Constrained Portfolio identified under clause 2.16B.2(a) bound; and

   2.   a Registered Facility in the Constrained Portfolio received an Energy Uplift Payment; and

   ii.   NC is the total number of Dispatch Intervals in the applicable Rolling Test Window or Fixed Assessment Period in which the Constraint Equation relevant to the identification of the Constrained Portfolio bound;

(b)   identify each Constrained Portfolio with a Constrained Uplift Payment Ratio equal to or greater than 10% as calculated under clause 2.16C.2(a) ("**Material Constrained Portfolio**");

(c)   publish the results of the calculations carried out under clauses 2.16C.2(a) and 2.16C.2(b) on its website; and

(d)   notify each Market Participant that has a Registered Facility belonging to a Material Constrained Portfolio identified under clause 2.16.2C(b).

2.16C.2A. Each set of Material Constrained Portfolios identified by the Economic Regulation Authority under clause 2.16C.2(b) replaces the previous set of Material Constrained Portfolios identified by the Economic Regulation Authority under clause 2.16C.2(b) (if any) from the time that the Economic Regulation Authority publishes the results of the relevant calculations under 2.16C.2(c).

Explanatory Note

A Market Participant responsible for a Registered Facility within a Material Portfolio or a Material Constrained Portfolio is required to create and maintain certain records that may support investigations.

Clause 2.16C.3 specifies the records to be retained by a Market Participant that has received a notice from the Economic Regulation Authority that their Registered Facility has been identified in a Material Portfolio or a Material Constrained Portfolio pursuant to clauses 2.16C.1(c)(ii) or 2.16C.2(d). Similar amendments have also been made to clauses 7.4.26(b) and 7.4.27(b).

2.16C.3. By no later than three months from the date of receipt of a notice from the Economic Regulation Authority under clause 2.16C.1(c)(ii) or clause 2.16C.2(d), a Market Participant must, in accordance with the WEM Procedure referred to in clause 2.16D.15:

(a) maintain adequate records (that are capable of independent verification) of the internal governance arrangements the Market Participant has in place to comply with its obligations under clause 2.16A.1;

(b) maintain adequate records (that are capable of independent verification) of the methods, assumptions and cost inputs the Market Participant used to develop the prices in the Portfolio Supply Curve offered in its STEM Submissions or Standing STEM Submissions, which must include, for each relevant Facility, the information referred to in clause 2.16D.1(a)(i); and

(c) maintain adequate records (that are capable of independent verification) of the methods and cost inputs the Market Participant used to develop the prices offered, quantities and Ramp Rate Limits in its Real-Time Market Submissions, which must include, for each relevant Facility, the information referred to in clause 2.16D.1(a)(i).

Explanatory Note: (updated)

The following clauses implement Stages 2 and 3 of the market power test.

Monitoring by the Economic Regulation Authority under clause 2.16C.4(a) relates to the STEM only and, as this does not involve consideration of Network Constraints, is only conducted for prices offered for Registered Facilities in Material Portfolios (clause 2.16C.1).

Monitoring under clause 2.16C.4(b) is for the Real-Time Market, and therefore is conducted on prices offered for Registered Facilities for Material Portfolios and Material Constrained Portfolios.

Irregular Price Offers are those that the Economic Regulation Authority has determined meet the test in clause 2.16C.6(a) or close 2.16C.6(b).

If this is the case, the Economic Regulation Authority must consider the market impacts of these prices in accordance with clause 2.16C.7.

2.16C.4. The Economic Regulation Authority must monitor the following price offers for compliance with clause 2.16A.1:

(a) the prices offered by a Market Participant which has one or more Registered Facilities belonging to a Material Portfolio in its Portfolio Supply Curve; and

(b) the prices offered by a Market Participant in its Real-Time Market Submissions for each of its Registered Facilities within a Material Portfolio or a Material Constrained Portfolio.

2.16C.5.   A Market Participant must not make an Irregular Price Offer that results in inefficient market outcomes.

2.16C.6.   The Economic Regulation Authority must investigate a potential breach of clause 2.16A.1 in accordance with clause 2.13.27 and the WEM Procedure referred to in clause 2.16D.15, and having regard to the Offer Construction Guideline, and if it considers that:

   (a)   prices offered by a Market Participant in its Portfolio Supply Curve are inconsistent with the prices that a Market Participant without market power would offer in a profit-maximising Portfolio Supply Curve; or

   (b)   prices offered by a Market Participant in its Real-Time Market Submissions are inconsistent with the prices that a Market Participant without market power would offer in a profit-maximising Real-Time Market,

   must determine that the prices were an Irregular Price Offer.

2.16C.7.   The Economic Regulation Authority must investigate and determine, in accordance with clause 2.13.27, and the WEM Procedure specified in 2.16D.15, whether an Irregular Price Offer determined under clause 2.16C.6 has resulted in an inefficient market outcome.

2.16C.8.   Without limiting clauses 2.16C.6 and 2.16C.7 the Economic Regulation Authority must make a determination under clause 2.16C.6 and, if necessary, under clause 2.16C.7, no later than six months from the day the Economic Regulation Authority commenced its investigation under clause 2.16C.6.

2.16C.9.   In any investigation under clause 2.16C.7, the Economic Regulation Authority:

   (a)   must consider any changes to:

      i.   a STEM Clearing Price or Reference Trading Price;

      ii.   Energy Uplift Payments; or

      iii.   the quantities of energy scheduled in respect of Market Participants in the STEM Auction, or the dispatch of Facilities in the Real-Time Market,

that are likely to have occurred as a result of the Irregular Price Offer; and

(b)   may consider any other matters it considers relevant.

> **Explanatory Note:**
>
> Clause 2.16C.10 has been amended in response to stakeholder feedback, to ensure that Market Participants are notified in advance of the Economic Regulation Authority publishing the results of its determination on its website.
>
> Clause 2.16C.11 has been added to, in line with the Information Paper, clarify that the Economic Regulation Authority can commence an investigation into an alleged breach of clause 2.16A.1, even if it was not actively monitoring the Market Participant's price offers at the time of the alleged breach because the Market Participant was not captured under the monitoring requirements of clause 2.16C.4.

2.16C.10. If, following an investigation, the Economic Regulation Authority has determined pursuant to clauses 2.16C.6 and clause 2.16C.7 that a Market Participant has breached the obligation specified in clause 2.16C.5, the Economic Regulation Authority must:

(a)   at least one day prior to publication under clause 2.16C.10(b), notify the relevant Market Participant of the determination; and

(b)   publish details of its determination, including the name of the relevant Market Participant and the Irregular Price Offer to which the determination relates on its website.

2.16C.11. For the avoidance of doubt, nothing in these WEM Rules prohibits the Economic Regulation Authority from commencing an investigation into an alleged breach of clause 2.16A.1, if the Economic Regulation Authority was not monitoring the Market Participant's price offers at the time of the alleged breach because the Market Participant was not captured under clause 2.16C.4.

> **Explanatory Note**
>
> Section 2.16D sets out the Economic Regulation Authority's obligation to publish guidelines and a WEM Procedure into how it will conduct the market power test, and a framework for Market Participants to seek guidance from the Economic Regulation Authority on offer parameters contained in the Offer Construction Guideline.
>
> Clause 2.16D.1 requires the Economic Regulation Authority to develop the Offer Construction Guideline setting out guidance in relation to the determinations the Economic Regulation Authority must conduct under clauses 2.16C.6 and 2.16C.7, as well as on the obligation under clause 2.16A.1.
>
> Clauses 2.16C.6 and 2.16A.1 relate to assessment of prices in offers, and so the guideline includes matters related to the costs that Market Participants would be expected to include in offers.
>
> The Trading Conduct Guideline is specific to the prohibition in 2.16A.2, and so would focus on examples of relevant conduct.
>
> In response to stakeholders feedback the Offer Construction Guideline under clause 2.16D.1 now:
>
> - specifically provides for the recovery of all efficient variable costs, including those actually incurred under long-term take or pay fuel contracts (2.16D.1(iii)).
>
> - outlines how the Economic Regulation Authority will consider offers made by different Facility types, including Electric Storage Resources (2.16D.1(iv)).

> • provides additional guidance to participants on how the Economic Regulation Authority will assess inefficient market outcomes (2.16D.1(vi)).

2.16D. Guidance, WEM Procedures and Consultation Framework

2.16D.1. The Economic Regulation Authority must develop, maintain and publish on its website, the following guidelines:

    (a)   an Offer Construction Guideline that:

        i.   provides guidance to Market Participants in relation to their offer price obligations under clause 2.16A.1;

        ii.   details how the Economic Regulation Authority will assess prices offered under clause 2.16C.6;

        iii.   permits the recovery of all efficient variable costs of producing the relevant electricity, including costs incurred under long-term take-or-pay fuel contracts;

        iv.   outlines how the Economic Regulation Authority will consider offers made by different Facility types, including Electric Storage Resources;

        v.   provides examples illustrating the types of conduct that the Economic Regulation Authority considers would be likely to contravene the price offer obligations under clause 2.16A.1; and

        vi.   provides guidance to Market Participants on how the Economic Regulation Authority will assess inefficient market outcomes under clause 2.16C.7; and

    (b)   a Trading Conduct Guideline that must provide clarity and guidance to Market Participants regarding the prohibited conduct described in clause 2.16A.2. The Trading Conduct Guideline must provide examples illustrating the types of conduct that the Economic Regulation Authority considers would be likely to result in a contravention of clause 2.16A.2.

2.16D.2. Subject to the provisions of this section 2.16D, the Economic Regulation Authority may amend the guidelines to be developed and maintained under clause 2.16D.1 at any time.

Explanatory Note

Clauses 2.16D.3 and 2.16D.4 stipulate the requirements for consultation for making and amending the guidelines described in clause 2.16D.1.

2.16D.3. In making the guidelines to be developed and maintained under clause 2.16D.1, or any amendments to them under clause 2.16D.2, the Economic Regulation Authority must publish on its website:

(a)   a draft report containing a copy of the proposed guidelines, or the proposed amendments to the guidelines, as applicable, and a request for submissions;

(b)   the closing date for submissions, which must be no earlier than four weeks after the date of publication of the draft report; and

(c)   a copy of all submissions received provided that if a submission contains information that the Economic Regulation Authority reasonably considers to be confidential, the Economic Regulation Authority may redact that information to the extent it considers appropriate.

Explanatory Note

Clauses 2.16D.3 and 2.16D.4 require consultation when making and amending the guidelines described in clause 2.16D.1.

Clause 2.16D.4(f) has been inserted in response to a stakeholder comment, to require the ERA to set a commencement date for an amended Offer Construction Guideline.

2.16D.4.   Following the closing date for submissions on the draft report published under clause 2.16D.3, the Economic Regulation Authority must publish a final report on its website containing:

(a)   the final guidelines, or the amendments to the guidelines, as applicable;

(b)   where applicable, the reasons for the amendment to the guidelines;

(c)   a summary of any submissions received by the Economic Regulation Authority on the draft report published under clause 2.16D.3 that were received within the time specified, and any late submissions the Economic Regulation Authority has decided, in its discretion, to take into account;

(d)   the Economic Regulation Authority's responses to the issues raised in those submissions;

(e)   any other matters the Economic Regulation Authority considers relevant to the guidelines, or the amendment to the guidelines, as applicable; and

(f)   the proposed date that the amended Offer Construction Guideline will commence.

Explanatory Note

Clauses 2.16D.5 to 2.16D.13 provide for a consultation framework that allows Market Participants responsible for the Registered Facilities identified within a Material Portfolio or a Material Constrained Portfolio to seek guidance from the Economic Regulation Authority in relation to the matters contained in the Offer Construction Guideline as they relate to the relevant determination. This would include guidance on how particular elements in the Offer Construction Guideline would apply to a specific Facility.

Clause 2.16D.5 has been amended in response to stakeholder comments.

2.16D.5.   A Market Participant that has received a notice from the Economic Regulation Authority under clauses 2.16C.1(c)(ii) or 2.16C.2(d) may, in accordance with clause 2.16D.6, request guidance from the Economic Regulation Authority in

relation to the Offer Construction Guideline, including, for the purposes of the Economic Regulation Authority's assessment of prices offered under clause 2.16C.6, how the matters in the Offer Construction Guideline may apply to a Registered Facility registered by that Market Participant.

2.16D.6. A request made by a Market Participant under 2.16D.5 must:

    (a) be in writing;

    (b) identify the matters in the Offer Construction Guideline on which the Market Participant is seeking guidance;

    (c) specify the Market Participant's reasons for seeking guidance;

    (d) where relevant, provide supporting materials that illustrate or evidence the matters raised in the request; and

    (e) include any other information specified in the WEM Procedure referred to in clause 2.16D.15.

2.16D.7. Within 20 Business Days of receipt of a request under clause 2.16D.5, the Economic Regulation Authority must:

    (a) consider the request; and

    (b) subject to clause 2.16D.10, use reasonable endeavours to provide guidance on the matters specified in the request.

2.16D.8. The Economic Regulation Authority may request further information from a Market Participant that has made a request under clause 2.16D.5. If, within 15 Business Days of the date of the Economic Regulation Authority's request for further information, the Market Participant does not provide the information requested, or the Economic Regulation Authority reasonably considers the information provided is not satisfactory, the Market Participant will be deemed to have withdrawn the relevant request.

2.16D.9. If the Economic Regulation Authority issues a request for further information under clause 2.16D.8, the timeframe specified in clause 2.16D.7 for the Economic Regulation Authority to provide the relevant guidance will recommence from the date the Market Participant has provided all of the further information requested by the Economic Regulation Authority.

Explanatory Note

Clause 2.16D.10 gives the Economic Regulation Authority the discretion to not provide guidance to a Market Participant where it would be unnecessary, duplicative, or unreasonably costly.

2.16D.10. The Economic Regulation Authority is not required to provide guidance to a Market Participant in relation to a request under clause 2.16D.5 where it considers that:

    (a) the Offer Construction Guideline already provides sufficient guidance on the matters raised in the request;

(b)   the request does not meet the requirements in clause 2.16D.6;

(c)   the cost the Economic Regulation Authority would incur to provide the guidance sought in the request is unreasonable or excessive; or

(d)   the request is substantially similar to a previous request considered by the Economic Regulation Authority from the same Market Participant.

> **Explanatory Note**
>
> Clause 2.16D.11 identifies that any guidance provided by the Economic Regulation Authority does not bind it or the relevant Market Participant and may be reconsidered, revised or withdrawn.
>
> Clause 2.16D.12 creates an obligation for the Economic Regulation Authority to consider whether amendments to the Offer Construction Guideline are necessary to account for the guidance it has provided to Market Participants.

2.16D.11. Any guidance provided by the Economic Regulation Authority pursuant to clause 2.16D.7 is not binding on the Economic Regulation Authority, the Market Participant who made the request, or any other person, and the Economic Regulation Authority may, at any time, reconsider, revise or withdraw any guidance provided to a Market Participant.

> **Explanatory Note**
>
> Clause 2.16D.12 has been inserted to address a comment by a stakeholder that any guidance the Economic Regulation Authority provides to a Market Participant is considered when undertaking an investigation.

2.16D.12. The Economic Regulation Authority must consider any guidance provided to a Market Participant under clause 2.16D.7 if relevant to any investigation being undertaken by the Economic Regulation Authority under clauses 2.16C.6 and 2.16C.7.

2.16D.13. Where the Economic Regulation Authority provides guidance to a Market Participant in accordance with clause 2.16D.7, the Economic Regulation Authority must consider whether the Offer Construction Guideline should be amended to reflect that guidance. Where the Economic Regulation Authority considers the Offer Construction Guideline should be amended, the Economic Regulation Authority must initiate an amendment to the Offer Construction Guideline in accordance with clause 2.16D.3 as soon as practicable.

2.16D.14. The Economic Regulation Authority must publish on its website a copy of any guidance provided to a Market Participant in accordance with clause 2.16D.7 provided that the Economic Regulation Authority must first redact all information that is confidential or commercially sensitive in the guidance, including the name of the Market Participant to whom the guidance was provided. Where the Economic Regulation Authority considers the guidance cannot be redacted to ensure the identity of the Market Participant to whom the guidance was provided remains confidential, the Economic Regulation Authority is not required to publish the guidance.

2.16D.15. The Economic Regulation Authority must document in a WEM Procedure:

  (a) the methodologies and processes to be followed by the Economic Regulation Authority in relation to:

  i. identifying each Portfolio and Constrained Portfolio operating in the Wholesale Electricity Market pursuant to clauses 2.16B.1(a) and 2.16B.2, respectively;

  ii. carrying out the calculations under clauses 2.16C.1(a) and 2.16C.2(a) in relation to identifying each Material Portfolio and Material Constrained Portfolio, respectively; and

  iii. monitoring prices offered by a Market Participant under clause 2.16C.4, and making determinations under clauses 2.16C.6 and 2.16C.7 in relation to those price offers;

  (b) the types and format of the information, and level of detail required to be maintained or recorded by a Market Participant to enable the Economic Regulation Authority to carry out its monitoring of price offers under clause 2.16C.4; and

  (c) details of the processes the Economic Regulation Authority and Market Participants must follow in respect to a request for guidance under clause 2.16D.5, which may include a template that a Market Participant must use for making a request.

2.16E.   Irregular Price Offers – Limited Application of Section 2.13

2.16E.1. Subject to clauses 2.16C.6 and 2.16C.7, the Economic Regulation Authority must not, in respect of a price offer described in clause 2.16C.4, investigate a Market Participant under clause 2.13.27, or take enforcement action under clause 2.13.36 for a breach of clause 2.16A.1, where the Economic Regulation Authority has determined under clause 2.16C.7 that an Irregular Price Offer by the Market Participant has not resulted in an inefficient market outcome.

2.16E.2. Where the Economic Regulation Authority has determined that an Irregular Price Offer by a Market Participant has not resulted in an inefficient market outcome, the Economic Regulation Authority must advise the Market Participant on the results of the investigation.

…

~~Administered Prices~~ Market Price Limits, Reviews and Loss Factors

2.26. Economic Regulation Authority Review~~s~~ of Market Price Limts and the Methodology for Setting ~~Administered Prices~~ the Benchmark Reserve Capacity Price

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Explanatory Note

The updated framework for the review and determination of Market Price Limits has been implemented in section 2.26. As the new term Market Price Limits extends beyond the energy markets, this content has substantially been relocated from the STEM chapter (section 6.20) and revised accordingly.

The clauses in this section:

- require the Economic Regulation Authority to review and determine the Energy Offer Price Ceiling three-yearly (clause 2.26.1), according to the existing formula used for the determining the Alternative Maximum STEM Price (2.26.2);

- require the Economic Regulation Authority to review and determine the FCESS Offer Price Ceilings three-yearly (2.26.2A), stipulating the principles for its determination (clause 2.26.2B);

- require the Economic Regulation Authority to review and determine the Energy Offer Price Floor three-yearly (2.26.2C), according to specified principles and process that are substantially relocated from section 6.20 (clause 2.26.2D to 2.262K);

- stipulate report and consultation requirements for a review (clauses 2.26.2L and 2.26.2M);

- allow the review to be brought forward in response to a Rule Participant request (clauses 2.26.2N to 2.26.2Q), with the drafting modelled on the process for Rule Participants to request changes to WEM Procedures (clauses 2.10.2 and 2.1.2A);

- describe the processes for information requests and the provision of information (clauses 2.26.2R to 2.26.2T); and

- clarifies the application and commencement of the Market Price Limits, including any indexation process determined by the Economic Regulation Authority (clauses 2.26.2U and 2.26.2V).

Consultation requirements in this section have been modelled on a combination of section 2.27C and section 6.20.

Clause 2.26.1 has been amended to clarify that a subsequent review of the Energy Offer Price Ceiling should be completed and the final report published no later than three years after the publication of the previous final report.

Various changes have been proposed to clauses 2.26.2A and 2.26.2B to implement multiple FCESS Offer Price Ceilings and amend the pricing units.

Clause 2.26.2F has been amended to clarify that this clause describes the process known as 'stage 2'. Before stage 2, the ERA must first determine that the floor price is not appropriate.

Review of Energy Offer Price Ceiling

2.26.1   [Blank]

2.26.2   [Blank]

2.26.1.   The Economic Regulation Authority must, in accordance with this section 2.26, review the value of the Energy Offer Price Ceiling at least once every three years. For the avoidance of doubt, the Economic Regulation Authority must complete a subsequent review under this clause 2.26.1 and publish its final report no later than three years from the date of publication of the final report from the preceding review.

2.26.2.   In conducting a review pursuant to clause 2.26.1, the Economic Regulation Authority must calculate the Energy Offer Price Ceiling by:

(a)   applying the following formula:

$(1 + \text{Risk Margin}) \times (\text{Variable O\&M} + (\text{Heat Rate} \times \text{Fuel Cost}))/\text{Loss Factor}$

where:

i.   Risk Margin is a measure of uncertainty in the assessment of the mean short run average cost for the highest cost Facility in the SWIS, expressed as a fraction;

ii.   Variable O&M is the mean variable operating and maintenance cost for the highest cost Facility in the SWIS, expressed in $/MWh, and includes, but is not limited to, start-up related costs;

iii.   Heat Rate is the mean heat rate at the minimum dispatchable loading level specified in Standing Data for the highest cost Facility in the SWIS, expressed in GJ/MWh;

iv.   Fuel Cost is the mean unit fixed and variable fuel cost for the highest cost Facility in the SWIS, expressed in $/GJ; and

v.   Loss Factor is the marginal loss factor for the highest cost Facility in the SWIS, relative to the Reference Node, determined in accordance with section 2.27,

where the ERA must determine the values for each factor described in clauses 2.26.2(a)(i) to 2.26.2(a)(v) consistently with the Offer Construction Guideline as it applies to the highest cost generating Facility in the SWIS;

(b)   rounding up the value in clause 2.26.2(a) to the nearest multiple of $100/MWh; and

(c)   determining whether an indexation process should apply to the Energy Offer Price Ceiling to reflect movements in input costs and, if so, determining the formula for the indexation calculation and the frequency at which indexation will apply.

Review of FCESS Offer Price Ceilings

2.26.2A. The Economic Regulation Authority must, in accordance with this section 2.26, review the value of the Contingency Reserve Raise Offer Price Ceiling, Contingency Reserve Lower Offer Price Ceiling, RoCoF Control Service Offer Price Ceiling, Regulation Raise Offer Price Ceiling and Regulation Lower Offer Price Ceiling at least once every three years. For the avoidance of doubt, the Economic Regulation Authority must complete a subsequent review under this clause 2.26.2A and publish its final report no later than three years from the date of publication of the final report from the preceding review.

2.26.2B. In conducting a review pursuant to clause 2.26.2A, the Economic Regulation Authority must determine the value of each FCESS Offer Price Ceiling by:

(a)   estimating, consistently with the Offer Construction Guideline as it applies to the highest cost Facility providing the relevant Frequency Co-optimised Essential System Service in the SWIS, the variable costs of providing the Frequency Co-optimised Essential System Service that are not compensated through other market mechanisms in the Wholesale Electricity Market;

(b)   rounding up its determination of the value of the FCESS Offer Price Ceiling to the nearest multiple of $50 per MW per hour or $50 per MWs per hour, as applicable; and

(c)   determining whether an indexation process should apply to the FCESS Offer Price Ceiling to reflect movements in input costs and, if so, determining the formula for the indexation calculation and the frequency at which indexation will apply.

Review of Energy Offer Price Floor

2.26.2C. The Economic Regulation Authority must, in accordance with this section 2.26, review the appropriateness of the value of the Energy Offer Price Floor at least once every three years. For the avoidance of doubt, the Economic Regulation Authority must complete a subsequent review under this clause 2.26.2C and publish its final report no later than three years from the date of publication of the final report from the preceding review.

2.26.2D. In conducting a review required by clause 2.26.2C, the Economic Regulation Authority must apply the following principles:

(a)   the Economic Regulation Authority must only revise the value of the Energy Offer Price Floor if it determines that the current value of the Energy Offer Price Floor is not appropriate in accordance with clause 2.26.2E;

(b)   if the Economic Regulation Authority determines that the current Energy Offer Price Floor is not appropriate under clause 2.26.2E, any revised value for the Energy Offer Price Floor must:

i.   allow for the Real-Time Market for energy to clear without the Reference Trading Price being equal to the Energy Offer Price Floor in most circumstances; and

ii.   subject to clause 2.26.2D(b)(i), limit the exposure of Market Participants to Reference Trading Prices that are reasonably likely to materially adversely affect the financial viability of a prudent Market Participant.

2.26.2E.   In determining whether the current value of the Energy Offer Price Floor is appropriate for the purposes of clause 2.26.2D(a), the Economic Regulation Authority must consider, without limitation, if, since the previous review of the value of the Energy Offer Price Floor under this section 2.26:

(a)   the Real-Time Market for energy has cleared at the Energy Offer Price Floor in one or more Dispatch Intervals due to, in the Economic Regulation Authority's reasonable opinion, the Energy Offer Price Floor being too high; and

(b)   there has been a change in the generation fleet in the SWIS that, in the Economic Regulation Authority's reasonable opinion, is likely to result in:

i.   the current Energy Offer Price Floor being materially lower than necessary to achieve the criterion in clause 2.26.2D(b)(i), including, but not limited to, an upgrade or the retirement of a Facility with high cycling costs; or

ii.   the current Energy Offer Price Floor being too high to achieve the criterion in clause 2.26.2D(b)(i), including, but not limited to, the increase of cycling costs due to deterioration or aging of an existing plant.

2.26.2F.   When reviewing the Energy Offer Price Floor in accordance with this section 2.26, if the Economic Regulation Authority determines under clause 2.26.2E that the Energy Offer Price Floor is not appropriate, the Economic Regulation Authority must:

(a)   determine for credible scenarios of low demand, the price at which the operator of the Facility with the highest cycling costs per MW in the SWIS in the scenario would, acting reasonably, decommit the Facility should the Reference Trading Price equal or fall below that price for a single Trading Interval:

(b)   revise the Energy Offer Price Floor to be the highest price determined under those scenarios that is lower than 95 percent of all of the prices determined under clause 2.26.2F(a); and

(c)   determine whether an indexation process should apply to the Energy Offer Price Floor to reflect movements in input costs and, if so, determine the formula for the indexation calculation and the frequency at which indexation will apply.

2.26.2G.   When determining the credible scenarios of low demand for the purpose of clause 2.26.2F(a), the Economic Regulation Authority may use historic scenarios but must also account for any changes expected to the SWIS that would come into effect prior to the time that the Energy Offer Price Floor would apply and that are likely to have an effect on the Reference Trading Price. The changes include, but are not limited to:

(a)   expected changes in system demand;

(b)   any expected entrance of a new Facility that will participate in the Real-Time Market;

(c)   expected changes to an existing Facility; and

(d)   any expected permanent exit of a Facility from the Real-Time Market.

2.26.2H.   When determining the cycling costs of a Facility under clause 2.26.2F(a), the Economic Regulation Authority must consider:

(a)   the factors that a Market Participant acting reasonably would consider in making a decommitment decision for the Facility with the highest cycling cost in the SWIS, assuming that all energy sent out by the Facility is settled at the Reference Trading Price, including:

i.   the cost to decommit and recommit within the timeframe specified under clause 2.26.2H(a)(iii), including start-related fuel and variable operating and maintenance costs of the Facility;

ii.   the minimum stable level of operation of the Facility;

iii.   the minimum time the Facility must remain out of service once decommitted before recommitment is possible; and

iv.   any expected losses or gains, opportunity costs and cost savings that the Market Participant would incur as a result of decommitment for the duration of the minimum time the Facility must remain out of service; and

(b)   any other matters that the Economic Regulation Authority considers relevant.

2.26.2I.   When determining the cycling costs of a Facility under clause 2.26.2F(a), the Economic Regulation Authority must have regard to the Wholesale Market Objectives and must, as far as practicable, use information about the cost the

relevant Facility would incur as provided by the relevant Market Participant but may use estimates where the Economic Regulation Authority considers it to be reasonable.

2.26.2J. A Market Participant may, by the time specified for the close of submissions under clause 2.26.2L(b), provide the Economic Regulation Authority with evidence regarding the costs a Facility incurs when decommitting for the purpose of the WEM Rules and which the Economic Regulation Authority must consider in determining the revised value for the Energy Offer Price Floor under clause 2.26.2C.

2.26.2K. Where a Market Participant provides the Economic Regulation Authority with satisfactory evidence under clause 2.26.2J, the Economic Regulation Authority must consider the information when determining the revised Energy Offer Price Floor as far as the information affects the Economic Regulation Authority's reasonable estimate of any costs that a prudent Market Participant would incur when decommitting its Facility in the scenarios under clause 2.26.2F(a).

Conducting a Review of a Market Price Limit

2.26.2L. In conducting a review of a Market Price Limit under clauses 2.26.1, 2.26.2A or 2.26.2C, the Economic Regulation Authority must publish on its website:

(a) a draft report and a request for submissions;

(b) the closing date for submissions, which must be no earlier than four weeks after the date of publication of the draft report; and

(c) a copy of all submissions received provided that if a submission contains information that the Economic Regulation Authority reasonably considers to be confidential, the Economic Regulation Authority may redact that information to the extent it considers appropriate.

2.26.2M. Following the closing date for submissions on the draft report published under clause 2.26.2L, the Economic Regulation Authority must publish a final report on its website containing:

(a) the issues identified by the Economic Regulation Authority;

(b) the assumptions made by the Economic Regulation Authority in undertaking the review;

(c) the Economic Regulation Authority's determination of the relevant Market Price Limit, which is to include, where applicable:

i. the revised value of the relevant Market Price Limit;

ii. the Trading Day from which the revised value of the relevant Market Price Limit will take effect, which must be at least five Business Days after the date of the publication of the report; and

iii.   any indexation process in the value of the relevant Market Price Limit and the associated times each indexed value will apply from;

(d)   how the Economic Regulation Authority determined the revised value of the relevant Market Price Limit, including any analysis and calculation parameters used in its determination;

(e)   a summary of any submissions received by the Economic Regulation Authority on the draft report published under clause 2.26.2L that were received within the time specified, and any late submissions the Economic Regulation Authority has decided, in its discretion, to take into account;

(f)   the Economic Regulation Authority's responses to the issues raised in those submissions; and

(g)   any other matters the Economic Regulation Authority considers relevant to the review.

2.26.2N.   Where a Rule Participant considers there has been a material change in circumstances since the Economic Regulation Authority's most recent review of a Market Price Limit pursuant to clauses 2.26.1, 2.26.2A or 2.26.2C, as applicable, the Rule Participant may, subject to clause 2.26.2O(a), notify the Economic Regulation Authority that it considers the Market Price Limit is no longer appropriate in accordance with clause 2.26.2O.

2.26.2O.   A notice by a Rule Participant under clause 2.26.2N must:

(a)   be given no earlier than six months after completion of the most recent review of the relevant Market Price Limit by the Economic Regulation Authority under clauses 2.26.1, 2.26.2A or 2.26.2C, as applicable; and

(b)   set out the Rule Participant's reasoning, with any supporting analysis, as to why it considers there has been a material change in circumstances such that the relevant Market Price Limit is no longer appropriate, having regard to the relevant matters in this section 2.26.

2.26.2P.   Following receipt of a notice under clause 2.26.2N, the Economic Regulation Authority must, as soon as practicable:

(a)   after considering the information in the notice determine whether it considers it is appropriate to bring forward the next required review of the relevant Market Price Limit under clauses 2.26.1, 2.26.2A or 2.26.2C, as applicable;

(b)   in making its determination under clause 2.26.2P(a), have regard to the Wholesale Market Objectives and any benefits of undertaking an earlier review; and

(c)   publish the Economic Regulation Authority's response to the notice on its website, which is to include details of whether a review of the relevant Market Price Limit will be progressed, the proposed timing for the review, and the reasons for its decision.

2.26.2Q. If the Economic Regulation Authority decides to bring forward a review of a Market Price Limit pursuant to clause 2.26.2P(a), the Economic Regulation Authority must use its best endeavours to conduct the review in accordance with the proposed timing published in its response to the relevant notice in accordance with clause 2.26.2P(c).

2.26.2R. In conducting a review of a Market Price Limit under clauses 2.26.1, 2.26.2A or 2.26.2C, the Economic Regulation Authority may request information from a Market Participant.

2.26.2S. An information request by the Economic Regulation Authority under clause 2.26.2R must specify the time by which the information specified in the request must be provided by the Market Participant, which must be at least 10 Business Days after the date of the request and be reasonable having regard to the nature of the information requested.

2.26.2T. Following receipt of a request under clause 2.26.2R, the Market Participant must provide the information specified in the request by the time specified in the request.

2.26.2U. Where the Economic Regulation Authority determines under clauses 2.26.2(c), 2.26.2B(c) or 2.26.2F(c) that indexation in the value of a Market Price Limit will apply, the Economic Regulation Authority must:

(a)   calculate each indexed value for the Market Price Limit in accordance with the process and schedule determined under clause 2.26.2M(c)(iii); and

(b)   for each indexed value calculated under clause 2.26.2U(a):

i.   publish on its website the indexed value and the Trading Day from which the indexed value will take effect; and

ii.   notify AEMO of the publication of the indexed value,

at least five Business Days before the Trading Day from which the indexed value will take effect.

2.26.2V. A revised value for a Market Price Limit replaces the previous value after the Economic Regulation Authority has published its final report in accordance with clause 2.26.2M, with effect from the Trading Day specified in the final report or, in the case of an indexed value, the Trading Day published by the Economic Regulation Authority on its website in accordance with clause 2.26.2U.

2.26.2W. AEMO must publish on the WEM Website each revised value of a Market Price Limit and the Trading Day from which the revised value will take effect within five Business Days after the Economic Regulation Authority publishes the relevant information under clauses 2.26.2M(c) or 2.26.2U(b).

2.26.3.   At least once in every five years, the Economic Regulation Authority must review the methodology for setting the Benchmark Reserve Capacity Price and the Energy Price Limits. A review must examine:

(a)   the level of competition in the market;

(b)   the level of market power being exercised and the potential for the exercise of market power;

(c)   the effectiveness of the methodology in curbing the use of market power;

(d)   [Blank];

(e)   historical STEM Bids and STEM Offers and the proportion of STEM Bids and Offers with prices equal to the Energy Price Limits;

(eA)   the Bids and Offers with prices equal to the Energy Price Limits submitted for Facilities which have received Constraint On payments in the Trading Intervals to which the Bids and Offers applied;

(f)   the appropriateness of the parameters and methodology in section 4.16 and the WEM Procedure referred to in clause 4.16.3 for recalculating the Benchmark Reserve Capacity Price;

(g)   the appropriateness of the parameters and methodology in section 6.20 for recalculating the Energy Price Limits; and

(h)   [Blank]

(i)   other matters which the Economic Regulation Authority considers relevant.

2.26.3A.   The Economic Regulation Authority must review the Reserve Capacity Price Factors at the same time as each review of the Benchmark Reserve Capacity Price under clause 2.26.3. A review must examine:

(a)   whether the Reserve Capacity Price Factors efficiently signal the long-term economic value of incremental or excess Reserve Capacity in the Wholesale Electricity Market;

(b)   whether the Reserve Capacity Price calculated using the Reserve Capacity Price Factors is consistent with the Wholesale Market Objectives; and

(c)   any other matters the Economic Regulation Authority considers to be relevant.

2.26.4.   The Economic Regulation Authority must provide a report to the Minister on the reviews conducted under clauses 2.26.3 and 2.26.3A.

2.26.5.   If the Economic Regulation Authority recommends changes as a result of the report prepared under clause 2.26.4, the Economic Regulation Authority must either submit a Rule Change Proposal or initiate a Procedure Change Process, as the case may be, to implement those changes.

…

3   Power System Security and Reliability

…

3.15A.   Supplementary Essential System Service Mechanism (SESSM)

…

> **Explanatory Note**
>
> New clause 3.15A.2A requires the Economic Regulation Authority to publish forward-looking six-monthly price benchmarks for efficient Frequency Co-optimised Essential System Services. Clause 3.15A.5 has also been updated to ensure that the role of these benchmarks in the Economic Regulation Authority's analysis of Real-Time Market outcomes will be documented in the relevant WEM Procedure.

3.15A.2.   The Economic Regulation Authority may only trigger the SESSM when, pursuant to a review under clauses 3.15.1A or 3.15.1B or its monitoring pursuant to clause 2.16.9, it reasonably considers that Real-Time Market outcomes are not consistent with the efficient operation of the Real-Time Market in respect of Frequency Co-optimised Essential System Services or the Wholesale Market Objectives.

3.15A.2A. Every six months the Economic Regulation Authority must publish the Frequency Co-optimised Essential System Services price benchmarks that reflect the Economic Regulation Authority's expectation of efficient Frequency Co-optimised Essential System Services prices for the relevant forward six-month period.

…

3.15A.5.   The Economic Regulation Authority must document in a WEM Procedure the process it will undertake to identify inefficient Real-Time market Market outcomes pursuant to clause 3.15A.2, which may include, but is not limited to:

(a)   comparing individual Facility offers of Frequency Co-optimised Essential System Services with:

i.   offers of Frequency Co-optimised Essential System Services from similar Facilities;

ii.   expected or known costs for that Facility;

iii.   offers from the same Facility in different time periods;

        iv.   historic offers of Frequency Co-optimised Essential System Services in the Real-Time Market; ~~and~~

        v.   the Frequency Co-optimised Essential System Services offer construction guidelines published by the Economic Regulation Authority~~]~~; and

        vi.   the Frequency Co-optimised Essential System Services price benchmarks required to be published under clause 3.15A.2A;

(b)   comparing existing Facility costs with potential new facility entrant costs;

(c)   an analysis of the information received from expressions of interest forms submitted in accordance with section 3.15B; and

(d)   comparing Frequency Co-optimised Essential System Services market outcomes with other relevant jurisdictions.

…

Explanatory Note

The earlier gazetted rules assume that Enablement Losses will be included in FCESS offer prices. With this approach being replaced with the FCESS Uplift Payment, references to Enablement Losses in section 3.15A have been amended.

3.15A.20. AEMO must develop and publish a SESSM Submission form which must include the following fields for the SESSM procurement:

(a)   the SESSM Availability Quantity for each Dispatch Interval in the SESSM Award Duration up to the quantity set out in the SESSM Service Specification for the existing or new facility which may vary according to the time periods set out in the SESSM Service Specification;

(b)   the proposed SESSM Availability Payment, which:

        i.   is the total amount payable across the SESSM Award Duration for offering the SESSM Availability Quantity into the Real-Time Market; and

        ii.   must be equal to or less than the incremental fixed costs, if any, that are not already covered by any Capacity Credit payments, which would otherwise be incurred to make available the SESSM Availability Quantity of the Frequency Co-optimised Essential System Service in addition to any Base ESS Quantity of that Frequency Co-optimised Essential System Service;

(c)   the proposed SESSM Offer Cap, which must reflect the variable costs inclusive of margin of providing the relevant Frequency Co-optimised Essential System Service, and which:

        i.   is the highest price which the Market Participant or person intending to be a Market Participant will offer the applicable Frequency Co-optimised Essential System Service into the Real-Time Market ~~(excluding Enablement Losses)~~; and

ii.   may vary according to the time periods set out in the SESSM Service Specification;

(d)   the SESSM Award Duration; and

(e)   where the SESSM includes more than one Frequency Co-optimised Essential System Service, whether the SESSM Submission is contingent on holding a SESSM Award for more than one Frequency Co-optimised Essential System Service that is also included in the SESSM and, if so, which ones.

…

3.15A.22. Where a Market Participant submits a SESSM Submission under clause 3.15A.21 in respect of an accredited Facility, the SESSM Submission must also include:

(a)   a comparison of the proposed SESSM Availability Quantity of the Facility to its historic quantities offered in the Real-Time Market over the past 12 months in Dispatch Intervals within the SESSM Service Timing; and

(b)   [Blank]the number of Dispatch Intervals in the past 12 months within the SESSM Service Timing for which the Market Participant included forecast Enablement Losses for the Facility in the prices in its Real-Time Market Offers for the relevant Frequency Co-optimised Essential System Service;

(c)   [Blank]the average percentage of the price in Real-Time Market Offers for the Dispatch Intervals identified in 3.15A.22(b) that related to forecast Enablement Losses; and

(d)   a comparison of the proposed SESSM Offer Cap for the Facility to its historic offer prices offered in the Real-Time Market (excluding Enablement Losses) over the past 12 months.

…

3.15A.27. When selecting the lowest cost combination of SESSM Submissions in accordance with clause 3.15A.26(a), AEMO must:

(a)   exclude SESSM Submissions that do not comply with the SESSM Service Specification;

(b)   exclude SESSM Submissions for new facilities where insufficient evidence has been provided to support the Key Project Dates or that all necessary Environmental Approvals have been granted;

(c)   identify historical Dispatch Intervals matching the SESSM Service Specification;

(d)   calculate energy price profiles for energy matching the SESSM Service Timing for those Dispatch Intervals on the basis of three categories being average cost, high cost and low cost;

(e)   calculate effective Frequency Co-optimised Essential System Service offer prices for each SESSM Submission comprising:

    i.   proposed SESSM Availability Payment divided by the sum of all SESSM Availability Quantities within the SESSM Award Duration;

    ii.   proposed SESSM Offer Cap; and

    iii.   expected ~~Enablement Losses~~ <u>FCESS Uplift Payments</u> based on:

        1.   Standing Enablement Minimum;

        2.   start-up costs; and

        3.   minimum running costs; and

(f)   calculate the lowest cost combination of SESSM Submissions to deliver the requirement under each of the three energy price profiles referred to in clause 3.15A.27(d);

(g)   for submissions provided in accordance with 3.15A.21 adjust the SESSM Availability Quantity to account for Network Constraints; and

(h)   adjust the SESSM Availability Quantity to account for AEMO's assessed capability of the Facility to provide the relevant Frequency Co-optimised Essential System Service.

6.   The Short Term Energy Market

…

6.3B.   STEM Submissions Timetable and Process

…

> **Explanatory Note**
>
> Clause 6.3B.2 was added through the Tranche 6 Amending Rules. This clause has been amended, and the defined terms updated, to align with the new Market Price Limits framework.

6.3B.2.   AEMO must use the following process to adjust a Standing STEM Submission to make a valid STEM Submission for a Trading Interval under clause 6.3B.1B and to review and adjust a STEM Submission for a Trading Interval under clause 6.3B.1C:

(a)   If the cumulative MWh quantity over all Price-Quantity Pairs in the Portfolio Supply Curve is greater than the Maximum Supply Capability for the Market Participant for the Trading Interval which was determined on the current Scheduling Day under clause 6.3A.3(e), the Price-Quantity Pairs must be adjusted downward so that the cumulative MWh quantity over all the Price-Quantity Pairs equals the Maximum Supply Capability. This must be achieved by deleting successively or reducing the highest price Price-Quantity Pairs until the cumulative MWh quantity over all remaining Price-Quantity Pairs equals the Maximum Supply Capability.

(b)   If the cumulative MWh quantity over all Price-Quantity Pairs in the Portfolio Demand Curve is greater than the Maximum Consumption Capability for the Market Participant for the Trading Interval which was determined on the current Scheduling Day under clause 6.3A.3(f), the Price-Quantity Pairs must be adjusted downward so that the cumulative MWh quantity over all the Price-Quantity Pairs equals the Maximum Consumption Capability. This must be achieved by deleting successively or reducing the highest price Price-Quantity Pairs until the cumulative MWh quantity over all remaining Price-Quantity Pairs equals the Maximum Consumption Capability.

(c)   If the price in any Price-Quantity Pair in the Portfolio Supply Curve or Portfolio Demand Curve is greater than the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling which will apply (or which AEMO expects will apply) in the Trading Interval, the price in the Price-Quantity Pair must be replaced by the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling which will apply (or which AEMO expects will apply) in the Trading Interval.

(d)   If the price in any Price-Quantity Pair in the Portfolio Supply Curve or Portfolio Demand Curve is less than the ~~Minimum STEM Price~~ Energy Offer Price Floor which will apply (or which AEMO expects will apply) in the

Trading Interval, the price in the Price-Quantity Pair must be replaced by the ~~Minimum STEM Price~~ Energy Offer Price Floor which will apply (or which AEMO expects will apply) in the Trading Interval.

(e)   [Blank]~~If the cumulative MWh quantity over all Price-Quantity Pairs in the Portfolio Supply Curve with prices which exceed the Maximum STEM Price which will apply (or which AEMO expects will apply) in the Trading Interval ("liquid priced quantity") is greater than the sum over all Registered Facilities declared in the Fuel Declaration to be operating on Liquid Fuel of the Maximum Facility Supply Capability determined for the Facility for the Trading Interval on the current Scheduling Day under clause 6.3A.3(d) ("allowed quantity"), the Price-Quantity Pairs must be adjusted so that the liquid priced quantity is less than or equal to the allowed quantity. This must be achieved by successively replacing the price of the Price-Quantity Pair with the lowest price which exceeds the Maximum STEM Price with the Maximum STEM Price, until the liquid priced quantity is less than or equal to the allowed quantity.~~

(f)   If multiple Price-Quantity Pairs in the Portfolio Supply Curve share the same price, they must be replaced with a single Price-Quantity Pair for that price with a MWh quantity equal to the sum of the MWh quantities in the Price-Quantity Pairs which are being replaced.

(g)   If multiple Price-Quantity Pairs in the Portfolio Demand Curve share the same price, they must be replaced with a single Price-Quantity Pair for that price with a MWh quantity equal to the sum of the MWh quantities in the Price-Quantity Pairs which are being replaced.

To avoid doubt, the process steps specified in this clause 6.3B.2 must be performed in the order listed, and a reference to a Portfolio Supply Curve or Portfolio Demand Curve in those clauses is a reference to the Portfolio Supply Curve or Portfolio Demand Curve as adjusted by any earlier steps in the process.

…

6.6.   Format of STEM Submission and Standing STEM Submission Data

…

> **Explanatory Note**
>
> The following clauses have been amended to remove and update obligations due to the shift to a single energy price cap, and to remove the obligation to offer at short run marginal cost.

6.6.2A.   For:

(a)   a Fuel Declaration the Market Participant must declare which of its Liquid Fuel capable Registered Facilities are assumed to be operating on Liquid Fuel in forming the Portfolio Supply Curve;

(b)   [Blank]

(c)   [Blank]

(d)   a Portfolio Supply Curve:

   i.   one or more Price-Quantity Pairs may be specified; and

   ii.   the cumulative MWh quantity over all Price-Quantity Pairs must not exceed the Maximum Supply Capability determined under clause 6.3A.3(e); and

   iii. the cumulative MWh quantity over all Price-Quantity Pairs with prices exceeding the Maximum STEM Price must not exceed the sum over all Registered Facilities declared in the Fuel Declaration to be operating on Liquid Fuel of the Maximum Facility Supply Capability determined under clause 6.3A.3(d);

(e)   a Portfolio Demand Curve:

   i.   one or more Price-Quantity Pairs may be specified; and

   ii.   the cumulative quantity included in the Price-Quantity Pairs must not exceed the Maximum Consumption Capability determined under clause 6.3A.3(f).

6.6.3.   [Blank]A Market Participant must not, for any Trading Interval, offer prices within its Portfolio Supply Curve that do not reflect the Market Participant's reasonable expectation of the short run marginal cost of generating the relevant electricity when such behaviour relates to market power.

6.6.4.   The maximum number of Price-Quantity Pairs which a Market Participant may include in a Portfolio Supply Curve is 30.

6.6.5.   For Price-Quantity Pairs in Portfolio Supply Curves:

(a)   each Price-Quantity Pair must comprise one price and one quantity;

(b)   each Price-Quantity Pair price must be:

   i.   in units of $/MWh expressed to a precision of $0.01/MWh;

   ii.   [Blank]

   iii. greater than or equal to the Minimum STEM Price Energy Offer Price Floor;

   iv.   less than or equal to the Alternative Maximum STEM Price Energy Offer Price Ceiling; and

   v.   set such that no two Price-Quantity Pairs in a Portfolio Supply Curve have the same price;

(c)   each Price-Quantity Pair quantity must be

   i.   in units of MWh expressed to a precision of 0.001 MWh;

   ii.   Loss Factor adjusted; and

(d)   a Price-Quantity Pair means that the Market Participant is prepared to sell a quantity of energy into the STEM for that Price-Quantity Pair equal to:

  i.   0 MWh if the STEM Clearing Price is less than the Price-Quantity Pair price;

  ii.   the Price-Quantity Pair quantity if the STEM Clearing Price is greater than the Price-Quantity Pair price; and

  iii.   an amount between 0 MWh and the Price-Quantity Pair quantity if the STEM Clearing Price equals the Price-Quantity Pair price.

6.6.6.   [Blank]

6.6.7.   The maximum number of Price-Quantity Pairs to be included in a Portfolio Demand Curve is 30.

6.6.8.   For Price-Quantity Pairs in Portfolio Demand Curves:

  (a)   each Price-Quantity Pair price must be:

    i.   in units of $/MWh expressed to a precision of $0.01/MWh;

    ii.   less than or equal to the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling;

    iii.   greater than or equal to the ~~Minimum STEM Price~~ Energy Offer Price Floor; and

    iv.   set such that no two Price-Quantity Pairs in a Portfolio Demand Curve have the same price;

  (b)   each Price-Quantity Pair quantity must be:

    i.   in units of MWh expressed to a precision of 0.001 MWh; and

    ii.   Loss Factor adjusted; and

  (c)   a Price-Quantity Pair means that the Market Participant is prepared to buy a quantity of energy from the STEM for that Price-Quantity Pair equal to:

    i.   0 MWh if the STEM Clearing Price is greater than the Price-Quantity Pair price;

    ii.   the Price-Quantity Pair quantity if the STEM Clearing Price is less than the Price-Quantity Pair price; and

    iii.   an amount between 0 MWh and the Price-Quantity Pair quantity if the STEM Clearing Price equals the Price-Quantity Pair price.

Explanatory Note

Clauses 6.6.9 to 6.6.12 describe an application process to allow a Market Participant to bid above the lower of the two energy price caps for a Facility that is not liquid fuel capable. This process is redundant with the move to a single energy price cap, so the clauses are to be removed.

6.6.9. A Market Participant may apply to AEMO for all or part of the capacity of one of its Scheduled Facilities that is not Liquid Fuel capable to be treated as if it was dual-fuel capable where one fuel is Liquid Fuel for the purposes of the STEM, the Real-Time Market and settlement. The application must be in a form specified by AEMO, including evidence of the arrangement described in clause 6.6.10(a), and must specify the period to which the application relates.

6.6.10. AEMO must assess an application made under clause 6.6.9 and inform the Market Participant whether or not the application is approved. AEMO must approve the application only where the Market Participant provides evidence satisfactory to AEMO that:

(a) the Market Participant has an arrangement with a user of fuel ("**Fuel User**") to release a quantity of fuel for use in a Scheduled Facility which is not Liquid Fuel capable and is registered by the Market Participant;

(b) the use of fuel released under the arrangement would result in the Fuel User using Liquid Fuel in a Facility or other equipment; and

(c) as a consequence of clause 6.6.10(a) and (b), the short run marginal cost of generating electricity using the Scheduled Facility using fuel released under the arrangement would be above the Maximum STEM Price.

6.6.11. Where AEMO approves an application under clause 6.6.9, AEMO must:

(a) notify the Market Participant that the application has been approved as soon as practicable; and

(b) update the relevant Standing Data in accordance with clause 2.34.

6.6.12. When AEMO does not approve an application under clause 6.6.9, AEMO must notify the Market Participant as soon as practicable.

…

6.9. The STEM Auction

…

Explanatory Note

Clauses 6.9.5 and 6.9.6 are amended to reflect changes to price limits and defined terms.

6.9.5. AEMO must determine an aggregate STEM bid curve for each Trading Interval from the STEM Bids where this aggregate STEM bid curve:

(a) describes the quantity that Market Participants in aggregate wish to purchase from AEMO through the STEM at every price between, and including, the Minimum STEM Price Energy Offer Price Floor and the Alternative Maximum STEM Price Energy Offer Price Ceiling; and

   (b) passes through the point indicating zero consumption at the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling.

6.9.6. AEMO must determine an aggregate STEM offer curve for each Trading Interval from the STEM Offers where this aggregate STEM offer curve:

   (a) describes the quantity that Market Participants in aggregate wish to sell to AEMO through the STEM at every price between, and including, the ~~Minimum STEM Price~~ Energy Offer Price Floor and the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling; and

   (b) passes through the point indicating zero supply at the ~~Minimum STEM Price~~ Energy Offer Price Floor.

…

6.20. ~~Energy Price Limits~~[Blank]

~~6.20.1. The Energy Price Limits are:~~

   ~~(a) the Maximum STEM Price;~~

   ~~(b) the Alternative Maximum STEM Price; and~~

   ~~(c) the Minimum STEM Price.~~

~~6.20.2. The Maximum STEM Price is the value published on the WEM Website and revised in accordance with clauses 6.20.6 and 6.20.11.~~

~~6.20.3. Subject to clause 6.20.11, the Alternative Maximum STEM Price is to equal:~~

   ~~(a) from 8 AM on September 1, 2006, $480/MWh; and~~

   ~~(b) from 8 AM on the first day of each subsequent month the sum of:~~

     ~~i. $440/MWh multiplied by the amount determined as follows:~~

       ~~1. the average of the Singapore Gas Oil (0.5% sulphur) price, expressed in Australian dollars, for the three months ending immediately before the preceding month as published by the International Energy Agency in its monthly Oil Market Report, or the average of another suitable published price as determined by AEMO, divided by;~~

       ~~2. the average of the Singapore Gas Oil (0.5% sulphur) price, expressed in Australian dollars, for May, June and July 2006 or, if a revised Alternative Maximum STEM Price takes effect in accordance with clause 6.20.11, for the three months ending immediately before the month preceding the month in which the revised Alternative Maximum STEM Price takes effect, as published by the International Energy Agency in its monthly Oil Market Report, or the average of~~

> > another suitable published price as determined by AEMO; and

> > ii from 8 AM on September 1, 2006, to 8 AM on 1 September, 2007, $40/MWh, and for each subsequent 12-month period $40/MWh multiplied by the CPI for the June quarter of the relevant 12-month period divided by CPI for the 2006 June quarter or, if a revised Alternative Maximum STEM Price takes effect in accordance with clause 6.20.11, the June quarter of the year in which the revised Alternative Maximum STEM Price takes effect, where CPI is the weighted average of the Consumer Price Index All Groups value of the eight Australian State and Territory capital cities as determined by the Australian Bureau of Statistics;

> rounded to the nearest whole dollar, where a half dollar is rounded up, with the exception that from the date and time that a revised Alternative Maximum STEM Price takes effect in accordance with clause 6.20.11, the revised values supersede the values in 6.20.3(b)(i) and 6.20.3(b)(ii), and are to be the values used in calculating the Alternative Maximum STEM Price for each month subsequent to the month in which the revised Alternative Maximum STEM Price takes effect.

6.20.4. [Blank]

6.20.5. [Blank]

6.20.6. The Economic Regulation Authority must annually review the appropriateness of the value of the Maximum STEM Price and Alternative Maximum STEM Price.

6.20.7. In conducting the review required by clause 6.20.6 the Economic Regulation Authority:

> (a) may propose revised values for the following:

> > i. the Maximum STEM Price, where this is to be based on the Economic Regulation Authority's estimate of the short run marginal cost of the highest cost generating works in the SWIS fuelled by natural gas and is to be calculated using the formula in paragraph (b); and

> > ii. the Alternative Maximum STEM Price, where this is to be based on the Economic Regulation Authority's estimate of the short run marginal cost of the highest cost generating works in the SWIS fuelled by distillate and is to be calculated using the formula in paragraph (b);

> (b) must calculate the Maximum STEM Price or Alternative Maximum STEM Price using the following formula:

> (1 + Risk Margin)× (Variable O&M +(Heat Rate × Fuel Cost))/Loss Factor

> Where

i. ~~Risk Margin is a measure of uncertainty in the assessment of the mean short run average cost for a 40 MW open cycle gas turbine generating station, expressed as a fraction;~~

ii. ~~Variable O&M is the mean variable operating and maintenance cost for a 40 MW open cycle gas turbine generating station, expressed in $/MWh, and includes, but is not limited to, start-up related costs;~~

iii. ~~Heat Rate is the mean heat rate at minimum capacity for a 40 MW open cycle gas turbine generating station, expressed in GJ/MWh;~~

iv. ~~Fuel Cost is the mean unit fixed and variable fuel cost for a 40 MW open cycle gas turbine generating station, expressed in $/GJ; and~~

v. ~~Loss Factor is the marginal loss factor for a 40 MW open cycle gas turbine generating station relative to the Reference Node.~~

~~Where the Economic Regulation Authority must determine appropriate values for the factors described in paragraphs (i) to (v) as applicable to the Maximum STEM Price and Alternative Maximum STEM Price.~~

6.20.8. ~~[Blank]~~

6.20.9. ~~In conducting the review required by clause 6.20.6 the Economic Regulation Authority must prepare a draft report describing how it has arrived at a proposed revised value of one or both of the Maximum STEM Price and Alternative Maximum STEM Price. The draft report must also include details of how the Economic Regulation Authority determined the appropriate values to apply for the factors described in clauses 6.20.7(b)(i) to 6.20.7(b)(v). The Economic Regulation Authority must publish the draft report on its website and advertise the report in newspapers widely published in Western Australia and request submissions from all sectors of the Western Australia energy industry, including end-users, within six weeks of the date of publication.~~

6.20.9A. ~~Prior to proposing a final revised value for one or both of the Maximum STEM Price and Alternative Maximum STEM Price in accordance with clause 6.20.10, the Economic Regulation Authority may publish a request for further submissions on its website. Where the Economic Regulation Authority publishes a request for further submissions in accordance with this clause, it must request submissions from all sectors of the Western Australia energy industry, including end-users.~~

6.20.10. ~~The Economic Regulation Authority must consider in-time submissions on the draft report described in clause 6.20.9, and any in-time submissions received under clause 6.20.9A, and may consider any late submissions, and after~~

considering the submissions must propose a final revised value for one or both of the Maximum STEM Price and Alternative Maximum STEM Price.

6.20.10A. Within five days of the Economic Regulation Authority proposing a final revised value for one or both of the Maximum STEM Price and Alternative Maximum STEM Price in accordance with clause 6.20.10, AEMO must publish on the WEM Website:

    (a)   the proposed revised value for one or both of the Maximum STEM Price and Alternative Maximum STEM Price, as applicable; and

    (b)   any conditions that could cause different values to apply at different times.

6.20.11   A proposed revised value for the Maximum STEM Price and the Alternative Maximum STEM Price replaces the previous value after AEMO has posted a notice on the WEM Website of the new value of the applicable Energy Price Limit, with effect from the time specified in AEMO's notice.

6.20.12.   The Minimum STEM Price is:

    (a)   -$1000/MWh until the first time the value of the Minimum STEM Price is revised by the Economic Regulation Authority and takes effect in accordance with clause 6.20.29; and then

    (b)   the revised value published in each final report by the Economic Regulation Authority pursuant to clause 6.20.29, from the time specified in the relevant final report until such time as a further revised value is published and takes effect in a subsequent final report.

6.20.13.   The Economic Regulation Authority must annually review the value of the Minimum STEM Price and must:

    (a)   determine whether the Minimum STEM Price is appropriate in accordance with clause 6.20.14; and

    (b)   subject to clause 6.20.15, determine the value of the Minimum STEM Price, with reference to clause 6.20.16 and in accordance with clauses 6.20.17 to 6.20.20, where the Economic Regulation Authority determines that the current value of the Minimum STEM Price is not appropriate.

6.20.14.   In determining whether the Minimum STEM Price is appropriate under clause 6.20.13(a), subject to clause 1.35.2, the Economic Regulation Authority must consider without limitation, if since the last annual review of the Minimum STEM Price under clause 6.20.13:

    (a)   the Real-Time Market for energy has settled at the Minimum STEM Price in one or more Trading Intervals because, in the Economic Regulation Authority's reasonable opinion, the Minimum STEM Price was too high;

    (b)   AEMO dispatched a Facility below the sum of all quantities priced at the Minimum STEM Price in the Facility's Real-Time Market Offer for energy in the Dispatch Interval, for reasons other than Outages, binding Network

Constraints and the dispatch of Essential System Services, because, in the Economic Regulation Authority's reasonable opinion, the Minimum STEM Price was too high;

(c)   there has been a change in the generation fleet in the SWIS that, in the Economic Regulation Authority's reasonable opinion, is likely to result in:

i.   the current Minimum STEM Price being materially lower than necessary to achieve the criterion in clause 6.20.16(a), including but not limited to an upgrade or the retirement of a Facility with high cycling costs; or

ii.   the current Minimum STEM Price being too high to achieve the criterion in clause 6.20.16(a), including but not limited to the increase of cycling costs due to deterioration or aging of an existing plant; and

(d)   a Market Participant has notified the Economic Regulation Authority that it considers the Minimum STEM Price is not appropriate or requested the Minimum STEM Price be revised or amended and provided reasons for the basis of its consideration or request.

6.20.15.   The Economic Regulation Authority must not revise the value of the Minimum STEM Price under clause 6.20.13(b), if it determines the Minimum STEM Price is appropriate under clause 6.20.13(a).

6.20.16.   The Minimum STEM Price must:

(a)   allow clearance of the Real-Time Market for energy without the Reference Trading Price being equal to the Minimum STEM Price in most circumstances; and

(b)   subject to clause 6.20.16(a), limit Market Participants' exposure to Reference Trading Prices that would threaten the financial viability of a prudent Market Participant.

6.20.17.   When revising the value of the Minimum STEM Price in accordance with clause 6.20.13(b), the Economic Regulation Authority must:

(a)   determine for credible scenarios of low demand, the price at which the operator of the Facility with the highest cycling costs per MW in the scenario would, acting reasonably, decommit the Facility should the Reference Trading Price equal or fall below that price for a single Trading Interval; and

(b)   revise the Minimum STEM Price to be the highest price determined under those scenarios that is lower than 95 percent of all of the prices determined under clause 6.20.17(a).

6.20.18.   When determining the credible scenarios of low demand for the purpose of clause 6.20.17(a), the Economic Regulation Authority may use historic scenarios but must also account for any changes expected to the SWIS that would come into

effect prior to the time that the Minimum STEM Price would apply and that are likely to have an effect on the Reference Trading Price. The changes include, but are not limited to:

(a)   expected changes in system demand;

(b)   any expected entrance of a new Facility that will participate in the Real-Time Market;

(c)   expected changes to an existing Facility; and

(d)   any expected permanent exit of a Facility from the Real-Time Market.

6.20.19.   When determining the cycling costs of a Facility under clause 6.20.17(a), the Economic Regulation Authority must consider:

(a)   the factors that a Market Participant acting reasonably would consider in making a decommitment decision for the Facility with the highest cycling cost in the SWIS, assuming that all energy sent out by the Facility is settled at the Reference Trading Price:

i.   the cost to decommit and recommit within the timeframe specified under clause 6.20.19(a)(iii), including start-related fuel and variable operating and maintenance costs of the Facility;

ii.   the minimum stable level of operation of the Facility;

iii.   the minimum time the Facility must remain out of service once decommitted before recommitment is possible;

iv.   any expected losses or gains, opportunity costs and cost savings that the Market Participant would incur as a result of decommitment for the duration of the minimum time the Facility must remain out of service; and

(b)   any other matters that the Economic Regulation Authority deems relevant.

6.20.20.   In determining the cycling costs of a Facility pursuant to clause 6.20.17(a), the Economic Regulation Authority must have regard to the Wholesale Market Objectives and must, as far as practicable, use information about the cost the relevant Facility would incur as provided by the relevant Market Participant but may use estimates where the Economic Regulation Authority considers reasonable.

6.20.21.   When undertaking its review under clause 6.20.13, the Economic Regulation Authority may request a Market Participant to provide the information listed in clause 6.20.19(a)(i) for a specific Facility if the Economic Regulation Authority considers that it needs this information.

6.20.22.   If the Economic Regulation Authority requests information under clause 6.20.21, the Economic Regulation Authority must specify the time by which the information must be provided and must give the Market Participant at least 10 Business Days to provide the requested information.

6.20.23. If the Economic Regulation Authority requests information under clause 6.20.21, the respective Market Participant must provide this information within the timeframe specified in the request.

6.20.24. A Market Participant may, by the timeframe specified for the close of submissions under clause 6.20.27, provide the Economic Regulation Authority with evidence regarding the costs a Facility incurs when decommitting for the purpose of the WEM Rules and which the Economic Regulation Authority must consider in determining the revised value for the Minimum STEM Price under clause 6.20.13(b).

6.20.25. Where a Market Participant provides the Economic Regulation Authority with satisfactory evidence under clause 6.20.24, the Economic Regulation Authority must consider the information when determining the revised Minimum STEM Price as far as the information affects the Economic Regulation Authority's reasonable estimate of any costs that a prudent Market Participant would incur when decommitting its Facility in the scenarios under clause 6.20.17(a).

6.20.26. In conducting the review required by clause 6.20.13, the Economic Regulation Authority must prepare and publish on its website a draft report setting out:

(a) its determination and reasons as to the appropriateness of the current value of the Minimum STEM Price; and

(b) if applicable:

i. the proposed revised value for the Minimum STEM Price;

ii. how it arrived at the revised value for the Minimum STEM Price and, subject to the Economic Regulation Authority's confidentiality obligations, details of how the Economic Regulation Authority determined the values that applied in respect of each of the factors described in clause 6.20.19; and

iii. a proposed effective date for the revised value.

6.20.27. The Economic Regulation Authority must publish a request for submissions from interested parties on the draft report referred to in clause 6.20.26 on its website where the deadline for the submissions must be no earlier than six weeks after the date of publication of the draft report.

6.20.28. Prior to revising the value of the Minimum STEM Price in accordance with clause 6.20.29, the Economic Regulation Authority may publish a request for further submissions on its website. Where the Economic Regulation Authority publishes a request for further submissions in accordance with this clause, it must request submissions from all sectors of the Western Australia energy industry, including end-users.

6.20.29. After considering the submissions received on the draft report referred to in clause 6.20.27 and any submissions received under clause 6.20.28, the Economic Regulation Authority must:

(a) publish any submissions received on its website;

(b) prepare and publish on its website a final report, setting out;

   i. its determination and reasons as to the appropriateness of the current value of the Minimum STEM Price; and

   ii. if applicable:

      1. the revised value for the Minimum STEM Price;

      2. how it arrived at the revised value for the Minimum STEM Price and, subject to the Economic Regulation Authority's confidentiality obligations, details of how the Economic Regulation Authority determined the values applied in respect of each of the factors described in clause 6.20.19; and

      3. the date the revised value is to take effect, where the effective date must be at least five Business Days after the publication of the report; and

(c) if applicable, inform AEMO of the revised value for the Minimum STEM Price and when the revised value is to take effect.

6.20.30. A revised value for the Minimum STEM Price replaces the previous value after the Economic Regulation Authority has published its final report in accordance with clause 6.20.29, with effect from the time specified in final report.

6.20.31. Within five Business Days of the Economic Regulation Authority publishing a report with the revised value for the Minimum STEM Price on its website, AEMO must publish on the WEM Website:

(a) the Minimum STEM Price; and

(b) any conditions that could cause a different value to apply at different times.

…

7 Real-Time Market Operation and Dispatch

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7.4. Real-Time Market Submissions

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> **Explanatory Note**
>
> The earlier gazetted rules assume that Enablement Losses will be included in FCESS offer prices. As this approach is being replaced with the FCESS Uplift Payment, references to Enablement Losses in this section have been amended.

7.4.5.   For the purpose of a Real-Time Market Submission under clause 7.4.4, a Market Participant must:

(a)   for all Dispatch Intervals within the SESSM Service Timing and the Week-Ahead Schedule Horizon:

    i.   offer a quantity of the relevant Frequency Co-optimised Essential System Service greater than or equal to the lower of:

        1.   the sum of the relevant Base ESS Quantity and SESSM Availability Quantity; and

        2.   the lowest Remaining Available Capacity for that Frequency Co-optimised Essential System Service under any Outage applying to the Registered Facility in the Dispatch Interval, or, if there are no applicable Outages, the relevant maximum accredited quantity of that Frequency Co-optimised Essential System Service for the Registered Facility,

    in Price-Quantity Pairs; and

    ii.   specify an offer price in Price-Quantity Pairs relating to the SESSM Availability Quantity not exceeding the SESSM Offer Cap for the SESSM Award ~~before accounting for Enablement Losses~~;

(b)   where the Reference Scenario for a Pre-Dispatch Interval projects a shortfall in an awarded Frequency Co-optimised Essential System Service, ensure that the Real-Time Market Submissions for the Registered Facility and Frequency Co-optimised Essential System Service for that Pre-Dispatch Interval are offering a quantity of the relevant Frequency Co-optimised Essential System Service greater than or equal to the lowest Remaining Available Capacity for that Frequency Co-optimised Essential System Service under any Outage applying to the Registered Facility in the Pre-Dispatch Interval, or, if there are no applicable Outages, the relevant maximum accredited quantity of the Frequency Co-optimised Essential System Service for the Registered Facility; and

(c)   where the Reference Scenario for a Pre-Dispatch Interval or Dispatch Interval projects that the Registered Facility will be enabled to provide an awarded Frequency Co-optimised Essential System Service, ensure that the Real-Time Market Submissions for the Registered Facility for that Pre-Dispatch Interval or Dispatch Interval:

    i.   present the relevant Essential System Service Enablement Quantity as In-Service Capacity; and

    ii.   offer sufficient capacity as In-Service Capacity for energy to allow the Registered Facility to be dispatched for energy between any relevant Enablement Limits.

…

Explanatory Note

See Explanatory Note to clause 2.16C.3.

Clauses 7.4.26 and 7.4.27 have been amended to remove previous redundant text from (a) and cut back the text in (b).

7.4.26.   Where a Market Participant makes a Real-Time Market Submission for a Registered Facility and Market Service for a Dispatch Interval in the Pre-Dispatch Schedule Horizon (including by submitting a new Standing Real-Time Market Submission for the Registered Facility and Market Service), the Market Participant must:

(a)   specify the reason for the revision in the subsequent Real-Time Market Submission, and

(b)   create and maintain a record adequate detailed records (that are capable of independent verification) of the reasons for submitting the subsequent Real-Time Market Submission, including details of any changed circumstances, the time at which the Market Participant became aware of those changed circumstances and the impact of those circumstances that gave rise to the subsequent Real-Time Market Submission.

7.4.27.   Where a Real-Time Market Submission specifies an Enablement Minimum, Enablement Maximum, Low Breakpoint, High Breakpoint, Maximum Upwards Ramp Rate or Maximum Downwards Ramp Rate, that is different to the Standing Enablement Minimum, Standing Enablement Maximum, Standing Low Breakpoint, Standing High Breakpoint, Standing Maximum Upwards Ramp Rate or Standing Maximum Downwards Ramp Rate value, as applicable, specified in the Standing Data for the Registered Facility, the Market Participant must:

(a)   specify the reason for the difference in the Real-Time Market Submission, and

(b)   create and maintain a record adequate detailed records (that are capable of independent verification) of the reasons for the differences between the

relevant values specified in the Real-Time Market Submission and the corresponding values specified in the Standing Data.

…

Real-Time Market Submissions – Processing

7.4.50.   AEMO must convert the prices in a Real-Time Market Submission for energy into Loss Factor Adjusted Prices, and must use those Loss Factor Adjusted Prices in the Dispatch Algorithm.

7.4.51.   Where a Loss Factor Adjusted Price determined in accordance with clause 7.4.50 is outside the relevant Energy Offer Cap, AEMO must use the relevant Energy Offer Cap for the Real-Time Market Submission in the Dispatch Algorithm.

Explanatory Note

New clause 7.4.51A is added to apply a similar process to the FCESS markets.This clause has now been amended to remove the reference to Standing Submissions and refer to the "relevant" FCESS Offer Price Ceiling (because the values depend on the FCESS and also change over time).

Clause 7.4.60 has been amended to apply the Market Price Limits to Standing Real-Time Market Submissions.

7.4.51A.   Where a price in a Real-Time Market Submission for a Frequency Co-optimised Essential System Service:

(a)   is greater than the relevant FCESS Offer Price Ceiling, AEMO must use the relevant FCESS Offer Price Ceiling in the Dispatch Algorithm; and

(b)   is less than zero, AEMO must use a price of zero in the Dispatch Algorithm.

…

Real-Time Market Submissions – Standing Submissions

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7.4.60.   When AEMO uses a Standing Real-Time Market Submission for energy in the Dispatch Algorithm, AEMO must first convert the prices in the Standing Real-Time Market Submission into Loss Factor Adjusted Prices, and must use those Loss Factor Adjusted Prices in the Dispatch Algorithm.:

(a)   subject to clause 7.4.60(b), convert the prices in a Standing Real-Time Market Submission for energy into Loss Factor Adjusted Prices, and use those Loss Factor Adjusted Prices in the Dispatch Algorithm;

(b)   where a Loss Factor Adjusted Price determined under clause 7.4.60(a) is outside the relevant Energy Offer Cap, use the relevant Energy Offer Cap in the Dispatch Algorithm;

(c)   where a price in a Standing Real-Time Market Submission for a Frequency Co-optimised Essential System Service is greater than the relevant FCESS

Offer Price Ceiling, use the relevant FCESS Offer Price Ceiling in the Dispatch Algorithm; and

(d)   where a price in a Standing Real-Time Market Submission for a Frequency Co-optimised Essential System Service is less than zero, use a price of zero in the Dispatch Algorithm.

…

7.11B.   Determination of Market Clearing Prices

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Explanatory Note

In addition to the update to the defined term for the energy price cap, clause 7.11B.3 has been updated to use the defined term Energy Market Clearing Price.

7.11B.3.   If, for any Dispatch Interval:

(a)   the Market Clearing Prices for the Dispatch Interval have not already been determined by the Central Dispatch Process;

(b)   AEMO reasonably determines that the Central Dispatch Process may determine that there is insufficient capacity to meet all load; and

(c)   AEMO has issued a manual load shed direction to a Network Operator under clause 3.4.4,

then AEMO must set the Energy Market Clearing Price for energy for the Dispatch Interval to equal the Alternative Maximum STEM Price Energy Offer Price Ceiling.

Explanatory Note

The Energy Offer Price Ceiling and Energy Offer Price Floor are to apply to both offer prices and clearing prices for energy. New clause 7.11B.3A applies these caps to Energy Market Clearing Prices.

This clause has been updated to apply to the Energy Offer Price Floor as well as the Energy Offer Price Ceiling.

7.11B.3A. If, for any Dispatch Interval, the Energy Market Clearing Price determined using the Dispatch Algorithm is:

(a)   greater than the Energy Offer Price Ceiling, then AEMO must set the Energy Market Clearing Price in that Dispatch Interval to equal the Energy Offer Price Ceiling; and

(b)   less than the Energy Offer Price Floor, then AEMO must set the Energy Market Clearing Price in that Dispatch Interval to equal the Energy Offer Price Floor.

Explanatory Note

New clause 7.11B.3B is included to prevent inappropriately high or low Market Clearing Prices for an FCESS. The FCESS Clearing Price Ceiling for an FCESS is defined as the Energy Offer Price

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7.11B.3B. If, for any Dispatch Interval, the Market Clearing Price for a Frequency Co-optimised Essential System Service determined using the Dispatch Algorithm is:

    (a)   greater than the applicable FCESS Clearing Price Ceiling, then AEMO must set the Market Clearing Price for the Frequency Co-optimised Essential System Service in that Dispatch Interval to equal the applicable FCESS Clearing Price Ceiling; and

    (b)   less than zero, then AEMO must set the Market Clearing Price for the Frequency Co-optimised Essential System Service in that Dispatch Interval to equal zero.

…

7.11E. Administered Pricing in the Event of Market System Failure

7.11E.1. If the Real-Time Market is suspended under clause 7.11D.1(a), AEMO must set the final Market Clearing Prices for each Market Service in any Dispatch Interval during the suspension as follows:

    (a)   the Final Energy Market Clearing Price is to equal the Alternative Maximum STEM Price Energy Offer Price Ceiling;

    (b)   the Final Regulation Raise Market Clearing Price is to equal zero and the Essential System Service Enablement Quantity for each Registered Facility accredited for Regulation Raise for the Dispatch Interval is zero;

    (c)   the Final Regulation Lower Market Clearing Price is to equal zero and the Essential System Service Enablement Quantity for each Registered Facility accredited for Regulation Lower for the Dispatch Interval is zero;

    (d)   the Final Contingency Reserve Raise Market Clearing Price is to equal zero and the Essential System Service Enablement Quantity for each Registered Facility accredited for Contingency Reserve Raise for the Dispatch Interval is zero;

    (e)   the Final Contingency Reserve Lower Market Clearing Price is to equal zero and the Essential System Service Enablement Quantity for each Registered Facility accredited for Contingency Reserve Lower for the Dispatch Interval is zero; and

(f)   the Final RoCoF Control Service Market Clearing Price is to equal zero and the RoCoF Control Service requirements for the Dispatch Interval is zero.

…

Explanatory Note

Clause 7.13.1D is amended to clarify that Market Participants are provided with an estimate of the FCESS Uplift Payment for their Scheduled Facility or Semi-Scheduled Facility, not an estimate of Enablement Losses (which are calculated for each FCESS and used to calculate the FCESS Uplift Payment).

7.13.1D. For each Pre-Dispatch Interval or Dispatch Interval in each Scenario in each Market Schedule, AEMO must, within 30 minutes of the completion of the Market Schedule (or within 5 minutes of completion for the Dispatch Schedule), make available to each Market Participant:

(a)   which of its Registered Facilities clause 7.5.8(a) applies to;

(b)   which of its Registered Facilities clause 7.5.8(b) applies to; and

(c)   the ~~Estimated Enablement Losses~~ Estimated FCESS Uplift Payment for each of its Scheduled Facilities and Semi-Scheduled Facilities.

…

9.   Settlement

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9.10.   Settlement Calculations - Essential System Services

9.10.1.   AEMO must calculate for each Rule Participant the Essential System Service settlement amount for a Trading Day.

9.10.2.   The Essential System Service settlement amount for Rule Participant p for Trading Day d is:

$$ESS\_SA(p,d) = ESS\_Payable(p,d) - ESS\_Recoverable(p,d)$$

where:

(a)   ESS_Payable(p,d) is the Essential System Service amount payable to Market Participant p for Trading Day d calculated in accordance with clause 9.10.3; and

(b)   ESS_Recoverable(p,d) is the Essential System Service amount recoverable from Rule Participant p for Trading Day d calculated in accordance with clause 9.10.28.

Explanatory Note

The amount payable to Market Participant p for providing Essential System Services in Trading Day d is the sum of the following components, each calculated for Market Participant p for Trading Day d:

- Contingency Reserve Raise amount payable;
- Contingency Reserve Lower amount payable;
- RoCoF Control Service amount payable;
- Regulation amount payable;
- System Restart Services amount payable; and
- FCESS uplift amount payable.

All ESS amounts payable are calculated at the Dispatch Interval level before being aggregated to Trading Interval and Trading Day amounts.

The Regulation Raise and Regulation Lower amounts payable have been added together into a single Regulation amount payable to mitigate duplicating cost recovery calculations for Regulation Raise and Regulation Lower since the same cost recovery method is used for both services (see clause 9.10.36).

In contrast, the cost recovery methods for Contingency Reserve Raise and Contingency Reserve Lower are different, because the cost is allocated to different 'causers' and they are calculated at different granularity.

FCESS uplift amounts are divided among the FCESS being provided by the relevant Scheduled Facility or Semi-Scheduled Facility, with each amount allocated to an FCESS being recovered using the method used to recover other costs for that FCESS.

9.10.3.   The Essential System Service amount payable to Market Participant p for Trading Day d is:

$$\text{ESS\_Payable(p,d)} = \text{CR\_Payable(p,d)} + \text{CL\_Payable(p,d)} + \text{RCS\_Payable(p,d)} + \text{Regulation\_Payable(p,d)} + \text{SRS\_Payable(p,d)} + \text{NCESS\_Payable(p,d)}$$

$$\text{ESS\_Payable(p,d)} = \text{CR\_Payable(p,d)} + \text{CL\_Payable(p,d)} + \text{RCS\_Payable(p,d)} + \text{Regulation\_Payable(p,d)} + \text{SRS\_Payable(p,d)} + \text{NCESS\_Payable(p,d)} + \text{FCESSUplift\_Payable(p,d)}$$

where:

(a)   CR_Payable(p,d) is the Contingency Reserve Raise amount payable to Market Participant p for Trading Day d calculated in accordance with clause 9.10.4;

(b)   CL_Payable(p,d) is the Contingency Reserve Lower amount payable to Market Participant p for Trading Day d calculated in accordance with clause 9.10.8;

(c)   RCS_Payable(p,d) is the RoCoF Control Service amount payable to Market Participant p for Trading Day d calculated in accordance with clause 9.10.12;

(d)   Regulation_Payable(p,d) is the Regulation amount payable to Market Participant p for Trading Day d calculated in accordance with clause 9.10.20;and

(e)   SRS_Payable(p,d) is the System Restart Service amount payable to Market Participant p for Trading Day d calculated in accordance with clause 9.10.25; and

(f)   NCESS_Payable(p,d) is the NCESS amount payable to Market Participant p for Trading Day d calculated in accordance with clause 9.10.27A.; and

(g)   FCESSUplift_Payable(p,d) is the FCESS uplift amount payable to Market Participant p for Trading Day d calculated in accordance with clause 9.10.3A.

Explanatory Note

Clauses 9.10.3A to 9.10.3P implement the calculation of the FCESS Uplift Payment.

FCESS Uplift Payments are made to Market Participants in respect of their Registered Facilities, in specific circumstances where a generator may be required to run to provide a FCESS but would not otherwise be required for energy. In this situation, where the generator is required to run at its minimum generation level, it is possible that neither the energy price nor FCESS price compensate the generator for its energy opportunity cost, thereby leaving them out of pocket.

The total amount of FCESS Uplift Payment payable to a Market Participant in a Trading Day is the sum of FCESS Uplift Payments made in respect of all of its Registered Facilities in the Trading Intervals in that Trading Day.

9.10.3A.   The FCESS uplift amount payable to Market Participant p for Trading Day d is:

$$FCESSUplift\_Payable(p,d) = \sum_{f \in p} \sum_{t \in d} FCESSUpliftPayment(f,t)$$

where:

(a)   FCESSUpliftPayment(f,t) is the FCESS Uplift Payment for Registered Facility f in Trading Interval t as calculated in accordance with clause 9.10.3B;

(b)   f∈p denotes all Registered Facilities f registered to Market Participant p; and

(c)   t∈d denotes all Trading Intervals t in Trading Day d.

Explanatory Note

The FCESS Uplift Payment for a Registered Facility in a Trading Interval is the sum of FCESS Uplift Payments made in respect of the Registered Facility in the Dispatch Intervals in that Trading Interval.

9.10.3B.   The FCESS Uplift Payment for Registered Facility f in Trading Interval t is:

$$FCESSUpliftPayment(f,t) = \sum_{DI \in t} FCESSUpliftPayment(f,DI)$$

where:

(a)   FCESSUpliftPayment(f,DI) is the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI as calculated under clause 9.10.3H; and

(b)   DI∈t denotes all Dispatch Intervals DI in Trading Interval t.

Explanatory Note (updated)

The following clauses calculate the Enablement Losses for a Registered Facility in respect of each individual FCESS, with the FCESS Uplift Payment for a Registered Facility in a Dispatch Interval being the maximum of the Enablement Losses calculated for the different FCESSs. Only Scheduled Facilities and Semi-Scheduled Facilities are eligible for FCESS Uplift Payments; for other Registered Facilities, both Enablement Losses and FCESS Uplift Payment amounts are set to zero.

For each FCESS, Enablement Losses are calculated in a Dispatch Interval where the Registered Facility is a Scheduled Facility or Semi-Scheduled Facility that is enabled to provide that FCESS for a quantity greater than zero, and is not deemed to be eligible for an Energy Uplift Payment (i.e. the mispricing trigger determined under clause 9.9.9 is equal to zero). The enablement quantity for each service is taken from the relevant payment calculation clause, so that it is adjusted accordingly where the Registered Facility is subject to an outage.

For an eligible Registered Facility, the Enablement Losses are the difference between its marginal energy offer price and the market clearing price for energy, multiplied by the effective Enablement Minimum for the FCESS. The effective Enablement Minimum (which must be positive) is by default the value provided by the Market Participant in its Real-Time Market Submission, but may also be an updated value determined by AEMO under clause 7.4.52.

Enablement Losses calculations and explanatory note have been amended to reflect the above.

9.10.3C.   The Enablement Losses in respect of Contingency Reserve Raise for Registered Facility f in Dispatch Interval DI are:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

$$\text{EnablementLosses\_CR}(f,DI) = \text{Max}(0, \text{EL\_CR\_Factor}(f,DI) \times \frac{5}{60} \times \text{LF}(f,DI)$$

$$\times \text{Max}(0, \text{EM\_CR}(f,DI)) \times (\text{LFAOP}(f,DI) - \text{Energy\_MCP}(DI)))$$

where:

i.   EL_CR_Factor(f,DI) is:

      1.   1 if:

           i.   CR_EnablementQuantity(f,DI), determined in accordance with clause 9.10.6(c) for Registered Facility f in Dispatch Interval DI, is greater than zero; and

           ii.   IsMispriced(f,DI), determined in accordance with clause 9.9.9 for Registered Facility f in Dispatch Interval DI, is equal to zero; and

      2.   zero otherwise;

ii.   5/60 represents the period of a Dispatch Interval in hours;

iii.   LF(f,DI) is the Loss Factor applicable to the network connection point associated with Registered Facility f in Dispatch Interval DI;

iv.   EM_CR(f,DI) is the Enablement Minimum for Contingency Reserve Raise for Registered Facility f in Dispatch Interval DI as specified in the relevant Real-Time Market Submission in accordance with clause 7.4.41(d) and updated by AEMO, if applicable, under clause 7.4.52;

v.   LFAOP(f,DI) is the Loss Factor Adjusted Price in the Price-Quantity Pair which corresponds to EM_CR(f,DI) in the Real-Time Market Submission for energy for Registered Facility f and Dispatch Interval DI; and

vi.   Energy_MCP(DI) is the Final Energy Market Clearing Price for Dispatch Interval DI; and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

EnablementLosses_CR(f,DI) = 0

9.10.3D.   The Enablement Losses in respect of Contingency Reserve Lower for Registered Facility f in Dispatch Interval DI are:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

$$\text{EnablementLosses\_CL}(f,DI) = \text{Max}(0, \text{EL\_CL\_Factor}(f,DI) \times \frac{5}{60} \times \text{LF}(f,DI)$$

$$\times \text{Max}(0, \text{EM\_CL}(f,DI)) \times (\text{LFAOP}(f,DI) - \text{Energy\_MCP}(DI)))$$

where:

        i.   EL_CL_Factor(f,DI) is:

            1.   1 if:

                i.   CL_EnablementQuantity(f,DI), determined in accordance with clause 9.10.10(c) for Registered Facility f in Dispatch Interval DI, is greater than zero; and

                ii.   IsMispriced(f,DI), determined in accordance with clause 9.9.9 for Registered Facility f in Dispatch Interval DI, is equal to zero; and

            2.   zero otherwise;

        ii.   5/60 represents the period of a Dispatch Interval in hours;

        iii.   LF(f,DI) is the Loss Factor applicable to the network connection point associated with Registered Facility f in Dispatch Interval DI;

        iv.   EM_CL(f,DI) is the Enablement Minimum for Contingency Reserve Lower for Registered Facility f in Dispatch Interval DI as specified in the relevant Real-Time Market Submission in accordance with clause 7.4.41(d) and updated by AEMO, if applicable, under clause 7.4.52;

        v.   LFAOP(f,DI) is the Loss Factor Adjusted Price in the Price-Quantity Pair which corresponds to EM_CL(f,DI) in the Real-Time Market Submission for energy for Registered Facility f and Dispatch Interval DI; and

        vi.   Energy_MCP(DI) is the Final Energy Market Clearing Price for Dispatch Interval DI; and

    (b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

EnablementLosses_CL(f,DI) = 0

9.10.3E.   The Enablement Losses in respect of RoCoF Control Service for Registered Facility f in Dispatch Interval DI are:

    (a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

$$\text{EnablementLosses\_RCS(f,DI)} = Max\left(0, \text{EL\_RCS\_Factor(f,DI)} \times \frac{5}{60} \times \text{LF(f,DI)}\right.$$

$$\left. \times\ Max(0, \text{EM\_RCS(f,DI)}) \times (\text{LFAOP(f,DI)} - \text{Energy\_MCP(DI)})\right)$$

where:

        i.   EL_RCS_Factor(f,DI) is:

            1.   1 if:

                i.   RCS_EnablementQuantity(f,DI), determined in accordance with clause 9.10.14(c) for Registered

> > > Facility f in Dispatch Interval DI, is greater than zero; and

> > > ii.   IsMispriced(f,DI), determined in accordance with clause 9.9.9 for Registered Facility f in Dispatch Interval DI, is equal to zero; and

> > 2.   zero otherwise;

> ii.   5/60 represents the period of a Dispatch Interval in hours;

> iii.   LF(f,DI) is the Loss Factor applicable to the network connection point associated with Registered Facility f in Dispatch Interval DI;

> iv.   EM_RCS(f,DI) is the Enablement Minimum for RoCoF Control Service for Registered Facility f in Dispatch Interval DI as specified in the relevant Real-Time Market Submission in accordance with clause 7.4.42(b) and updated by AEMO, if applicable, under clause 7.4.52;

> v.   LFAOP(f,DI) is the Loss Factor Adjusted Price in the Price-Quantity Pair which corresponds to EM_RCS(f,DI) in the Real-Time Market Submission for energy for Registered Facility f and Dispatch Interval DI; and

> vi.   Energy_MCP(DI) is the Final Energy Market Clearing Price for Dispatch Interval DI; and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

EnablementLosses_RCS(f,DI) = 0

9.10.3F.   The Enablement Losses in respect of Regulation Raise for Registered Facility f in Dispatch Interval DI are:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

$$\text{EnablementLosses\_RR}(f,DI) = \text{Max}(0, \text{EL\_RR\_Factor}(f,DI) \times \frac{5}{60} \times \text{LF}(f,DI)$$

$$\times \text{Max}(0, \text{EM\_RR}(f,DI)) \times (\text{LFAOP}(f,DI) - \text{Energy\_MCP}(DI)))$$

where:

i.   EL_RR_Factor(f,DI) is:

> 1.   1 if:

> > i.   RR_EnablementQuantity(f,DI), determined in accordance with clause 9.10.22(c) for Registered Facility f in Dispatch Interval DI, is greater than zero; and

> > ii.   IsMispriced(f,DI), determined in accordance with clause 9.9.9 for Registered Facility f in Dispatch Interval DI, is equal to zero; and

          2.   zero otherwise;

    ii.   5/60 represents the period of a Dispatch Interval in hours;

    iii.   LF(f,DI) is the Loss Factor applicable to the network connection point associated with Registered Facility f in Dispatch Interval DI;

    iv.   EM_RR(f,DI) is the Enablement Minimum for Regulation Raise for Registered Facility f in Dispatch Interval DI as specified in the relevant Real-Time Market Submission in accordance with clause 7.4.41(d) and updated by AEMO, if applicable, under clause 7.4.52;

    v.   LFAOP(f,DI) is the Loss Factor Adjusted Price in the Price-Quantity Pair which corresponds to EM_RR(f,DI) in the Real-Time Market Submission for energy for Registered Facility f and Dispatch Interval DI; and

    vi.   Energy_MCP(DI) is the Final Energy Market Clearing Price for Dispatch Interval DI; and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

EnablementLosses_RR(f,DI) = 0

9.10.3G.   The Enablement Losses in respect of Regulation Lower for Scheduled Facility or Semi-Scheduled Facility f in Dispatch Interval DI are:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

$$\text{EnablementLosses\_RL(f,DI)} = \text{Max}(0,\ \text{EL\_RL\_Factor(f,DI)} \times \frac{5}{60} \times \text{LF(f,DI)}$$

$$\times\ \text{Max}(0,\ \text{EM\_RL(f,DI)}) \times (\text{LFAOP(f,DI)} - \text{Energy\_MCP(DI)}))$$

where:

    i.   EL_RL_Factor(f,DI) is:

        1.   1 if:

            i.   RL_EnablementQuantity(f,DI), determined in accordance with clause 9.10.23(c) for Registered Facility f in Dispatch Interval DI, is greater than zero; and

            ii.   IsMispriced(f,DI), determined in accordance with clause 9.9.9 for Registered Facility f in Dispatch Interval DI, is equal to zero; and

        2.   zero otherwise;

    ii.   5/60 represents the period of a Dispatch Interval in hours;

    iii.   LF(f,DI) is the Loss Factor applicable to the network connection point associated with Registered Facility f in Dispatch Interval DI;

       iv.   EM_RL(f,DI) is the Enablement Minimum for Regulation Lower for Registered Facility f in Dispatch Interval DI as specified in the relevant Real-Time Market Submission in accordance with clause 7.4.41(d) and updated by AEMO, if applicable, under clause 7.4.52;

       v.   LFAOP(f,DI) is the Loss Factor Adjusted Price in the Price-Quantity Pair which corresponds to EM_RL(f,DI) in the Real-Time Market Submission for energy for Registered Facility f and Dispatch Interval DI; and

       vi.   Energy_MCP(DI) is the Final Energy Market Clearing Price for Dispatch Interval DI; and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

EnablementLosses_RL(f,DI) = 0

9.10.3H.   The FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI is:

FCESSUpliftPayment(f,DI) = Max(EnablementLosses_CR(f,DI),

EnablementLosses_CL(f,DI), EnablementLosses_RCS(f,DI),

EnablementLosses_RR(f,DI), EnablementLosses_RL(f,DI))

where:

(a)   EnablementLosses_CR(f,DI) is the Enablement Losses in respect of Contingency Reserve Raise for Registered Facility f in Dispatch Interval DI as calculated in accordance with clause 9.10.3C;

(b)   EnablementLosses_CL(f,DI) is the Enablement Losses in respect of Contingency Reserve Lower for Registered Facility f in Dispatch Interval DI as calculated in accordance with clause 9.10.3D;

(c)   EnablementLosses_RCS(f,DI) is the Enablement Losses in respect of RoCoF Control Service for Registered Facility f in Dispatch Interval DI as calculated in accordance with clause 9.10.3E;

(d)   EnablementLosses_RR(f,DI) is the Enablement Losses in respect of Regulation Raise for Registered Facility f in Dispatch Interval DI as calculated in accordance with clause 9.10.3F; and

(e)   EnablementLosses_RL(f,DI) is the Enablement Losses in respect of Regulation Lower for Registered Facility f in Dispatch Interval DI as calculated in accordance with clause 9.10.3G.

9.10.3I.   The number of Frequency Co-optimised Essential System Services to be allocated a share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI is:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

$$\text{FCESSCount}(f,DI) = EL\_CR\_Factor(f,DI) + EL\_CL\_Factor(f,DI) + EL\_RCS\_Factor(f,DI) + EL\_RR\_Factor(f,DI) + EL\_RL\_Factor(f,DI)$$

where:

i. $EL\_CR\_Factor(f,DI)$ is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3C(a)(i);

ii. $EL\_CL\_Factor(f,DI)$ is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3D(a)(i);

iii. $EL\_RCS\_Factor(f,DI)$ is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3E(a)(i);

iv. $EL\_RR\_Factor(f,DI)$ is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3F(a)(i); and

v. $EL\_RL\_Factor(f,DI)$ is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3G(a)(i); and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

$$\text{FCESSCount}(f,DI) = 0$$

9.10.3J.   The share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to each applicable Frequency Co-optimised Essential System Service is:

(a)   if FCESSCount(f,DI) is greater than zero:

$$\text{FCESSUplift\_Share}(f,DI) = \frac{\text{FCESSUpliftPayment}(f,DI)}{\text{FCESSCount}(f,DI)}$$

where:

i.   FCESSUpliftPayment(f,DI) is the FCESS Uplift Payment determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3H; and

ii.   FCESSCount(f,DI) is the number of Frequency Co-optimised Essential System Services determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3I; and

(b)   otherwise:

FCESSUplift_Share(f,DI) = 0

9.10.3K.   The share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to Contingency Reserve Raise is:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_CR(f,DI) = FCESSUplift_Share(f,DI) × EL_CR_Factor(f,DI)

where:

i.   FCESSUplift_Share(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to each applicable Frequency Co-optimised Essential System Service, determined under clause 9.10.3J; and

ii.   EL_CR_Factor(f,DI) is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3C(a)(i); and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_CR(f,DI) = 0

9.10.3L.   The share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to Contingency Reserve Lower is:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_CL(f,DI) = FCESSUplift_Share(f,DI) × EL_CL_Factor(f,DI)

where:

i.   FCESSUplift_Share(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to each applicable Frequency Co-optimised Essential System Service, determined under clause 9.10.3J; and

ii.   EL_CL_Factor(f,DI) is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3D(a)(i); and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_CL(f,DI) = 0

9.10.3M. The share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to the RoCoF Control Service is:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_RCS(f,DI)
            = FCESSUplift_Share(f,DI) × EL_RCS_Factor(f,DI)

where:

i.   FCESSUplift_Share(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to each applicable Frequency Co-optimised Essential System Service, determined under clause 9.10.3J; and

ii.   EL_RCS_Factor(f,DI) is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3E(a)(i); and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_RCS(f,DI) = 0

9.10.3N.   The share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to Regulation Raise is:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_RR(f,DI) = FCESSUplift_Share(f,DI) × EL_RR_Factor(f,DI)

where:

i.   FCESSUplift_Share(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to each applicable Frequency Co-optimised Essential System Service, determined under clause 9.10.3J; and

ii.   EL_RR_Factor(f,DI) is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3F(a)(i); and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_RR(f,DI) = 0

9.10.3O.   The share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to Regulation Lower is:

(a)   if Registered Facility f is a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_RL(f,DI) = FCESSUplift_Share(f,DI) × EL_RL_Factor(f,DI)

where:

i.   FCESSUplift_Share(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to each applicable Frequency Co-optimised Essential System Service, determined under clause 9.10.3J; and

ii.   EL_RL_Factor(f,DI) is the quantity determined for Registered Facility f in Dispatch Interval DI under clause 9.10.3G(a)(i); and

(b)   if Registered Facility f is not a Scheduled Facility or Semi-Scheduled Facility:

FCESSUplift_RL(f,DI) = 0

9.10.3P.   AEMO must, as soon as practicable after each Settlement Statement Date, publish on the WEM Website the FCESS Uplift Payment for each Scheduled Facility or Semi-Scheduled Facility for each Dispatch Interval in the relevant Trading Week, and the share of each FCESS Uplift Payment allocated to each Frequency Co-optimised Essential System Service.

…

9.10.7.   The Contingency Reserve Raise amount payable in Dispatch Interval DI is:

$$CR\_Payable(DI) = \sum_{f \in Facilities} CR\_Payable(f,DI)$$

$$CR\_Payable(DI) = \sum_{f \in Facilities} CR\_Payable(f,DI) + \sum_{f \in Facilities} FCESSUplift\_CR(f,DI)$$

where:

(a)   CR_Payable(f,DI) is the Contingency Reserve Raise amount payable for Registered Facility f in Dispatch Interval DI calculated in accordance with clause 9.10.6; and

(b)   f∈Facilities denotes all Registered Facilities f.

(b)   FCESSUplift_CR(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to Contingency Reserve Raise, determined under clause 9.10.3K; and

(c)   f∈Facilities denotes all Registered Facilities f.

…

9.10.11.   The total cost of procuring Contingency Reserve Lower in Trading Interval t is:

$$CL\_Payable(t) = \sum_{f \in Facilities} CL\_Payable(f,t)$$

$$CL\_Payable(t) = \sum_{f \in Facilities} CL\_Payable(f,t) + \sum_{f \in Facilities} \sum_{DI \in t} FCESSUplift\_CL(f,DI)$$

where:

(a) CL_Payable(f,t) is the Contingency Reserve Lower amount payable for Registered Facility f in Trading Interval t as calculated in accordance with clause 9.10.9; ~~and~~

~~(b) f∈Facilities denotes all Registered Facilities f.~~

(b) FCESSUplift_CL(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to Contingency Reserve Lower, determined under clause 9.10.3L;

(c) f∈Facilities denotes all Registered Facilities f; and

(d) DI∈t denotes all Dispatch Intervals DI in Trading Interval t.

…

9.10.15. The cost of procuring RoCoF Control Service in Dispatch Interval DI is:

$$\text{RCS\_Payable(DI)} = \sum_{f \in \text{Facilities}} \text{RCS\_Payable(f,DI)}$$

$$\text{RCS\_Payable(DI)} = \sum_{f \in \text{Facilities}} \text{RCS\_Payable(f,DI)} + \sum_{f \in \text{Facilities}} \text{FCESSUplift\_RCS(f,DI)}$$

where:

(a) RCS_Payable(f,DI) is the RoCoF Control Service amount payable for Registered Facility f in Dispatch Interval DI as calculated in accordance with clause 9.10.14; ~~and~~

~~(b) f∈Facilities denotes all Registered Facilities f.~~

(b) FCESSUplift_RCS(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to the RoCoF Control Service, determined under clause 9.10.3M; and

(c) f∈Facilities denotes all Registered Facilities f.

…

9.10.24. The total cost of procuring Regulation in Trading Interval t is:

$$\text{Regulation\_Payable(t)} = \sum_{f \in \text{Facilities}} \text{Regulation\_Payable(f,t)}$$

$$\text{Regulation\_Payable(t)} = \sum_{f \in \text{Facilities}} \text{Regulation\_Payable(f,t)} + \sum_{f \in \text{Facilities}} \sum_{DI \in t} \text{FCESSUplift\_RR(f,DI)} + \sum_{f \in \text{Facilities}} \sum_{DI \in t} \text{FCESSUplift\_RL(f,DI)}$$

where:

(a)   Regulation_Payable(f,t) is the Regulation amount payable for Registered Facility f in Trading Interval t as calculated in accordance with clause 9.10.21; and

(b)   f∈Facilities denotes all Registered Facilities f.

(b)   FCESSUplift_RR(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to Regulation Raise, determined under clause 9.10.3N;

(c)   FCESSUplift_RL(f,DI) is the share of the FCESS Uplift Payment for Registered Facility f in Dispatch Interval DI to be allocated to Regulation Lower, determined under clause 9.10.3O;

(d)   f∈Facilities denotes all Registered Facilities f; and

(e)   DI∈t denotes all Dispatch Intervals DI in Trading Interval t.

…

11. Glossary

…

~~**Alternative Maximum STEM Price**: The maximum price set in accordance with clause 6.20.3 that may be associated with a Portfolio Supply Curve for a portfolio including Facilities expected to run on Liquid Fuel or any Portfolio Demand Curve forming part of a STEM Submission or Standing STEM Submission.~~

…

Constrained Portfolio: For a Constraint Equation, a set comprising all the Registered Facilities within a single Portfolio that are located behind the relevant Network Constraint.

Constrained Uplift Payment Ratio: Has the meaning given in clause 2.16C.2.

…

Contingency Reserve Lower Offer Price Ceiling: The price, in dollars per MW per hour, determined in accordance with clause 2.26.2B and as may be indexed in accordance with clause 2.26.2U, that is the maximum price that may be associated with a Real-Time Market Submission or Standing Real-Time Market Submission for the provision of Contingency Reserve Lower.

…

Contingency Reserve Raise Offer Price Ceiling: The price, in dollars per MW per hour, determined in accordance with clause 2.26.2B and as may be indexed in accordance with clause 2.26.2U, that is the maximum price that may be associated with a Real-Time Market Submission or Standing Real-Time Market Submission for the provision of Contingency Reserve Raise.

…

Explanatory Note

The definition of Enablement Losses has been amended to refer to the relevant calculation clauses.

Enablement Losses: For a Registered Facility ~~operating at its Enablement Minimum~~ providing a Frequency Co-optimised Essential System Service in a Dispatch Interval, ~~the difference between energy revenue and the cost of providing that energy~~ an estimate of the difference between the revenue received for providing energy and the Frequency Co-optimised Essential System Service in the Dispatch Interval and the cost of providing those services, determined in accordance with clauses 9.10.3C, 9.10.3D, 9.10.3E, 9.10.3F or 9.10.3G as applicable.

…

Energy Offer Price Ceiling: The price equal to the Alternative Maximum STEM Price in $/MWh determined in accordance with clause 2.26.2, and as may be indexed in accordance with clause 2.26.2U as applicable, that is the maximum price that may be associated with a Portfolio Supply Curve or Portfolio Demand Curve forming part of a STEM Submission or Standing STEM Submission, and with a Real-Time Market Submission or Standing Real-Time Market Submission for energy by a Registered Facility.

Energy Offer Price Floor: The price equal to the Minimum STEM Price in $/MWh determined in accordance with clauses 2.26.2D to 2.26.2K, and as may be indexed in accordance with clause 2.26.2U, that is the minimum price that may be associated with a Portfolio Supply Curve or Portfolio Demand Curve forming part of a STEM Submission or Standing STEM Submission, and with a Real-Time Market Submission or Standing Real-Time Market Submission for energy by a Registered Facility.

Energy Price Limits: The set of price limits comprising the Maximum STEM Price, the Alternative Maximum STEM Price and the Minimum STEM Price.

…

Explanatory Note

The term Estimated Enablement Losses is replaced with the term Estimated FCESS Uplift Payment, because the calculation provides an estimate of the FCESS Uplift Payment for a Registered Facility and Dispatch Interval, not the Enablement Losses (which are calculated for each FCESS and used as an input to the FCESS Uplift Payment calculation).

The calculation has been amended to align as closely as possible with the FCESS Uplift Payment calculation used for settlement.

The definition is also amended to restrict the calculation to the relevant Registered Facilities, i.e. Scheduled Facilities and Semi-Scheduled Facilities.

The definition of Constrained Portfolio and the definition of Fixed Assessment Period have been amended to replace Network Constraint with Constraint Equation and update the clause reference.

The definition of Portfolio has been redrafted to match proposed changes to clause 2.16B.1.

Estimated Enablement Losses: For a Registered Facility in a Dispatch Interval is:

$$EL = Max(0, LF*EM * (LFAOP – MCP))$$

Where:

EM is the Enablement Minimum;

LF is the Loss Factor for the Registered Facility.

LFAOP is the Loss Factor Adjusted Price in the Price-Quantity Pair for energy in the Real-Time Market Submission which corresponds to the Enablement Minimum Quantity; and

MCP is the Energy Market Clearing Price in that Dispatch Interval based on the Market Schedules published by AEMO.

Estimated FCESS Uplift Payment: For a Scheduled Facility or Semi-Scheduled Facility in a Dispatch Interval is:

$$EstimatedFCESSUpliftPayment = Max(0, \frac{5}{60} \times LF \times Max(0, EM) \times (LFAOP - MCP))$$

where:

5/60 represents the period of a Dispatch Interval in hours;

LF is the Loss Factor for the Registered Facility;

EM is the greatest Enablement Minimum in a Real-Time Market Submission for a Frequency Co-optimised Essential System Service for the Registered Facility in the Dispatch Interval for which the Registered Facility had an Essential System Service Enablement Quantity greater than zero;

LFAOP is the Loss Factor Adjusted Price in the Price-Quantity Pair which corresponds to EM in the Real-Time Market Submission for energy for the Registered Facility in the Dispatch Interval; and

MCP is the Energy Market Clearing Price in the Dispatch Interval based on the Market Schedules published by AEMO.

…

FCESS Clearing Price Ceiling: The maximum Market Clearing Price for a Frequency Co-optimised Essential System Service in a Dispatch Interval, which is equal to:

EOPC – EOPF + FCESSOPC

where:

(a)   EOPC is the Energy Offer Price Ceiling in the Dispatch Interval;

(b)   EOPF is the Energy Offer Price Floor in the Dispatch Interval; and

(c)   FCESSOPC is the relevant FCESS Offer Price Ceiling in the Dispatch Interval.

FCESS Offer Price Ceilings: The set of price limits comprising the Contingency Reserve Raise Offer Price Ceiling, the Contingency Reserve Lower Offer Price Ceiling, the RoCoF Control Service Offer Price Ceiling, the Regulation Raise Offer Price Ceiling and the Regulation Lower Offer Price Ceiling.

…

FCESS Uplift Payment: A payment made to a Market Participant as compensation for Enablement Losses incurred by a Registered Facility providing one or more Frequency Co-optimised Essential System Services, determined in accordance with:

(a)   clause 9.10.3B, for a Trading Interval; and

(b)   clause 9.10.3H, for a Dispatch Interval.

…

Fixed Assessment Period: A period of at least seven consecutive Trading Days in which the Constraint Equation relevant to the identification of a Constrained Portfolio under clause 2.16B.2(b) has continuously bound within a Rolling Test Window. A Rolling Test Window may contain multiple Fixed Assessment Periods.

…

Irregular Price Offer: A price described in clauses 2.16C.6(a) or 2.16C.6(b).

…

Market Price Limits: The set of price limits comprising the Energy Offer Price Ceiling, the Energy Offer Price Floor, the Contingency Reserve Raise Offer Price Ceiling, the Contingency Reserve Lower Offer Price Ceiling, the RoCoF Control Service Offer Price Ceiling, the Regulation Raise Offer Price Ceiling and the Regulation Lower Offer Price Ceiling.

…

Material Constrained Portfolio: Has the meaning given in clause 2.16C.2(b).

Material Portfolio: Has the meaning given in clause 2.16C.1(b).

…

Maximum STEM Price: The price determined in accordance with clause 6.20.2 as the maximum price that may be associated with a Portfolio Supply Curve for a portfolio including no Facilities expected to run on Liquid Fuel forming part of a STEM Submission or Standing STEM Submission.

…

Minimum STEM Price: Means the minimum price that a Market Participant can use in Price-Quantity Pairs in a STEM Submission and in Balancing Price-Quantity Pairs in a Balancing Submission, as determined in accordance with section 6.20.

…

Offer Construction Guideline: The guideline published by the Economic Regulation Authority under clause 2.16D.1(a), which may be amended in accordance with clause 2.16D.2.

…

Portfolio: A set comprising one or more Scheduled Facilities, Semi-Scheduled Facilities and Non-Scheduled Facilities identified by the Economic Regulation Authority in accordance with clause 2.16B.1(a).

…

Price Cap: ~~Means:~~

    ~~(a)   a maximum price that is:~~

        ~~i.   for a Balancing Facility to run on Non-Liquid Fuel, the Maximum STEM Price; or~~

        ~~ii.   for a Balancing Facility to run on Liquid Fuel, the Alternative Maximum STEM Price; and~~

    ~~(b)   a minimum price that is the Minimum STEM Price.~~

…

Regulation Lower Offer Price Ceiling: The price, in dollars per MW per hour, determined in accordance with clause 2.26.2B and as may be indexed in accordance with clause 2.26.2U, that is the maximum price that may be associated with a Real-Time Market Submission or Standing Real-Time Market Submission for the provision of Regulation Lower.

…

Regulation Raise Offer Price Ceiling: The price, in dollars per MW per hour, determined in accordance with clause 2.26.2B and as may be indexed in accordance with clause 2.26.2U, that is the maximum price that may be associated with a Real-Time Market Submission or Standing Real-Time Market Submission for the provision of Regulation Raise.

…

RoCoF Control Service Offer Price Ceiling: The price, in dollars per MWs per hour, determined in accordance with clause 2.26.2B and as may be indexed in accordance with clause 2.26.2U, that is the maximum price that may be associated with a Real-Time Market Submission or Standing Real-Time Market Submission for the provision of RoCoF Control Service.

…

Rolling Test Window: A rolling consecutive three-month period of Trading Days, with a successive three-month period beginning on the first Trading Day after the last Trading Day falling within the immediately prior three-month period.

…

Trading Conduct Guideline: The guideline published by the Economic Regulation Authority under clause 2.16D.1(b), which may be amended in accordance with 2.16D.2.

…

Appendix 6: STEM Price Curve Determination

Explanatory Note

Appendix 6 is amended to reflect changes to price limits and defined terms.

…

(a) Determine for every price between the ~~Minimum STEM Price~~ Energy Offer Price Floor and the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling:

    i. the maximum cumulative quantity the Market Participant is prepared to sell into the STEM from all of its Price-Quantity Pairs in its Portfolio Supply Curve;

    ii. the minimum cumulative quantity the Market Participant is prepared to sell into the STEM from all of its Price-Quantity Pairs in its Portfolio Supply Curve;

    iii. the maximum cumulative quantity the Market Participant is prepared to buy from the STEM from all of its Price-Quantity Pairs in its Portfolio Demand Curve;

    iv. the minimum cumulative quantity the Market Participant is prepared to buy from the STEM from all of its Price-Quantity Pairs in its Portfolio Demand Curve;

    v. the STEM Price Curve quantity for that price where:

        1. the minimum STEM Price Curve quantity for that price equals the value in Appendix 6(a)(ii) less the value in Appendix 6(a)(iii);

        2. the maximum STEM Price Curve quantity for that price equals the value in Appendix 6(a)(i) less the value in Appendix 6(a)(iv); and

        3. the STEM Price Curve for that price includes all quantities between those in Appendix 6(a)(v)(1) and Appendix 6(a)(v)(2).

(b) If the minimum of the quantities determined under Appendix 6(a)(v)(1) for the Market Participant for the Trading Interval is greater than the Net Bilateral Position of the Market Participant in the Trading Interval then:

    i. if, for every price between the ~~Minimum STEM Price~~ Energy Offer Price Floor and the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling, the quantity determined under Appendix 6(a)(v)(1) is equal to the quantity determined under Appendix 6(a)(v)(2), then amend the STEM Price Curve for the ~~Minimum STEM Price~~ Energy Offer Price Floor to include all quantities between the Net Bilateral Position of the Market Participant and the quantity determined for

the ~~Minimum STEM Price~~ Energy Offer Price Floor under Appendix 6(a)(v)(2); and

ii. otherwise, amend the STEM Price Curve for the lowest price for which the quantity determined under Appendix 6(a)(v)(1) is not equal to the quantity determined under Appendix 6(a)(v)(2), to include all quantities between the Net Bilateral Position of the Market Participant and the quantity determined for the price under Appendix 6(a)(v)(2).

(c) If the maximum of the quantities determined under Appendix 6(a)(v)(2) for the Market Participant for the Trading Interval is less than the Net Bilateral Position of the Market Participant then:

i. if, for every price between the ~~Minimum STEM Price~~ Energy Offer Price Floor and the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling, the quantity determined under Appendix 6(a)(v)(1) is equal to the quantity determined under Appendix 6(a)(v)(2), then amend the STEM Price Curve for the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling to include all quantities between the quantity determined for the ~~Alternative Maximum STEM Price~~ Energy Offer Price Ceiling under Appendix 6(a)(v)(1) and the Net Bilateral Position of the Market Participant; and

ii. otherwise, amend the STEM Price Curve for the highest price for which the quantity determined under Appendix 6(a)(v)(1) is not equal to the quantity determined under Appendix 6(a)(v)(2), to include all quantities between the quantity determined for the price under Appendix 6(a)(v)(1) and the Net Bilateral Position of the Market Participant.

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